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Abruzzese Cultural Institutions:
Digitization Readiness & Project Viability

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9 Erich Kesse, Consultant for International Cooperative Digital Projects
10 ekesse@gmail.com
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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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1

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15
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49
50 Special thanks are owed to the Vigili del Fuoco, which made possible visits to restricted sites.

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[1] Embassy of the United States in Rome (http://rome.usembassy.gov/). In Italian see: United States Diplomatic Mission to Italy (http://italy.usembassy.gov/).

[2] Archivio di Stato dell'Aquila (http://www.archiviodistatolaquila.beniculturali.it/). An English version is available.

[3] Biblioteca provinciale "Salvatore Tommassi" (http://www.provincia.laquila.it/Biblioteca/). An English version is available.

[4] Deputazione Abruzzese di Storia Patria (http://www.storiapatriabruzzo.it/). Available only in Italian.

[5] Università degli Studi dell'Aquila (http://www.univaq.it/) and its Sistema bibliotecario di Ateneo (http://www.univaq.it/section.php?id=302). An English page provides only information about earthquake relief.

[6] Direzione Generale per gli Archivi (http://www.archivi.beniculturali.it/). An English version is planned.

[7] Consorzio interuniversitario per le Applicazioni di Supercalcolo per Università e Ricerca (http://www.caspur.it/). An English version is available.

[8] Istituto Centrale per il Catalogo Unico and the Servizio Bibliotecario Nazionale share a common web page (http://www.sbn.it/). An English version is available.

[9] Ibid.

[10] Biblioteca Digitale Italiana (http://www.bibliotecadigitaleitaliana.it/). An English version is planned.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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2

Executive Summary

Digitization of Abruzzese cultural resources aspires to be a forward step in the evolution of the Abruzzese archives and libraries. It is nothing special. It should not be difficult to achieve these aspirations. They are viable with additional planning, more targeted assessment, and a bit of market analysis, all wrapped up in good grant or programmatic writing. There is nothing terribly difficult about this either. These activities are tried and true. There is a body of literature that will tell the Abruzzese institutions "How-To" achieve them. There is a small but dedicated army of practitioners, many of whom should accept offers of partnership, willing to share their knowledge and experience. Some of these individuals are likely to accept the offer without fee; others are likely to seek funds to enable their own participation. There remains, of course, a learning curve for the Abruzzese institutions. Climbing that curve begins with the appointment of a Planning Committee, an Advisory Board, and the constructs of collaboration among themselves. And, it continues – with great potential – with planning and assessment grants and demonstration projects, as well as learning through the aforementioned partnerships.

The desire to digitize is complex. In addition to stepping forward – archives and libraries everywhere are replacing old analogue technologies for new digital technologies, the Abruzzese institutions have an awareness and desire to expose content for educational uses. The diaspora resulting in the wake of the earthquake of 2009 gives the Abruzzese institutions both the desire and the perfect conditions under which to move forward. Efforts like *La Scuola per l'Abruzzo* have already established foundations. There is awareness and desire, too, that digital content should meet economic value as well. The value, both research and economic, in cultural resources for cultural tourism was well appreciated as early as the planning stages for the Biblioteca Digitale Italiano (BDI) to which, one expects, the Abruzzese content with be contributed. BDI support is in place and, though it too requires some development, is substantial. The value of building a digitization program, too, does not overlook University of L'Aquila's mission. A program is seen as providing opportunity for application and development of skills in visual arts, architecture, geography, computing and other vocational as well as topical studies. Again, the planning process should bring these desires into focus.

If there is nothing special about the process of moving forward, there is a great deal that is special in the collections and content that the Abruzzese institutions hope to make digitally available to themselves, to Italy, and to the world. Response to the earthquake of 2009 was directed to sustaining the living and to the restoration of their cultural monuments and core structures. Underlining these, underpinning the culture of Abruzzo, is another core founded upon the archives and library, if not also museum, resources of Abruzzo's cultural institutions. Their restoration to civic life can be more than hyperbole, presuming the forward thinking of a proactive planning process.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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3

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Recommendations

94

95 Recommendations are listed below under general heading. Recommendation number is
96 followed by brief recommendation text. For full text of recommendations, see the narrative
97 assessment. Recommendations are given in numerical order in the narrative.

98

NOTES TO FUNDING AGENCIES
100
101 Funding agencies are encouraged to support
102 • Proposals for preservation assessment of physical collections;
103 • Projects to build technical competencies;
104 • Digitization planning proposals; and
105 • Grant applications for demonstration projects.

106

DIGITAL LIBRARY SYSTEMS
108 .
109 An original requirement for this report was discussion of "off the shelf digital library systems"
110 that might be recommended to the Abruzzese institutions. There are a number of systems
111 that might be suitable for their use but none is recommended. The narrative of the
112 assessment explains why. Instead, contribution to the Biblioteca Digitale Italiana (BDI) is
113 recommended.
114
115 Notwithstanding the rationale for recommending use of BDI services to those of off the shelf
116 systems, assessment finds room for improvement in the support systems that underpin the
117 BDI. Improvements stand to make the creation of digital resources more efficient and less
118 costly. Some of the following recommendations reflect development of a greatly matured
119 system. These are recommended, not for fancy, but to enable advanced digitization projects
120 that should be possible for the Abruzzese institutions in the future, pending of course the
121 readiness of systems to accommodate them.
122
123 Most of the recommendations, however, pertain to the role out of applications that should
124 make BDI support systems more complete and that mitigate costs to BDI contributors like
125 the Abruzzese institutions. Typical applications include a digital asset management (DAM)
126 or tracking database system; and metadata packaging systems; etc., that are generically
127 termed a "tool-box", below. The bulk of these recommendations, it is suggested, may be
128 acquired - even if they need to be tweaked for use in ICCU systems – through partnerships,
129 perhaps technology-for-content exchange, with digital library programs that have already
130 developed them.

131

ICCU & the BDI

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IMPROVING SBN SYSTEMS

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4

CASPUR

Some of the systems and support that the Abruzzese institutions need which are not available from ICCU/BDI also are not available in off the shelf systems. These would have to be developed anyway. Collaboration with CASPUR is recommended to provide advice and even for the deployment of some solutions. These are solutions that, yes, could be developed by and deployed in Abruzzo. But, it make more sense - more economic sense and more sense from the perspective of CASPUR's skills and regional positioning. As a regional agency, services supported for the Abruzzese institutions could and probably should be made available to the wider CASPUR service area. The potential economies of scale could not be matched by the Abruzzese institutions, which would start from behind the curve having to develop and train their own staff long before coming to needed solutions. The development of a digital library services unit within CASPUR also follows the model of regional computing centers in several states of the USA: California, Colorado, Florida, and North Carolina, among others. If, for some reason the Abruzzese institutions and CASPUR cannot come to agreement on collaboration, the Abruzzese institutions will have to take a step back. Collaboration with CASPUR gives the Abruzzese institutions technical viability they currently lack and greatly need.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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5

PLANNING

Assuming proactive partnerships with ICCU/BDI and CASPUR, what the Abruzzese institutions most need is a bigger picture. There is no doubt that they hold valuable content that if digitized would contribute greatly to Italian and Renaissance research. Acquiring the bigger picture is a two-fold challenge for the Abruzzese institutions.

One of these is making granting viable. The Abruzzese institutions have exciting collections that seem to have great potential. But, they need the understanding of their market, proof of the usefulness of the resources they propose to create, performance measures, and justifications. One case in point is the Antinori manuscript works. The works appear to be treasure in terms of both fiscal and intellectual value. The equipment required to digitize the works properly and without physical damage to the source documents is expensive. Its approximately €45.000 (almost $50,000) price tag demands justification in the knowledge that if digitized it will be used and, if used, that uses – e.g., classroom, tourism, and architectural uses – be outlined or planned for optimum realization of value.

01. ....Research and planning process - Appointment of a Planning Committee
02. ....Stakeholder exercise
03. ....Advisory Board
07 & 26.......................Preservation assessment of physical collections
08. ....Education market analysis
09. ....Educators focus group
10. ....Grant writing.
11. ....A technical leader.
113. ....Institutional cost-share in granting
114a. ....Reaching Audience.
114b. ....Generating Income.
12. ....Digital fulfilment services, policies and procedures.
14. ....Interests and leverage-points of stakeholders
15. ....Formal collaboration agreement: the Abruzzese institutions
20. ....Involvement of stakeholders in the planning process
24. ....Study of similar digitization projects – Alliances and partnerships.
28. ....Development of topical projects – Project utility
29. ....Copyright
30 & 31.......................Preservation policy for source documents being digitized.
41. ....Best practices: Planning – Digitization
45.1. ....Use of digital collections: citation
54. ....Environmental scan of digitization projects
62. ....Engaging educators
63. ....Periodic assessments of digital collections - Inviting contacts
64. ....Creative co-funding: Learning modules - Data enhancement - Additive projects
67 & 69.......................Developing technical and leadership skills: di Bartholomeo and Muzi
68. ....Formal collaboration agreement: Bylaws
70 & 80.......................Training manuals
83.1.1. ....Digital master storage
83.1.2.1. & 83.1.3.2....Budgeting for storage need
83.1.2.2. & 83.1.3.1....Calculating storage need
40. ....Digital archiving strategies
92. ....Digital archiving: What to archive

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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6

INTERNATIONAL PARTNERSHIPS

Secondarily, if the Abruzzese institutions have any hope of moving from demonstration projects to digitization program, they need to maximize their exposure. To that end they need to have developed strategies for making other institutions and a wide range of funding agencies and donors aware of them, of their work. That means going to the funding agencies. In the digitization community, that often means internationalizing or, at very least, being aware of global developments in digitization. A digitization program needs to have content. It needs to be capable in developing it. It needs to be creative in designing projects. It needs community support, education and research support. It needs to place at least some of its content in other digital libraries known to other funding agencies for high thresholds of content and technical quality. That kind of acceptance among peer programs is more than flattery; it can be the difference in continuing to have projects that drive the program funded.

THE PROJECTS

Digitization projects were both preselected by the Abruzzese institutions for assessment and suggested to them for their own evaluation. One of the latter is an oral history project, which has been given its own grouping of recommendations, below, because of its special standards and equipment. The section immediately below lists recommendations otherwise.

Several of the projects preselected do not appear to work. Copyright is an impediment. In many of these cases alternatives have been recommended for evaluation by the Abruzzese institutions. Some of the projects suggested to them are conceived as enabling projects. Contribution to the BDI, for example, requires prior cataloguing; so a retrospective cataloguing project and a corresponding archival description project are recommended. In a more fanciful suggestion, one recommendation reacts, for example, to the value of information to tourists, or, to resources for which geography (i.e., Antinori's *Corografia*) is important. How is this information accessed in field? A recommendation to place a cloud, a hot-spot over L'Aquila's city centre is made. In the past, an immediate impact of this recommendation would have been to bring the Internet into the Biblioteca Provinciale. In the future, it is intended to allow cultural tourists to access historic as well as current tourist information on their fast-becoming-ubiquitous mobile devices. Such a cloud already exists over Rome's cultural centre.

One of the more forward looking recommendations, a recommendation originating in Rome rather than Abruzzo, was for the foundation of a Center of Excellence in Earthquake Studies. This Center would digitize historic earthquake materials, which Abruzzo has a wealth of, and subject them to digitization with text conversion, data-mining, and data-manipulation. Outside of Italy, this is a wonderful idea. Historic data is usually overlooked by scientists; it is too difficult for them to access; it can't be readily fed into their analytical systems. Indeed, not one of the papers recently presented on the L'Aquila earthquake at the American Geophysical Union meeting – the preeminent world conference for Earth sciences – used Abruzzo's historic data. It remains locked away in, what to scientists, appears to be humanist primary resources. Within Italy, however, the idea has already been concretized in Bologna. With a Center of Excellence, perhaps, set aside, it remains an excellent idea to digitize Abruzzo's earthquake archives for use in the systems at Bologna's Storia Geofisica Ambiente. Similarly, with the Storia Geofisica Ambiente's data subsumed into analytical,

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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7

scientific systems, there remains a need to make the earthquake story and its historic data accessible to the Italian and world public. There is a need for learning modules targeted to primary education and life-long learners, though the need not necessarily be met in Abruzzo or met by the Abruzzese archivists and librarians rather than their educators.

The Abruzzese institutions also suggested several normative projects, projects digitizing Abruzzese history and culture for research and educational uses. These include relatively small projects such as a dissertations digitization project – a good, but perhaps too simple demonstration project, certainly worthy of funding presuming that a project plan is brought forward. These projects also include modestly large and apparently worthy projects in Renaissance history, Abruzzese history, and Abruzzese literature.

The Abruzzese literature project, while topically focused on early and Renaissance Italian is the work of a modern academician, Vincenzo de Bartholomaeis. The work is considered to be *foundational* in Italian philology. Italian copyright law requires that clearance to digitize his works be granted however; it appears to be a relatively minor hurtles to expose research of such importance. Recommendations are made in the interest of preparing this body of materials for digitization.

A jewel among the Abruzzese collections is the body of resources described as Abruzzese and Renaissance history. A problem with regard to the latter is that Renaissance history seems to have gone global. Indeed a *Digital Scriptorium*, based in North America, already exists and seems to obviate the need for yet another collection of similar resources in Abruzzo. Recommendations are made to the Abruzzese institutions for approaches to Renaissance history that should make it viable for granting. The truth is that their Renaissance history is largely Abruzzese history, which is under represented in the *Digital Scriptorium*. Abruzzo has an important sometimes pivotal role in Italian history; and, very good arguments can be made for its digitization. And, those arguments extend well beyond the collections targeted to this point.

Chief among its Abruzzese Renaissance history is the manuscript works of Anton Antinori. They are heavily used for both research and practical purposes. They are frequently referenced and, themselves, reference a body of Italian literature and history much of which remains hidden from and hopefully lost within the greater body of Italian and world cultural heritage. Surprisingly, L'Aquila, Abruzzo's capital city – important since the middle ages as a center of learning; as, at one time, a home to the Vatican; and pivotal in the intrigues of Empires that for so long maintained a divided Italy, ... L'Aquila surprisingly lacks UNESCO World Heritage designation. If a case were to be made for it, then Antinori's works would certainly be central to that case. They do not just document history; they document cultural monuments, buildings and landmarks and expose the history within them. They are not just pivotal in an historic era pivotal to the intrigues of Empires, but they are pivotal also in this history shaken like render from the walls of the city in L'Aquila's – and Italy's – last great earthquakes (1703-1706). Antinori deserves to be exposed; but to digitize it requires expensive equipment that demands commensurate planning and programming for use of the resulting product. Recommendations are made to move this along.

MISCELLANEOUS PROJECTS

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8

STANDARDS, HARDWARE AND SOFTWARE FOR NORMATIVE PROJECTS

The bulk of projects suggested by or to the Abruzzese institutions was normative projects. At their core, these projects require digitization of page images and generation of text. Recommendations for imaging and text follow, together with recommendations for specialized information enhancement in the form of geographic information.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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9

GEOGRAPHIC INFORMATION

STANDARDS, HARDWARE AND SOFTWARE
FOR MULTI-MEDIA ORAL HISTORY

Assessment narrative discusses various projects either listed by or suggested to the Abruzzese Institutions. Among those suggested to the Abruzzese institutions is an Oral History project with both digital recording and digital imaging components. The suggested oral history project has a kind of creative energy that gets a program noticed. Most digitization programs struggle to find that special hall-mark that gets them noticed. Some bend over backward creating technological marvels. Other, struggle to find eye-candy sweeter than all of the other candy in the (funding) market-place. The suggested oral history project based in regional earthquake experiences offers a unique foundation for an expanded series, each series accompanied by a more traditional digitization project. The project is so simple that it could virtually run itself after set-up. The recognitions is should generate should then help to compel other projects forward. Standards and equipment for both audio and video facets of a potential project are listed below.

STANDARDS FOR AUDIO

AUDIO HARDWARE SOFTWARE

STANDARDS FOR VIDEO

VIDEO HARDWARE SOFTWARE

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

10

Introductory Remarks

The purpose of assessment can be stated simply. It was initiated to provide an assessment of digitization readiness in the archives and libraries damaged by the April 2009 earthquake in Italy's Abruzzo region. Specific attention is given to strategic planning and sustainability, to digitization priorities and standards, and to digital library systems, among other inputs, needs, targets and measures. Less simply stated, this assessment considers the viability of digitization. It addresses what the participating institutions need to do to prepare themselves for and to sustain a digitization during and after an initial project. It suggests the arguments it will need to make and will have to prove as the institutions seek partnerships and funding. These must be nuanced and find a life beyond this assessment.

A Context for Assessment

In the course of completing this assessment, two remarks were repeated often. It seems appropriate that they should be repeated again here, as a frame for assessment.

"*What L'Aquila needs, above all, are houses.*"

The earthquake in the region of Abruzzo, central Italy, devastated the province and city of L'Aquila. It claimed more than three hundred lives. It disrupted thousands more, literally severing connections of its people to their regional and provincial capital. As in the wake of Hurricane Katrina (New Orleans, Louisiana, USA) in 2005, tens of thousands have been displaced, some within the province and region, and, many more to places beyond. Almost everyone left possessions, personal objects and cultural artifacts, - and, in many ways, their lives - behind.

Six months on (October 2009), during the time of assessment in L'Aquila, there is considerable effort to revive the city. Everywhere, work is ongoing to shore-up buildings – an overwhelming majority – damaged by the earthquake and to mitigate further loss. But, entry into the city center – the old city – L'Aquila's once vibrant hub, still involves passing through a military cordon and requires an escort from Italy's Vigili del Fuoco - the Fire Department, an agency of the Civil Defense. Locked within the cordon, there rests thousands of homes and the engine of the city's principle industry: the Università degli Studi dell'Aquila, together with the cultural institutions that supported the University and its students: the Archivio di Stato, the Biblioteca provinciale "Salvatore Tommassi", and the Deputazione Abruzzese di Storia Patria. Destruction of the Archivo's structure, in particular, was nearly total.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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11

Before 6 April 2009, L'Aquila was a college town, but not just any college town. The University, founded between 1458 and 1464, is one of Italy's four oldest institutions of higher education. It is comparable to – if not on par with – the United Kingdom's universities at Cambridge and Oxford. The University's colleges literally are, in large part, the fabric of the city of L'Aquila. As integrated as it is into the city plan, the University is integral to its history and future. If students, and their supporting network of L'Aquila's citizens, do not return to safe housing, the city will be dead.

What L'Aquila needs, above all else, is housing. There is no more definitive or immediate need. And, the Italian government is working diligently and on-schedule against a fast-paced plan to provide thousands of dwellings, each employing state-of-the-art earthquake mitigation technologies outside the city center. As housing mushrooms around the city, similar effort is underway to house its cultural institutions. The Archivio di Stato and the Deputazione Abruzzese di Storia Patria have already relocated to the suburb of Bazzano. Plans to relocate the Biblioteca provinciale to Bazzano, as well, have been made and will be executed soon. Likewise plans have been made to relocate the University several colleges, just outside the city center. Contingent finalization of relocation agreements, some will likely be relocated to Bazzano too.

Ironically, not far from the earthquake's epicenter in Paganica, approximately 5 km from the center of L'Aquila, Bazzano's modern warehouse structures survived the earthquake relatively unscathed. The Archivio and the Deputazione now share old warehouse space, expertly fitted with state-of-the-art high density shelving and environmental systems. The facility is an amazing step into twentieth (if not twenty-first) century.[11]

As housing needs are met,[12] the next challenge for the city of L'Aquila will be its meeting its transportation needs. Before the earthquake, Paolo Muzi once walked a few blocks from his home to his office at the Archivio di Stato, both in the city center. Today, he must drive five kilometers from his temporary home outside of L'Aquila to the Archivo's new location in Bazzano. Professore Silvia Mantini, too, once made a short journey within the city center from her home to her office in the Faculty of History. She now must journey from near the city of Pescara, on the Adriatic coast, to L'Aquila – a distance of more than 65 km. Their journeys are multiplied by everyone who remained or returns to work in L'Aquila. The stress on the provincial and city roads is made evident by their congestion. Public transport services survive nicely but are fractured and disrupted. Networks designed to deliver people to city centers are coming to grips with new patterns of traffic.

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[11] Addition description of the Archivio's new facilities is available in Italian from Cultura Italia, in a web-based article entitled, "Una nuova sede per l'Archivio di Stato dell'Aquila", dated 3 August 2009. (http://www.culturaitalia.beniculturali.it/pico/modules/focus/it/focus_0559.html).
The article is accompanied by images of both the new or old facilities. Images of the old facility show the Archivio both before and after the earthquake, together with an image depicting the containerization of holdings for their move.

[12] Physical assessment of the state of Abruzzese libraries damaged in the Earthquake is available in *Gestione Terremoto* (Issue 3.32, dated 6 April 2009), with status updates – as of this assessment – dated 11 November 2009.
Available online in Italian at http://www.regione.abruzzo.it/gestioneTerremoto/index.asp?modello= avvisoSing&servizio=le&stileDiv=sequence&template=default&tom=1140&b=avviso and in English (Google) translation at http://translate.google.com/translate?hl=en&sl=it&tl=en&u=http://www.regione.abruzzo.it/ gestioneTerremoto/index.asp%3Fmodello%3DavvisoSing%26servizio%3Dle%26stileDiv%3Dsequence%26te mplate%3Ddefault%26tom%3D1140%26b%3Davviso

Additional information, including brief characterizations of collections, is available with the date of 10 September 2009 as:
Appendix 1a : Biblioteche con struttuta inagibile - patrimonio a rischio.
Appendix 1b : Biblioteche con struttura inagibile - patrimonio in sicurezza e parzialmente integro servizio non attivato.
Appendix 1c: Biblioteche con struttura risanata - patrimonio integro -servizio riattivato censimento.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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12

547 Restoration of smoothly functioning networks with cogent designs will be essential to move people
548 from where they live to where they work. In the past, L'Aquila's cultural institutions had a symbiotic
549 relationship. Unlike U.S. and Canadian universities whose accreditation requires adequate library
550 seating, library seating – indeed library resources – of the Università degli Studi dell'Aquila is
551 supplemented by the seating and resources of the Archivio and Biblioteca. Students, who often
552 rely heavily on public transport, will need improved and likely new links between University
553 facilities and those of an emerging "cultural center" in Bazzano.
554
555 The ripple effects of recovery from disaster are well known and predictable. The needs of cultural
556 resources, let alone digitization, seems distant from immediate needs.
557
558   "*We want our city back; it was our core.*"
559
560 Regardless of where we live or the language we speak, place has a way not of defining us but of
561 encapsulating who we are. Look around your personal space. What you see there serves as the
562 canopic jars of who you believe yourself – at your core - to be. It is an expression of self-
563 perception, and, it imparts that perception to others entering your space. A city, by the same
564 token, serves as a canopic chest. It holds the past up to the present and carries it into the future.
565 It is a vessel of culture.
566
567 Yes, a city is first and foremost its people. But, what are a people without its buildings, its
568 landmarks, places of worship and education, or, without its archives, libraries and museums?
569 When the necessities of life: housing, transportation, etc. have been restored, reviving the
570 character of L'Aquila, it might be argued, necessitate a cultural revival.
571
572 Italy's Council of Ministers and the Special Office of the Ministry of Arts and Culture have assessed
573 approximately four hundred cultural landmarks. They are currently working to repair the forty-four
574 most damaged of these. The buildings housing L'Aquila's artifactual and written heritage have not
575 been overlooked. And, plans to relocate the content of these institutions are both sensible and
576 pragmatic. Moving them, however difficult transportation to and from them may be, restores
577 access to them. But, having relocated them, is it necessary to digitize them?   This is a question
578 that we will return to.
579
580 The earthquake of 2009 was only the latest in a history of earthquakes across Italy, in the Abruzzo
581 Region, and Province of L'Aquila. Since its founding in 1254, the city of L'Aquila has experienced
582 major earthquakes in 1315, 1349, 1452, 1501, 1646, 1703 and 1706. The earthquake of 2
583 February 1703 effectively destroyed L'Aquila and killed more than three thousand people. Nearly
584 all of L'Aquila's churches are thought to have collapsed. Yet, L'Aquila has been rebuilt and revived
585 time and again. Even today, though behind a cordon, the old and the new intermingle as they do
586 in college towns, such as Cambridge and Oxford in the United Kingdom, that have experienced
587 less calamitous change.
588
589 "Reaction, recovery, and restoration" are the by-words of every disaster response plan. Actions
590 currently being taken at every level of government suggest that planning is being conducted
591 competently, and, that it will allow Abruzzo and L'Aquila to enter an earthquake-afterlife with much
592 if not all of its culture canopically preserved.

593
594

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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13

Readiness

So, are the institutions of Abruzzo ready to *launch* a digitization program? In a word, "no". But, they are ready to build one. They are ready for planning and small digitization projects designed to build experience. They certainly have content that not only could be digitized without much difficulty but which could be of significant value digitized. And, they would be viable partners in a collaborative project with a more experienced institution.

This assessment examines four key areas of readiness: (1) collections and uses; (2) knowledge and training; (3) equipment and infrastructure; and sustainability and maintenance. It examines key issues and recommends readiness actions. Assessment is preceded by a review of rationale expressed by Abruzzese and Italian institutions for digitization. The purpose of this review is constructive criticism.

1. Expressed Rationale for Digitization

Several reasons for digitization have expressed by Abruzzese and Italian institutions. These include: preservation, education support, vocational training, and economics, as well as competition.

a. Competition

A sense of competition with other Italian archives, libraries and universities is the least noble of these reasons. Competition in the sense expressed is a desire, one not yet tested by need or proven through ability. Development of a digitization program requires the commitment of fiscal and staff resources. And, a program should not be developed lacking reasons justifying those costs or reasonable ability to meet a need.

What having a digitization program often means, or has meant in the North American sense, is not simply keeping up with reputable institutions and, therefore, inferring a degree of reputability for one's own institution. Having a digitization program means, at its most base, that one's institution is capable, on the cutting edge, and a leader among institutions. Reputation attracts students, donors, and other fiscal support. In a sense, the money one spends of digitization breeds money.

While the validity of a such a statement is to be questioned critically, it is unassailably true that money may be spent wisely or poorly. Spending it wisely requires research and planning, both of which remain in queue, on the to-do list of the Abruzzese institutions.

> *Recommendation 01*:
> Accordingly, those institutions should begin a research and planning process, with the appointment of a Planning Committee.

Recognizing that other institutions offer competition means that one recognizes something of merit in what those institutions have done. The research and planning process should ask *What is it that we like* (or dislike) *about the digitization programs of those institutions?* And, for everything liked, it should ask *What were the institution's inputs* (costs, staff requirements, etc.)? This will help the Abruzzese institutions to find their way, to get a picture of what is possible and desirable. The best means of concluding this research is one or more – preferably all – of the following:

- READ AND LEARN:

    Request annual and project reports of institutions identified as competitors. As available also request planning documents, organization charts, and budgets.

    Some of this information may be confidential. Be prepared to offer to sign confidentiality agreements, which may require advanced discussion with legal counsel.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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14

In preparation for this research, list the names of competitor institutions, seek out contact names and contact information. And, consider that participation and collaboration (under the old adage: *if you can't beat them, join them*) is also a recognition of competition.

In addition to listing the names of Italian competitors, consider also listing selected foreign competitors, valued in relation to the core values identified by the Abruzzese institutions. In North American, relative to potential for collaboration, for example, the Newberry Library in Chicago holds a large collection of European renaissance materials comparable to those of the Abruzzese institutions. Do not overlook, virtual institutions and digital libraries such as the Digital Scriptorium,[13] which is based in North America.

Most importantly, the Abruzzese institutions should be encouraged not to be afraid to show what they do not know. The institutions that interest is expressed in will be flattered. Many, if not most, will freely give you any free time available to them. Most also maintain much of the information sought on their web-sites or as part of their digital library.

- LISTEN AND LEARN:

  Invite those involved in digitization programs elsewhere to visit and to conduct a presentation(s) on their work, during which questions can be asked and answered.

  If invitees cannot be brought in, consider video hook-ups (e.g., Skype, Google Chat or similar service).

- LOOK AND LEARN:

  Visit the facilities of digitization programs elsewhere. In preparation of for visits the Planning Committee and funding officers should agree on a series of standard questions that the Committee will ask during its visits. Visits should be planned in such a way as to discuss vision and goals, policy and procedures, and best-practices and standards, as well as to witness various digitization tasks being carried out and to ask questions about equipment and software used.

  In person visits can be extremely valuable. But, if they are not practical or are too expensive, consider virtual visits. Most well established large digitization programs in North America, for example, should and may be willing to provide filmed– if not live – video tours of their facilities, followed by live video hook-up question and answer discussions.

Note that the order of the above is optimized to research, review, and comprehend the activities in which a digitization program is involved. It is optimized for learning.

Because competition is a common desire, it often achieves mimicry in digitization. Nowhere is there yet a standard that assesses the value of home-grown (or commercial) digital libraries. And, neither the purchase of a commercially available e-book nor embedding in one's catalog records or bibliographic resource guides of a URL for a freely available e-book is indication alone of value. The research and planning process carried out by the Abruzzese institutions should state core values and provide examples of how a digital library should perform to satisfy those values. In simple language, they should *ask What should a digital library do? What should a digital resource do?* and *What do we need to do to make that possible?* These are questions that should keep returning, even and after digitization project begins.

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[13] For more information about the Digital Scriptorium and its participating institutions, see
http://scriptorium.columbia.edu/about/

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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15

711 More importantly, these questions should point the Abruzzese institutions to identification of
712 their stakeholders. Planners should ask *who will use my digital library? What particular*
713 *constituencies are there for a given digital resources? How do those constituencies use*
714 *digital libraries and individual digital resources in their discipline? What does each*
715 *constituency desire, want and need?* And, again, they should ask *What do we need to do to*
716 *make that possible?* This is known as a stakeholder exercise.
717

> *Recommendation 02*:
> The Abruzzese institutions should complete a stakeholder exercise.
>
> (*For additional comment, see the reiteration of this Recommendation in the Imaging section below.*)

718
719 A stakeholder is someone who maintains an interest in the resources digitized.
720 Stakeholders commonly include individuals, researchers, students, etc. for whom a resource
721 is digitized. Stakeholders also include the agencies and donors funding digitization, as well
722 as the administrators responsible for the accounting of the use of funds. Stakeholders
723 include individuals involved in the creation of digital assets: managers and technicians, for
724 example. Those individuals who retrieve and re-shelve content also form a stakeholder
725 group. Individuals who maintain Internet delivery and who archive or manage archives of
726 digital assets form yet more stakeholder groups.
727
728 Every stakeholder group can characterize its use or interest in digital resources. The
729 exercise should endeavor to determine desired as well as current uses of a particular set of
730 resources. A researcher, for example, who may initially be thankful to have Internet access
731 will likely ask for the ability to download and use a resource off-line, then to print, to search,
732 and a host of other tasks. Common uses include Internet access; download and read later;
733 download and print; quoting (i.e., copy-and-paste); even an activity as simple as searching
734 metadata or full-text. Less commonly regarded uses include but are not limited to reporting
735 on productivity, quality control, and costs; to digital archiving and facsimile reproduction.
736
737 Information compiled during the exercise allows planners to determine needs, whether they
738 are in staffing, expendable supplies, durable equipment, travel, or services both in-house
739 and vended. And, the product of the stakeholder exercise allows planners to outline a vision
740 and rationale for the project that can be defended and used support funding decisions.
741

> *Recommendation 03*:
> The Abruzzese institutions should name an Advisory Board of recognized standing in the field to review plans and other work products.

742
743 The product of the exercise, a matrix of stakeholders and their interests, should be vetted by
744 an Advisory Board comprised of individuals who have experience building digital collections.
745 Members of the team originally responsible for guiding development the Biblioteca Digitale
746 Italiana (BDI) should have this experience. As a last resort, digital librarians at universities
747 across Europe and North America might be enticed[14] into sitting on an Advisory Board for
748 the planning process and any resulting digitization program.
749
750 Finally, the Abruzzese institutions should know up-front that nearly every donor and funding
751 agency will require that an institution requesting funds will demonstrate their commitment by
752 putting up a share of the required funds. This is true of planning processes as well as of
753 digitization projects. If, at the start of a planning process, they find that they cannot afford to
754 provide staff with paid release time for planning, the institutions should carry their desires no
755 further.
756

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[14] Digital librarians at North American university generally have to meet tenure or contract continuation requirements that demonstrate their professional standing. Serving on an Advisory Board is sometimes seen as an indication of standing.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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16

If the Abruzzese institutions will be expected to contribute to planning, start-up or any other phase of digitization program, they should realize that this, most likely, was true also of their competitors. They should endeavor to determine what, at other institutions, were the costs and how those costs were met, again, as part of the research and planning process.

Funding agencies reading this assessment should be encouraged to support digitization planning proposals and grant applications from the Abruzzese institutions.

In the event that a future digitization start-up project is planned ...

Any institution embarking on a digitization project today, whether in Italy, in Europe or North American, or anywhere else would be irresponsible not to consider collaboration and partnerships.

Digitization is not as simple as hooking a scanner up to a computer. It has been several decades since digitization was even scantly more complex. And, digitization is, if not complex, multi-facetted. Resource demand (e.g., handling, preservation, binding, etc.); user expectations (e.g., search behaviors, display behaviors, etc.) and attendant programming; equipment and software costs; training; infrastructure development; a multiplicity of descriptive standards, ontologies and authorities; digital archiving; even digitization program sustainability issues make digitization more of a business than simple activity.

Partnerships mitigate costs, reduce development expenditures. They allow a local institution, such as those in Abruzzo, to concentrate on production.

Recommendation 04:
As the Abruzzese institutions move beyond planning, they should partner with the Istituto centrale per il catalogo unico (ICCU) and contribute to both the Biblioteca Digitale Italiana (BDI) and the National Library Service (SBN).

In Italy, the Istituto centrale per il catalogo unico (ICCU) coordinates the BDI and offers or plans to offer digital program support services. First and foremost, it provides the infrastructure for a functioning digital library. The BDI is as better than many European national digital libraries and as good as the best among them. Development, while on-going under ICCU coordination and in many ways still young in the BDI's current iteration, is at least five years ahead of where the Abruzzese institutions should expect to be if they went ahead on their own.

Additionally, the ICCU offers a range of union catalog support and relatively basic integration with the BDI. But, that again is ahead of the Abruzzese institutions. And, at the other end of the digitization chain, the ICCU offers digital archiving. Digital archiving is a fast evolving, highly standards dependent, and certainly complex undertaking. None of the Abruzzese institutions, outside of a currently limited membership in the Consorzio interuniversitario per le applicazioni di supercalcolo per università e ricerca (CASUR) has even the hint of capacity and staffing to ensure that what they might digitize would be preserved against media failure, data corruption, format obsolescence or a host of other challenges. These services and related software, hardware and staffing would cost the Abruzzese institutions hundreds of thousands of Euro to start-up, and more to maintain.

Recommendation 05:
The Abruzzese institutions should work through the Istituto centrale per il catalogo unico (ICCU) to build services and digital library behaviors (e.g., special tagging, search, etc.) identified through the stakeholder exercise but not yet provided.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

17

803	While partnership with the ICCU is recommended, the services it provides need to have
804	matured. Recommendations directed to the ICCU for the improvement of systems designed
805	to facilitate BDI contributor (in this case, the Abruzzese institutions) production and minimize
806	costs for both contributors and the ICCU.
807	

> *Recommendation 06*:
> As necessary, both the Abruzzese institutions and the ICCU should collaborate with the Consorzio interuniversitario per le applicazioni di supercalcolo per università e ricerca (CASUR) and Italy's other super-computing facilities to develop high intensity computer services to support operations such as data-mining, geographic information systems interfaces, and search aggregation.

808	
809	**b. Preservation**
810	
811	A digitization project *to preserve* L'Aquilano and Abruzzese cultural heritage should not arise
812	out of the emotion generated by disaster. Digitization *as a form of preservation*, in any case,
813	should be preceded by a preservation assessment that will not be fully possible until
814	L'Aquila's moveable artifacts and written heritage have been relocated.
815	
816	The impetus for preservation through digitization is often well intentioned; but, as frequently,
817	it is misguided. The question here is *Why preservation?* The resources of both the Archivio
818	di Stato and the Deputazione Abruzzese di Storia Patria have already been removed to
819	storage optimized for preservation. Plans to remove the holdings of the Biblioteca
820	provinciale "Salvatore Tommassi" are being put into action. And, plans at the Università
821	degli Studi dell'Aquila to either repair and re-open damaged libraries or to remove library
822	content from less secure structures are being made. Digitization, in any case could not
823	begin until targeted resources have been removed to secure locations.
824	
825	More often than not what one is saying when espousing digitization as a form of
826	preservation is either or both a rationalization for the spirit of competition or, less cynically,
827	extended or enhanced access. Access considerations are assessed below. For the
828	moment, assessment should focus on preservation for preservation's sake.
829	

> *Recommendation 07*:
> Contract preservation specialists working in archives and libraries to complete a general preservation assessment.

830	
831	Before one invests in a preservation strategy as expensive and complex as digitization, one
832	would expect the institutions involved to have conducted a preservation assessment. As
833	yet, none of the Abruzzese institutions have begun such an assessment. Indeed, before the
834	earthquake, it has been generally acknowledge, no forethought was given to digitization and
835	likely little to preservation in general. Nonetheless, the Archivo's new facilities bear witness
836	to a sincere interest in the preservation of holdings. And, all the Abruzzese institutions
837	agreed to this assessment with preservation in mind.
838	
839	A preservation assessment should characterize the general health of holdings and their
840	need for optimal storage and environments, conservation and plans for forward-migration to
841	new media. With respect to preservation, migration of old content to new media should be
842	inclusive of need to mitigate future damage – prioritized by likelihood of that damage from
843	use or environmental factors – as well as migration as a last resort for prior deterioration.
844	Additionally, recognizing that L'Aquila, Bazzano and Paganica sit directly above an
845	earthquake fault, assessment of new structures to withstand a future earthquake of
846	magnitude comparable to those of the past should be included.[15]

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[15] It should be noted that while, new home is L'Aquila and throughout Abruzzo are being constructed utilizing state-of-the-art technologies, the new locations for Abruzzo's cultural institutions are neither new nor have they been constructed of earthquake technologies. That does not mean that they cannot survive another series of earthquakes, but, neither does it mean that they can survive another. Would general digitization

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

18

847	
848	In the United States, assessments of this kind are completed at a cost of between five and
849	ten thousand dollars (approximately €3400 to €6800) in collections comparable to the
850	combined size of L'Aquila's archives and libraries. With book conservation programs in
851	Italy, and, library preservation effort promoted by the Ministero per i Beni e le Attivita
852	Culturali – the Ministry of Arts and Cultural Affairs, Italian specialist should be readily
853	identified to undertake the task. Or as a last resort, not withstanding linguistic barriers, there
854	is a small army of preservation librarians in the North America who have been trained to
855	conduct, or, who have conducted preservation assessments. A list of contacts may be
856	suggested by the American Library Association's Preservation and Reformatting Section, or,
857	by the International Federation of Libraries and Archives' Preservation and Conservation
858	Section. Current contact information for each of the agencies mentioned above is available
859	on the Internet.
860	
861	Additionally, a core task of any contracted assessor or assessment team should be to impart
862	the knowledge required to build into the general routines of staff an on-going preservation
863	awareness, ability to conduct micro-assessments, and willingness to adopt best-practice
864	handling/storage procedures. While preservation awareness was found, particularly among
865	the staff of the Archivio di Stato, no on-going preservation assessment or best-practice
866	handling procedures appeared to be in place at any of the institutions for which earthquake
867	conditions allowed assessment for digitization.
868	

> *Funding agencies reading this assessment should be encouraged to support preservation assessment proposals and grant applications from the Abruzzese institutions. These should be given consideration equal to digitization planning proposals and grant applications.*

869	
870	**c. Education Support**
871	
872	Digitization may be a preservation activity, but it is – more properly speaking – a medium for
873	information distribution and use. A distribution medium, clearly, suggests that there are
874	those who wish to acquire or receive the medium or, more precisely, the information carried
875	by it.
876	
877	It has been suggested that the Abruzzese content would be useful to students and teachers
878	in Abruzzo and across Italy as well as to North Americans of Italian extraction interested in
879	researching various cultural connections, history in general, and family history in particular.
880	It has also been suggested that this content is useful to the study of Italian architecture,
881	culture and history as well as of earthquakes. These suggestions are supported anecdotally
882	for the most part and by *common-sense* to a lesser degree. Despite these suggestions,
883	however, there is no firm proof of value to education or of target contents' utility in teaching
884	or to research.
885	

> *Recommendation 08:*
> Complete an education market analysis for digitization, perhaps as part of the stakeholder exercise.

886	
887	Of course, irrespective of emphases and amplification, anecdotes are usually based on real
888	life experience. Lacking market analysis, however, resources might be ill-placed. The
889	efficacy of a digitization program, therefore, would be diminished.
890	

---

be warranted as preservation in that case? Perhaps, a multiplicity of copies – including digitally archived copies – stored out of region *might* better ensure information survival. That this discussion appears in a footnote should be taken as an indication of the argument's merit, particularly if digitization made funds unavailable for physical treatments of treasured one-of-a-kind resources.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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19

891 Here is a *fictional* example for purposes of illustration. Faculty, students and citizens use
892 materials documenting Abruzzese and perhaps Molisani architecture, history, and literature.
893 Recollections of every-day collection use drive identification of these three disciplines.
894
895 Market analysis might show that the majority of patrons are interested in renaissance
896 architecture and monuments in particular. More detailed analysis might show that the
897 greatest use of these materials is by visiting Canadians on school trips. Lacking analysis,
898 builders of digital collections might target multiple architectural eras evenly. A majority of
899 the digital library, therefore, goes unused or scantly used. Further, the builders of the digital
900 collection may not have recalled that Canadians rather than Italians were the overwhelming
901 users of the source materials. The digital library, as a result, lacks an English or French
902 translation. In the end, few of the digitized resources are ever used.
903
904 Market analysis might show that the interest in history is unevenly divided between civil and
905 military history, and, that teachers and their students use civil history predominantly while
906 retirees make greater use of military history. But, based on recollections, perhaps with
907 circulation statistics backing them up, the builders of the digital collection select materials
908 appropriately. But, they may have forgotten just how many school children are consulting
909 the source materials in library. The circulation statistics do not paint an appropriate picture.
910 As a result, military history is adequately targeted; but, there are too few civil history
911 resources. Further because those consulting religious history also used materials in library,
912 their needs have not been met at all. The builders of the digital collection have also
913 forgotten why students were using civil history materials. Were their teachers' needs
914 analyzed, the builders might have collection lesson plans and managed to produce digital
915 surrogates, which in turn might have served as a model for Italy, drawing attention and
916 funding to the digitization program and to Abruzzo generally. And, in a final twist of fate,
917 market analysis might have shown that civil history and family history in particular could
918 have gained the interest of the Abruzzo and Molise Heritage Society[16] in the USA and from
919 Abruzzo Heritage,[17] a project of the Abruzzo World Club.
920
921 Finally, recollections, circulation statistics, and current reference questions suggest that the
922 interest in literature is being driven primarily by a member of the University's faculty of
923 History, she is researching the role of women in fiction. The resulting digital library avoids
924 making the mistake of digitizing both resources already available elsewhere and resources
925 that no one consults. But, market analysis might show that there is a large untapped market
926 for, perhaps, philology. It might indicate that many of those resources never consulted have
927 never been cataloged, that they have been forgotten as it were. The opportunity to place a
928 well constructed, expertly argued proposal before a granting agency has been lost; and, the
929 loss has gone unrecognized.
930

> *Recommendation 09:*
> Empanel a focus group for educators, perhaps as part of a grant proposal for digitization
> planning.
>
> Subsequent groups can be called into being on a project by project basis; and, funding
> requested in project grant proposals.

931
932 The Abruzzese institutions, together with the general education system of the Abruzzo
933 Region and the Province of L'Aquila, employ educators capable of forming the
934 recommended focus group.
935
936

---

[16] Though this is a fictional example, the Abruzzo and Molise Heritage Society is real and interested in both
genealogy and exploiting the heritage that made the Abruzzese and Molisani stalwart contributors to USA
and Canadian culture and history. For more information about the Society see its Internet site at
http://www.abruzzomoliseheritagesociety.org.

[17] Abruzzo Heritage (http://www.abruzzoheritage.com/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

20

937 Market analysis in the context of Education requires the input of educators at all levels. The
938 passive product of their involvement will be digitization of resources used in teaching.
939 Those funding a passive product will know that resources will be used, that their money has
940 been effectively used. A more proactive product of educator involvement will be a
941 demonstrable learning environment. Often the digital library resulting from targeted support
942 of Education will both digitize resources and be responsible for the authorship of wholly new
943 resources, e.g., lesson plans and education modules, perhaps even computer games that
944 allow students to test and build their knowledge. This kind of digital library goes beyond
945 reproducing archival and library resources for simple access. The benefits for users,
946 builders and funders are the same as that for a passive product. But, students and teachers
947 will be more engaged. Builders will find that interest in and acclaim for their work brings new
948 offers of partnership and funding. And, funders will find their profiles and self-satisfaction
949 increased. Some might even be encouraged to endow continuation rather than simply fund
950 work on a project by project basis.
951
952 This is a heady prospect. It has tremendous potential and appeal. But, it also requires
953 considerable work. Attention to subjects, targeted resources, specific uses, and measurable
954 outcomes requires more than simple planning. It also requires community support. And,
955 community support is everywhere evident in L'Aquila and Abruzzo.
956
957 With attention to measurable outcomes, the Abruzzese institutions should note that
958 measurable outcomes suggest continuing market analysis and product assessment.
959 Planning must accommodate assessment of digitization and education products as they are
960 used. Common questions for this continuing analysis include: How effective were the
961 products? Did their use increase measures of educational success? Did the products fit
962 well into course plans? Grant proposals should clearly outline the questions – formulated by
963 educators – that will be asked following product use. A focus group of educators, if not also
964 a focus group of students, should vet responses to formulate a cogent and constructive
965 critique of product efficacy. Critique, in turn, should be used by those responsible for the
966 project to modify both the product and future practice for the better.
967
968 Funding agencies, generally, will look for some kind of assessment on project termination.
969 Some funding agencies will look both to the efficacy of past products and to ongoing
970 assessment and modification to perfect products and to ensure their continuing use. Re-
971 use, specifically, commitments from educational institutions to use a digital education
972 product, will be a measure of cost-effectiveness.
973

> *Recommendation 10:*
> Invest in grant writing, perhaps with a proposal writing tutorial or exercise for members
> of the recommended Planning Committee.

974
975 A good grant proposal always begins with a good, sound, though not necessarily
976 spectacular idea. Obviously, it involves a project definition, time-table, and a budget. One
977 of the best set of guidelines for grant writing is available from the Institute of Museum and
978 Library Services (IMLS) in the USA. It is entitled *NLG Project Planning: A Tutorial*
979 (http://www.imls.gov/project_planning/).[18] Another, entitled *Proposal Writing Short Course*
980 (http://foundationcenter.org/getstarted/tutorials/shortcourse/), is available online from the
981 Foundation Center.[19] Even though granting cultures differ between the USA and Italy, the
982 principles taught here are largely useful in the Italian context. The Abruzzo institutions will
983 find that they need to convince funding agencies and that similar information if not
984 presentation will be required.

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[18] The IMLS *NLG Project Planning: A Tutorial*, unfortunately, is available only in English. The ICCU or the
Abruzzese institutions might seek permission from IMLS (cf. http://www.imls.gov/contact.shtm) and, from
a granting agency, funding to translate the tutorial with modifications for the Italian context.

[19] The Foundation Center's *Proposal Writing Short Course* is available only in English. Again, the ICCU or the
Abruzzese institutions might seek permission from the Center (customerservice@foundationcenter.org)
and, from a granting agency, funding to translate the tutorial with modifications for the Italian context.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
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21

985	
986	In addition to the very good advice of IMLS, it is also good practice to have a professional
987	grant writer review a proposal before submission. It may be helpful as well to have
988	someone skilled in creative writing to read and offer advice on a proposal's introductory
989	narrative. That narrative has to be precise and spare as IMLS recommends; but, it also
990	needs to spark the reader's imagination and hold the reader's attention as the read the
991	remainder of the proposal. Finally, it is also good practice to have someone unfamiliar with
992	project read the proposal. Encourage the individual or individuals to ask questions. This will
993	draw the project planners to obvious problems with a proposal.[20]
994	
995	In planning education projects using digitization, the Abruzzese institutions should note that
996	grant agency reviewers, will assess local competence. This is obvious, of course. If a
997	digitization component is to be undertaken locally, the Abruzzese institutions should have
998	met this assessment's recommendations for digital project planning and digitization.
999	Otherwise, they should consider vending the digitization component(s). If they opt to vend
1000	digitization services, the Abruzzese institutions should both have (a) the ability to write or
1001	apply technical *Request-for-Information* (RFI) or *Request-for-Proposal/Bid* (RFP)
1002	documents, (b) the knowledgeable staff or trusted experienced contractor in place to assess
1003	returned information, proposals, and bids together with their specimens or work-product
1004	samples, and (c) at least a plan to put knowledgeable staff in place to assess vendor
1005	performance and quality of product returned during a contract period. While the Abruzzese
1006	institutions employ experienced writers of RFI and RFP, they lack staff with adequate
1007	technical knowledge.
1008	

> *Recommendation 11:*
> The Abruzzese institutions should either hire a knowledgeable technical staff member or appoint a member of existing staff who will be trained appropriately in the application of digital technologies.

1009	
1010	Ideally, an appointed technical writer should be a member of the recommended Planning
1011	Committee, i.e., given planning authority, and have demonstrated management skills, with
1012	the ability to manage a (digital) production unit in subsequent stages of digital project
1013	development.
1014	
1015	If training of existing staff is decided, the Abruzzese institutions should be expected to fund
1016	training through paid release time, travel and per diem, and other necessary costs. Funding
1017	agencies may allow these costs to be incorporated into a planning grant; but, it will be
1018	expected, generally, that some portion of these costs will be borne by the Abruzzese
1019	institutions. Training opportunities, for the most part, do not exist as a formal program.
1020	

> *A regional or national collaborative, perhaps ICCU or CASPUR, should be encouraged to consider developing training opportunities such as work-shops and practicums.*
>
> *Funding agencies reading this assessment should be encouraged to support funding requests that both, in general, help Italy build technical competencies and other human infrastructure projects and, specific to Abruzzo, allow staff of the Abruzzese institutions to travel to training sites.*

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[20] Large volume granting agencies such as IMLS often have panels of grant reviewers with specialized knowledge. Most granting agencies, foundations, and donors, however, will not have specialized experience. Keep it simple. Avoid jargon.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

22

1023 As regards training, it may be possible that institutions with digitization experience
1024 elsewhere in Italy (e.g., the Istituto e Museo di Storia della Scienza in Firenze [*Florence*] or
1025 other contributors to the BDI) may host staff of the Abruzzese institutions for an extended
1026 practicum. Similarly, institutions with digitization experience in Europe and North America
1027 (e.g., member institutions of the Digital Scriptorium[21]) may be willing to host staff for an
1028 extended practicum. North American institutions engaged in international digitization
1029 projects (e.g., institutions funded by the United States Department of Education's
1030 Technological Innovation and Cooperation for Foreign Information Access (TICFIA)
1031 program[22] will be experienced in providing training in an international context. They might
1032 be best equipped of North American institutions to provide training to the Abruzzese
1033 institutions.[23]

1034
1035 ### d. Vocational Training
1036
1037 Vocational training was suggested as a secondary out-come of digitization, with the idea
1038 that coursework in digital technologies, digital project planning, and educational
1039 technologies be incorporated into the University's programs. As a notion, the idea is
1040 laudable – expertise built by cultural and educational institutions should be shared as a
1041 means of reducing cost to similar institutions. But, as yet, it remains secondary to
1042 establishment of a digitization program supporting education and cultural awareness. It also
1043 remains in wont of market analysis and appropriate course-planning – activities at which the
1044 University excels.[24] One, also, *assumes* the benefits to the Region of Abruzzo and the
1045 Province and City of L'Aquila.
1046
1047 For as long as the Abruzzese institutions keep their primary focus on (digitization for)
1048 education and cultural awareness, if not also preservation, funding agencies likely will not
1049 require commitment to or proofs for the viability of an on-going vocational training program
1050 in digitization. And, while vocational training might play a role in future development of a
1051 digitization program, it should neither be planned now nor offered as a suggestion of
1052 commitment.
1053
1054 What the expression of interest in vocational training says, *now*, about the Abruzzese
1055 institutions is that they are aware of the need for vocational training programs. Even if they
1056 do not have market analysis to support the expressed need generally, they have their own
1057 need to give it foundation.
1058

> *Again, funding agencies reading this assessment should be encouraged to support funding requests that both, in general, help Italy build technical competencies and other human infrastructure projects and, specific to Abruzzo, allow staff of the Abruzzese institutions to travel to training sites.*

1059
1060 Presumably, the general need, in Italy, will be planned and appropriately documented by a
1061 national agency such as the ICCU.
1062

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[21] For more information about the Digital Scriptorium, a collaborative digital library of medieval and renaissance manuscripts, see http://scriptorium.columbia.edu/about/. Note that advisors to the Digital Scriptorium include Ambrogio Piazzoni at the Biblioteca Apostolica Vaticana.

[22] For more information about TICFIA funded projects and institutions see both http://www-apps.crl.edu/ticfia/index.html and http://www.ed.gov/programs/iegpsticfia/awards.html.

[23] For partnering opportunities, beyond training, see subsequent discussion and reference to TICFIA.

[24] If one were to assess the Abruzzese institutions' readiness to offer vocational training subsequent to the establishment of a digitization program – literally, an academic exercise – one would begin by noting that allied programs from which faculty might be drawn initially are not currently well founded at the Universitá degli Studi dell'Aquila.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

23

1063	**e. Economics and Enterprise**
1064	
1065	Finally, it has been acknowledged that digitization might facilitate enterprise. To this point
1066	however, that enterprise has been conceived as a traditional program of off-print sales,
1067	specifically, of print products generated from digital masters. This is a model that closely
1068	follows common practice in archives. It retains full control of the masters themselves. And,
1069	the infrastructure and staffing to maintain such a program already exists, at least, within the
1070	Archivio di Stato. Here, the digital enterprise is obviously secondary to the establishment of
1071	a digitization center.
1072	
1073	Inasmuch as the demands of such a service remain consistent with the provision of an
1074	analog facsimile, the service is relatively sustainable. Demand on a service that begins with
1075	a digital master rarely continues to provide only an analogue facsimile. Researchers aware
1076	of a digital source often, and with dogged persistence, request digital copies sufficient for
1077	their needs. Needs including textual analyses, generation of concordances, and other data-
1078	mining, data-manipulation, or data-extraction or enhancement projects often need near
1079	master quality, if not a copy of a master. The extension of traditional analogue reproduction
1080	services into digital fulfilment services requires the development of licenses and other
1081	implements allowing specific use while preventing other uses. Though funding agencies,
1082	generally, will not require such forethought, the ability to point to existing – if untested – draft
1083	documentation for this eventuality will indicate that the Abruzzese institutions are serious
1084	and capable in their drive to develop a digitization service.
1085	

Recommendation 12:
The Abruzzese institutions, working through the aforementioned Planning Committee, should investigate digital fulfillment services in place elsewhere and begin to draft their own policies if not procedures.[25]

1086	
1087	The Abruzzese institutions, however, also should be challenged to more closely integrate
1088	product uses with the creation of a production service. Uses should contribute to the
1089	sustainability of a digitization program inasmuch as possible. Nearly all funding agencies
1090	now ask how the product of their funding will be sustained.
1091	
1092	If the Abruzzese institutions seek funding for digitization of selected resources, they have to
1093	be prepared to describe the means by which they will fund continuing digital preservation
1094	costs. This question, which assumes digitization by a vendor or through use of rented
1095	equipment with temporary staff, applies to the products of digitization rather than to the
1096	process of digitization.
1097	

Recommendation 13:
Relative to digital preservation of resources produced by a future digitization program, the Abruzzese institutions should partner with the ICCU, which maintains a (currently) free digital preservation service.

The Abruzzese institutions are encouraged to review the ICCU's contractual terms of digital preservation service. The Abruzzese institutions should retain control of digital masters, other than as needed to ensure continuing digital preservation. The ICCU's current stated practice is to do just this; but, written terms were not available for this assessment.

1098	
1099	If the Abruzzese institutions seek funding for establishment of a digitization service, they
1100	have to be prepared to describe the means by which they will fund continuation of the
1101	service. This question applies to the process of digitization as well as to its products. Costs
1102	commonly associated with the continuation of a digitization service include, among other

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[25] Licenses published by commercial and not-for-profit digital libraries, e.g., JSTOR, Aluka, or the Digital Scriptorium, among others, is a good starting point for investigation. Similar documents will also be available from academic institutions in North America with well established digitization programs.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

24

1103 expenditures: equipment maintenance, amortization and replacement; infrastructure
1104 maintenance, up-dating and growth planning; and staffing, including training, benefits, etc.
1105 The Abruzzese institutions are advised that sales programs (e.g., sale of facsimiles and
1106 other off-prints) rarely sustain a digitization service in the face of such costs.[26]
1107

1108 Among institutions of higher education, digitization programs leverage their continuation, *in*
1109 *part*, by meeting the need(s) of other programs. For example, program for digitization of
1110 south-east Asian resources supplies access to materials needed for a University's renowned
1111 south-east Asia studies program. Leverage, however, need not be isolated. Every
1112 stakeholder, every party interested in a digitization program has its leverage-points.
1113 Because it is the rare program that has only one stakeholder, a digitization program will
1114 often have many potential leverage-points.
1115

1116 A leverage-point is point of *particular* common interest – in this case, the Abruzzese
1117 institutions' interest in establishing a digitization program and the interest of a third-party.
1118 And, it is particular or special in that it so closely matches the third-party's self-interests or
1119 stated goals, that the third party is willing either to advocate for funding of the digitization
1120 program or to subsidize part of start-up or continuation costs. Advocacy is often as
1121 valuable, if not more value than an out-right contribution of funds. Advocates can write
1122 letters of support for inclusion in grant requests. Within government, an advocate's support
1123 of a library program suggests that the program is more than a suggestion of the library's
1124 self-interest. Advocates suggest that a program has wide appeal and general utility.
1125

1126 The Abruzzese institutions have determined that their digitization program should support
1127 education. A narrow review of stakeholders will (likely) suggest that perhaps the faculties of
1128 History, Literature and Earth Sciences, will advocate for the funds needed to sustain a
1129 digitization program. Their advocacy, together with that of the Libraries, will be directed to
1130 University administration.   A university administration, in turn, can be expected – if not
1131 required - to advocate for funding of a new program with its funding sources.   The
1132 University's success in linking a digitization program to the success of the programs of its
1133 funding sources benefits the digitization program.
1134

> *Recommendation 14:*
> Among its other duties, the aforementioned Planning Committee should be tasked with
> suggesting the interests and leverage-points of stakeholders. Interests and leverage-
> points of particular merit should be investigated further

1135
1136 This above paragraph's mention of the University is by way of example. Each of the
1137 Abruzzese institutions will have their own stakeholders and governors. To the extent to
1138 which the institutions collaborate, they extend the number of stakeholders who might
1139 advocate on their behalf.
1140

> *Recommendation 15:*
> Inasmuch as possible, the Abruzzese institutions should continue to act together,
> working toward the development of their digitization, education and other goals.
>
> To that end, they should formalize agreements and common principles that will underpin
> a set of future by-laws governing a future shared digitization program. The Planning
> Committee should also be tasked with drafting agreements and principles.

1141

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[26] Among North American institutions, digitization programs are frequently sustained through multiple,
contributing programs, including but not limited to: sales and licensing programs; incorporation into
continuing library budgets (ultimately funded through student fees, government allocations, and/or
structured endowments); and aggressive granting programs and donor recruitment.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

25

1142	Four viable leverage-points present themselves to the Abruzzese institutions. These include
1143	the convergence of a digitization program with (a) earthquake studies; (b) tourism;
1144	(c) information infrastructure development; and (d) genealogy.
1145

> The remainder of this section discusses particular stakeholder interests and suggests various strategies for stakeholder collaboration. It should be taken as part of a larger stakeholder-exercise as recommended earlier.

| 1146 | |
| 1147 | |
| 1148 |

- EARTHQUAKE STUDIES

1149	The Archivio di Stato maintains a relationship with the Direzione Generale per
1150	gli Archivi = the Italian National Archives (DGA).[27] In the wake of the 2009
1151	earthquake, the DGA has made its openness to assisting Abruzzo and L'Aquila
1152	plain. The DGA was instrumental in the relocation of the Archivio di Stato from
1153	its destroyed headquarters to new facilities in Bazzano. And, the DGA has
1154	suggested the creation of a Center of Excellence in Earthquake Studies to be
1155	based at the University.[28] Further, the DGA has suggested that this Center be
1156	responsible for digitization of historic records pertaining to Italy's earthquakes,
1157	and, that it make possible the data-mining of these records.[29] The Abruzzo
1158	institutions may have no stronger advocate for their desire to build a digitization
1159	program.
1160

> *Recommendation 16:*
> The Abruzzese institutions should determine the status of the suggested Center of Excellence in Earthquake Studies. And, as status warrants,[30] the institutions should begin preparing supporting statements if not also an independent request to establish such a Center.

1161	
1162	The Vigili del Fuoco has already collected a wealth of data on the earthquake of
1163	2009. Together with data about faults and earth movements – data one would
1164	expect an earthquake studies program to maintain, the information compiled
1165	also includes data about structures: status (i.e., whether damaged or not);
1166	extent and type of damage; geographic coordinates; age and defining
1167	characteristics; and in some cases – as structures rise in immediacy of
1168	reclamation – construction methods and materials.
1169	

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[27] Incidentally, the current Director of the DGA, Dottore Luciano Scala, was the Director General for Library Heritage and Cultural Institute (ICCU), at the time of the BDI's creation.

[28] Conversation with Dr. Luciano Scala, Director Generale, Direzione Generale Archivi (DGA), on 2 October 2009 at the offices of the DGA.

[29] In Abruzzo, the Archivio di Stato houses a substantial collection of records directly related to past earthquakes. These records, in turn, are supplemented by vast collections of ancillary materials. Taken alone, imaging (i.e., scanning) of its holdings directly-related to earthquakes in Abruzzo represents a digitization project of moderate size. For purposes of illustration, the Deputazione Abruzzese di Storia Patria, in 2004, hosted a symposium, *Settecento abruzzese : eventi sismici, mutamenti economico-sociali e ricerca storiografica*, held over three days. The papers are compiled in a publication of nearly 1,200 pages. Citations reference a library of primary and secondary sources numbering tens of thousands of pages from a collection totalling well above 100,000 pages. As a Center of Excellence, an Earthquake Studies Center likely would be able to attract similar records from elsewhere in Italy and perhaps the European Union and Turkey for digitization. And, regardless of its ability to attract historic resources from outside of Italy, earthquake studies centers and architectural preservation programs elsewhere have not had access to (and, therefore, have been unable to data-mine) data from historic resources in any quantity. Note (below), however, the work of the Storia Geofisica Ambiente.

[30] The Italian government, at the time of the assessment visit, was informally considering the establishment of a Center of Excellence for Earthquake Studies. The suggestion's current status is unknown.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

26

This is the kind of information that would enrich predictive modelling of earthquake damage. It would be useful for planning purposes throughout Italy. It would be particularly beneficial for the protection of Italy's UNESCO designated World Heritage Sites[31] together with sites of national cultural importance.

In the Region of Abruzzo and the Province and City of L'Aquila, this data – both that collected (i.e., *born-digital*) from scientists and engineers, as well as, that mined from historic resources that might be digitized in future - has several obvious advantages to reconstruction or reclamation of normal life in Abruzzo.

> This assessment, in general, finds that the Abruzzese institutions have some work to do in planning for a successful digitization program and to justify its specific potential projects.
>
> *However, it also finds good cause in the suggestion that an Earthquake Studies center should digitize historic resources, mining them for additional data.* Products of a digitization program within this context clearly would be useful.

One particular facet of the existing *born digital* data is especially important to potential future digitization projects: the geo-referencing of historic places. Geo-referencing, an association of a particular place with known Earth coordinates (i.e., longitude and latitude), allows data to be fixed on a map. The emphasis of current recovery effort on historic, culturally significant places and the use of digital mapping technologies provide a future digitization program with a ready-made framework for *discovery* (i.e., automated query) in a digital library. As historic resources are digitized, their content can be associated with this frame.

Research, whether supporting the Earth sciences or the humanities, is a complex fabric. Greatly simplified, all research methods resemble the journalistic process. Researchers, the young and the experienced alike, ask questions, *ad reductio*, such as: who, what, where, when, how, and why. Where – geography and, specifically, the use of map-interfaces to facilitate research – in digital library search systems has been under-developed. The framework provided by association with an Earthquake Studies center, itself, may be under-developed for broader uses, but it stands to be at least comparable to the data-mining/data-mapping applications of established digitization programs. Indeed, such applications go wonting in most university-based digitization programs and digital humanities centers in North America. As noted below, however, this may not be the case in Italy.

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[31] Find a list of Italy's World Heritage Sites, including those under consideration for listing, at http://whc.unesco.org/en/statesparties/it

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

27

1205
1206   A potential source of advice and partnership is the Italian Scientists and
1207 Scholars in North America Foundation (ISSNAF).[33] The Foundation has
1208 expressed interests in Earth and environmental sciences as well as enabling
1209 information infrastructure and technologies.
1210
1211   The need for a Center of Excellence in Earthquake Studies can only be
1212 assessed by the Italian government and the nation's academic infrastructure. In
1213 Italy, the pre-eminent academy for the study of geophysics, including
1214 earthquakes, is the Istituto Nazionale di Geofisca e Vulcanologia (INGV).[34] The
1215 INGV maintains real-time earthquake data-logging, including monitoring
1216 networks and databases.[35]

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[32] While mapping data and text associated with known Earth coordinates is relatively simple, tasks associated with data-mining and name-authority (e.g., location verification, name changes, translations, etc.) are more difficult.

Google, working under the aegis of the Google Books project, attempted a data-mining/data-extraction method in the mid-2000s (*n.b., documentation is no longer available online*). The project, together with a similar project – *Ephemeral Cities*, based in the University of Florida's Digital Library Center, was premature relative to the state of semantic processing and available applications. There have been significant developments in the short time since. One promising project is the Self Archiving Legacy Toolkit (SALT) Project (http://stanfordluminaryarchives.googlepages.com/slideshare) based at the Stanford University Libraries.

It is conceivable, for example, that partnership might be forged with the Stanford University Office of Earthquake Studies and the SALT Project to attract funding from Google or combined funding from the European Science Foundation (http://www.esf.org/), either or both the European Union's Information Society = Società dell'Informazione in Europa (http://ec.europa.eu/information_society/index_it.htm) or its CORDIS (http://cordis.europa.eu/home_it.html), *and* the USA's National Science Foundation's Cyber-Infrastructure section (http://www.nsf.gov/news/special_reports/cyber/digitallibraries.jsp).

[33] Italian Scientists and Scholars in North America Foundation (http://www.issnaf.org/) promotes research and development partnering North American and Italian institutions. Its programs in the arts, humanities, information sciences and, especially, Earth and environmental sciences should help the Abruzzese institutions to find partners for grantable projects. See also, its list of Advisory Boards (http://www.issnaf.org/web/index.php?option=com_content&view=article&id=176&Itemid=90). Note too, that ISSNAF maintains an active interest in supporting entrepreneurial activities (http://www.issnaf.org/web/index.php?option=com_content&view=category&layout=blog&id=48&Itemid=97), which may assist the Abruzzese institutions in development of more technologically challenging facets of data-mining projects.

[34] Istituto Nazionale di Geofisca e Vulcanologia (INGV) (http://portale.ingv.it/). An English version of the web page is available).

[35] The INGV maintains a detailed record, for example of the L'Aquila seismic sequence. It is not clear, however, that this record incorporates the data collected by the Vigili del Fuoco.
See also, "U12A : An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence I" (http://eventcg.com/clients/agu/fm09/U12A.html), a web-cast sequence of presentations, originally presented on 14 December 2009, at a meeting at the American Geophysical Union (2009, Fall Meeting : San Francisco, CA, USA). The sequence includes several presentations by INGV and other scientists. Presentations, in order of delivery, include:
- "Continuous waveform data stream analysis ...", by Dr. Alessia Maggi and Dr. Alberto Michelini, discusses the L'Aquila earthquake 2009 data-set. A characterization of the data-set is given.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1217	
1218	Among INGV programs is the TROMOS project,[36] which is the product of the
1219	Storia Geofisica Ambiente (SGA)[37] (http://www.sga-storiageo.it/) in Bologna.
1220	The SGA maintains an interest in historic seismology and maintains a large
1221	data library of contemporary and historic earthquake information. And, its data
1222	delivery/presentation systems use relatively sophisticated geographic
1223	information systems (GIS).
1224	
1225	Of particular note is the SGA's Catalogue of Strong Earthquakes in Italy, 461
1226	B.C. – 1997 and Mediterranean Area 760 B.C. –1500 (CFTI4MED).[38] While this
1227	data library may not be easy for the average user, it does mine data from and
1228	link to historic information sources. The product of an Abruzzese digitization
1229	project could feed into SGA effort.
1230	

> *Recommendation 18:*
> The Abruzzese institutions, should they plan to digitize their historic earthquake records and accounts, should consult the INGV and the SGA.

1231

- "Real-time operational earthquake forecasting ...", by Dr. Warner Marzocchi and Dr. Anna Maria Lombardi, discusses short-term earthquake forecasting. It uses some of the data collected by the Vigili del Fuoco, but does not use historic data held in archival and library records.
- "Fault-based earthquake rupture forecast in Central Italy ...", by Dr. Laura Peruzza, et al., from institutions elsewhere in Italy, discusses lessons and risk reduction strategies. These are based on current data. There is recognition that more data is needed. (It might not be possible to mine the level of detail needed from historic texts.)
- "The 2009 L'Aquila Seismic Sequence (Central Apennines) ...", by Dr. Luisa Valoroso, discusses the fault system geometry and kinematics. This is a data-driven presentation using only data-points collected by scientific instrumentation. (Again, historic texts are not likely to yield the kind and level of data used here.)
- "The preparatory phase of the April 6th 2009, Mw 6.3, L'Aquila earthquake ...", by Dr. Francesco Pio Lucente, et al. Concerned with seismological observations prior to the main earthquake on 6 April 2009, using contemporary data collected by scientific instrumentation.
- "Identification of the High Fluid Pressure source driving the 2009 L'Aquila earthquake sequence", by Dr. Toshiko Terakawa, et al. Using a form of tomography, it again uses only contemporary data.
- **"Looking for surface faulting ancestors of the L'Aquila April 6, 2009 event ..."**, by Dr. F.R. Cinti, et al. This is a discussion of paleo-seismological data and hazard implications. It considers historic data collected only from geomorphology, i.e., physical trenching and other geologic features. It does not make use of historic data mined from texts. Concentration of analysis is based on very large geologic time-scales. Modern dates discussed include BC 4796-5000, 827-673, and 790-510 as well as AD 640-770 and also the fifth through seventh and thirteenth through fourteen centuries. It suggests compatibility with the 1461 event in the same region. Findings also suggest a periodicity of 625 years between major events. *Neither suggestion, however, takes advantage of data held in historic texts maintained by the Abruzzese institutions*.
- "Details of a slow earthquake following the 2009/04/06 L'Aquila earthquake, as observed by paired laser extensometers in Gran Sasso, Italy", by Dr. Antonella Amoruso and Dr. Luca Crescentini. This discussion uses only data collected by scientific instrumentation.

Scientists tend not to use data mined from historic texts either because it is not readily available or because it is neither sufficiently data-rich nor geographically specific.

[36] TROMOS (http://storing.ingv.it/tromos/)

[37] Storia Geofisica Ambiente (SGA) (http://www.sga-storiageo.it/) – this web site is best viewed in Internet Explorer. Other web browsers do not display pages correctly. Some elements of its various data libraries are optimized for the Firefox web browser.
It is not clear that SGA data-sets incorporate the data recently collected by the Vigili del Fuoco.

[38] CFTI4MED (http://storing.ingv.it/cfti4med/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Partnership with the SGA may provide the Abruzzese institutions with the advanced skill-sets (discussed below) that they do not currently support and may not be likely to develop. Additionally, incorporation of data mined from the Abruzzese resources should stand to fortify a grant request with a clear argument for the utility of the project's product.

Most important, the INGV and SGA should be able to describe the utility of the historic earthquake and earthquake related documents maintained by the Abruzzese institutions. Without agreement on utility, there is no supporting argument – not in this context – for digitization of these documents.

- TOURISM

Tourism is an area outside of earthquake studies that both has substantial development possibilities, and, could utilize mapping technologies. More precisely, as a result of earthquake response, many tourist sites have already been mapped. More important for the Abruzzese institutions, the institutions both maintain the cultural connections and hold the content that will populate a digital collection supporting tourism.

The primary stakeholders for digitization supporting tourism are the Region of Abruzzo and its provinces. But, other stakeholders include the national government and various elements of the tourism industry, e.g., winter skiing and summer hiking, including those less obvious, e.g., the agricultural industries that supply the ingredients for Italian cuisine, itself a large part of cultural tourism throughout Italy.

The European Union, in its release of Solidarity Funds both before and after the 2009 earthquake, promoted tourism to boost the local economy.[39] It should also be considered as a stakeholder. Its interests should be leveraged in support of a digitization project that supports tourism, as well as other interests

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[39] See, Europa Press releases, listed below in chronological order from before the earthquake to dates following the earthquake.

a) "Italy – Regional Operational Programme 2007-2013: Abruzzo" = "Italia – Programma operativo regionale 2007-2013: Abruzzo". Memorandum MEMO/08/447 (Brussels 26 June 2008). Available online in English at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/447& format=HTML&aged=0&language=EN&guiLanguage=en and in Italian at http://europa.eu/rapid/ pressReleasesAction.do?reference=MEMO/08/447&format=HTML&aged=0&language=IT& guiLanguage=en.

b) "Abruzzo earthquake: Commissioner Hübner announces regional aid boost" = "Terremoto in Abruzzo: Il commissario Hübner annuncia il rafforzamento dell'aiuto regionale". Document IP/09/738 (Brussels : 11 May 2009). Available online in English at http://europa.eu/rapid/pressReleasesAction.do? reference=IP/09/738&format=HTML&aged=0&language=EN&guiLanguage=en and in Italian at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/738&format=HTML&aged=0& language=IT&guiLanguage=en.

c) "The Commission proposes granting 494 million euros to Italy to help cope with the aftermath of the Abruzzo earthquake" = "La Commissione propone di stanziare 494 milioni di euro a favore dell'Italia per far fronte alle co nseguenze del sisma in Abruzzo". Document IP/09/1185 (Brussels : 23 July 2009). Available online in English at http://europa.eu/rapid/pressReleasesAction.do?reference= IP/09/1185&format=HTML&aged=0&language=EN&guiLanguage=en and in Italian at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1185&format=HTML&aged=0& language=IT&guiLanguage=en.

d) "Mobilisation of the EU Solidarity Fund: Italy, the Abruzzo earthquake" = "Mobilitazione del Fondo di solidarietà dell'UE: Italia, terremoto in Abruzzo". Document A7-0021/2009 (Brussels : 8 October 2009). Available online in English at http://www.europarl.europa.eu/sides/getDoc.do?pubRef=- //EP//TEXT+TA+P7-TA-2009-0026+0+DOC+XML+V0//EN and in Italian at http://www.europarl. europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2009-0026+0+DOC+XML+V0//IT.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1263	listed in European Union (EU) communications: research and development,
1264	innovation and entrepreneurship, development of the information society and
1265	territorial development. EU interests in the information society extend to
1266	surmounting the geography of Abruzzo and should be considered to include the
1267	delivery of education-support. EU interests in territorial development extend to
1268	preservation of cultural heritage and risk prevention. A project that *reasonably*
1269	brings together several of these interests, where digitization is a tool that
1270	enables other interests, is key to funding. A project, for example, that:
1271	

- Supports creation of an *earthquake studies* program, ...
  - with digitization, data-mining and geo-referencing of historic documents both in manuscript and print,
  - together with born-digital resources such as geologic, architectural and engineering data generated after the earthquake, and
  - commissioned works such as lesson plans
- while also furthering *touristic interests* including, ...
  - cultural heritage tourism
- developed in such a way as to develop European *information infrastructure*, in partnerships with other European and North American institutions as appropriate.

The scholarly rationale for the integration of digitization with tourism has already been explored. Though it wonts for a road-map into the future that it suggests to be viable, Elisabetta Bovero's paper, "Cultural tourism and libraries : new learning needs for information professionals",[40] documents the need, together with the convergence of archives, libraries and museums. Tourism, she notes, is already exemplified as one of a handful of key digital library developments in Italy. The existence of the Ministero per i Beni e le Attività Culturali (MiBAC) *Cultural Routes*[41] collections, should facilitate a digital tourism project from the Abruzzese institutions.

> *Recommendation 19:*
> MiBAC should promote its digital collections search on the pages of both the Biblioteca Digitale Italiano (BDI) and the Internet Culturale that hosts *Cultural Routes*.
>
> Searching currently requires the researcher to find the Digital Collections Database.[42] The search box should be integrated with both BDI and Internet Culturale pages, and, allow searching directly from any of their pages.

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[40] Bovero, Elisabetta. "Cultural tourism and libraries : new learning needs for information professionals." Milan, Italy : *World Library And Information Congress: 75th IFLA general conference and council, 2009. Available online at* http://www.ifla.org/files/hq/papers/ifla75/192-bovero-en.pdf

[41] *Cultural Routes*, also known as *Cultural Tourist Routes*, is available in English at http://www.internetculturale.it/genera.jsp?s=11&l=en and in Italian at http://www.internetculturale.it/genera.jsp?s=11&l=it.
Cultural Routes is part of MiBAC's *Internet Culturale*, which "proposes an integrated access system to the digital and traditional resources of libraries, archives, and other Italian cultural institutions, in order to promote and enhance the knowledge and availability of the cultural heritage to a national and international level." (cf, http://www.internetculturale.it/genera.jsp?s=2).

[42] The Digital Collections Database is located at http://www.internetculturale.it/moduli/digi/digi.jsp?.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

31

Closer to home, the Abruzzese institutions can learn from the example of the *Via Francigena Project*.[43] This project is coordinated by Director General for Libraries, Cultural Institutes and Copyright = Direzione Generale per le Biblioteche, gli Istituti Culturali e il Diritto d'Autore,[44] within MiBAC. The project is open to other Italian and European contributors. Two sample projects have been described. These projects provide the Abruzzese institutions with a reasonable framework and general structures for project organization and production. The Via Francigena Project also demonstrates the *relative* ease with which geographic tagging may be applied to bibliographic information.

- INFORMATION INFRASTRUCTURE

The European Union makes the maturing and maintenance of information infrastructure one of its principle stated aims. Information infrastructure ensures an informed European electorate, as well as, feed-back loops and other means of communication for good government. Information infrastructure is funded also to improve education and access to an ever increasing number of governmental and non-governmental electronic resources. In Abruzzo, the EU acts to, among other interests, ensure a level of equal opportunity to access information, to mitigate the challenges imposed by terrain.

This suggests that one strategy for access to EU funding may be the targeting of schools outside of as well as inside L'Aquila, Abruzzo's capital city, for the delivery of its planned digital library resources. Secondarily, the earthquake diaspora – the temporary and perhaps permanent relocation of the citizens of L'Aquila and other localities near the earthquake's epicentre – to Pescara and other cities both within and beyond the borders of Abruzzo suggests additional rationale for an appeal to grow the information infrastructure. Abruzzo needs to communicate information and to maintain cultural connections to its citizens living away from their pre-earthquake residences. Perhaps more important, Abruzzo needs to maintain connections with its citizens in order to ensure the donation and bequest of cultural artefacts – objects as well as the written and spoken word – from those citizens to Abruzzo's institutional stewards of cultural information. An area's citizens have long been among the principle benefactors of the area's cultural institutions. This has been true in L'Aquila and throughout Abruzzo. A severed connection would be yet another after-shock of the earthquake of 2009.

The Abruzzese institutions represent the obvious locus of information infrastructure for historic cultural information. Information infrastructure interests for cultural information in general are much larger. The extent to which the Abruzzese institutions are able to couple their interests with the stakeholders in this larger cultural information area, the more likely their projects will be to succeed. Whenever possible, the Abruzzese institutions should float their proposals and update their progress with these stakeholders.

> *Recommendation 20:*
> As possible, stakeholders should be invited into the planning process for digitization, after initial planning but before finalization of a plan; and, that this take the form of a charrette.

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[43] The Via Francigena Project (http://www.francigenalibrari.beniculturali.it/ - an English version is also available).

[44] Director General for Libraries, Cultural Institutes and Copyright = Direzione Generale per le Biblioteche, gli Istituti Culturali e il Diritto d'Autore (http://www.librari.beniculturali.it/).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1344	The pace of development is rapid and requires skill-sets that the Abruzzese
1345	institutions will have to develop. Cultural tourism, for example, is changing fast,
1346	driven by technological developments. The advent of geographically (i.e., GPS
1347	and A-GPS) aware mobile devices such as the smartphone, enables the
1348	*geocaching*, as it were, of cultural and contextual information associated with
1349	cultural artefacts and *known places*.[45] The recent launch of Google Goggles[46],
1350	a service that supports the use of pictures to search the web, demonstrates the
1351	use of technology to connect what the tourist sees to supplemental information
1352	otherwise locked away in archives and libraries. Similar "augmented reality"
1353	applications for iPhone like Cyclopedia,[47] Open Landmark,[48] Robotvision,[49] and
1354	Wikitude[50] and HTC's Footprints[51] for Google Android and Windows Mobile
1355	telephones suggest that, in the not too distant future, mobile phone users will be
1356	able to place their phones in tour mode for guided tours, whether in museums
1357	or on the streets, drawing content from cultural institutions.
1358	

> *Recommendation 21:*
> Whenever possible, the Abruzzese institutions should engage the CASPUR to critique their plans and inform their decisions.
>
> CASPUR, as the regional super-computing facility for central Italy, including the Region of Abruzzo, is well positioned to evaluate technologies and to reality-check, to verify the feasibility of desired digital outcomes against available technologies, processing power, and skill-sets. Because it delivers services to a wide area, larger than the Region of Abruzzo, it can be instrumental in forging partnerships within central Italy and across Italy. Additionally, it is positioned to share information about applications and developments that have worked elsewhere, and, to share what works for Abruzzo within its larger area. Because it facilitates the purchase and delivery of commercial e-books and e-journals, it can offer advice on best methods of integrating locally created digital content with commercial digital content, enabling a seamless search system for patrons of Abruzzo's archives and libraries. Finally, because CASPUR is well-known and internationally respected, its collaboration may give funding agencies needed confidence to fund Abruzzese proposals.

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[45] A known place is a place that has been associated with longitude and latitude for discovery either on a map or in a physical space.

[46] See http://www.google.com/mobile/goggles/#landmark for description and demonstration of this Internet search method.

[47] Cyclopedia (http://www.appstorehq.com/cyclopedia-iphone-74227/app) overlays the mobile phone's viewfinder with Wikipedia information about surroundings within view.

[48] Open Landmark (http://www.appsafari.com/social/4340/open-landmark-2/) is an iPhone App that allows users to bookmark specific places on a map.

[49] Robotvision (http://www.appsafari.com/local/9898/robotvision/) is similar to Cyclopedia, but it queries the Microsoft Bing search engine, exposing the user to more than Wikipedia content and more directly to content digitized by archives, libraries and museums.

[50] Wikitude (http://www.wikitude.me/) allows users to link images to Wikipedia articles for purposes of visual landmark reference or documentation of architectural and other detail.

[51] Footprints (http://www.gpsbusinessnews.com/HTC-Footprints,-geotagging-with-a-twist_a1292.html) supports geo-tagging of images taken by smartphones.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1361 To many cultural institutions this technology seems like science fiction rather
1362 than something that can be acted upon. Certainly, such a project would not be
1363 without complication. This suggests that the Abruzzese institutions, with the
1364 right type of content – a resource such as their Antinori manuscripts that
1365 describes the cultural significance of Abruzzo[52] landmarks – and the right
1366 partnerships, could launch a model digital demonstration project. While the
1367 stakeholder exercise should reveal potential partners, e.g., the regional tourism
1368 board or particular tourist industries, one class of partner stands to benefit
1369 greatly and is, therefore, an optimal development and co-funding partner:
1370 mobile telephone service providers.
1371

> *Recommendation 22:*
> The National, Regional, Provincial and City governments should investigate
> the potential for funding of a high-speed wireless network that would
> effectively make the center of the City of L'Aquila one big hot-spot.
>
> The economic model should be sympathetic to local circumstances. It
> might be a hybrid combination subscriber / pay-as-you-go network such as
> that currently available in Rome.
>
> A free or semi-commercial subsidized network might make excess
> bandwidth available for civil and cultural uses. But, its primary purpose
> might be civil defense and, specifically, the collection and transmission of
> earth movement data. Such a network might be subsided further by
> charging an annual or transactional fee to commercial interests (e.g.,
> shops, hotels, restaurants, tourist industries, etc.) either or both to connect
> to the network or to make their content available over the network.

1372
1373 • GENEALOGY AND CULTURE
1374
1375 While general interest in Abruzzese culture and heritage exists both within and
1376 beyond Abruzzo, interest in genealogy is primarily found outside of Italy. It is
1377 particularly strong in North America. Organizations such as the Abruzzo and
1378 Molise Heritage Society[53] and the Federation of Italian American Organizations
1379 of Queens, Inc.[54] express an interest in genealogy. More broadly, organizations
1380 such as the National Italian American Foundation[55] in the USA and the National
1381 Congress of Italian Canadians[56] sponsor activities that foster continuing
1382 awareness of and connection to Italian heritage, including fundraising
1383 campaigns, education and scholarship, language training, etc.
1384
1385 It is important that genealogy be recognized as an interest arising out of cultural
1386 and heritage connections to Italy and Abruzzo. Conduct of genealogical
1387 research from remote locations requires access to cultural and heritage
1388 information. Digitization is an excellent vehicle for access.
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[52] The footprint of Abruzzo has changed over time. Abruzzo, in a broad historical context, should be taken to include parts of the Lazio and Molise Regions.

[53] The Abruzzo and Molise Heritage Society (http://www.abruzzomoliseheritagesociety.org) maintains an interest in, among other things, genealogy and cultural history.

[54] Federation of Italian American Organizations of Queens, Inc. (http://italianfederation.com/about_us) primarily serves the Italian American community in Queens, New York City, New York, but also has an interest in "maintaining their past traditions and the culture of their ancestral lands.

[55] The National Italian American Foundation (http://www.niaf.com/) maintains broad interests in Italian heritage and history. It sponsors language and learning programs. And, specific to the Abruzzo earthquake, supports an Abruzzo Adopt-a-Student campaign to fund student education-related expenses.

[56] The National Congress of Italian Canadians (http://www.canadese.org/ncic_Site_Mission.html)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

34

1390	Genealogists are keen, if not tenacious, researchers. As a group, they tend to
1391	be dedicated to information accuracy as much as to information access. There
1392	are several examples of genealogists volunteering from remote locations,
1393	particularly on projects that enrich online information. While remote volunteer
1394	effort requires contact management, quality control and possibly additional
1395	network security, it does not incur attention health-and-safety and other
1396	regulations attendant on-site volunteerism. The classic example[57] of remote
1397	volunteerism involves transcription of digital images, tagging and geo-
1398	referencing of transcribed text and images, and the construction or completion
1399	of ontologies, name authorities and life-events records that ultimately enrich the
1400	search experience.
1401	

> *Recommendation 23:*
> Include international organizations with heritage interests in Italy among stakeholders, develop contacts with them and share plans and updates on progress.
>
> In listing their interests, also assess their ability to assist with project development. Consider a broad range of assistance opportunities from direct cash contributions to volunteerism, as well as technology applications such as the use of social networking.[58]

1402	
1403	Closer to home, the Abruzzese institutions can learn from the example of the
1404	*Live Memories*[59] projects. Funded by the Fondazione Bruno Kessler,[60] *Live*
1405	*Memories* project exemplifies both the type of content and international
1406	collaboration that should give the Abruzzese institutions a start. This type of
1407	project allows the Abruzzese institutions to promote their own with-in scope
1408	interests while building popular support, and technical ability. Note that the
1409	founding *Live Memories* project partners the Università degli Studi di Trento
1410	with the University of Southampton in the United Kingdom. Here the University
1411	of Southampton provides technical and, specifically, computational assistance
1412	not available at the Università in Trento. Partnership with CASPUR for
1413	additional technical assistance, perhaps as an intermediary with an institution
1414	such as the University of Southampton,[61] or, the Sheffield University,[62] would

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[57] One example of remote volunteerism is the Alachua County (Florida, USA) Ancient records project (http://www.alachuaclerk.org/Archive/). Note its Volunteers Help page (http://www.alachuaclerk.org/Archive/CFDocs/VolunHelp.cfm).

[58] Social networking examples such as blogging and Twitter allow interested parties to follow, critique and even assist with the development of a digital collection. A more proactive example of the use of social technology is Mongabay.com's use of Google Earth to monitor deforestation in the Amazon River basin (see, http://news.mongabay.com/2009/1210-google_earth_deforestation.html).
More appropriate to what the Abruzzese institutions might hope to achieve, similar effort, to fix geographic location information to digital resources, was applied in the Institute for Library and Museum Services funded *Ephemeral Cities* project (http://www.uflib.ufl.edu/epc/) at the University of Florida and is now used by archives, libraries and their volunteers to supply metadata for digital resources to the *Digital Library of the Caribbean* (http://www.dloc.com/). Its Map Search (http://web1.dloc.com/ufdc/?m=hsm) demonstrates the resulting power of the application.
Microsoft Pro Photo Tools

[59] Live Memories (http://www.livememories.org/)

[60] Fondazione Bruno Kessler (English: http://www.fbk.eu/ or Italian: http://www.fbk.eu/it).

[61] University of Southampton's Intelligence, Agents, Multimedia Group (http://www.iam.ecs.soton.ac.uk/) supports complex information processing.

[62] Sheffield University's Advanced Knowledge Technologies (http://www.aktors.org/technologies/), specifically its Gate and Annie scripts, should be applied beneficially to a project that data-mines Abruzzo's cultural information.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1415	further benefit the technology needs of an advanced, show-case project in
1416	Abruzzo.
1417	

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Recommendation 24:
Study projects similar to those that the Abruzzese institutions might conceive of building. In addition to design and functional similarities, they should outline and consider dissimilarities and funding sources, as well as strategic alliances.

There is nothing wrong with following in someone else's footsteps, particularly to learn from proven experience or to develop a relationship with funding sources.

Funding agencies will recognize following in the footsteps of exemplar projects to be pre-tested and more likely than other projects of success. Strategically, it should benefit the Abruzzese institutions greatly, if their first project followed the design of an exemplar project.

Two examples, the *Via Francigena Project* and *Live Memories*, have been cited above as exemplar projects.

</div>

1418	
1419	Building toward meeting the needs of genealogists, as building toward the
1420	needs of the Earth sciences and tourism, requires a bit more than simple
1421	scanning and basic metadata. Digitization in these areas requires the creation
1422	and maintenance of name authority systems that exceed the current standards
1423	of bibliographic (and archival) authorities,[63] though meeting bibliographic
1424	authority standards is a fundamental first step that the Abruzzese institutions
1425	currently meet. Life-events data, whether created by staff, abstracted through
1426	automation from texts, or contributed by volunteers, requires the ability to
1427	monitor standards nationally and internationally, and, to build compliant data
1428	storage structures. This capability does not currently exist among the
1429	Abruzzese institutions. Ontologies and gazetteers, insofar as they exist, may
1430	need enhancement for localized variants, names in translation, and relational or
1431	spatial data not currently recorded. Partnership with a national authority, ICCU,
1432	for example, is optimal for the Abruzzese institutions.[64]
1433	

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[63] E.g., in the bibliographic community, for example: the Metadata Authority Description Standard (MADS) (http://www.loc.gov/standards/mads/), and, in the archives community, for example: Encoded Archival Context (EAC) (http://www3.iath.virginia.edu/eac/).
Name authority systems, which establish a standard form of name and record variants together with basic life-event data, e.g., year of birth and death, but fail to record relationship data which optimizes systems advanced search and navigation of digital libraries for genealogical (as well as tourist and other geographical content). Even the most forward looking of systems, EAC, fails to fully delimit collected data for optimal machine manipulation.
Gazetteers, geographic name authority systems, generally record current information and variant forms of names as known. They fail to reflect historic variation in footprint and geo-political units. This is true of the European Union's INSPIRE data specifications (http://inspire.jrc.ec.europa.eu/index.cfm/pageid/2). Abruzzo, for example, at one time included part of what is now Lazio and part of what is now Molise. This information is not recorded in INSPIRE systems and, therefore, goes undiscoverable within digital libraries compliant with the INSPIRE data specifications.
See also the following note.

[64] It might be noted that no well established digital library program, including those of national libraries and national archives, is responding well to the challenges of digital library enhancements to meet these needs. Indeed, most programs based in libraries and archives are simply reproducing analog systems in digital designs. They fail to grow designs that analog systems were not capable of meeting. In part, this is because librarians and archivists have not been taught, traditionally, to think beyond the systems they use – systems largely migrated from the analogue systems of the recent past.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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1436   **2. Collections and Uses**
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1438   The Abruzzese institutions suggested a number of projects, ranging from projects typical of the
1439   North American Institutional Repository, to course-use materials projects, and projects to
1440   digitize out of print books, rare books, and manuscripts. With one exception, these projects
1441   were format-based. Newspapers and serials were considered but quickly dismissed relative to
1442   efforts required to clear copyrights.[66] Photograph, audio and video, it appeared, were regarded
1443   as ancillary materials. And, though this last class of materials, arguably, is more fugitive than
1444   non-electronic media, there was little interest in the class.
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[65]   Automated Mapping Facilities Management (AM/FM) (http://www.amfm.it/) is responsible, in Italy, for development of the National Spatial Data Infrastructure = Infrastruttura di Dati Territoriali Nazionale (IDT). Italian geographic metadata is required to meet the specifications laid out by the European Union's INSPIRE Directive (http://inspire.jrc.ec.europa.eu/). Its data specifications are documented at http://inspire.jrc.ec.europa.eu/index.cfm/pageid/2

[66]   Most North American (and European) digital library programs steer clear of newspapers and serials still protected by copyright for just this reason. The effort required can be taxing, particularly on the limited reserves of a digitization program based among cultural institutions.
Notable effort such as archiving-for-content work pioneered by the *Florida Digital Newspaper Library* (FDNL) based at the University of Florida and *the Caribbean Newspapers Digital Library* (CNDL) may provide the Abruzzo institutions with future guidance. Such projects remain complex if, in the end, not impeded.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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> *Recommendation 26: (continued)*
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> The advantages of a physical preservation assessment for digitization are several. Assessment provides guidance on handling materials at risk. Moreover, it allows an institution to balance response with risk, incidentally providing an institution with a sound rational for a targeted format specific digitization project as part of a larger preservation plan. It also challenges an institution's assumptions about value. If done well, the assessment will consider materials and storage conditions, risk and valuations, establish topical characterizations upon which it hands analyses of collections utility.
>
> In the Italian context a physical preservation assessment is particularly viable with the aid of the (MiBAC) Direzione Generale per le Biblioteche, gli Istituti Culturali e il Diritto d'Autore, and, possibly with the assistance of Italian Library and Information Science or Computer Science programs. It may also be possible to successfully advertize the need among the American Library Association's (ALA) Preservation and Reproduction Section (PARS).[67]
>
> Regardless, the Abruzzese institutions should seek to remotely, if not personally, address the next Annual meeting of ALA/PARS, which is scheduled for 24-29 June 2010.

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> *Recommendation 27:*
> The Abruzzese institutions should seek to remotely, if not personally, address the next Annual ALA/PARS Preservation Administration meeting, which is scheduled for 24-29 June 2010. Consider requesting travel funds from a funding source.
>
> It should be possible to make remote connections via Adobe, Google, Microsoft, Skype or other software.
>
> The meeting should afford opportunities for support and advice, partnerships and hooks into funding sources as relationships develop over time, volunteers, etc.
>
> The meeting is attended by Americans, Canadians and other nationals. The Preservation Administration meeting is attended by preservation librarians who run successful preservation programs, many of whom have completed large, complex preservation assessments.   It is also attended by conservators who, together with preservation administrators, in the past, have organized foreign assistance efforts. It is also attended by representatives of granting agencies, who if approached later by one of Abruzzo's partners, may be more receptive to an Abruzzo project.[68]

1450
1451 Additionally, several more topical projects were considered, for example, projects focused on
1452 food, cuisine and migration (largely, emigration from Abruzzo). These tended to be more
1453 inclusive of photographs, audio and video. But again, most were not within the immediate
1454 scope of interest for the Abruzzese institutions.
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[67] American Library Association – Preservation and Reproduction Section (PARS) (http://www.ala.org/ala/mgrps/divs/alcts/mgrps/pars/index.cfm). Some members of the section speak Italian or a Romance language, such as Spanish, that might facilitate communication.

[68] Both the U.S. National Endowment for the Humanities (NEH) and the U.S. Institute for Museum and Library Services (IMLS) have been known to grant foreign projects when partnered with a U.S. institution and supported either by some level of external funds, e.g., Italian government, a donor, or a donor-agency.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Note: For purpose of the present discussion, this section will discuss only digitization targets, things that could be digitized. Digitization for education, here, is a worthy, but secondary product. It first requires consideration of what could or should be digitized.

1458
1459 Regardless a physical or topical approach to selection for digitization, several ambiguous facts
1460 may be stated: Some have greater probability of usefulness than others. Some are clearly
1461 more valuable and unique than others. And, so on. Development proposals, whether for
1462 personal or internal direction, or, for external funding, require discussion of usefulness. Why
1463 should this or that be digitized?
1464
1465 Regrettably, there are a number of factors that make a collection more or less viable for
1466 digitization. Copyright will play a major role. At this point, among the Abruzzese institutions,
1467 only the Archivio di Stato has staff with good and broad understanding of copyright as
1468 expressed within Italian law. This understanding must be brought into any developing
1469 digitization program.
1470

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[69] 1868 is actually a conservative date. Italian copyright law (Law No. 52 of 1996-02-06) protects a work for seventy years from the death of the author, per ICCU. The law was applied retrospectively; so, works that had already entered the public domain had protections restored. See also, Wikipedia entry on the European Union's Copyright Duration Directive (93/98/EEC) (http://en.wikipedia.org/wiki/Copyright_Duration_Directive_(93/98/EEC)).

[70] Imprints, as opposed to an author's life work. The distinction is fine. In the case, for example, of the work of an Italian author published in Spain, which country's law governs.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Copyright exclusions quickly limit what can be done with several collections pre-selected by the Abruzzese institutions for quick assessment. Textbooks, scientific and technical manuals, many and probably a majority of out-of-print books and some proportion of rare books and special collections are very probably protected by copyright. If the Abruzzese institutions can not commit to copyright clearance procedures and all of the follow-up contacts that such procedures often entail, they should exclude these materials. This one action effectively eliminates the majority of titles pre-selected by the University. It also rules out topical collections that have modern, post-1868 beginnings. Much of the published literature of the modern science of geology, including seismology, is eliminated by this one restriction.

The physical condition of resources selected for digitization may also be a factor. Condition is likely to be more of a limiting factor than eliminating factor. Digitization, in principle, should never do great harm to a physical resource. It may be acceptable to do some harm, if conservation treatments are available for sound repairs sympathetic to the document's original state. For this reason, North American digitization programs work hand in hand with preservation and conservation programs. Archives and rare book digitization programs there either maintain their own internal conservation facilities or employ a contractor with trained, certified conservators. Excluding the Archivio di Stato, the Abruzzese institutions have no conservation facilities. The facilities of the Archivio are rudimentary. The training of staff providing rudimentary conservation treatments there could not be assessed for this report.

Recommendation 30:
Whether they have conducted the recommended collection-level physical condition assessment, every item inscribed or created before 1868 should be subject to a physical condition assessment prior to digitization.

This assessment should be completed by an individual trained at least to triage all of the material types that can expect to be digitized, including:

- Books in various historic binding styles;
- Papers of various historic types;
- Vellum and leathers, prepared by various historic methods;
- Inks and paints, prepared by various historic methods, as used on various surfaces; and,
- Photographs of various historic types

Presumably, because resources digitized in Italy become publicly available (i.e., for some public good), it is further recommended that the (MiBAC) Direzione Generale per le Biblioteche, gli Istituti Culturali e il Diritto d'Autore consider subsidizing a service to some threshold of production (after which an institution selecting more for inspection must pay an increased fee).

It may also be acceptable to do some harm during digitization if the extent of harm does not exceed that typical of one intensive use for a volume in circulation or several intensive uses for a volume in a reference collection. There may be other reasons to do harm to a volume to facilitate digitization, e.g., when more than one copy exists, or, an original is already in an advanced state of disrepair. Another case in point: when is reasonable to unbind a reference volume, even one published before 1868, for digitization? What price points should be considered? Price of the volume in original state? Cost savings: digitization of a bound original versus an unbound original? Unbinding can result in significant savings, but is unbinding justifiable? If unbinding goes forward, will the volume be restored to near original state? All of these questions have implications for cost and efficiency. They sometimes need to be made on a case by case basis.

As yet, the Abruzzese institutions have not considered a general policy position for this type of question. They have not built flow-charts for basic decision making and, therefore, lack the frame upon which to document more complex decisions.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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> *Recommendation 31:*
> Digitization actually calls for wide range of preservation policies; the Planning Committee should invite digitization and preservation experts to offer policy suggestions, to help them build flow-charting mechanisms that can continue to document policy and guide future decision making.

Another limiting factor is the lay of the land. This factor is typically expressed as a question designed to assess project viability.   These questions, in turn, are usually both about the physicality of a resource (i.e., other copies) and about the extra-physicality of intellectual content. The answers to both sets of question should at least have been touched upon in the course of the recommended Stakeholder Exercise.

PHYSICALITY

Are my materials unique? If not unique, what other institutions make copies available? Would they support my digitization of these materials? … and, might they then write a letter of support for my funding request? What institutions might want to have access to my copy? … and, might they then write a letter of support for my project? … or, how intense is their interest in my copy, indeed in my collection? … might they be willing to partner, to extend their technology in exchange[71] for my content, or, to attempt coordinated funding: they consulting their funding sources while I consult my funding sources?[72] How frequently are my materials used? Have I maintained circulation, reshelving or reference statistics on this (or that) resource?

These kinds of questions help an institution to determine who its partners and collaborators may be. They build constituencies beyond the Abruzzese institutions. And, they begin to answer questions, asked by every funding agency, about the efficacy of funding and the usefulness of funded projects both within and beyond the funded location.

These questions also broaden finding horizons and help an institution to anticipate funding agency questions before they can be asked. With the exception of the Antinori manuscript, the Abruzzese institutions have neither asked nor answered these questions. Not having done so may jeopardize their funding requests, leaving them blind-sided by common questions.

EXTRA-PHYSICALITY

Who uses my materials? Why are they valued? How are they used? If digitized, how do users anticipate that they will be available? Page images, available in succession online? In a bundled format like PDF? Text searchable? Geo-referenced? When they use this material, what ancillary materials do they use alongside it? Maps? Photographs? Archives? Does the user expect to be able to download the materials and to use them off-line?

These questions begin to enter the mind of the user, to understand the user's desires and needs, and to plan accordingly. They will help the Abruzzese institutions to wide convincing arguments, demonstrating that they understand the value of the source information and its utility in digital form. Some questions will help them to grow the resource, to phase a project if necessary others will help them build collections. When users avail themselves of particular research resources, they often use other resources to better comprehend that primary

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[71] Technology-for-content exchanges have worked well in the Caribbean (cf, Digital Library of the Caribbean – http://www.dloc.com/) and Africa (cf, Aluka - http://www.aluka.org/). A well structured exchange mitigates duplication of costs in the building of technologies and content both. An exchange may "buy", as it were, access to technologies – optical character recognition, for example – not readily available through the *current* BDI partnership.

[72] An example of such partnership might include agreement to create an Abruzzo cultural portal with partners in the USA. With a well structure grant proposal at hand – one that sates user needs and granting agency interests, both partners would seek funding that contributes to the whole. The Abruzzese institutions would seek funding for their part of the project from Italian sources. The American partner might seek funding from the National Endowment for the Arts or the Institute for Museum and Library Services.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

41

1554	resource. With limited exceptions, the Abruzzese institutions have not yet asked these
1555	questions.
1556	
1557	One of the problems faced by the Abruzzese institutions is that other digital libraries already
1558	exist, targeting materials similar to those targeted by the Abruzzo institutions. Nearly all were
1559	created following some form of more or less detailed analyses. The Abruzzo institutions need to
1560	demonstrate why their content is important and to present reasonable plans capable of making
1561	content useful. White planning is always a recommended prerequisite to project design or
1562	seeking funding, the Abruzzese institutions may find if viable to ride the coat-tails of an existing
1563	project. Ostensibly, an existing project already has an accepted rationale that could be adopted
1564	by the Abruzzo institutions.
1565	
1566	Again, these questions are usually explored during a Stakeholder exercise.
1567	
1568	As digital libraries have grown over the years, indeed, as the Internet has grown, user
1569	expectations have grown with them. Though digital libraries build from the ground-up, from
1570	page source to page image to searchable page text to enhancement of text, it is no longer
1571	acceptable to just plan for a digital library of page images. Internet users accustomed to
1572	keyword searching no longer want the digital equivalent of a microfilm.[73] Even the BDI
1573	anticipates the implementation of optical character recognition (OCR) technology to make text
1574	searchable. Items to which OCR does not readily apply, for example, holographic manuscripts,
1575	should consider some level of supplemental indexing, perhaps in a phased approach to project
1576	development.
1577	

> *Recommendation 32:*
> The BDI should continue its move toward implementation of optical character recognition (OCR) technology.[74]

1578	
1579	Appendix 3 (*3a: Italian version; 3b: English version*) list some of the projects pre-selected by
1580	the Abruzzese institutions for preliminary assessment. The following considers those projects
1581	individually. The order is relative to assessment of perceived funding potential.
1582	
1583	OUT OF PRINT BOOKS
1584	
1585	The topical content of out-of-print (OP) books pre-selected for possible digitization was
1586	unspecified. OP books that might be selected for digitization, ostensibly, would be those
1587	for which there is user demand.
1588	
1589	Digitization of OP books is problematic, complicated by copyright. Copyright
1590	complications, here, however, are relatively straight-forward. Their resolution requires
1591	staffing to pursue copyright holders' permission for digitization and subsequent
1592	maintenance of agreements. Procuring permissions can be time consuming, but the
1593	greater problem is managing permissions once acquired. Authors rarely sign over all of
1594	their rights or even some of their rights without restriction. Common restrictions include
1595	limits on downloading, on the quality of the digital objects up-loaded for public access, on
1596	who can access the item(s), etc.
1597	
1598	The Abruzzese institutions have no staff currently allocated to copyright clearance. With
1599	the exception of one archivist/librarian, staff of the institutions lacks the skills to establish
1600	policy and the experience to supervise copyright clearance activity. The bigger problem
1601	for the institutions is what they do with a protected work after permissions have been
1602	granted. Such works cannot be contributed to the BDI at this time. Because the BDI

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[73] In the European Union, advanced activity in this area is coordinated by CORDIS Information and Communication Technologies, currently (2009/2010) in its 7th Framework Programme (http://cordis.europa.eu/fp7/ict/) – not available in Italian.
The PAPYRUS project (http://www.ict-papyrus.eu/default.aspx?page=home), with two Italian partners, is building one model.

[74] See "Knowledge and Training" below for further discussion.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

42

1603 does not have the automation in place to manage permitted rights, it does not accept
1604 such items. That would leave the Abruzzese institutions having either to find another
1605 digital library service provider at cost – recall that the BDI charges no fee at present – or
1606 to build, maintain, and grow the services for themselves. And, here again, they lack the
1607 staff and the funding to do so.
1608

Recommendation 33:
The Abruzzese institutions should not pursue their interest in out-of-print books at this time.

1609

Recommendation 34:
The Abruzzese institutions should avail themselves, inasmuch as possible, of BDI services and contribute content to the BDI.

The cost to the Abruzzese institutions to build and subsequently maintain and grow their own services, on top of networking equipment, servers and infrastructure would be very costly.[75] Those services would then duplicate the services already in place and freely available to the Abruzzese institutions from the BDI.

Accepting this cost savings does mean accepting BDI policy. That seems a small price to pay. Accepting it allows the Abruzzese institutions to throw their money into development of imaging, image processing, metadata, and data-enhancement elements of a digitization program. Building jointly allows the Abruzzese institutions to maximize their productivity, leaving the more skilled and hire paid positions associated with systems maintenance and programming to the BDI.

1610
1611 TEXTBOOKS
1612 Alternately, and Open Content Lesson-Plans and Textbooks
1613
1614 The topical content of textbooks pre-selected for possible digitization was unspecified.
1615 Textbooks that might be selected for digitization, ostensibly, would be those used in
1616 current course-work.
1617
1618 Digitization of textbooks is problematic, complicated by copyright. Copyright complexities
1619 apply to a textbook as a whole and to individual rights within a textbook, i.e., images and
1620 texts licensed for use in the textbook. A publisher that has licensed content for a specific
1621 use, i.e., publication of the textbook, e.g., illustrations and texts otherwise copyrighted, is
1622 not within his rights to allow reproduction of licensed content even if he allows digitization
1623 of content that he clearly owns.
1624
1625 Digitization of textbooks requires extensive copyright clearance work. At present, the
1626 Abruzzese institutions lack the FTE to undertake this work. The only individual, who has
1627 the knowledge necessary to supervise the work, appears to be fully committed to other
1628 work. And, while he might be reassigned, there appears to be no other individual who
1629 could then assume the duties he would no longer be able to fulfil. Additionally, this
1630 individual is employed by the Archivio while the bulk of textbooks reside at the University.
1631 While an agreement to collaboratively develop a digitization program has been
1632 encouraged,[76] the sharing of staff in this manner at an early stage in program
1633 development is highly unlikely.
1634
1635

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[75] For purposes of this assessment, cost will not be fixed or otherwise suggested. Fixing a cost required more knowledge of desired performance and other variables not available for consideration at this time.

[76] See recommendations above.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

43

> *Recommendation 35:*
> The Abruzzese institutions should not pursue their interest in textbooks at this time.
>
> If interest in textbooks is more universal, issues should be taken up by the (MiBAC) Direzione Generale per le Biblioteche, gli Istituti Culturali e il Diritto d'Autore (DGB) in collaboration with the Ministry of Education, Universities and Research = Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR).[77]

Alternatively, the Abruzzese institutions in collaboration with lower-form schools, might propose to replace a selected textbook(s) or lesson plan with a locally created open-source textbook or lesson plan, perhaps one dealing with early Abruzzese history and culture that might draw on illustration and supplemental readings from the digitized collections of the Abruzzese institutions. In the wake of the earthquake, MIUR's Ministry of Public Instruction = Ministero della Pubblica Istruzione[78] maintains La Scuola per l'Abruzzo.[79]

> *Recommendation 36:*
> Consult with La Scuola per l'Abruzzo program and others in the Ministry to discuss brining a proposal to build open source lesson plans and textbooks.
>
> Before discussing this with the Ministry, the Abruzzese institutions would be well advised to discuss enabling technologies with CASPUR. Among its many responsibilities, for example, CASPUR support the Moodle technology,[80] open course management software. The combination of Moodle with open course content could gain EU funding. CASPUR might also support chat and digital reference technologies for such a project.

> *Recommendation 37:*
> The University should investigate use of Moodle and consider test deployment.
>
> A well managed course management suite, in addition to transforming education for the wired and wireless world, is likely to ensure the capture and maintenance of the University's teaching assets.
>
> Again, CASPUR might be consulted for implementation and support of the Moodle software, including access authorization, versioning and archiving support.

While such effort does not appear to be within scope of the Ministry, there may be no better time to suggest the need for copyright-free textbooks or lesson plans. The material costs of the books and materiels supplied by La Scuola appear to be tremendous. These might be off-set, in future earthquakes, by an open source alternative pioneered in Abruzzo.

The Abruzzese institutions may note that this suggestion is also not within their scope. The project, however, has the potential, first, to allow the institutions to slowly wet their feet. Without the planning needed to launch a bigger project, taking a supporting role should allow them to develop services, to experience and build from mistakes without costly consequences. Building a project that, from the word *go*, integrates libraries and archives into teaching allows them to maintain ground otherwise being lost to Internet

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[77] Ministry of Education, Universities and Research = Ministero dell'Istruzione, dell'Università e della Ricerca (http://www.miur.it/).

[78] Ministry of Public Instruction = Ministero della Pubblica Istruzione, officially known as the Ministero dell'Istruzione, dell'Università e della Ricerca (http://www.pubblica.istruzione.it/)

[79] La Scuola per l'Abruzzo (http://laboratoriocreativostudentesco.it/abruzzo_sito/) – Italian only.

[80] Moodle (http://moodle.org/). Moodle is open source software. There is also commercial software, including the popular Blackboard (http://www.blackboard.com/) technology.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

44

1659	search. The use of chat and digital reference[81] (again services that might eventually
1660	become national services as a successful program builds, in future, toward economies of
1661	scale) should both tie the user back into the archive/library, and, the archive/library into
1662	the user's concerns, methods, etc. – knowledge that will enrich future, more complex
1663	projects and funding requests. Finally, such a project has tremendous potential to attract
1664	education funding insofar as it may also be able to engage North American and other
1665	European educators. Teaching the Italian language, history or culture is among the main
1666	objectives of Italian associations in North America (and elsewhere). And, the application
1667	of educational and information technologies is of considerable interest to both North
1668	American[82] and EU institutions[83] of higher learning.
1669	
1670	SCIENTIFIC AND TECHNICAL MANUALS
1671	Alternately, an Institutional Repository
1672	
1673	The topical content of scientific and technical manuals pre-selected for possible
1674	digitization was unspecified. Those that might be selected for digitization, ostensibly,
1675	would be those used in current course-work.
1676	
1677	As regards digitization of textbooks, the digitization of scientific and technical manuals is
1678	problematic and complicated by copyright. Copyright complexities apply to scientific and
1679	technical manuals much as it does to textbook. Images may be licensed. Copyrights in
1680	text and data may be shared, sometimes across international borders. A government
1681	may maintain an interest in the copyright, particularly if government funded the scientific
1682	experimentation and studies on which a manual or text has been based. A corporation
1683	may similarly claim a copyright interest.
1684	

> *Recommendation 38:*
> The Abruzzese institutions should not pursue their interest in scientific and technical manuals at this time.

1685	
1686	Alternately, the Abruzzese institutions, particularly the University, might consider
1687	establishment of an Institutional Repository. Scientific data and procedure frequently
1688	originate in Universities. Inasmuch as a University supports the generation of scientific
1689	data and the creation of procedure, it has a stake in collecting and maintaining this
1690	information. And, there may be no information more fugitive, more at risk of loss through
1691	negligent storage (i.e., deterioration in storage) that scientific data and the procedural
1692	documents the (may) lend credibility to the scientific methods employed to extract data.
1693	Information storage media and formats change quickly even if they do not deteriorate.
1694	
1695	

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[81] These services that might eventually become national services as a successful program builds, in future, toward economies of scale.

[82] See, for example, EduCause (http://www.educause.edu/).

[83] See, the European Union's Information Society and Media Directorate (http://ec.europa.eu/dgs/information_society/index_en.htm) – Italian not available; available also in French and German.
The European Distance and E-Learning Network (EDEN) (http://www.eden-online.org/) may be Europe's equivalent to EduCause. Both maintain interest in Education, information and technology.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

45

> *Recommendation 39:*
> The University should investigate institutional repository software packages and consider test deployment, together with a digital archiving plan for the collected assets.
>
> CASPUR, which supports the D-Space[84] software, might be consulted. The D-Space software might be used for a test deployment. CASPUR also offer digital archiving services if this content does not enter the BDI.
>
> Investigation should include review of the University's records management inventory. Test deployment can be expected to have some staffing and infrastructure costs.

A digital Institutional Repository is typically driven by a University's records management inventory supplemented by an awareness of research product and by-products. An existing inventory should be updated with information about production (is the asset produced electronically even if distributed in print?) and distribution (is the asset utilized in an electronic format?), as well as current digital archiving status. Assets utilized in electronic format should be primary targets for a digital Institutional Repository. Those which are not now digitally archived may be at more risk than those which have no digital archiving action plan. Existing digital archiving action plans should be assessed, preferably against OAIS,[85] PREMIS[86] or other rational implementation models.[87]

> *Recommendation 40:*
> The Planning Committee should consider strategies for digital archiving.
>
> Insofar as the Abruzzese institutions agree to contribute their content to the BDI, they should utilize the digital archiving services of the BDI. (See additional technical recommendations below.)
>
> Insofar as the Abruzzese institutions do not or are unable to contribute their content to the BDI, for example, as may be the case for scientific data and lesson plans, they should seek out reliable, standards compliant services for digital archiving. – Again, CASPUR offers digital archiving services within a super-region including the Region of Abruzzo.

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[84] D-Space (http://www.dspace.org/)

[85] OAIS (http://www.ukoln.ac.uk/repositories/digirep/index/OAIS)

[86] PREMIS (http://www.loc.gov/standards/premis/)

[87] In the European Union, digital preservation activity is coordinated by CORDIS Information and Communication Technologies, currently (2009/2010) in its 7th Framework Programme (http://cordis.europa.eu/fp7/ict/) – not available in Italian.
Digital preservation models are being developed under three projects:
1. CASPAR (http://www.casparpreserves.eu/), with several Italian partners;
2. DPE (http://www.digitalpreservationeurope.eu/); and
3. PLANETS (http://www.planets-project.eu/), with no Italian partners.
These efforts are not mutually exclusive. Some of DPE's tools, e.g., DRAMBORA and PLATTER, will be useful beyond other DPE specifications.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

46

THE "DE BARTHOLOMAEIS" COLLECTION

Vincenzo de Bartholomeis, 1867-1953, was born in the Province of L'Aquila and educated in Rome. He became known, as a philologist, for the study of Abruzzese literature.[88] The De Bartholomaeis Collections is regionally important and among the most complete collections of De Bartholomaeis holdings in any one location. Ancillary materials are also part of the collection.

Italian copyright protects the works of De Bartholomaeis through sometime in 2023. Typically, digitization of protected works would be complicated. De Bartholomaeis' special relationship with Abruzzo and L' Aquila in particular, however, may make successful an appeal to his heirs for permission to digitize.[89] There is, not withstanding successful negotiation with the De Bartholomeis heirs, one small complication, however. Selected De Bartholomaeis works are co-authored or edited. Permission to digitize the intellectual property of co-authors and editors must also be sought.

There are additional complicating factors; factors that may render requests for external funding difficult. Sample survey of De Bartholomaeis' works (Appendix 4) reveals that a substantial number of these works have already been digitized and made freely available on the Internet. Google Books provides access to as many as 153 works authored by De Bartholomaeis[90] while the Internet Archive provides access to 2 works.

Notwithstanding the legality of the copies made available on the Internet, it would appear that there is little reason to duplicate effort.[91] Reasons commonly used to argue duplication of effort (if not partnership with the holder of the digital object) include data-mining and data-enhancement. In this scenario, the holder of a digital resource does not make it available for advanced research. As a result, a second institution digitizes a previously digitized resource in order to acquire a source of text or illustration that can be mined or enhanced for its own research purposes.

The Abruzzese institutions face two problems here. First, they have yet to identify the research purposes for which the De Bartholomaeis Collection would be digitized. They clearly recognize its importance. But, arguments that go to the collection's utility for research, how research is conducted within the collection and on particular titles within the collection, etc. have to be made. Lacking these arguments, a request for external funding looks like a promise: *if we build it, they – the researchers who will praise the project and its funders – will not only come to use it; but they will find it constructed so as to facilitate their work. It will be built just as they would have built it themselves*. Second, they not only have to build the services or partnerships that can bring them the services to scan the content, but services to generate reasonably accurate text from it, and/or, the infrastructure to enhance it by tagging or other means. Neither task is beyond them, but each requires additional planning.

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[88] De Bartholomaeis, Vincenzo, 1867-1953. For a selected bibliography, see Appendix 4.

[89] An appeal for permission to digitize might be the more successful if the University requests non-exclusive, non-commercial rights of digital reproduction, and, as necessary, if it agrees to provide the heirs with a copy of all digital files [image masters (e.g., TIFF), distribution images (e.g., JPG, PDF, etc.), digital by-products (e.g., TXT files generated from OCR or double-keying)] produced from De Bartholomaeis' works. For sample copyright permission request forms see those of the University of Florida's Digital Library Center at http://www.uflib.ufl.edu/digital/procedures/copyright/

[90] See http://books.google.com/books?q=+inauthor:"+Vincenzo+De+Bartholomaeis"&source=gbs_authrefine_t

[91] Most funding agencies avoid funding projects that represent a duplication of effort, even effort that may yet be determined to have been illegally undertaken.
Note that under Italian and European Union law, De Bartholomaeis works in Google appear to be *fruit of the forbidden tree*. For brief comment on the copyright issues, see Appendix 4.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

47

> *Recommendation 41:*
> In planning for digitization, the Planning Committee should adopt best practices, including:
>
> - Planning construct similar to the United Kingdom's Prince2[92] standard or the Italian or European Union equivalent for process-based project management.
> - Completion of collection assessment surveys based on statistically valid random survey methodology, that characterize collection in terms of:
>   - Copyright status;
>   - Bibliographic availability (in original, reprints, microform, and digital versions);
>   - State of physical conservation (of the various formats identified);
>   - State of environmental storage conditions (for each of the various formats identified); and
>   - Existing and potential uses, with documentation of classroom use and, as indication of research uses, citation analysis.

1753

> *Recommendation 42:*
> Presuming that the De Bartholomaeis Collection merits the effort that copyright clearance will require, the University should begin to define the rationale for its digitization.
>
> Planning for digitization should not proceed until need is certain and utility defined and measurable.

1754

> *Recommendation 43:*
> ICCU, perhaps in collaboration with CASPUR, should explore (the creation of) tools that allow distributed search of SBN – and BDI as a subcollection; and Internet book collections, e.g., Google Books, Google Scholar, and Internet Archive.

1755
1756 Advancing the digitization of the De Bartholomaeis Collection depends greatly on the
1757 collection's research use and potential uses once digitized. Cursory examination
1758 suggests that while valued as an artefact of De Bartholomaeis' life, the collection is also
1759 valued for its importance to philology, and, the study both of Abruzzese literature in
1760 particular and of Italian literature more generally. A digitization project might include
1761 sample literature, both that studied by De Bartholomaeis and that supplemental corpus
1762 that might, now, continue the studies he began.
1763
1764 As noted earlier, digitization is often seen as serving three purposes: preservation,
1765 access, and research utility. Digitization of the De Bartholomaeis Collection could
1766 possibly serve each of these ends. With exacting measures to generate optimal digital
1767 images, texts, etc. and to ensure digital preservation to international standard, digitization
1768 is a fine means of preservation. But there are other means of preservation that can be
1769 achieved by more traditional and perhaps less costly methods. Relative to the costs of
1770 preservation, funding agencies usually fund only one means of preservation. If the De
1771 Bartholomaeis Collection is, indeed, an artefact of De Bartholomaeis' life, then it must in
1772 any case be preserved as an artefact. A digitization funding request should state that it
1773 will take all actions necessary to digitally preserve the resulting digital products, but it
1774 should reserve the argument for preservation of the collection to the physical collection.
1775
1776

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[92] Prince2 (http://www.prince2.com/); see also http://en.wikipedia.org/wiki/PRINCE2 (English only).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

48

The argument for access requires the ability to forward the defensible statement that either or both (a) physical access is too limiting – e.g., a class of 50 students will need to make use of the collection and the library is not open enough hours to meet the projected need, or, the collection would be utilized by linguistic studies programs in N Italian universities and availability in L'Aquila alone of all but a few titles merits the creation of digital facsimiles – (b) increasing demand on the physical collection places it at risk of deterioration no matter how many conservation treatments are available, no matter what preservation precautions have been put into place. If arguments such as these cannot be made, digitization for access remains unwarranted and non-compelling.

Why make an argument for access when building a digitization program? A digitization program is built in at least three stages – cataloging, imaging, and text generation.[93] Presumably, within the tradition of modern libraries, the institution is capable of cataloging.[94] An access project allows fundamental program development of the imaging stage. The product of an access project, as exemplified by the BDI, is a page-for-page digital facsimile of source documents. Typically, in the United States, funding requests for access projects include line items (sometimes cost-shared) for imaging infrastructure: scanners, computers, digital storage, servers, etc.

The argument for research utility requires an appreciation for how the collection is used. A facile but defensible argument to be made with corresponding documentation for any philology collection goes to the value of language and the need to ensure that language is searchable and can be processed. Research, the argument continues, is facilitated and researchers become more productive when machine readable is available to query and analysis. Of course, it helps if the argument can be quantified in terms of time saved,

---

[93] Arguably, a digitization program is built in more than three stages: *cataloging*; physical preservation and conservation; *imaging*; digital preservation; text *generation* and its enhancement(s); promotion of use (in teaching and research); and, the collection of the by-products of use such as faculty papers, classroom lectures, etc.

[94] ICCU and BDI, at least, make this assumption inasmuch as they require cataloging for all items contributed to the BDI.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

49

1804	productivity increased, and – especially – Euro value realized.[95] The De Bartholomaeis
1805	Collection has a strong case to make for machine readable text. It is a case that can be
1806	made more easily for the De Bartholomaeis Collection than can be made for other
1807	collections.
1808	
1809	What is the value of this argument when building a digitization program? It helps an
1810	existing imaging program to more toward the generation of machine readable and
1811	searchable text. Typically, in the United States, the argument has underpinned the
1812	growth of digitization programs into the generation of text[96] and, increasingly, into the
1813	enhancement of text through tagging.[97] Funding requests for text and text-enhancement
1814	projects include line items (sometimes cost-shared) for OCR software, double-keying
1815	services, tagging services, ontology software, and even programming costs.
1816	
1817	With the generation of text and text-enhancement services, however, comes additional
1818	complexity. The Abruzzese institutions are not yet ready for this level of complexity. This
1819	is not to say that they may not have justifiable need for these services. The need, likely,
1820	can be justified easily – for the De Bartholomaeis and the Antinori (*below*) collections in
1821	particular. They need to work toward this level of complexity.
1822	

> *Recommendation 46:*
> The Abruzzese institutions are encouraged to work with the ICCU and BDI to explore projects, such as the De Bartholomaeis and Antinori collections, that allow the ICCU / BDI to extend services to the generation of OCR text.
>
> Development of text services at ICCU, rather than in Abruzzo, benefits the Abruzzese institutions in that subsequent maintenance of the services falls to the ICCU, not to themselves. Not enough can be said of the financial benefits of this kind of specialization in a complex system with large development costs. And, in turn, this allows the Abruzzese institutions to concentrate of production which benefits them with more resources targeted to their needs, with an increased national profile, etc.
>
> Further, the development of a *developmental* relationship with the ICCU should have subtle outcomes. It conditions the ICCU to the role of a service enabler as well as a service provider. It conditions the Abruzzese institutions to keep their eye on research *problems*. Freed of the distraction of developing and maintaining systems,

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[95] Presumably, a more productive researcher brings in more grant funding, more quickly establishes a profile that enhances the institution's and the country's reputation in academic circles, in turn contributing to a growth in partnerships that bring in more project funding, donations, etc. Presumably, students find more resources more quickly in text searchable collections than they do in collections accessed only through the metadata of a catalog record.

[96] Usually by Optical Character Recognition (OCR) – a machine process that provides varying degrees of text accuracy – but sometimes by Double-Keying – a process that entails re-keying (re-typing) a document twice over, comparing the two products, identifying differences through programming, and correcting the identified differences. Double-Keying usually results in a more accurate text. OCR and Double-Keying are undertaken, by US institutions, either in-house or through contracting. Until recently, the cost of OCR *engines* capable of producing highly accurate text output led many US institutions to contract both OCR and Double-Keying services. Also, the cost of correcting even highly accurate OCR output has been prohibitively expensive to date. Most US institutions accepting OCR generated text have accepted "dirty" – uncorrected – text. Some US institutions, in turn, have used this as an argument for the subsequent establishment of automation that facilitates employment of a volunteer "army" to help correct or tag text.

[97] In US digitization programs that enhance text, tagging is *all over the map*. It is used for geo-referencing, the assignment of longitude and latitude to place names; for name authority, to differentiate the names of people; for ontological referencing, to form associations of words in text to words and concepts in other texts; and even, as in the example of the University of Virginia's E-Texts program, to mark-up expressions, parts of speech, concepts in religious texts, etc.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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> *Recommendation 46: (continued)*
>
> they can concentrate of interpreting research methods as the specifications for digital library behaviors that the ICCU subsequently tries to enable.
>
> In the end, traditional library attitudes, with a view of resources as research objects, are transformed by focus on research processes, with a view to how resources behave. In the case of OCR, a researcher should not have to read an entire text to find those segments of it that she or he is in search of.

PH.D. DISSERTATIONS

The topical content of PhD Dissertations pre-selected for possible digitization was unrestricted and would include all of the University's dissertations.

In Italy, dissertation copyright is shared with the University on behalf of the state. Graduate students are currently required to submit a copy of their dissertation in electronic form to a national repository. This requirement is a recent mandate. As universities begin to consider retrospective digitization projects, the Università degli Studi dell'Aquila is no exception.

Digitization of retrospective dissertations, relatively unencumbered by copyright, appears relatively straight-forward. Only the inclusion of copyrighted content in paper-based dissertations appears to offer any difficulty. Retrospective dissertations will require vetting for potential copyright problems. The task might be assisted by automation. Presuming that the University could deploy a relatively low cost imaging and OCR solution, it could then employ anti-plagiarism software such as Turn It In[98] to quickly identify text likely to be copyrighted. Staff would be required to assess the need for copyright permissions,[99] to follow these leads and to seek appropriate permissions as required. Staff would also have to review illustrations and other accompanying materials for copyright status as well. At this time, the staff available to the University for this kind of verification may be inadequate as the bulk of responsibility rests with the student and a review by the student's major professor. An efficient program of retrospective dissertations digitization will centralize final review both to ensure efficiency and development and use of necessary skill sets and experience.

> *Recommendation 47:*
> The Abruzzese institutions should give more critical consideration to retrospective digitization of dissertations. The Planning Committee should begin to survey other electronic dissertations programs, especially retrospective programs, in Italy and elsewhere, reviewing policy and procedure.
>
> The Abruzzese institutions are advised to consult with CASPUR relative to automation support and software packages that might facilitate associated processes.
>
> A retrospective dissertations digitization project would be relatively substantial. Such a project would need to act on policy and procedure that would not be characteristic

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[98] Turn It In (http://turnitin.com/) lacks an Italian interface. Use, however, is uncomplicated and easily intuited. English, Spanish and selected other language interfaces are currently available. Turn It In will process documents written in Italian against Italian language sources.
N.B. Pricing is based on number of students enrolled at the University.

[99] In most countries, use of copyrighted text in a dissertation is a fair-use when the text in question is properly quoted. There are exceptions however. Notably, for example, U.S. law (Supreme Court finding) provides that copyright holder's permission is required if the quote, however small, captures the essence of the publication. There is no "test" for "essence"; so, compliance remains ambiguous.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

51

A MANUSCRIPT
CONFERRAL OF RIGHTS FROM THE HOLY ROMAN EMPIRE TO THE MORRON Y MONTAGNEZ FAMILY
(Circa 1530)

Interest in this 1530 parchment manuscript,[100] from among the University's collections, is taken as representative a wider interest in the history of Abruzzo and L'Aquila. Additional content from approximately the same period is held by the Biblioteca provinciale "Salvatore Tommassi" and the Archivio di Stato.

As a representative sample of broader holdings, this manuscript documents life and events in the Province of L'Aquila during the period of Spanish rule. The manuscript is a document that confers feudal rights from Holy Roman Emperor, Charles V,[101] to the Morron y Montagnez Family over the territories of Casentino, Villa Sant'Angelo and Sant'Eusanio within the Province of L'Aquila, in the Region of Abruzzo. Rights were conferred to raise funds for Spain's war efforts, particularly, its conflicts against invading Turks in Eastern Europe. The document also, however, served as an instrument of continuing Spanish control over the city and the region, following the anti-Spanish revolt of 1528. Rights were conferred, in part, to separate the city from its outlying territories, from the support and materiels that it derived from them. Among others, the text names Bartolomeo Camerario, an Italian jurist of note, who became caught-up in the intrigues of the independence movement.

The document itself, alone, is a mere 20 pages. It is in good condition with legible text; and, it is currently maintained under good storage conditions. Similar materials from the Biblioteca provinciale are also in good condition, with legible text. They were recently retrieved from the old library in the City Center where, from the date of the earthquake, they experienced only minor exposure to uncontrolled environmental conditions. Similar materials from the Archivio di Stato experienced the most trauma of any archival or library holdings in the city of L'Aquila. Shelves and rooms collapse around them. Notwithstanding this experience, though, they were skillfully retrieved early on and are now housed under state-of-the-art conditions in the new facilities of the Archivio in Bazzano.

Alone, the University's manuscript looks as though it would make quick work for even an inexperienced and deliberately slow new digitization program. Alone, this manuscript appears to be a footnote. There is in other Italian collections, indeed, in other North American collections, a wealth of documents from the same period, some from the same region of Italy. Alone, its importance is diminished.

Any effort to advance the digitization of this single manuscript should be taken in the context of the broader regional collection. And, while alone, this one manuscript might find donor support for digitization, its digitization alone would be opportunity lost. A collection better ensures the strengths of the argument for history.

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[100] The contact for this manuscript is Professor Silvia Mantini (matini@tis.cali.it).

[101] Charles V, Holy Roman Emperor, was also known as Charles I, King of Spain, holding territories throughout central and southern Italy, as well as elsewhere in Europe.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

52

The problem with Italian history materials, particularly those of the Renaissance era, is that they appear to be readily available. While placing Abruzzese materials in an Italian context, the Abruzzese institutions should describe these materials primarily within their Abruzzese context and only secondarily in their Italian context. Abruzzo rather than Italy should be their focus. The collection of materials should be described as Abruzzo's contribution to Italian and European heritage. Funding proposal narratives should describe these materials as informative to, as impacting upon a broader history. Grant writers should endeavor to answer the question: *Why do we need to know Abruzzo's history to truly understand Italian history?*

> *Recommendation 49:*
> A digital collection of Abruzzo history should be leveraged by the Abruzzese institutions for membership in the Digital Scriptorium.[102]
>
> Membership in a digital library seen as leading in its area will help a new digitization program in Abruzzo to gain recognition for itself. Recognition is key to building on success and in funding successive grant requests. Availability of their content in the Digital Scriptorium should also suggest to other members of the Scriptorium that the Abruzzese institutions are open to partnership and, possibly, invitations to join those members in grant requests to their granting agencies.
>
> The Abruzzese institutions, however, will need the assistance of a knowledgeable partner to migrate metadata to the constructs required for contribution to the Digital Scriptorium. Presuming that the Abruzzese institutions have first made a contribution of their content to the BDI, they should find that the migration of metadata will be relatively straight forward. ICCU is an ideal partner in this endeavor.

> *Recommendation 50:*
> Any and all Abruzzese digitization projects should contribute to the BDI.
>
> The BDI already maintains adequate digital library systems; and, it is developing digital-production support modules to facilitate future projects. Any other effort on the part of the Abruzzese institutions would merely duplicate effort and increase local production costs.

THE CHRONICLERS:
THE MANUSCRIPT WORKS OF ANTON LUDOVICO ANTINORI
(Circa 1744/1749)

The history of L'Aquila and Abruzzo is rich with its chroniclers. From shortly after the earthquake of 1452 and the founding of the University between 1458 and 1464, the region's first great chronicler, Francesco d'Angeluccio di Bazzano was already at work. Theres was considerable cause to write. A medieval city, founded in 1254, L'Aquila had been the home province of Celestine, who became Pope and moved the Vatican to the city of L'Aquila in 1294 before abdicating shortly thereafter. Di Bazzano's *Cronache aquilani* (*The Aquilano Chronicles*) was completed between 1472 and 1474.

By this time, Abruzzo and Italy had already entered the Renaissance. The Region of Abruzzo would develop the Renaissance sciences, its music – particularly, music for the lute. It would become home to one of the first printing presses outside of Germany; and, the press would lend support to the Counter Reformation. L'Aquila and Abruzzo would develop ties with Europe's great families: the Farnese, the Hapsburg, and the Medici among them. And, among its own great families there was the Antinori.

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[102] Digital Scriptorium (http://scriptorium.columbia.edu/about/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Anton Ludovico Antinori, an heir to the tradition begun with Di Bazzano, chronicled L'Aquila and Abruzzo following the Region's recovery from devastating earthquake of 1703 and 1706. Born in 1704, Antinori's manuscript works document the monuments and artefacts, as well as the history, of the Region in the way that a son memorializes a father lost in war, as if trying to concretize a memory before it fades. It is said that nearly all of L'Aquila's churches fell in the earthquake of 1703. What we know of them survives in Antinori's manuscripts. Likewise, what we know of buildings and the history that fell with them in the earthquake of 2009 survives in Antinori's manuscripts. Antinori's history, completed between 1744 and 1749, is unique among new European chronicles to that point in that it gives history its footsteps.[103] History as witnessed by Antinori can be seen, a great deal of it even to this day, in the buildings and monuments that Antinori describes and uses to anchor his history of the Region.

The Archivio di Stato notes of the Antinori manuscripts that they are, on the whole, "one of the most important and reliable historical sources for Abruzzo and is presently used by scholars of several disciplines (historians, architects, art historians, etc.). This is due to the fact that Antinori gathered and used many of the documentary sources available at his time, citing them very accurately. Thanks to his citations, therefore, many of them are still known today though [*the original sources are*] no longer existing."

Providing what will certainly be foundational argument for grant funding, the Archivio continues. "Many studies were carried out on his Works, among which the following are considered the most important:

- *Regesto Antinoriano*, edited by Salvatore Piacentino. L'Aquila, Deputazione Abruzzese di Storia Patria, 1977 (*Documenti per la storia d'Abruzzo*, 1) .
- *Antinoriana. Studi per il bicentenario della morte di A. L. Antinori*, 1978 - voll. 4, L'Aquila, Deputazione Abruzzese di Storia Patria, 1978-79.

And, of reprints, suggesting continued demand for Antinori, they note:

- In 1913-1934, a partial transcribed edition of *Corografia* (the first two volumes only, without the entry Aquila), promoted at the beginning of the 20th century by Vincenzo De Bartholomaeis, was published in "Bullettino della Deputazione Abruzzese di Storia Patria".
- In 1971-1980, a partial anastatic reprint was published by the Publisher Forni, Bologna (only the *Annali degli Abruzzi* and part of *Corografia* (volumes 25-31)*.*

"The unabridged digital edition," they conclude, "of the whole *Works* with Indexes would be desirable and very useful, as already considered in many meetings with the members of Deputazione Abruzzese di Storia Patria, since the work is a basic source for the history of Abruzzo and its monuments."

The manuscripts were given to the Biblioteca Provinciale in 1886 by the Marquis Dragonetti, who in 1888 was among the founders and first Chair of "Società di Storia Patria negli Abruzzi". The manuscripts were reorganized in 1887 by Enrico Casti, librarian of the Biblioteca Provinciale, who in that year published a catalog, *Indice delle opere inedite ed edite di Anton Ludovico Antinori* (L'Aquila : Vecchioni, 1887). Only selections have been transcribed and published since.

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[103] In fact, Antinori's work is an embodiment of the spirit of the Renaissance. Antinori's style, known as *chorography*, literally "place writing", is patterned after that of the Greek historian and philosopher, Ptolemy, and his *Geographia* in particular.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

54

The manuscripts consist of seven parts:

- *Annali degli Abruzzi* = Annals of Abruzzo (volumes 1-24);
- *Corografia storica degli Abruzzi e de' luoghi circonvicini* = Geographic[104] history of Abruzzo and surrounding places (volumes 25-42);
- *Iscrizioni lapidarie degli Abruzzi e de' luoghi circonvicini* = Inscriptions in stone[105] from Abruzzo and surrounding places (volumes 43-46);
- *Monumenti, uomini illustri e cose varie* = Monuments, famous men and various things (volumes 47-49);
- *Arcivescovi e vescovi* = Archbishops and bishops (volume 50);
- *Sinopsi della storia dell'Aquila dal 1256 al 1512* = An overview of Aquileno history from 1256 through 1512 (volume 51);
- *Appendice* = Appendix (volumes 52-56).

> *Recommendation 51:*
> The Abruzzese institutions should give priority to development of project planning and funding requests for digitization of the Antinori manuscript work. In so doing, however, they should weigh the merits and value of keeping Antinori part of a larger Abruzzo history and heritage digitization project. The recommended method for both planning and weighted analysis is the stakeholder exercise.
>
> There is firm agreement from all of the Abruzzese institutions that this project should go forward. The manuscript works appear to be heavily consulted, which suggests that the Abruzzese institutions should have little difficulty documenting community support or research need and classroom uses – even fundable sub-projects for the development of classroom uses – for a digital Antinori. The collection, itself, is small enough – only 32,000 pages – and its content reasonably uniform that imaging of the works, by whatever method of digitization is elected, should be straight-forward and reasonably uncomplicated.
>
> Antinori should represent a strong project and funding request. It should, therefore, be a firm anchor and a strong chain for a larger Abruzzo history and heritage project. It should not be separated unless a requirement of funding.
>
> See also following discussion of approaches and recommendations.

The manuscript works, though subject to an uncontrolled storage environment, survived the 2009 earthquake well. Subject to modern restoration before the earthquake, the works had been divided into a total of 106 volumes. New bindings may have contributed to their current condition. All of the volumes have been recently removed for storage in the new facilities of the Biblioteca Provinciale in Bazzano.

Between 1983 and 1987, the works, complete in slightly more than 32,000 pages, were preservation-microfilmed on 35mm film. While the location and condition of the microfilm masters is unknown, two negative copies are known to exist in good to excellent condition. One full set is held by the Biblioteca Provinciale. This set was not available for assessment at the time of visit as the result on access restrictions to the Biblioteca and work on-going to stabilize its structure. One partial set, comprised of the *Corografia* and subsequent parts, is held by the Archivio di Stato. This set, described in Appendix 2a, is in excellent condition. Equipment was not available to assess the metrics (i.e., DMin, DMax, etc.) of the film; but, the film appears to be of even density. Pages are filmed two-up, in comic mode, on a polyester base. The sample examined was without scratches or other signs of use.

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[104] In English, the term *chorography* has fallen out of use. Chorography was more than simple "geography"; it examined the causal relationships of organisms, entities and events to one another within a given region. Antinori applies analytical skills to the telling of history in such a way as to make it more than a story.

[105] *Inscriptions in stone* is, at best, a poetic translation into English of Antinori's Italian.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2018
2019 The microfilm could be digitized easily and reasonably well. However, given the nature of
2020 microfilm, i.e., the lack of color and the exaggeration of tonal variations, some of the detail
2021 of the original is essentially lost. If digitized, it would be optimal to do so from the original
2022 rather than from the film. There is considerable difference in price points, however, for
2023 digitization from film and from original; see continuing discussion below (cf, *Equipment*).
2024
2025 In addition to the original and microfilmed copy, the manuscript works also have been
2026 reprinted in facsimile. Copies of the facsimile are held by the Archivio, the Biblioteca, and
2027 the University. Each copy is in good condition, with modern bindings and more than
2028 adequate gutter margin for digitization and for unbinding and rebinding if necessary.
2029 Unfortunately, the facsimiles, used to supply the page images of Appendix 2b and
2030 Appendix 2c, were reproduced from what appears to be (something like) CopiFlo
2031 technology from the microfilm. As a result, this copy, which is sufficiently legible for
2032 human use, bears the faults of the film as well as those of the printing process. This copy
2033 could be used for digitization, but its use would be far less than optimal. Again, there are
2034 price point differences in digitization.
2035

> *Recommendation 52:*
> If the Antinori manuscript works are to be digitized, order of preference for optimal
> image should be:
>
> 1. Manuscript original;
>
> 2. Microfilm negative
>   (of the two copies, on a reel-by-reel basis, whichever of the two reels is in best condition);
>
> 3. Facsimile reproduction
>   (of available copies, on a volume-by-volume basis, whichever is in the best condition)
>   (optimally from a copy that has been unbound for rotary scanning).
>
> In this consideration, image quality should be paramount. The original affords
> optimal image quality, which will be necessary for post-imaging digitization phases
> (e.g., transcription, tagging, etc.). The microfilm and facsimile will produce a
> reasonably legible product, but one that may not be optimal for subsequent uses.
>
> Price points and time tables for digitization of the Antinori are complex. These
> should be considered, at least initially, separate from consideration of the version to
> be digitized. *Generally,* production of an optimal / optimized image mitigates the
> cost of subsequent digitization activities (e.g., transcription, tagging, etc.).

2036
2037 Approaches to Antinori.
2038
2039 Antinori, as any digital project, requires stakeholder analysis that the Abruzzese
2040 institutions have yet to conduct. The following suggestions, therefore, are presumptive.
2041
2042 Stakeholders, specifically users of a digital Antinori are presumed to include historians,
2043 art historians, architects, geographers, teachers and students, and cultural tourists,
2044 among others. The majority of its current user base speaks Italian, some speak other
2045 languages, some to the exclusion of Italian. A number of potential users, perhaps many
2046 new users of the Antinori manuscripts, have limited comprehension of Italian. The
2047 majority, if not all, of current users, the Archivio suggests, are adults. But, potential users
2048 include school age children, many older, some of whom it is known are English-speaking
2049 Canadian high-school students, some of whom are ethnically Italian. Staff of both the
2050 Archivio and the Biblioteca indicate that the *Corografia* draws the most interest, followed
2051 by the *Monumenti* and the *Iscrizioni*. These parts also draw more specialist users (for
2052 example, architects and art historians) than generalists. Generalists are drawn more to
2053 the *Annali* and the *Sinopsi*. Genealogists, however, seem to be unrestricted in their
2054 interests in the manuscripts' parts. Some genealogists, it is presumed, would be
2055 interested in volunteering to transcribe, and fewer to translate, the handwritten text to
2056 make it accessible to machine-reading and searching for the benefit of others like

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2057	themselves. Strategically weighting these varied interests for purposes of defining and
2058	planning a digitization project remains a mystery in large part.
2059	
2060	All of these users, it is presumed, would find a digital image version of the manuscript
2061	works, in whole or in parts, of value and some immediate use. If the project were phased,
2062	digital imaging would clearly be its *second* phase. The project's *first* phase is a
2063	requirement of contribution to the BDI, or for that matter to any digital library. No catalog
2064	record exists for the manuscript works or for any of its parts. Records will be required to
2065	"hang" a (*MARC21 586 field formatted*) URL for the digital version. Though a manuscript,
2066	that is an archival resource, it should be possible to catalog the works.
2067	

> *Recommendation 53:*
> Catalog each of the following in SBN: the original Antinori manuscript works, the microfilm version, and the facsimile reprint.
>
> Cataloging is a prerequisite for contribution to BDI. Contribution to BDI obviates the need to create or purchase an alternate digital library or deployment location for the digital version.
>
> Recommendations specific to cataloging standards follow.

2068	
2069	If additional digitization activity based on the needs of users is warranted, prioritization of
2070	activities should be based on calculated demand, cost, and quality of volunteer
2071	assistance. Activities themselves might be phased. Partnership, with experienced
2072	institutions, should facilitate completion of any of these activities. The Abruzzese
2073	institutions should not have to grow their own localized expertise if they are able to
2074	partner advantageously.
2075	

> *Recommendation 54:*
> As the Abruzzese institutions list activities they expect to undertake and outcomes they hope to achieve, they should perform an environmental scan of digitization projects regionally, nationally and internationally to identify standards, potential partners, funding sources, and the strengths and weakness of previous efforts to achieve similar ends.
>
> In the European Union, the Union's various civil society, education, and information technology programs provide ready, if sometimes passive, assistance toward completion of an environmental scan. Program officers will sometimes offer advice. Program web pages list projects and participants. Project and participant pages both offer additional information.
>
> An environmental scan should be regarded as a research project. The Abruzzese institutions may find that they need to dedicate reference resources to this activity.

2076	

> *Recommendation 55:*
> The Abruzzese institutions should partner with experienced institutions to complete secondary digitization activities.
>
> Partners bring expertise and experience.   More importantly, they may – and generally will – share their technologies to advance a partnered / shared project toward completion.   Without the advantages of partnership, the Abruzzese institutions would find themselves recreating the wheel, potentially forging ahead without awareness of existing standards, and committing time and resources that they do not now have.
>
> Many partners will have had external funding themselves. And, while that funding may have been sufficient to meet projected outcomes, it likely was unable to meet needs arising from the project, i.e., new research questions usually formulated as "*if this then what about that?*". Moreover, grants tend to parse desired ends into

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Phased activities, in no particular order, might include:

Note that the bulk of recommendations made in this section presume contributions to the BDI and are made to the ICCU.

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- Transliteration of holographs to typescript
  - to facilitate text-search, textual analyses, etc.;
  - *in-house, volunteer, or vended* –
    - N.B. This activity might be assigned, piece-meal, to university students as part of class work. They might be assigned to select a text, available in page image format only, to provide first a typescript, then to provide both a statement that suggests historical context and an analysis of document content, an abstract of sorts. Partnership with foreign language programs, or, with Italian and Renaissance history programs might lead to future partnerships and funding for additional digitization. This approach has a small footprint. It requires minimal new staffing from the Abruzzese institutions, as well as virtually no new technology.

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- Translation (to English, Spanish, French, other languages)
  - to facilitate foreign comprehension and contributions to related topical collections, and to foster the conditions for broadest international partnerships and tourist uses;
  - *in-house, volunteer, or vended* –
    - N.B. Volunteer contributions need not be managed by technically complex systems. They may be invited by online text and delivered via email, leaving the Abruzzese institutions only staffing needs, required to manage contacts, and, to vet and mount contributions and corrections.;

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Erich Kesse, Consultant in Library Digitization

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2110
2111 • Selection or definition of a mark-up standard
2112   ▪ to reflect Antinori's editing and citation styles
2113   ▪ *partnership* is recommended; an institution such as the University of
2114   Virginia's Institute for Advanced Technology in the Humanities,[106] which
2115   has other Italian-interest projects, including a Leonardo Da Vinci project,
2116   takes this kind of work as a challenge and has pioneered several advances
2117   in mark-up for similar projects;
2118

> *Recommendation 58:*
> Internationally recognized mark-up standards, e.g. TEI, should be adopted
> inasmuch as possible.

2119
2120 • Specialized name authority
2121   ▪ a reference for the personal names listed by Antinori, to reference external
2122   works, archives, etc., to link to bibliographic records (SBN, WorldCat); for
2123   distributed query; to harvest citations and build bibliography, perhaps even
2124   to rank citations by complexity and appropriateness for given learning
2125   levels
2126   ▪ *partnership* is recommended; again with an experienced institution such as
2127   the members of the Alliance of Digital Humanities Organizations.[107]
2128

> *Recommendation 59:*
> SBN name authority should be adopted. And, ICCU should work with the
> Library of Congress and OCLC/WorldCat to share or synchronize their
> name authority data to better ensure resource discovery.

2129

> *Recommendation 60:*
> Presuming contribution to BDI, the ICCU might investigate adoption of "life-
> events" metadata extensions to its name authority systems.
>
> This type of metadata is still in developmental stages where it has been
> proposed. Work here by ICCU could be ground-breaking.
>
> Life-events metadata gives name authority information tagged structure
> reflecting relationships and events. Its use supports advanced links and
> resource discovery, as well as mapping applications insofar as tagging also
> supports geo-referencing.

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2131
2132 • Gazetteer
2133   ▪ a reference of place names, buildings, and monuments listed by Antinori,
2134   to reference variant forms of names, to assign known earth coordinates
2135   (longitude and latitude); to associate place with its uses and occupants
2136   ▪ *partnership* is recommended; again with an experienced institution such as
2137   the members of the Alliance of Digital Humanities Organizations, or, the
2138   Computer Applications and Quantitative Methods in Archaeology[108]
2139   organization.
2140   ▪ Once structures have been agreed and methods have been
2141   established, users could be invited to use Web 2.0 technology to
2142   contribute geographic tags.
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[106] University of Virginia's Institute for Advanced Technology in the Humanities (http://www.iath.virginia.edu/)

[107] The Alliance of Digital Humanities Organizations (http://digitalhumanities.org/)

[108] Computer Applications and Quantitative Methods in Archaeology (http://caa.leidenuniv.nl/), based at the
University of Leiden, in the Netherlands, it is an international organization of archaeologists,
mathematicians and computer scientists.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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> *Recommendation 61:*
> Presuming contribution to BDI, the ICCU should define standards for geo-referencing, as well as engage in collaboration with Italy's geographic authority to make tools available to BDI contributors for resource tagging.

2145
2146
- Learning modules
  - for classroom teaching directed initially to local and Italian standards and subsequently to foreign multi-cultural, international and history requirements; learning modules should be a mix of passive interpretive lecture and activity-based learning (e.g., demonstration of architectural or artistic techniques that can be performed with minimal materiel requirements and simple methods);
  - *in-house, volunteer, or vended;*
    - *by invitation* is recommended, perhaps through funded competition.

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> *Recommendation 62:*
> The Planning Committee, in its conduct of the stakeholder exercise, should query local and regional educators to determine who teaches Abruzzo history, how it is taught, and if lesson-plans are available to be shared.

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- Additive projects
  - to update Antinori's history, to provide additional context, to supplement Antinori with bibliography of "new" learning and classification of reading lists by grade-level; to supplement Antinori with photographs, line drawings, paintings, and architectural drawings;
  - *in-house, volunteer, or vended* – by request: some additive resources can be procured simply by asking for them. Architects and tourism industries, for example, may provide photographs or drawings if not plans in order to gain passive publicity. Others may provide them as a civil service.

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> *Recommendation 63:*
> The Planning Committee should plan for periodic assessments of its digital collections and should invite contacts.
>
> Information acquired will inform future projects and may be used to provide funding agencies with information about value to the community.

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> *Recommendation 64:*
> The Abruzzese institutions are encouraged to think creatively about co-funding learning modules, data enhancement projects, and additive projects.
>
> Nearly all foreign Italian ethnic and cultural organizations encourage language study and cultural understanding. They may fund competition for example. Again, the stakeholder exercise should ask, of every stakeholder, how interests can be turned to funding or support.
>
> Volunteer projects should not be declined out of hand. Legal issues that might prevent a volunteer from working on the premises of the Abruzzese institutions should not prevent a volunteer from working remotely or beyond the institutions' premises.

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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OTHER PROJECTS.

The following projects were discussed in the course of assessment meetings. These projects are recommended with one outcome in mind: to advance a digitization project that mitigates the several imposing factors faced by the Abruzzese institutions. Such a project would be (a) simple as to build experience in advance of more complex projects and (b) popular as to build community support.

To build a well structured, reasonably approached and sustainable digitization program, the Abruzzese institutions have to do a lot of planning. Virtually none, for digitization, has been done. Planning takes a fair bit of time. That is time that the Abruzzese institutions may not have. The Abruzzese institutions feel a very strong desire to advance a digitization project, founding a digitization program sooner rather than later. The reasons are multiple. Not all of them can be listed here. Abruzzo faces deadlines for the commitment of European Union earthquake relief funding. The University faces deadlines imposed by the Italian government to return the student population to pre-earthquake levels.[109] The city, province and region feel the urgency of this particular deadline; the University underpins a large segment of the region's economy. And, city and province of L'Aquila need to draw their population back. The population pays taxes that underpin civil services at every level of government.

Digitization, as explained earlier, is seen as a mechanism with the potential to *aid* the delivery of these things.

In the course of conversations leading to this assessment, those providing information were all asked the off-topic question: *What do you think of when you think of Abruzzo?* Responses, whether from Abruzzo, Rome, the United Kingdom, or the United States, presumed a tourist's interest rather than an interest in digitization. Information derived from these conversations was not scientific. It did not point to need, rather it pointed to common and prevailing interests. These were considered for their potential to advance simple, popular digitization projects.

Food and cuisine, and agriculture in general, were common responses. A concentration of comment focused on the sourcing of food used in local and national cuisine. History and tourism seemed inescapable common responses. Cultural tourism was mentioned less frequently than nature and leisure tourism. The cultural venues of near-by Rome seemed to obscure the cultural offerings of Abruzzo. And, nature tourism dominates the English (and other) language version of the Regional Tourism web pages,[110] for example. And, indeed, most Americans and Britons mentioned winter skiing and the Gran Sasso that rests within sight of the city of L'Aquila. Migration and Genealogy were infrequently mentioned within Italy. They were mentioned frequently, however, by American and Britons.

FOOD AND CUISINE

What might a food and cuisine or gastronomy digital collection look like? The regional tourism pages suggest that it might look, unsurprisingly, like a grocery list. And, fleshing out a food and cuisine collection might more properly be the work of the regional tourism office than any of the Abruzzese institution to whom this assessment is offered. Further, among the Abruzzese institutions, there was no clearly identifiable constituency for food or cuisine. Agriculture is not a heavily research or frequently studied subject at the University. No institution seems to be collecting the information out-put of local agriculture, food preparation and delivery trades, or the restaurant industries, except perhaps government statisticians.

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[109] University funding is based in large part on numbers of students being taught.

[110] Abruzzo Regional Tourism (English: http://www.regione.abruzzo.it/turismo/en/index.html). The Italian version of the regional tourism page (http://www.regione.abruzzo.it/turismo/index.html) gives considerably more attention to cultural tourism than do versions in other languages.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

61

But, what might it look like if there were a constituency with a compelling reason to promote digitization of gastronomic information? Historically, sheep farming plays a substantial role in Abruzzo. This was, however, primarily a supply to the wool and clothing industries rather than to gastronomic industries. Saffron was also historically important. Without Abruzzo's saffron, *risotto alla Milanese* might not exist. Its saffron is still exported to markets all over Europe and to North America.

A gastronomic collection might look at current supply, markets and statistics. Such a collection might compile information sources from the industry. But, it would not be terrible exciting except to social scientists and agricultural statisticians. A gastronomic collection might also aspire to document historic connections: e.g., food in culture, perhaps even launching a gastronomic tourism trail, a kind of geo-caching for food, approached the way American's approach visiting all of their national parks. Again, this would be the domain of the regional tourism office. The role played by the Abruzzese institutions might be limited to digitization of information sources not already available in a digital pre-print master, and, to historic research. It would be a small project that allows the institutions to wet their feet. But, it would probably still be a diversion and could not be recommended without considerable community interest.

LOCAL HISTORY AND TOURISM

Local history and tourism can be seen as contributing to a greater project, defined by the Renaissance history and Antinori collections discussed above. Those projects defined here, however, are more atomistic, smaller than those above. What might a smaller project look like? A smaller project could take one of several courses.

[First.] It could easily follow the topical suggestions of the regional tourism pages. These, presumably, already have defined constituencies and rationale for use. Digitized works would be selected from among the holdings of the Abruzzese institutions. They would be conceived much as an exhibition is conceived and mounted. They might be approached much as the Deputazione Abruzzese di Storia Patria approaches one of its monographs. In fact, it might entail the conversion of one of its monographs, with the addition of items listed in the bibliographies of papers digitized, perhaps even augmented with historic maps and commissioned photography. They might be supplemented as well with lesson plans built around the papers and targeted to various levels: primary school to university. This approach appears to be viable in that it build on expertise already demonstrated – barring digitization – among the institutions.

[Second.] Or, as suggested of the Food and Cuisine project, this effort might take on the appearance of a digital collection exercise. It might collect, with permission and perhaps the sponsorship of local and regional tourism industries, the information output of those industries. Such effort might benefit the regional economy more than education, though the two could be creatively combined. Hiking and skiing with ecological studies, perhaps. Ancient architecture, monuments and art with architectural study, art history, urban planning, even military defences and civil history. A combination of this second projection with the first could result in a model of stewardship among the region's industries. But, this second project also retains some of the difficulties of the Food and Cuisine project.

[Third.] Like the *Live Memories* projects a third projection might reach out into the community, particularly to those displaced by the earthquake to collect through digitization the personal and family history of Abruzzo's citizens. An Abruzzese iteration of *Live Memories* could digitize archive materials, maps and photographs, books from family libraries (as permitted by copyright and within parameters of topical interest), even artefacts. Artefacts, usually ignored by this kind of project, have a way of teasing out stories that define common lives, the kind of history too often over-looked in the history of big names. And, if migration is of interest to potential foreign partners and funders, it is the story of the common-man that has the potential to engage and hold that interest.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

62

2282	[Fourth – an off-shoot of the Third.] The *Live Memories* projects might be taken one step
2283	further. It might be reconceived as an oral history project, perhaps one that incidentally
2284	digitizes a selection of the items mentioned in the third projection. This project might be
2285	modelled on the StoryCorps[111] in the USA. StoryCorps operates under a simple directive.
2286	It asks pairs of individuals, anyone really, to come in to one of their recording booths to
2287	tell a story about themselves, their lives. An initial iteration of an Abruzzese StoryCorps
2288	might ask individuals to relay their stories about their earthquake experiences and what
2289	those experiences have meant to them, what their lives were like, how they have
2290	changed since. Subsequent recordings could be broadened to other topics or to any
2291	topic. Again, such a project is intended to be simple, to build experience, and most
2292	importantly to engage the community in advance of more complex projects.
2293	
2294	The project could be simply audio. Or, it might allow alternate video recording methods[112]
2295	for those who don't mind being photographed. Interviewees could alternately be still-
2296	photographed for posterity if not for release with an interview. The project might also
2297	support digitization of related objects, papers or images during the interview. Earthquake
2298	interviewees, for example might be asked to come in with photographs of their homes
2299	both before and after the earthquake. As with StoryCorps, stories might be selectively
2300	broadcast, used in teaching, etc. And above all they become resources for future
2301	histories, as well as a means of building support, community pride, and drawing those
2302	now living away back into L'Aquila and Abruzzo. Insofar as interviews may be broadcast
2303	throughout Italy, the digitization program of the Abruzzese institutions builds reputation.
2304	

> *Recommendation 65:*
> Presuming contribution to BDI, the ICCU should build tools that facilitate the creation of metadata.
>
> Contribution to BDI currently requires knowledge of professional standards and cataloguing tools. The release of alternate tools that guide their user through the supply of metadata means that quantity data can be supplied by non-professionals, and, thereby reduces project and program costs.
>
> ICCU might look to the Digital Library of the Caribbean's toolbox[113] for example and, potentially for an exchange of code. It might also emulate the Digital Library of the Caribbean's training program[114] as a means of ensuring low cost quality input.

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[111] StoryCorps (http://www.storycorps.org/)

[112] Video has higher storage costs over audio; but, presuming contribution to the BDI, costs to the Abruzzese institutions should be minimal.
A successful example of the use of video recording is the University of South Florida (USF) Oral History program (http://www.lib.usf.edu/public/index.cfm?Pg=OralHistories). Contact for the program: Dr. Mark Greenberg (mgreenbe@lib.usf.edu).
See the USF checklist (http://guides.lib.usf.edu/content.php?pid=49131&sid=363513) for program structure.
USF may also be a good partner for sharing Abruzzo stories in the USA. Tampa, Florida, where USF is located has a strong Italian-American community and an independent newspaper that continues to publish in Italian (as well as in English and Spanish translations). Tampa was founded in part by Italian immigrants, many arriving from Abruzzo.

[113] Digital Library of the Caribbean's toolbox (http://web1.dloc.com/ufdc/?g=dloc1&m=hittoolk see also http://library.gameology.org/2009/12/19/open-source-mets-metadata-editor/). The Technology Coordinator for the Digital Library of the Caribbean Dr. Laurie Taylor (lautayl@uflib.ufl.edu). See also: http://www.uflib.ufl.edu/digital/development/DTdb/

[114] Digital Library of the Caribbean's training program is represented in its Manual (http://web1.dloc.com/ufdc/?g=dloc1&m=hitmanual). To discuss training activities and tools, contact Brooke Wooldridge (dloc@fiu.edu).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2306   [Fifth] The Abruzzese institutions and the Archivio in particular hold some stunning rare
2307   maps of Abruzzo. Maps usually make for very popular digital content. They are
2308   appealing eye-candy, draw attention to digital collections, and have use in data-mining
2309   and historical geo-referencing projects that might follow. The maps held are a mix of
2310   sizes. While the smaller maps could be digitized using a flat-bed scanner with a platen of
2311   moderate size, the larger maps will require different more expensive imaging technology.
2312   (See discussion below, *Equipment.*) Planning for a map project should engage the
2313   regional tourism office and primary educators.
2314

> *Recommendation 66:*
> Presuming contribution to BDI, the ICCU should build tools that allow the generation of catalog records from metadata.
>
> Contribution to BDI currently requires cataloguing in advance of contribution. While sound practice, to link digital resources to searchable data, the current method cannot adequately support the number of new resources arising from the projects suggested above.
>
> ICCU might look again to the Digital Library of the Caribbean's toolbox for example and, potentially for an exchange of code.

2315
2316   MIGRATION
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2318   Migration to North America (*and presumably other places as well*), particularly between
2319   1890 and 1920 but also in later years, was primarily the interest of individuals outside of
2320   Italy. The majority of those interested were genealogists whose primary interest was in
2321   the availability of *name-rich* resources that help to identified people before they left
2322   Abruzzo. However, other-interested parties included historians who were more interested
2323   in *event-rich* resources that might explain why people left Abruzzo. These two interests
2324   are significantly different.
2325
2326   Addressing a perceived need for event-rich resources from 1890 forward is difficult for
2327   two reasons. First, the date range is in conflict with the limits imposed by copyright.
2328   Second, the type of information sought would likely not have been left in Abruzzo but
2329   carried to new lives elsewhere; and if returned to Abruzzo, it likely rests in family archives
2330   not yet donated to the Abruzzese institutions. While the latter might be made available
2331   for digitization through the community history projects described above, availability of the
2332   former is made problematic through distance. Working toward the exposure of the type of
2333   event-rich resources desired – again, resources that explain why people left – appears
2334   not to be simple, and, should be dismissed as largely impractical at this stage.[115]
2335
2336   Addressing a perceived need for name-rich resources for this period of time is also
2337   problematic for reasons of copyright. Civic directories, society rosters, church records
2338   (baptisms, marriages, burials, etc.), and newspapers are frequently regarded as highly
2339   desirable resources. A project digitizing materials meeting the need might concentrate on
2340   public records insofar as they might exist.[116]
2341

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[115] If the Abruzzese institutions were to identify an academic interest with a compelling case for the pursuit of this material they should be encouraged to contact the International Migration, Integration and Social Cohesion (IMISCOE) (http://www.imiscoe.org/), based in the Netherlands, for further advice and contacts.

[116] The Church of Latter Day Saints typically has an interest in this type of project and might be consulted. See its Family Search site (http://www.familysearch.org/) for contact information.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

64

4. Knowledge and Training

Italy has begun to train its archivists and librarians for the management of digitization projects. The recent meeting, *Fondazione Rinascimento Digitale*,[117] was sponsored by MiBAC and the Library of Congress. It was attended by the University's Grazia di Bartolomeo. The conference was designed to "explore, analyze, and evaluate the state of the art and future trends in user communities and cultural contents on the Web from an international perspective, and bring together academic researchers, policy makers and practitioners, providing a forum for the discussion and dissemination of the selected themes." Importantly, it also considered the PREMIS model for digital preservation.

The Abruzzese institutions are fortunate to have several individuals who might coordinate a Planning Committee and, in future, possibly lead or manage a digitization facility or program. The University's Grazia di Bartolomeo has the requisite library management skills, interest and desire to develop a digitization program. Di Bartolomeo, who holds an American university degree and speaks English fluently, is also open to sabbatical placement in an American digitization program. She also wants for a more adequate understanding of copyright law and clearance procedures. The Archivio's Paolo Muzi has the requisite archival management skills, interest and desire to develop a digitization program. Muzi, who is well regarded among Italian archivists and historians, has very good understanding of analogue imaging, excellent technical comprehension, and very good practice experience of copyright and copyright clearance also offers a consortium of Abruzzese institutions good leadership skills. Both also have the supervisory and teaching skills needed both to train staff in various activities and to ensure quality control. Di Bartolomeo and Muzi, together with the Biblioteca Provinciale's Elpidia Marimpietri, should perform well as a management team.

The fundamental structural staffing problem facing the Abruzzese institutions is that they currently have no support staff, and, any staff that might be assigned to digitization to get a project running would have no one to train them internally, nor anyone with direct experience to guide them and perform quality control. Di Bartolomeo and Muzi need to build direct relevant experience. A staffing solution for the digital production environment appears to be either basing the digitization program at the University or allying it with a University program or programs. Either might then draw labor from a population of students. Imaging production, for example, might be available as a practicum in computer sciences or digital arts – though imaging production is more than a little plodding for both. Geo-referencing might be available as a practicum or part of course work in geography, civil engineering/urban planning,[118] or similar field – again, the production environment of the digitization program will be plodding and exercise skills redundantly.

> *Recommendation 67:*
> Both di Bartolomeo and Muzi should be assigned to the Planning Committee, and encouraged to develop the technical and leadership skills necessary to eventually lead a consortial digitization program.

> *Recommendation 68:*
> To avoid the potential for conflict over leadership, the Planning Committee should draft bylaws for the foundation of a consortial agreement.

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[117] *Fondazione Rinascimento Digitale* (http://www.rinascimento-digitale.it/)

[118] The GIS contact in the University's Department of Architecture is Professor Bernardino Romano (bernardino.romano@univaq.it).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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Recommendation 69:
Effort should be made to find di Bartholomeo and Muzi extended placement in a functional digitization program operating a production environment.[119]

Placements should allow for paid release time, travel funds, living expenses, etc. Granting may be required to meet these ends. Translation assistance may also be required, placement in a program – if in North America – that also has an Italian language program or an Italian community is advised.

Optimal placement would be with an institution that also participates in an international digitization project and has an appreciation of cultural differences.[120]

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Recommendation 70:
The Planning Committee should review training manuals as they work to define standards and training needs of the future staff of a proposed digitization project or program.

More specific references follow. As they identify digitization projects and programs that appear to offer them useful information, the Planning Committee should collect and review as much documentation from those projects and programs as maybe given to the Committee.

N.B.
- The Committee should be prepared to (*be given the authority to*) agree to non-disclosure agreements as potentially – though unlikely – necessary to acquire documentation.
- Translation needs should be supported by the Abruzzese institutions to facilitate this research.
- The Planning Committee, perhaps working through MiBAC, should consider seeking rights to publish Italian translations of selected documentation for the benefit of Italian digitization effort broadly.

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[119] There is no standard definition of a *production environment*. A production environment, for purposes of this recommendation, would be a digitization facility capable of completing a project of 32,000 images – the number of pages comprising the Antinori manuscript works – within 9 months.

[120] Institutions that might meet these criteria – *and that would have to be approached to discuss placement* – include the following. Contact names and information can be supplied upon request.
- The Bibliotheque nationale de France;
- The British Library;
- Columbia University Library;
- Harvard University Library;
- The Library of Congress;
- The National Library of Scotland;
- New York Public Library – the Research Library;
- New York University Library;
- Oxford University Library;
- University of California;
- University of Chicago Library;
- University of Florida Library;
- University of Nebraska Library;
- University of Toronto Library;
- University of Virginia;

and, the major institutions of the various collaborative digital library organizations cited in this assessment.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2390 An array of standards and guidelines cover basic and advanced digitization methods. While
2391 there are different standards and guidelines from country to country, most are in general
2392 agreement. Standards and guidelines of immediate interest include those pertaining to
2393 cataloging, metadata more generally, imaging, text generation, geo-referencing and other
2394 referencing standards, and digital archiving.
2395

2396 **Cataloging**
2397

2398 The base of cataloguing knowledge among the Abruzzese institutions is excellent.
2399 Though experience of the migration of data between catalog records and digital object
2400 package metadata is wonting, this is skill and experience easily gained.
2401

2402 In Italy, the Italian National Library Service (SBN), which is coordinated by ICCU,
2403 develops bibliographic services for Italian libraries. SBN's union catalogue underlies the
2404 BDI and forms the foundation for contributions to the BDI. SBN records support
2405 cataloging of both published and manuscript/archival documents, together with graphic,
2406 cartographic, and other material types. It should be able to support the needs of a
2407 digitization project in Abruzzo. Again, contribution of a record to the SBN union catalog is
2408 a requisite of contribution to the BDI.
2409

> _Recommendation 04_: (_reiterated_)
> As the Abruzzese institutions move beyond planning, they should partner with the
> Istituto centrale per il catalogo unico (ICCU) and contribute to both the Biblioteca
> Digitale Italiana (BDI) and the National Library Service (SBN).

2410

> _Recommendation 71_:
> The ICCU should ensure timely exchange of records to and from OCLC/WorldCat for
> Italian imprints with either selection for digitization information (i.e., MARC21 583) or
> digital version URL information (MARC21 856).

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2412 While the SBN union catalogue is disadvantaged in terms of global accessibility,[121] the
2413 SBN is now open to UNIMARC and MARC21, the most widely used bibliographic formats
2414 in the world.[122] MARC21, in particular, is a _lingua franca_ of bibliographic record
2415 exchange between bibliographic utilities. MARC21 cataloging under-pins the UNESCO-
2416 funded World Digital Library (WDL),[123] currently based at the Library of Congress in the
2417 USA. SBN-MARC and MARC21 both are well documented.[124] And, it appears the ICCU

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[121] Until recently SBN records were found only in SBN. A North American cataloguer or digital projects
manager had to know about SBN to identify Italian holdings of a given title and whether it had been
digitized. This has begun to change. But, the exchange of records, particularly records indicating either
selection for digitization or the availability of a digital version, needs to be more immediate. Likewise, SBN
needs to formalize agreements with the world's major bibliographic utility, OCLC/WorldCat, to allow timely
copy into SBN of records for Italian imprints with, at least, digital copy (i.e., 856/URL) information. Without
this information, Italian institutions, the Abruzzese institutions among them, risk duplication of effort; and,
their patrons may go without knowing the existence of readily useable, internet accessible versions.

[122] See: Contardi, Gabriella. "The Italian National Library Service (SBN): a cooperative library service
infrastructure and the bibliographic control." Submitted for the International Federation of Libraries and
Archives meeting, Milan, Italy, 2009. Available online at: www.ifla.org/files/hq/papers/ifla75/77-contardi-
en.pdf. _Section 3 briefly discusses the relationship of SBN-MARC to both UNIMARC and MARC21._

[123] World Digital Library (http://www.wdl.org/). Additional contact information can be provided upon
request.

[124] Though MARC21 is well documented in English, translation of documents into Italian is relatively immature.
See: Gruppo Utenti MARC21 at http://gumarc21.unicatt.it/.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2418	has completed the initial mappings[125] that will make possible the contribution of content
2419	from the Abruzzese institutions, should that be desired, to the WDL.
2420	

> *Recommendation 72*:
> Presuming that the Abruzzese institutions digitize the Antinori, their Renaissance history, or rare maps, they should consider subsequent contribution of these digital resources to the World Digital Library.
>
> Contribution should increase the international profile of an Abruzzese digitization program and make them more viable as a partner for subsequent (funded or grantable) projects.

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> *Recommendation 73*:
> ICCU should publish and maintain a direct SBN-MARC to MARC21 crosswalk.
>
> ICCU should take advantage of the Gruppo Utenti MARC21 and all contacts it and the ICCU may have with the Library of Congress to complete this work.

2422
2423 There remains one additional cataloging issue. Contribution to the BDI requires
2424 submission of a bibliographic record in advance to the SBN. This practice reflects
2425 normative values. While not bad they assume that cataloging either is already available
2426 or can be created. The assumption is problematic for the Abruzzese institutions.
2427
2428 In many cases, the Abruzzese libraries still maintain large card catalogs that require
2429 conversion. This problem is compounded in the Archivio di Stato. There catalog records
2430 await conversion as well, but catalog records representing archival groups generally ill-
2431 reflect individuated holdings within any given group. An archive rarely elects to digitize a
2432 whole archival group. Instead, it digitizes selectively. A catalog record for an archival
2433 group, *Earthquake of 1706*, does not adequately describe the *Map of the City of L'Aquila*
2434 of 1705, which may be the only item from the group to be digitized in a Digital Maps
2435 project.[126]
2436

> *Recommendation 74*:
> The Abruzzese institutions should seek funding for catalog conversion – cards to SBN-MARC or MARC21 format – within libraries, AND, itemization of records within important or frequently consulted archival groups.
>
> In the wake of earthquake damage that necessitates the relocation of each of the Abruzzese institutions, an inventory project of this nature seems well warranted.
>
> The existence of automated records would, then, subsequently support digitization as presumed by ICCU for contribution to the BDI. Preservation assessment data (*see the recommendation above*) could also be attached to automated records – in SBN-MARC element "Conservazione" much as this data is recorded in the MARC21 583 (Preservation Actions note) field.
>
> See the above recommendation for an alternate method for items to be digitized but never before catalogued, i.e., for the generation of catalog records from metadata.

2437
2438 Bibliographic data is almost always used in the construction of a digital resource by
2439 encapsulating it, embedding or copying it, into the metadata record accompanying the

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[125] Mappings from SBN-MARC to MARC21 are also relatively immature, with several steps forward completed in the form of mappings to Dublin Core and PICO. Selective but incomplete mappings of SBN-MARC to UNIMARC exist within the published Protocollo SBN-MARC. These efforts should be considered worthy but inadequate for automated record exchange outside of the SBN / ICCU.

[126] This example is fictional. It is given for illustration only.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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digital objects that make up the resource. Creating first a catalog record followed by a metadata record both largely by hand *at the present time* is a duplication of effort.

Recommendation 66: (reiterated)
Presuming contribution to BDI, the ICCU should build tools that allow the generation of catalog records from metadata.

Contribution to BDI currently requires cataloguing in advance of contribution. While sound practice, to link digital resources to searchable data, the current method cannot adequately support the number of new resources arising from the projects suggested above.

ICCU might look again to the Digital Library of the Caribbean's toolbox for example and, potentially for an exchange of code.

2443

Recommendation 75 a-c and x:
The ICCU should establish digital-production support modules that automate the following:
    a. Import SBN-MARC records into the ICCU / BDI metadata (i.e., MAG) records;
    b. Import MARC21 records into MAG records; and
    c. Export SBN-MARC records from MAG records.

Automation reduces cost and staffing need. Record import and export are considered to be so basic that they are part of almost all commercially available digital-production support software.

To the extent that a digitization project is or should be reliant upon the ICCU, the readiness and viability of ICCU systems goes directly to the readiness and viability of a project in Abruzzo.

(75a) IMPORT SBN-MARC TO MAG

If a SBN-MARC record is available, a digital-production unit should not have to duplicate effort by recreating it in the MAG record that required for contribution of an item to the BDI.[127]

Automated import of bibliographic information saves time and money and ensures the accuracy of the information.

(75b) IMPORT MARC21 TO MAG

Occasionally, an Italian institution may find a record matching their resource in an external MARC21 database. In that case, a digital-production unit should not have to duplicate effort already expended elsewhere by recreating it in the MAG record.

This scenario could very well be the case if, for example, the Abruzzese institutions were to partner with an institution holding Italian resources, for example, with the Newberry Library (Chicago, Illinois, USA) or with the Digital Scriptorium or any one of its participating institutions.[128]

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[127] A digital resource package contains metadata (i.e., a MAG record that references bibliographic and other information along with references to other digital objects in the package) and the digital objects representing the digital resource (e.g., image files such as TIFF, JPG, PDF, JP2, etc.). A package may contain other files that aid interpretation or use of metadata or objects.

[128] For more information about the Digital Scriptorium and its participating institutions, see http://scriptorium.columbia.edu/about/

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

69

(75c) Export SBN-MARC from MAG
[*This recommendation is a restatement of Recommendation 66.*]

In the ICCU's forthcoming digital-production support modules,[129] display and collection or editing of bibliographic information is likely. If bibliographic information may be collected in the process of creating the MAG record, it should be possible to export that information as a SBN-MARC record for use in the SBN Union Catalog.

This function would mitigate duplication of effort. But, more importantly, it would allow an archive such as the Abruzzo's Archivio di Stato to describe content from within an archival group without having to incur the cost of cataloging first the parent archival group and subsequently the individuated item within the group.

This tool should also be programmed as to support the export of metadata to Italy's archival record format.

(75x) An Alternate Recommendation

Alternatively, the need to place a catalog record in the SBN Union Catalog could be obviated entirely, if ICCU allowed for the aggregation of both a SBN catalog that is for physical (i.e., non-digital) resources and a BDI catalog that is for virtual (i.e., digital) resources.

Aggregation is a method of supporting a single search of multiple databases simultaneously and of bringing their result-sets (their *hits*) together. To the library user it appears that they are searching one polymorphous library system.

As the BDI moves forward to include searchable text, aggregation solves another problem looming for the ICCU: SBN does not support searchable text. In fact, no MARC database supports searchable text. And, in many ways, MARC based systems are already antiquated. And yet, without aggregation, the SBN will remain the primary search tool for library holdings. SBN searches will simple miss all of BDI's searchable text. If researchers demand search within text (i.e., searchable text), why not search against it. Aggregation solves the problem.[130]

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[129] Again detailed information about the ICCU's forthcoming production support modules was not available at the time of assessment.

[130] This discussion of aggregation glosses over several fine points. The discussion in professional circles at the present time becomes somewhat philosophical quickly. Traditionalists find aggregation to be an anathema. MARC – whether SBN-MARC, UNIMARC or MARC21 is still good, but it is also very limited. It is not up to the tasks required of metadata by digital libraries. Futurists find aggregation to be something like a car crash, all of the book-covers and titles pages in one car, all of the text in another. Smash them together and the bits that come flying apart are your search returns. The analogy may be as ludicrous as it is functional at the present time. It may well be today's super-collider for the realm of super-computing.
MARC based systems cannot be thrown out just yet. For all of the metadata that digital library systems collect and all of the searches that they make possible, digital libraries don't need circulation systems required by traditional libraries. Aggregation is a marriage of convenience until their off-spring, projects like the Open Library Environment (OLE) Project, offer more sensible one-stop information collecting.
The ICCU should not be expected to adopt this alternative recommendation ... if for no other reason than no other national library has, as yet adopted it.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

70

Basic Metadata

The base of basic metadata knowledge among the Abruzzese institutions is fair and experience of digital object package metadata creation is wonting. This, however, is skill and experience easily gained and that can in-grained in the course of a small project. Italy's MAG standard is relatively simple and logical and, certainly, well documented. And, with the assistance of automation tools reportedly planned by the ICCU / BDI, the learning curve should be greatly reduced.

An original requirement for this report was discussion of "off the shelf digital library systems" that might be recommended to the Abruzzese institutions. There are a number of systems that might be suitable for their use but none is recommended.

Why not?   First, the BDI, while lacking some applications, automation tools reportedly being specified for programming and that will facilitate the creation and management of digital assets, is free to Italian cultural institutions. It is well documented. And, it has the force of MiBAC behind it. It is a defacto national standard digital library system.

Second, other free systems, such as the UNESCO recommended Greenstone[131] software or open-source Fedora,[132] have costs hidden in launch, programming and technical maintenance. Additionally, Greenstone is rather basic. A digital library built on top of Greenstone such as the Digital Library of the Caribbean, for example, has invested considerable programming – the effort of two programmers and a management team – to achieve desired ends. Fedora is more capable, but its demand for knowledgeable administration is more complex. BDI has already thought through many of the implementation decisions that are required of rolling-out Fedora. Duplication of effort by the Abruzzese institutions would not only require the dedication of staff that they appear to lack but would represent lost productivity. They could simply start using BDI. These will be marks against commercial software as well.

As stated above, the Abruzzese institutions might partner with an established digital program that is willing to share its technology in exchange for access to the Abruzzese content. But, this presents other problems, foremost the exchange of digital content among Italian institutions, unless the technology host institution were willing to write additional functionality to exchange records with BDI. Some level of support for the exchange of records will be required if the Abruzzese institutions or the BDI eventually exchange content with / contribute to the Digital Scriptorium,[133] the World Digital Library (WDL),[134] or the European Digital Library Project[135] and its *The European Library,*[136] or even the contribution of its earthquake resources to the Digital Library for Earth System Education (DLESE)[137] if not to the document data-parsing earthquake library of the Storia Geofisica Ambiente (SGA).[138]   The SBN has already developed methods for contribution to the latter and presumably has or might easily develop them for other collaborative digital libraries. Again, there is no reason for the Abruzzese institutions to recreate this wheel.

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[131] Greenstone (http://www.greenstone.org/) – available with an Italian interface.

[132] Fedora (http://www.fedora-commons.org/)

[133] Digital Scriptorium (http://scriptorium.columbia.edu/)

[134] World Digital Library (http://www.wdl.org/)

[135] European Digital Library Project (http://www.theeuropeanlibrary.org/)

[136] *The European Library* (http://search.theeuropeanlibrary.org/)

[137] Digital Library for Earth System Education (http://www.dlese.org/library/index.jsp)

[138] Storia Geofisica Ambiente (SGA) (http://www.sga-storiageo.it/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

71

Two strikes against commercial software have already been registered. The greater strike is cost, though complexity of roll-out decision-making is also a factor to be considered.[139] The fee structures of CONTENTdm,[140] DigiTool,[141] and other commercial digital library systems *may* become considerable as a digital library grows. Even if their costs are affordable for the Abruzzese institutions, they would have to consider if they represented value for money over the free services on a nationally subsidized system. Certainly, the commercial systems, with digital object construction tools and asset management sub-systems, are more advanced than BDI now is. But, this appears as though it will change, however, as the ICCU rolls-out applications to assist digital object creators.

This is a simple discussion of basic digital library systems. If the Abruzzese institutions were to go it alone, they would have to deal with secondary systems, such as image zoom, panning and rotation technologies or various audio and video technologies, that the BDI has already considered and implemented, and, which the ICCU is better staffed and equipped to deal with.

2457

Recommendation 76:
The ICCU should consider approaching an established digital library program with a good application tool-box, such as the Digital Library of the Caribbean (dLOC), for a code exchange. At the very least it should look to the applications of ALUKA, dLOC, and similar programs as the model of development needed to assist institutions contributing to the BDI.

2458
2459   In Italy the national metadata standard for digital resource description is the MAG, which
2460   is currently in version two.[142] MAG is a well defined standard. Where it wonts for greater
2461   definition other digital library metadata standards (e.g., the Library of Congress' METS)
2462   also wonts for greater definition. In any case, as a requisite for contribution to BDI – and
2463   for access to its support system, MAG should underpin any Abruzzese project.
2464

Recommendation 77:
The Abruzzese institutions should formally adopt MAG as it commits to contribution to BDI.

Anything else would necessitate that the Abruzzese institutions build their own standard – which they are not equipped to do – and that they build into the systems supporting their own standard the means to make their data shareable with the BDI and other digital libraries to which they might contribute – which would consume resources and effort better spent on production.

The Abruzzese institutions could use the standards and tools of a foreign partner – and, many of the tools potentially available from foreign, and particularly North American partners, are better than those available (and largely still promised) in

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[139] The CONTENTdm system may be the easiest of the commercial systems for non-technically advanced institutions to roll out. If the Abruzzese institutions do opt for a commercial system, CONTENTdm is recommended for initial roll out. CONTENTdm's search systems may not be as robust as those of DigiTool. DigiTool would be recommended as their independent digital library matures. For sheer search power and ability to configure systems to user needs, however, Fedora is recommended, despite its programming over-head, as an optimal system for the matured digital library several years down the road. Again, the digital library system recommended to the Abruzzese institutions in the ICCU's BDI.

[140] CONTENTdm (http://www.contentdm.org/)

[141] DigiTool (http://www.exlibrisgroup.com/) – one of the few commercial digital library software packages with an Italian interface.

[142] MAG (http://www.iccu.sbn.it/genera.jsp?id=267)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

72

> Italy. But, the down-stream costs of their adoption would be expensive. None of these standards or tools is written in Italian, has Italian interfaces, is SBN or BDI aware for example. And, here too, the Abruzzese institutions do not have the resources to make this viable. Even while foreign partnerships and contribution to international digital libraries are strongly encouraged as a means of gaining experience and extending their profile, translation and data-migration issues loom large. These are best handled by the SBN, ICCU and MiBAC.

2465

> *Recommendation 65: (reiterated)*
> Presuming contribution to BDI, the ICCU should build tools that facilitate the creation of metadata.
>
> Contribution to BDI currently requires knowledge of professional standards and cataloguing tools. The release of alternate tools that guide their user through the supply of metadata means that quantity data can be supplied by non-professionals, and, thereby reduces project and program costs.
>
> ICCU might look to the Digital Library of the Caribbean's toolbox[143] for example and, potentially for an exchange of code. It might also emulate the Digital Library of the Caribbean's training program[144] as a means of ensuring low cost quality input.

2466
2467 Cataloging or, rather, bibliographic information is a subset of metadata. Digital library
2468 metadata is much more expansive. Other subsets of metadata collected in digital library
2469 metadata include: administrative information, rights information, technical information,
2470 sequential information, archival information, and various types of references and authority
2471 information. Collecting and maintaining all of this information represents quite a
2472 substantial workload. Automation, hopefully in the form of the ICCU's forthcoming digital-
2473 production modules will lighten the load for the Abruzzese institutions. Without it, they
2474 face a somewhat steep learning curve.
2475
2476 The MAG standard, like the Library of Congress' METS and related standards, is fairly
2477 basic. Further consideration of metadata enhancements is considered below, cf, *Geo-*
2478 *Referencing and other referencing standards*.
2479
2480 **Imaging**
2481
2482 Imaging should always pass a *fitness-for-purpose* test, where fitness is determined by the
2483 possible uses for which an image is currently required or to which it may be put in future.
2484
2485 The digitization community, at least that of higher education institutions in North America
2486 and other parts of Europe generally agree on resolution and other imaging standards.
2487 These, together with *fitness-for-purpose* tests, should be adopted.
2488

> *Recommendation 78:*
> The Abruzzese institutions should adopt the imaging standards of the ICCU / BDI (except as suggested below).
> The ICCU / BDI should consider modifying its guidelines accordingly.

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[143] Digital Library of the Caribbean's toolbox (http://web1.dloc.com/ufdc/?g=dloc1&m=hittoolk see also http://library.gameology.org/2009/12/19/open-source-mets-metadata-editor/). The Technology Coordinator for the Digital Library of the Caribbean Dr. Laurie Taylor (lautayl@uflib.ufl.edu). See also http://www.uflib.ufl.edu/digital/development/DTdb/

[144] Digital Library of the Caribbean's training program is represented in its Manual (http://web1.dloc.com/ufdc/?g=dloc1&m=hitmanual). To discuss training activities and tools, contact Brooke Wooldridge (dloc@fiu.edu).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

73

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2492
2493 Several handbooks, manuals and tutorials are freely available online, including the
2494 following:
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2496 • Bibliographical Center for Research. *Digital Toolbox*.
2497   http://www.bcr.org/dps/cdp/digitaltb/index.html
2498   English only = Solo in inglese
2499

2500 • California Digital Library. *CDL Guidelines for Digital Images.*
2501   http://www.cdlib.org/inside/diglib/guidelines/bpgimages/index.html
2502   English only = Solo in inglese
2503

2504 • Cornell University. *Moving Theory into Practice : Digital Imaging Tutorial*.
2505   English..... http://www.library.cornell.edu/preservation/tutorial/contents.html
2506   Italiano ..... http://www.icpsr.umich.edu/dpm/dpm-ita/index.html
2507   French and Spanish versions are also available.
2508

2509 • Digital Library of the Caribbean. *Partner Training Manual*.
2510   English..... http://web1.dloc.com/ufdc/?c=dloc&m=hitmanual
2511   French and Spanish versions are also available.
2512

2513 • France. Ministère de la culture et de la communication. *Numérisation du*
2514   *patrimoine culturel*.
2515   http://www.culture.gouv.fr/culture/mrt/numerisation/index.htm
2516   French only = Français seulment = Solo in Francese
2517

2518 • Sitts, Maxine K. (Northeast Document Conservation Center.) *Handbook for Digital*
2519   *Projects.*
2520   English..... http://www.nedcc.org/resources/digitalhandbook/dighome.htm
2521   A Spanish version is also available.
2522

2523 Of these, the Digital Library of the Caribbean's *Partner Training Manual* is perhaps the
2524 most direct in providing instruction to novice imaging-technicians. The Cornell University
2525 *Tutorial* meanwhile offers the best instruction for building deeper understanding of the
2526 issues.
2527
2528

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

74

	IMAGE RESOLUTION
2529	
2530	
2531	While images destined for Internet delivery may be scanned at as little as 150 dots per
2532	inch (DPI), as are the majority of images currently available through the BDI, this
2533	threshold is substandard for other uses. An institution needs to look beyond immediate
2534	need, for this reason it should identify stakeholders and assess their needs, current and
2535	future. In L'Aquila this remains to be done.
2536	

> *Recommendation 81:*
> Recommended imaging standard:
> - 300 dpi scanning for pages with printed text,
>   and, should *consider*
> - 600 dpi scanning for manuscripts, photographs, maps and other item intended as or used for illustration.
>
> A 600 dpi image may be over-kill in many cases. *Fitness-for-purpose* considerations should note that some uses may seek either to use an image segment for a highly specialized reproduction[145] or to perform highly-detailed inspection.[146] e.g., the need to examine photographic details included depicted signage, or, the need to examine handwriting to make accurate transcriptions, among other potential uses.
>
> Image resolution can always be down-sampled; but, it cannot be meaningfully up-sampled. Resolution may be down-sampled for a derivative, but consideration should first be given to the research needs that the institution is attempting to meet.[147]

2537	
2538	BIT-DEPTH, COLOR AND COLOR-SPACE
2539	

> *Recommendation 82:*
> With regard to bit-depth, color, and color-space, when *fitness-for-purpose* considerations are not definitive, deference should be given to the production of 24-bit (*true-color*) images, with a preference for the sRGB color-space.
>
> Images can always be modified for the worse; but, they cannot always be modified for the better.

2540	
2541	Many of the manuscript images contributed to the BDI are available as bi-tonal (*black and*
2542	*white*) or 8-bit (*grey-scale*) images. Relative to the nature of aging processes, the lack of
2543	color information, or rather the down-grading of images from source document quality,
2544	has a detrimental impact on legibility. Institutions generally limit or reduce bit dept to save
2545	space. Relative to the declining cost of digital storage, space should be increasingly less

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[145] As the Abruzzese institutions consider sustainability, they should not the potential profitable commercial (and licensed) uses of highly graphical resources, e.g., maps, illuminated manuscripts, etc.

[146] Examples of need to examine photographic details include: inspection of depicted signage; examination of handwriting to make accurate transcriptions; examination of articles of clothing or jewellery for period reproduction or personal identification; among other uses.

[147] Consider the example of one the United Kingdom's most prestigious institutions of higher education. Its library digitizes collections, ostensibly for access. The copies that it makes available to its users, however, have been down-sampled to prevent theft and (commercial) mis-use, rendering the images virtually illegible and too small for most research uses. One assumes, kindly, that the purpose is to encourage library visits. The library's web pages, however, suggest that the images are made to digital use by scholars world-wide. One presumes, however good and detailed the digital masters may be, that the institution just doesn't know what it is doing. This harms rather than enhances reputation.
If the Abruzzese institutions feel inclined to protect their resources from commercial misuse and theft, they should consider use of licensing and technical methods that prevent download, image reuse, or retention for more than a given amount of time.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

75

of a concern. In any regard, when comparing space and utility (*image quality*), the user's concern should always be given the greater weight. Users almost always assign more value to usefulness, to utility.

Bit-depth, color and color-space should also meet a *fitness-for-purpose* test.   If a document contains color, whether of illustration or text, at least two determinations must be made: (1) how important is color to the user of the resource? and, (2) how should the image file be saved to facilitate use?

Response to the first question usually employs common sense.   Perhaps, color designates a difference between or the alliances of countries on a map. Perhaps, color of text indicates various speaker's roles, maybe question and answer. Perhaps, color is a useful tool to distinguish annotations with a manuscript, or, annotation by multiple hands – or an individual's hand writing at different times – in a typescript. The common sense response usually defers to the maker's intent. While it an image scanned in black-and-white (i.e., *1-bit*) is smaller than one in shades of grey (i.e., *grey-scale*, or, *8-bit*), which in turn is smaller than one color (i.e., *true-color*, or, either *24-bit* or *42 –bit*), space savings at the cost of utility or obfuscating the maker's intent.

And, as in deciding on imaging resolution, the planner has to consider both what is needed now and what may be needed in the future. Otherwise, the planner has to face the possibility of having to image a source-document once, if not several times, more – thereby piling on costs. The user of, for example, a digital catechism today may be quite happy to read it in black and white, but black-and-white does not help reader understand the juxtaposition of question in red-text with answer in black-text. A grey-scale version of the same page, while preserving the juxtaposition of question and answer, does not allow faithful reproduction with the color clearly seen later.   Similarly, today's user of a manuscript history may be content with page images generated in black-and-white from black-and-white microfilm, but tomorrow's user who wishes to transcribe the manuscript may find the work more difficult, more time-consuming and ultimately more expensive from black-and-white images or reproductions from microfilm.   So too, another of tomorrow's users, an art historian or artist, for example, may find their interests in illumination, in pigmentation and shading frustrated by a grey-scale image and, certainly, by a black-and-white image.

Response to the second question is more technical, perhaps more academic. Balancing assessment against information for instruction, discussion of this question will not be provided here.

If anticipated uses include both online display and high-quality printing, that is, if future facsimile printing is considered possible, the institution should save the image twice at the time of its initial capture: one in the sRGB color-space used for online display and once in a YMCK color-space using either a generalized print profile or the prevailing profile used by Italian commercial printers. Though institutions may not wish to make files at higher resolution available for general use online, they may wish to publish, even sell facsimile reproductions of digitized works. They or the researchers using digital resources may wish to generate searchable text to enhance resource utility.   For these and other purposes, higher resolution files will be necessary, even if they are stored away, off-line and beyond the reach of uncontrolled use.

OTHER CONSIDERATIONS

Other technical issues will be glossed over here in the interest of completing this assessment of digitization readiness and project viability. Technical issues, in any case, are largely elsewhere in readily available resources. Other considerations are either better recommended following review of the sources listed above or are uniformly agreed among digitization programs and need no consideration here.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

76

2604 Presuming that the Abruzzese institutions and their Planning Committee have done their
2605 best to understand the advice of the listed sources, over-riding consideration should be
2606 given to the findings of the Stakeholder exercise.
2607

> *Recommendation 02*: (*reiterated and restated*)
> The Abruzzese institutions should complete a stakeholder exercise to identify the
> stakeholders in a digital project / program and the various needs, current and future,
> of those stakeholders.

2608
2609 The product of the exercise, a matrix of stakeholders and their interests, should be vetted
2610 by an individual or panel of individuals who have experience building digital collections.
2611 Members of the team originally responsible for guiding development the BDI's should
2612 have this experience. As a last resort, and, with well developed partnerships, digital
2613 librarians at universities across Europe and North America might be interested in
2614 collaborations that make the L'Aquilano/Abruzzese resources available to their
2615 stakeholders.
2616
2617 A stakeholder is someone who maintains an interest in the resources digitized.
2618 Stakeholders commonly include individuals, researchers, students, etc. for whom a
2619 resource is digitized. Stakeholders also include the agencies and donors funding
2620 digitization, as well as the administrators responsible for the accounting of the use of
2621 funds. Stakeholders include individuals involved in the creation of digital assets:
2622 managers and technicians, for example. Those individuals who retrieve and reshelve
2623 content also form a stakeholder group. Individuals who maintain Internet delivery and
2624
2625 who archive or manage archives of digital assets form yet more stakeholder groups. If
2626 the Abruzzese institutions for partnerships for any reason – technical assistance, digital
2627 archiving, content sharing, etc. – the partners and their stakeholders, in turn, become
2628 stakeholders in the Abruzzese project(s) as well.
2629
2630 Every stakeholder group can characterize its use or interest in digital resources. The
2631 exercise should endeavour to determine desired as well as current uses of a particular
2632 set of resources. A researcher, for example, who may initially be thankful to have Internet
2633 access will likely ask for the ability to download and use a resource off-line, then to print,
2634 to search, and a host of other tasks. Common uses include Internet access; download
2635 and read later; download and print; quoting (i.e., copy-and-paste); even an activity as
2636 simple as searching metadata or full-text. Less commonly regarded uses include but are
2637 not limited to reporting on productivity, quality control, and costs; to digital archiving and
2638 facsimile reproduction.
2639
2640 Information compiled during the exercise allows project planners to determine needs,
2641 whether they are in staffing, expendable supplies, durable equipment, travel, or services
2642 both in-house and vended.
2643
2644 The product of the stakeholder exercise allows planners to outline a vision and rationale
2645 for the project that can be defended or which support funding decisions.
2646

> *Recommendation 83:*
> Several recommendations may be grouped under improvement of ICCU and BDI
> systems.
>
> The following recommendations pertain only to systems facilitating imaging and,
> indirectly, image archiving.
>
> Note that instruction to the Abruzzese institutions is also made below.
>
> 83.1 ICCU should anticipate future storage need – both for ready-access online
> and for off-line archival storage if it has not done so already.

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

77

83.1.1. A digital master should never be stored in an online environment only. *Note that this statement is made for information to general readers only. ICCU does currently archive all content, including both that available online and digital masters, in off-line storage.*

83.1.2. Need to should anticipate storage of a high-resolution digital master (TIFF) and several derivative versions optimized for online access (e.g., JPG, PDF, JP2, as well as TXT, HTML, SGML, XML and other searchable text versions and metadata supplements).

83.1.2.1. *And, as necessary*, the Abruzzese institutions should be asked to incorporate the cost of any needed storage expansion into their projects budgets (i.e., as possible, when project planning, the Abruzzese institutions should seek to fund at least the initial cost of their storage needs; n.b., in the USA, granting agencies often consider request for funding digital preservation storage costs to be legitimate and will fund a portion if not all of these costs).

83.1.2.2. The Abruzzese institutions should adopt, as standard practice, the practice of creating sample images (masters and derivatives) of the type (i.e., resolution, bit-depth, color-space, etc.) that they plan to generate for the materials that they propose to digitize. The size of these sample images should inform storage planning needs.

83.1.3. (*Information*:) The original term of funding, for the creation of the BDI, has now ended. The BDI presently works on a reduced continuation budget.

83.1.3.1. External funding agencies will likely require at least restricted (*eyes-only*) access to these documents as they deliberate funding.
N.B. While no sustainability documents were provided for this assessment, certainly the diligence reflected in BDI design suggests that those documents exist.

If those documents do not reflect capacity-for-storage needs (on the basis of image production and archiving specifications recommended here), they should be revised to do so. And, planning to meet need should not be taken as having met need. While funding agencies certainly will appreciated having capacity in place, they will not necessarily decline a funding request, as long as capacity needs have been anticipated and contingencies for meeting it have been outlined.

83.1.3.2. (*Reiteration and restatement of Recommendation 77.1.2.1.*)

An Abruzzese digitization project should be planned to account for all costs associated with imaging and image archiving. A digitization production grant should consider inclusion of funds required to increase storage capacity commensurate with the production levels of the project. This is standard practice in grant writing.

83.2. (*Reiteration and restatement of Recommendation 65.*)

ICCU should release program modules designed to facilitate image production and metadata assignment.

83.2.1 The BDI was in some ways a start-up experiment. It allowed the ICCU and participating institutions to gain experience and list infrastructure and procedural improvements necessary to enter a production environment. While an excellent means of building services for broader use, the entry of the Abruzzese institutions without those improvements would incur a fairly large start-up commitment and costs for them.

83.2.2. The ICCU has indicated that it is currently working on such modules. *It was unable, however, to provide additional information or specifications for this assessment.*

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

78

Text Generation

This section presumes that the Abruzzese institutions will avail themselves of the ICCU / BDI digital library systems. Currently, those systems support searchable text embedded in metadata. While this text may include mark-up (i.e., specialized tagging that gives more meaning to the text and is used for advanced search and discovery), like similar systems, texts embedded to date tend to exclude mark-up. In virtually all digital library systems, mark-up tends to get in the way of search.[148]

Recommendation 32: (reiterated)
The BDI should continue its move toward implementation of optical character recognition (OCR) technology.

It is important that the ICCU move as quickly as possible toward a standard definition of "text" for the BDI. Will the BDI support what is essentially text without mark-up? Will it support text with bounding-box mark-up, i.e., tagging that identifies the graphical location of search terms and query results in page images?[149] And, if they implement bounding-boxes, will they implement the Alto[150] standard or define an alternate standard? Or, will it support text with other forms of mark-up? Why is this important? Texts made now, failing to meet a future standard will have to be regenerated at additional cost. But, will the Abruzzese institutions need to generate text? If anticipated user requirements are confirmed in the course of the Stakeholder exercise, then yes; they will almost certainly need to generate text. The Abruzzese institutions could, of course, hold back on meeting a user demand for text until the BDI standard has been defined. Generating text later is less expensive than generating it now to meet a current demand and reprocessing it later to meet the requirements of the digital library systems. But, even generating text later has greater cost than generating it when the image is first to hand.

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[148] Sadly, relative to the simplicity of the problem virtually all digital libraries have difficulty dealing with mark-up in searchable text. A notable exception is the systems deployed by the University of Virginia's Institute for Advanced Technology in the Humanities (http://www.iath.virginia.edu/), which have been optimized for the specialized uses of mark-up. Other Libraries working toward more appropriate handling of text with mark-up *include* the Bibliotheque national de France and the Library of Congress (USA).

[149] Many digital library systems, like the current iteration of the BDI, allow text, make it searchable, but – often because of its imperfections – hide that text behind a page image, opting to display the page image rather than the imperfect text.

[150] Alto (http://www.ccs-gmbh.com/alto/general.html). Alto has gained ground as the defacto international standard, see also: http://www.loc.gov/standards/alto/news.php. It has been or is in process of being implemented by various national libraries including the Bibliotheque nationale de France, the British Library, and the Library of Congress (USA).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

79

Recommendation 84:

While the Abruzzese institutions await a decision from the ICCU / BDI, should they wish to generate text, they should use either of two methods for text generation: (a) double-keying or (b) OCR.

84a .. Double-keying[151]

84a1 ......Double-keying will be the preferred method of text generation for handwritten / manuscript resources since neither OCR nor Intelligent Character Recognition (ICR) system have yet been optimized for the conversion of the wide range of holographs encountered among archives and manuscripts.
There are a number of vendors, most off-shore in low-cost labor markets, that will generate double-key text out-put from (master) digital images.
As with all vended services, vendors should be chosen only in response to a Request for Proposals (RFI) that requires return of a standard sample.

84a2 ......Double-keying should be accurate to 99.95% of characters.
The Abruzzese institutions should always spot verify the accuracy of texts.

84b .. Optical Character Recognition (OCR)

84b1 ......OCR will be the preferred method of text generation for typescript resources, unless pretests show that double-keying would be more accurate or cost-effective.
There are a number of vendors[152] that will generate OCR text out-put from (master) digital images.
As with all vended services, vendors should be chosen only in response to a Request for Proposals (RFI) that requires return of a standard sample.

84b2 ......OCR should be accurate to 99.9% of characters for modern book texts, although the Abruzzese institutions may need to define accuracy on a source-type by source-type basis and against a sliding scale based upon samples generated by multiple vendors for a given source-type. Text generated from newspapers for example is often far less accurate than that from books.
The Abruzzese institutions should always spot verify the accuracy of texts.

84c... Single-keying[153]

84c1.......Single-keying should not be preferred.
Generally, this method produces more errors and is more expensive than other methods. The greater expense results from the greater time spent in proof-reading the product. Even then, human proof-reading and human proof-reading combined with machine spell checking, will be less accurate than double-keying.
Even when volunteers have been used, as has been suggested above, it will be cost-effective to have two volunteers type the same text, and then use automation to compare the contributed texts.

84c2.......Single-keying, if used, should be accurate to 99.95% of characters.
The Abruzzese institutions should always spot verify the accuracy of texts.

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[151] Double-Keying is a process of text generation that entails re-keying (re-typing) a document twice over, comparing the two products, identifying differences through programming, and correcting the identified differences. Double-Keying usually results in a more accurate text than does OCR.

[152] OCR text is commercially out-put in low-, moderate- and high-cost labor markets. But, because OCR is an automated process the cost of labor is not particularly important. High-cost labor markets often, but not always, work at greater levels of production and can usually offer the lower price.

[153] Double-Keying is a process of text generation that entails re-keying (re-typing) a document twice over, comparing the two products, identifying differences through programming, and correcting the identified differences. Double-Keying usually results in a more accurate text than does OCR.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

80

Geo-Referencing and Other Referencing Standards

This section presumes that the Abruzzese institutions will avail themselves of the ICCU / BDI digital library systems. Currently, those systems support geographic elements in metadata. While texts may include geographic mark-up, BDI systems are not optimized to take advantage of this mark-up (see *Text Generation*, above).

> *Recommendation 85*:
> ICCU / BDI should extend MAG to allow subject elements such as geography, time, personal names, proper nouns and events to be recorded at the page level as well as at the bibliographic / package level.
>
> An example of how this can be achieved may be found in the UFDC metadata[154] used by the Digital Library of the Caribbean.

> *Recommendation 86*:
> The Abruzzese institutions are encouraged to use geographic, temporal, name, and event tagging within MAG to their fullest advantage, associating these with the pages on which they occur.
>
> The nature of the Abruzzese resources suggests that geo-referencing is important. Indeed, these are resources for which the importance of geography, of time, of persons, and of events will likely be born out in a Stakeholder exercise. The role of geography is especially important, for example, in Antinori's *Corografia*.

Here, however, is the problem or, rather, the limitation of tagging geography and other points of reference in MAG: MAG is essentially a bibliographic standard. It is metadata that applies to the digital package as a whole. Specialized data encoded here will help users to locate resources of interest; but, it is something like pointing to a hay-stack and saying, "There is a needle in there!" Presuming that searchable text accompanies page images, the hay-stack can be localized to a page … assuming that the search term(s) matches the term(s) found on the page.

Every referencing system needs an authority: personal names – name authority; events – subject authority; time/temporal elements – subject authority; geography – a gazetteer; specialized subjects – a thesaurus if not an ontology. The Abruzzese institutions can and do avail themselves of the SBN's name and subject authority systems, together with the national geographic name authority. The Abruzzese institutions, however, will have need of the ability to enhance existing records as their digital library and digitization program both mature. These next few recommendations go into the future rather than to the immediate viability of their projects.

> *Recommendation 87*:
> ICCU is encouraged to investigate the extension of its name-authority systems with life-events metadata.
>
> Traditional library name authority systems are concerned with form of personal name and its variants. *Leonardo, da Vinci, 1452-1519 = Lionardo, da Vinci, 1452-1519 = Leonardo, da Vinchi, 1452-1519 = Leonardo di ser Piero da Vinci, 1452-1519*, for example. And it records, events in the person's life only insofar as needed to differentiate two individuals with the same name. *1452*, in the record for da Vinci, for example, is a birth year.

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[154] UFDC metadata (http://www.uflib.ufl.edu/ufdc2/technical/Metadata/metadata.htm)

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Erich Kesse, Consultant in Library Digitization

81

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[155] A number of organizations are working on what is here called "life-events" metadata. The Visual Resources Association's guidelines for Cataloging Cultural Objects (http://www.vrafoundation.org/ccoweb/index.htm) provide additional examples.

[156] Istituto Geografico Militare (http://www.igmi.org/) – Italy is listed by the United Nations as not having an authorized geographic name authority (cf, http://unstats.un.org/unsd/geoinfo/Authorities_listJan09.pdf); however, the Instituto supports the work of the United Nations Group of Experts on Geographical Names (UNGEGN) (http://unstats.un.org/unsd/geoinfo/ungegn.htm).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

82

2711	**Sampling (Digital Audio and Video)**
2712	
2713	While ICCU / BDI reports that it accepts digital audio and digital video, it provides no
2714	guidance for their creation. This section provides recommendations without much
2715	discussion. It should be noted that there is something of a schism in the USA regarding
2716	these guidelines. The guidelines provided here are allied with the camp that asserts
2717	provisions for a higher rather than a lower level of sampling.[157]
2718	

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2716 these guidelines. The guidelines provided here are allied with the camp that asserts
2717 provisions for a higher rather than a lower level of sampling.[157]
2718

> *Recommendation 89:*
> Optimal and recommended minimum audio mastering standard:
> - Optimal: 24-bit sampling at 96.0 kHz, stereo, saved as uncompressed WAV;
> - Minimum: 16-bit sampling at 44.1 kHz, stereo, saved as uncompressed WAV.
>
> Both, using constant bit rate (CBR) encoding unless ICCU / BDI indicates that they have appropriate means of archiving and migrating variable bit rate (VBR) encoding which is generally reported to reproduce sound more faithfully than CBR.
>
> Distributable versions for public use should be made using the prevailing file format, currently MP3 with standard compression. Targeting the Abruzzo and Italian market may require availability in multiple formats.

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> *Recommendation 90:*
> Optimal and recommended minimum video mastering standard:
> - Optimal: 1080i resolution at 25 frames per second, PAL color-space, saved as uncompressed MP4 (*preferred*) or MP2 (*acceptable*) (with sound as above);
> - Minimum: 720p resolution at 25 frames per second, PAL color-space, saved as uncompressed MP4 (*preferred*) or MP2 (*acceptable*) (with sound as above)
>
> This recommendation assumes digital display devices rather than older analogue displays.
>
> Distributable versions for public use should be made using the prevailing file format, currently MPG with standard compression. Targeting the Abruzzo and Italian market may require availability in multiple formats.
>
> Note that this standard is defined for European systems. For North American Internet-accessible display (in partnership projects) deviation should not be necessary. However, for North American non-Internet display devices (in partnership projects), modification *may* be necessary for *some* distribution formats.[158]

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> *Recommendation 91:*
> ICCU should optimize forthcoming tools for the automated extraction of technical metadata from digital objects (audio, video, and still image) into the MAG metadata.
>
> This is to ensure accurate and adequate record for digital archiving.

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[157] Sampling guidelines here are roughly commensurate with those cited by European Union national libraries performing digital audio and digital video conversion from analogue sources.

[158] North American video for some display formats on some display devices may require 29.9/30 frames per second, using the NTSC color-space.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

83

2722	**Digital Archiving**
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2724	This section also presumes that the Abruzzese institutions will avail themselves of the
2725	ICCU / BDI digital library systems. Currently, those systems provide a digital archiving
2726	service, presently at no fee.[159]
2727	

> *Recommendation 92*:
> The Abruzzese institutions should always archive (a) digital masters (TIFF), (b) derivatives such as TXT, JPG, JP2, PDF, etc., and (c) metadata and associated references in compliance with the PREMIS[160] standard.
>
> N.B. The BDI supports dark-storage for digital masters. Dark-storage is indicated in BDI records but files cannot be accessed without owning institution authorization.

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> *Recommendation 40: (reiterated)*
> The Planning Committee should consider strategies for digital archiving.
>
> Insofar as the Abruzzese institutions agree to contribute their content to the BDI, they should utilize the digital archiving services of the BDI.
>
> Insofar as the Abruzzese institutions do not or are unable to contribute their content to the BDI, for example, as may be the case for scientific data and lesson plans, they should seek out reliable, standards compliant services for digital archiving. – Again, CASPUR offers digital archiving services within a super-region including the Region of Abruzzo.

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> *Recommendation 83: (partially reiterated)*
> 83.1.2.1. *And, as necessary*, the Abruzzese institutions should be asked to incorporate the cost of any needed storage expansion into their projects budgets (i.e., as possible, when project planning, the Abruzzese institutions should seek to fund at least the initial cost of their storage needs; n.b., in the USA, granting agencies often consider request for funding digital preservation storage costs to be legitimate and will fund a portion if not all of these costs).
> 83.1.2.2. The Abruzzese institutions should adopt, as standard practice, the practice of creating sample images (masters and derivatives) of the type (i.e., resolution, bit-depth, color-space, etc.) that they plan to generate for the materials that they propose to digitize. The size of these sample images should inform storage planning needs.

2730	
2731	Among the Abruzzese institutions, the University has a support unit with some of the skills
2732	necessary to archive digital content to the PREMIS standard. Reliance upon this unit,
2733	however, is not recommended. More appropriate, more advanced skills are available
2734	through ICCU / BDI and, as necessary, through the for-fee services of CASPUR.
2735	

> *Recommendation 93*:
> The ICCU should revise its metadata verification procedures to require MD5 or SHA checksum for all files in a package, and, its applications should both (a) calculate and store a checksum upon digital file creation and (b) recalculate the checksum upon receipt to verify that the files were received without degradation or modification.
>
> MAG allows a record of checksum but, currently, simply stores it without verification.

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[159] ICCU reported no immediate plans to implement a digital archiving fee structure. The Abruzzese institutions, however, should have contingency plans at the ready should this change.

[160] PREMIS (http://www.loc.gov/standards/premis/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

84

> *Recommendation 94*:
> The ICCU should revise contribution practice to allow direct, authorized submission via wire / Internet.
>
> Contribution is currently a batch process via shipment of hard-drives or DVDs.

The Abruzzese institutions have one digital archiving need that should be localized to themselves. Before content can be archived with ICCU / BDI, it has to be archived locally (*intermediate archiving*), from the time of its completion until verification of load and archiving has been received from ICCU / BDI. The Abruzzese institutions will also need storage for items in production, prior to completion.

> *Recommendation 95*:
> As possible, rather than establishing their own infrastructure for intermediate archiving or production storage, the Abruzzese institutions should contract with CASPUR to provide the service(s).
>
> The amount of space needed for either or both production storage and intermediate archiving may be calculated as recommended above. This is envisioned as a remote but authenticated direct wire connection. Transmission speeds should be such that the Abruzzese institutions do not notice the distance between L'Aquila where the institutions are based and Rome where CASPUR is headquartered. CASPUR already provides document delivery over high-speed Internet transmission without delay.
>
> Importantly, CASPUR has in-place the services and skills necessary to maintain systems and perform necessary tasks. The Abruzzese institutions would have to develop both skills and services, delaying a start date for even a relatively small project. More importantly, CASPUR affords the Abruzzese institutions with a level of redundancy, that is, some degree of crash protection.
>
> Systems, optimized for process efficiency, should gate-keep resources automatically. Digital packages marked as finalized could be sent automatically from a CASPUR intermediate archive / production storage environment to the ICCU for load into BDI. Systems could receive, as well, load and archive information from BDI (preferably with confirmation of package checksum) and, presuming that checksums match, the intermediate archive of a given package could then be discarded, making room for new packages.
>
> A model for these behaviors together with code based on well founded business logic may be found in the relationship of the University of Florida's Digital Library Center (UF DLC)[161] and the Florida Center for Library Automation's Digital Library Services (FCLA / DLS)[162] / Florida Digital Archive (FDA)[163].

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[161] University of Florida's Digital Library Center (http://www.uflib.ufl.edu/digital/) – contact information is available.

[162] Florida Center for Library Automation's Digital Library Services (http://www.fcla.edu/dlini/dlinipg.html) – contact information is available.

[163] Florida Digital Archive (http://www.fcla.edu/digitalArchive/index.htm) is internationally recognized as a leader in digital archiving and the development of digital preservation standards and infrastructure – contact information is available.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

85

Recommendation 95x:

The Abruzzese institutions in collaboration with ICCU and CASPUR should investigate partnership opportunities with the University of Florida and the University of South Florida in collaboration with the FCLA DLS and FDA.

There are a number of reasons for the suggestion of this partnership. Several of those reasons can be argued for partnerships with other North American institutions. Cornell University and the University of Chicago both, *for example*, have developed systems with the kinds of supporting applications that could advance the ICCU / BDI systems.

Because both CASPUR and FCLA have similar missions; because the Abruzzese and Italian institutions and the Florida institutions have similar missions; and because CASPUR staff has worked previously with FCLA staff though not directly with FCLA's Digital Library Services, there is some ground for partnership.

The Florida institutions might offer the Italian institutions the following:
- access to programming code or applications based upon well reasoned business logic in:
    - various faceted modules for the digitization work-chain, including:
        - production;
        - quality control;
        - asset management;
    - intermediate archiving and data-transmission; and
    - digital preservation;
- possibly a content mirror for both extended access and redundant preservation;[164] and
- opportunity for indirect access to U.S. funding sources – e.g., a project fashioned as an Institute for Museum and Library Services Leadership Award, perhaps with a broadcast component for use in both Italy and North America.

The Abruzzese institutions might offer the Florida institutions:
- access to Italian content, if by as little as OAI-PMH / metadata harvesting;
- increase national and international profile through:
    - broadcast bearing institutional names;
    - increased program awareness among granting agencies;
    - community out-reach (*perhaps* exemplified by exposure in Tampa's Italian-American community)
    - development of research objectives (*perhaps* exemplified by library development with the University of Florida European Studies Center)
- opportunity for indirect access for Italian funding sources (N.B. any contribution from Italy, even the contribution of staff time can be valued and used as cost-share for grant funding from a US source).

Together, the institutions might work toward various joint objectives, perhaps including:
- extension of the harvesting protocol for the exchange of texts;
- joint research projects that build education modules for various grade levels in both English and Italian;
- joint broadcast products on a variety of topics, and, that give students opportunities to build practical skills

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[164] While ICCU provides BDI with digital archiving, it is not clear that the ICCU itself has a redundant archive as is required for certification by the Digital Curation Center (http://www.dcc.ac.uk/).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

86

5. Equipment and Infrastructure

Equipment recommendations very much depend upon the projects selected for development, and, the specific needs of those projects and target materials.

IMAGING EQUIPMENT

All scanners, regardless type, should be capable of producing uncompressed TIFF images.

When looking at equipment, one needs to consider the rate at which it pays for itself, together with amortization. Industry amortization is approximately three years.[165] The equipment listed below has specific uses. Bound book scanner for bound books and oversized sheets. Rotary scanner for strong modern unbound paper. And, flat-bed scanner for all other unbound papers, photographs, etc. Each piece can be justified (against most grant criteria) for specific projects that the Abruzzese institutions might undertake. The Abruzzese institutions are encouraged to consult with their funding agencies to explain need, the threshold at which equipment pays for itself, and its costs relative to labor and productivity.

Consider three pieces of equipment in particular. For the sake of argument – even though this argument is not true, consider that any resources the Abruzzese institutions might digitize may be imaged using any of three pieces of equipment: flat-bed scanner, rotary scanner, and book scanner. Also assume for the sake of argument, consider that scanning-technician labor costs $10. This number simply makes calculations easy; actual scanning-technician costs should be lower (*in Italy and some USA states*).

The flat-bed scanner costs roughly $1000. Imagine that the average scan takes two minutes; actual time will vary depending upon scanning parameters, resolution, bit-depth, etc. Using these figures, labor costs may be calculated at $0.33 per image. That sounds good, right. Most commercial vendors still charge between $0.25 and $0.50 to their low volume customers; of course, that figure includes post-production (e.g., quality control, color correction, rotation and straightening, etc.) And, productivity, then, in this example, comes in at 30 images per hour, before any image processing or description.

The rotary scanner costs roughly $3000. It scans two pages (front and back of sheet) in two seconds; again, actual times will vary depending upon scanning parameters. This type of scanner works best when producing bi-tonal (*black and white*) images, so actual time is far greater than that used in this example. Labor, then, costs $0.003. Productivity is 3600 images per hour, again without any post-processing or description. Post-image processing will be higher when rotary scanning than when flat-bed scanning, but the difference even when halved remains enormous.

Why wouldn't one scan everything with a rotary scanner? Well, books have to be unbound. And, the process is not particularly gentle. Then, again, images look best when they are only black and white. It becomes easy to see why this scanner is recommended only for a retrospective theses and dissertations projects. There might be a second copy that can be unbound. Or, if only one copy, it probably has wide margins that allow it to be unbound and subsequently rebound. (Don't forget to calculate rebinding costs into the budget for the project!)

Likewise, it becomes easier to understand why one uses a flat bed for photographs; small rare maps; and brittle, fragile or thin papers. Unfortunately, many scanning projects either because they haven't done a cost-point comparison, or, because they lack the

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[165] Amortization, generally, is the time before which either equipment within normal use has worn out or standards or replacement equipment efficiencies dictate that replacement is more cost effective than hanging onto old equipment. Much of the equipment listed here should last more than three years; and, most of it can be made more efficient though software up-grades. Nonetheless, when planning, it is generally acceptable to use a three year amortization calculation.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

87

2801	needed start-up capital for more expensive equipment, or, because they haven't made
2802	their case with their funding agency, … they go with flat-bed scanners for everything.
2803	That's a shame, really. Over time the labor costs add up, digging into institutional buying
2804	power. And, that is to say nothing of the damage done to book spines when scanning
2805	books on a flat-bed scanner. Cost-point comparisons are certainly necessary when trying
2806	to justify a bound-book / large sheet scanner.

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2808 The bound book scanner cost roughly $50000. It scans two facing pages in roughly ten
2809 seconds; again, actual times will vary depending upon scanning parameters (and upon
2810 scanner manufacturer software). Labor, then, costs $0.003. Productivity is 360 images
2811 per hour, again without any post-processing or description. There you have it: if an
2812 institution can make that initial outlay, the book scanner is more cost effective over time
2813 than is the flat-bed scanner.

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Labor / Productivity comparisons for example.

Scanner	Cost per Image[166]	Productivity per Hour
Flat-bed	$0.33	30
Rotary	$0.003	3600
Book	$0.028	360

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2818 The Abruzzese institutions can be confident that a book-scanner is both cost-effective
2819 over the long term and, *most importantly*, most appropriate for the bulk of their resources
2820 and their most valuable, most fragile resources at that.

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Recommendation 96:
Flat-bed scanners:

Recommended...........Microtek ScanMaker 9800XL (without transparency lid)

Reference..................http://ww3.microtek.com.tw/eu/modules/myalbum/
photo.php?lid=17&cid=3

Price (USA) ....between $900 and $1500 from reputable dealers.

Project Type ....flat documents (e.g., unbound paper, photographs, and small
maps); books that open flat
Not recommended for tightly bound books, over-sewn books, etc.

Comment....................a very good, reliable intermediate range scanner with very good
interface controls; relatively easy to use; image and color fidelity
is very good; tonal range is excellent.

Caution ....never purchase a consumer market (low price) scanner; these
lack adequate interface control, generally have poor image and
color fidelity, and generally have poor tonal range.

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Recommendation 97:
Rotary scanners (also known as sheet-feed scanners)

Recommended...........Panasonic KV-S2046C

Reference..................ftp://ftp.panasonic.com/pub/panasonic/business/office/
brochures/KV-S2046C-Brochure-SS.pdf

Price (USA) ....between $2300 and $2500 from reputable dealers.

Project Type ....modern, unbound / single sheet (single-sided or double-sided),
sturdy book and office papers
Supports bi-tonal, grey-scale, and color imaging.
*Recommended for bi-tonal imaging. Not particularly
recommended for grey-scale or color imaging.*

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[166] This is a cost per image calculation excluding equipment purchase price.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

88

2823

<u>*Recommendation 97*</u>: (*continued*)

	May be used with but not recommended for highly-glossy, "slick" or plasticized papers.
	Not recommended for photographic papers, thick papers or card stock, brittle paper, thin papers or tissues, fragile papers, vellum or similar writing surfaces.
Comment...................	This device requires a lot of maintenance, including: periodic dust removal, cleaning of rotaries / rollers, and cleaning of glass platens. Bi-tonal imaging is recommended because defects introduced by particulates is more easily "forgiven" when scanning text than it is when scanning images with graphical and color content.
Caution	Other rotary or sheet-feed scanners tend to be much slower than this unit. If another rotary scanner is being considered, perform through-put tests to determine if productivity is acceptable. For speed, this unit can be matched by Kodak's range of professional moderate to high-speed document scanners. The Kodak range, however, is considerably more (+20x) expensive than the recommended Panasonic. The Kodak range requires less maintenance. (Kodak support software is optimized for office scanning and *may* not support the output necessary for digital library needs. Additional investigation is required.)
	Additionally, most consumer market rotary / sheet-feed are optimized for office environments. They have several faults in a digital library production environment. Firstly, most are slow. Nearly all image only one side at a time (unlike the Kodak and Panasonic rotary scanners). And, virtually all produce images in PDF or other non-master (per digital library standards) format.
	All scanners, regardless type, should be capable of producing uncompressed TIFF images.

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<u>*Recommendation 98*</u>:
Microfilm scanners.

Recommended...........	Microfilm scanners are not recommended for use by the Abruzzese institutions. They appear to lack the number of (quality, copyright clear) microfilm reels required to justify the price of microfilm scanners.
	N.B. Quality microfilm scanners start at $35000 from reputable suppliers.
	N.B. Microfilm scanners are notoriously temperamental. They require a great deal of maintenance and skill – if not plain luck – to work reliably.
Alternately	Microfilm digitization may be commercially vended.
•	*To secure against damage during out-bound transit*, the Abruzzese institutions should ensure that they have retained a copy in Italy. Out-bound shipment should be insured.
	Film used for digitization should always be returned insured and undamaged, under separate shipment from digital product.
	When shipping out of country or out of the European Union, the Abruzzese institutions are advised to be mindful of export/import requirements and, particularly, valuation. Most vendors will advise.
	Normally, it is acceptable to digitize from a second generation master, retaining a master in preservation storage. The

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Erich Kesse, Consultant in Library Digitization

89

Abruzzese institutions may not have that luxury, though the film they do have appears to be in excellent condition with near perfect microfilming. They should retain their current copy as a designated master, and, seek a reputable microfilm duplication agency to produce a second copy for digitization from that designated master. Typically, microfilm duplication by a reputable vendor will result in a fractional but acceptable loss of image quality. If they do not know of a reputable vendor, they should consult MiBAC or ICCU. Again, digitization of the microfilm was recommended above only as a last resort, with digitization from the source document preferred.

- *To secure against damage during in-bound transit*, the Abruzzese institutions should require that all returns be insured. The vendor should retain digital copy of all files until files have been received in verified by the Abruzzese institutions. Typically, an institution will have a limited number of days in which to inspect and verify receipt of acceptable product.
  N.B. Staff of the Abruzzese institutions will to be trained in methods to verify acceptable vendor product. This process is not difficult and should be viable for them.
  And, for their continuing benefit, all files should be redundantly returned, once in the fixed media of DVD and once on hard-drive each shipped separately, *or alternately*, on two redundant hard-drives shipped separately. N.B. It will be easier to verify contents of hard-drives than of DVDs. Some vendors will include the cost of media in their bid; others will require that the institution cover this cost as an additional fee. The request for proposals (RFP) should make clear that it is the vendor's responsibility to specify how this expense is to be handled in their bid.

References.................Vendor references (*selection*) with large volume experience. Additional contact details will be supplied upon request.
As with any vendor selection, it is recommended that the Abruzzese institutions seek request for proposals (RFP) with mandated text conversion of a sample.

- Aptara (http://www.aptaracorp.com/)
- ByteManagers (http://www.bytemanagers.com/)
- iArchives (http://www.iarchives.com)
  iArchives holds the largest volume of contracts and contract work from the USA's National Digital Newspaper Program. iArchives is a high-capacity, high-volume production environment with state-of-the-art scanners.
  For purposes of price comparisons, iArchives provided an *estimate* (not firm pricing) of $5000 for conversion (i.e., simple imaging, splitting 2-page frames into single images, minor image correction and straightening) of the Antinori manuscript works estimated to be 32000 pages. That is a unit price of approximately $0.157, with delivery on redundant media, both DVD and hard-drive.
- OCLC Preservation Service Center (formerly Preservation Resources) (http://www.oclc.org/us/en/preservation/default.htm)

Price (USA) ....varies from $0.15 to $0.50 from reputable vendors for simple image conversion with some post-processing (e.g., straightening).

Project Type ....microfilm conversion.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

90

Comment...................	RFP should specify how film is formatted (e.g., cine or comic mode, film size, negative or positive, etc.), how digital product is to be imaged (e.g., resolution, bit-depth, etc.), how images are to be processed (e.g., frames split into pages, straightened, any image correction, etc.), how files are to be arranged (e.g., by original volume number used as a directory, sequential file / page numbering within each directory, etc.). An institution that has successfully completed vendor film digitization may be willing to share its RFP documentation.
Caution	The limited time period for verification and certification of returned files means that the Abruzzese institutions will have to have planned return and that the necessary staff time and automation resources are available for this activity.
	Before seeking large-production vendor services, whether from film or from other sources, the Abruzzese institutions should program (or have programmed for them) an application that reads file headers and verifies that file characteristics meet those required by RFP / Bid / Contract. It may be possible to acquire this programming from an institution that has successfully completed vendor film digitization.

2825

Recommendation 99:
Bound-volume & oversized document scanners.

Recommended............	i2S CopiBook
Reference...................	http://www.i2s-bookscanner.com/
Price (USA)	upwards of $45000 from authorized dealer.
	i2s is a French company with scanners manufactured in France. Pricing should be *somewhat* lower for the European market than it is for the North American market as the result of European Union rules. Note, however, that the price of this unit in the United Kingdom at the start of 2009 was £42,000. As a result of the economic downturn, this market has been volatile even while the CopiBook remains in high demand. Contact with i2s is required to fix a price for the Abruzzese institutions.
Project Type	bound books, rare books, tightly bound books, moderately large unbound sheets, newspaper pages, moderately large maps and photographs.
Comment...................	Other bound book scanners are available, including models from Konica/Minolta and from BookEye – the latter, available from Image Access Europe, is manufactured by a German company.
	An acceptable bound book scanner is one that images the book in page-up, right-reading position rather than placed page down on a platen.
	The CopiBook is recommended for its speed, capture method, and for other factors. The CopiBook's imaging technology is close to that of a moderately (sufficiently) high resolution digital camera, without parts movement. Parts movement (scanning head) of the Konica/Minolta has been reported to be somewhat jolting.
	The CopiBook, Konica/Minolta and BookEye scanners all have built-in book cradles. That of the CopiBook is probably the most sympathetic to rare books.
Lighting......................	Each of these bound-book scanners utilize reflective mirror technology to eliminate page curvature. There is little difference

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

91

	between them. For optimal scanning with any of them however, it is recommended that the Abruzzese institutions also deploy a separate lighting system. For more information on lighting systems see the University of Florida reference page at http://www.uflib.ufl.edu/digital/technologies/hardware/bookscanners.htm. Daylight balance (i.e., *natural lighting, 6500K*), low-energy cool fluorescent system is recommended.
Keypad	It is recommended that the CopiBook be purchased with a supplemental Keypad available from i2s.
Hard-drive...................	It is recommended that the CopiBook be purchased with a supplemental hard-drive available from independent computer retailers. See i2s documentation for specification.
Monitor	It is recommended that the CopiBook be purchased with a supplemental monitor available from independent computer retailers. The i2s has a built in monitor; but, it is small. The additional screen real-estate afforded by a separate monitor makes image quality control easier and quicker.
UPS	It is recommended that the CopiBook be purchased with a supplemental Uninterrupted Power Supply (UPS) available from selected independent computer retailers. USP provides advanced protection from surges, and, supplies power – depending upon model from 15 up to 60 minutes – following a power outage. *UPS is recommended for all equipment over €5000 or other capital investment threshold. Surge protection is recommended for all other scanning and computing equipment.*
Caution	Regardless the book scanner purchased, this is a large capital outlay. The Abruzzese institutions are encouraged to visit deployment locations to assess qualities of use.
Justification................	N.B. The Library of Congress' International Programs Office[167] generally utilizes more expensive equipment in its foreign book imaging facilities. (*Additional reference information will be made available upon request.*) Total price of this equipment exceeds $800000. The CopiBook is an acceptable substitute. It is easy to use, has a lower learning curve and is easy to maintain. The CopiBook has been used extensively by the Digital Library of the Caribbean, with eight units in Florida, seven units in the Republica Dominicana, and one unit in Haiti. (The Haitian unit is currently deployed within the U.S. Embassy in Haiti.) Other digitization programs make use of digital camera backs for high-end uses with large documents.[168] This is not recommended for the Abruzzese institutions. High-end, very-high-resolution imaging, as necessary, may be vended.

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[167] USA Library of Congress International Programs (http://international.loc.gov/intldl/intldlhome.html)

[168] Digital Camera Backs – for example, see: http://www.uflib.ufl.edu/digital/technologies/hardware/cameraback.htm.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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<table>
<tr><td colspan="2">Recommendation 100:
Basic computer workstation for imaging and image processing.</td></tr>
<tr><td>Note</td><td>As a general rule, the Abruzzese institutions should deploy one image processing computer workstation for every image capture workstation deployed.</td></tr>
<tr><td>Recommended</td><td>Relative to the consumer computer market, the Abruzzese institutions should always purchase the best computers that they can afford to buy. Computers, however, do not need to be as good as those on the market for computer gaming fanatics.</td></tr>
<tr><td>Minimum</td><td>32bit AMD Quad Core (or equivalent) processor with 4GB RAM running Windows 7.
N.B. 64bit processors still present some applications/software challenges and, so, might be avoided.
Note that most scanner interfaces are optimized for Microsoft Windows rather than Macintosh, Linux, etc.
Graphics cards should be equipped with not less than 1GB on-board RAM.
Dual monitor card is recommended for image processing workstations. Two monitors allow image editing and metadata description to occur side-by-side.
Monitors should be not less than 17 inch (43cm) screen, with 19 inch (48cm) screen the preferred minimum.</td></tr>
<tr><td>Optimal Storage</td><td>See Recommendations 95 and 40.
Optimally, the Abruzzese institutions will commit their work-product directly to a production environment to routinely generated periodic back-ups.
If the Abruzzese institutions utilize hard-drives (see below), it would be advantageous if there were automated backup and disk logging routines in place for use at the end of each business cycle.[169]</td></tr>
<tr><td>Data-devices</td><td>See Optimal Storage (above), alternately (not preferred): External 500GB hard-drives (USB2) – durable brand (use current ratings), with a sufficient number of hard-drives on hand to accommodate productivity and keep images in rotation between image-capture, image-processing, metadata-finalization, transmission-to-archive, etc.
N.B. Size of drive is dependent upon the institution's risk assessment. Drive size should not be greater than that for which it is willing to accept loss in a crash.</td></tr>
<tr><td>Price (USA)</td><td>between $650 and $1200 from reputable dealers.</td></tr>
<tr><td>Comment</td><td>Imaging workstations will be producing large files. Efficiency and productivity are in part factors of the processing power and memory that is provided.</td></tr>
<tr><td>Caution</td><td>Purchase only known and rated workstations from reputable dealers. Time spent with a failing machine is productivity lost. Prohibit unnecessary Internet access from these workstations. Internet access increases risk to the machine. All computers should be equipped with reputable anti-virus software.</td></tr>
</table>

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[169] Consult the University of Florida Digital Library Center for sample business logic and programming code.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

93

> *Recommendation 101*:
> Image processing (software) suite.
>
> Recommended...........Adobe Photoshop (current version)
> Reference..................http://www.adobe.com/it/products/photoshop/family/?promoid=BPBPX
> Price (Italia) ....between €298 and €1019 from reputable dealers, depending upon purchasing agreements with Adobe or software supplier.
> Project Type ....Imaging projects (all types)
> Comment...................For image processing work-stations only
> Most scanners come with their own image capture software. Presuming that capture workstations are used for capture only, additional software should not be required.
> Note...........................Other image processing suites are available (e.g., Adobe Elements, Corel Draw, PaintShop Pro, etc.).
> While Photoshop has more bells-and-whistles that will go unused, it also has more tools that will be used to increase productivity.
> Note...........................ICCU should consider methods and applications adopted by established digitization programs[170] that incorporate image processing (such as derivative generation and metadata extraction) into automation as a means of increasing productivity.

2830
2831   AUDIO EQUIPMENT
2832
2833   Recommendation for audio conversion – whether by vendor or by equipment/samplers is
2834   lacking from this assessment. No recorded audio was reported among the collections of
2835   the Abruzzese Institutions.
2836

> *Recommendation 102*:
> Audio recorders.
>
> Recommended.......... Podcaster Pro Package 3 (*tentative recommendation – Other combinations of equipment possible – find an Italian supplier of a comparable package – consult the University's visual arts program*)
> Reference..................http://www.studiocare.com/store/index.php?main_page=product_info&cPath=244_245&products_id=63973&zenid=arpekn03d8s8p8vd412s5lrpo7
> Price (USA) ....£1782.50 from dealer in the United Kingdom.
> Project Type ....Oral History (audio)
> Comment...................Ideal system may be a portable studio that can be moved from location to location.
> Caution ....System should be voice isolating, minimizing environmental noise. System should be relatively easy to use, but should not be as simple as a business voice recorder. System must be capable of producing quality audio to recommended standards.

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[170] For example, Digital Library of the Caribbean's toolbox (http://web1.dloc.com/ufdc/?g=dloc1&m=hittoolk see also http://library.gameology.org/2009/12/19/open-source-mets-metadata-editor/). The Technology Coordinator for the Digital Library of the Caribbean Dr. Laurie Taylor (lautayl@uflib.ufl.edu).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

94

Recommendation 103:
Basic computer workstation for audio processing.

Note	Depending upon the amount and types of interviews conducted, a single workstation may process audio and video. Note that processing run times, particularly for video, can be one-to-one, i.e., they may process in real-time. If an original was one hour in length, processing of that video could take one hour as well.
Recommended	Relative to the consumer computer market, the Abruzzese institutions should always purchase the best computers that they can afford to buy. Computers, however, do not need to be as good as those on the market for computer gaming fanatics.
Minimum	32bit or 64bit AMD Quad Core (or equivalent) processor with 4GB to 6GB RAM running Windows 7 or Mac OS10. *N.B. May consider 64bit processors as most audio processing software now operates under either 32 or 64bit systems.* *N.B. Most audio processing software is available for both Windows and Macintosh. While some audiophiles consider Macintosh to have the edge, consider networking implications of mixing Macintosh (for audio) with Windows (for imaging). It may be preferable to maintain a Windows-only shop.* Audio card: SoundBlaster X-Fi Platinum Fatal1ty Champion Series[171] or equivalent Graphics cards should be equipped with not less than 1GB on-board RAM. Dual monitor card is recommended for image processing workstations. Two monitors allow image editing and metatadata description to occur side-by-side. Monitors should be not less than 17 inch (43cm) screen, with 19 inch (48cm) screen the preferred minimum.
Optimal Storage	See Recommendation 100.
Data-devices	See Recommendation 100.
Price (USA)	between $650 and $2000 from reputable dealers.
Comment	Audio workstations will be producing large files. Efficiency and productivity are in part factors of the processing power and memory that is provided.
Caution	Purchase only known and rated workstations from reputable dealers. Time spent with a failing machine is productivity lost. Prohibit unnecessary Internet access from these workstations. Internet access increases risk to the machine. All computers should be equipped with reputable anti-virus software.

2839

Recommendation 104:
Audio processing (software) suite – Audio component.

Recommended	Adobe Audition (current version)
Reference	http://www.adobe.com/it/products/audition/
Price (Italia)	€419 from Adobe.
Project Type	Oral History (audio)

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[171] SoundBlaster X-Fi Platinum Fatal1ty Champion Series audio card (http://www.soundblaster.com/products/product.asp?category=1&subcategory=208&product=16559&nav=1)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

95

> *Recommendation 105*:
> Audio processing (software) suite – Transcription component.
>
> Recommended............ExpressScribe
> Reference..................http://www.nch.com.au/scribe/
> Price ....Freeware (Internet download).
> Project Type ....Oral History (audio)

2842
2843   VIDEO EQUIPMENT
2844
2845   Recommendation for video conversion – whether by vendor or by equipment/samplers is
2846   lacking from this assessment. No recorded video was reported among the collections of
2847   the Abruzzese Institutions.
2848

> *Recommendation 106*:
> Video recorders.
>
> Recommended............Sony Handycam HDR-FX1000E (PAL color-space)
> Reference..................http://www.sony.it/product/hdd-hdv/hdr-fx1000e
> Price (Italia) ....@ €3000 from reputable dealers, excluding supplemental items.
> Project Type ....Oral History (video)
> Comment....................May substitute a comparable high-density (HD) camera
> Caution ....Other HD (high-density) video cameras may substitute. If
>   substituting take care to select a unit with audio recorder and
>   built in noise reduction.
> Supplemental ....If using video for the recommended oral history project, consult
>   the University's visual arts program. Video capture will require
>   configuration with lights, umbrellas, tripod, camera bag,
>   recording media, etc. The visual arts program should be able to
>   identify local sources.

2849

> *Recommendation 107*:
> Basic computer workstation for video processing.
>
> Note............................Depending upon the amount and types of interviews conducted,
>   a single workstation may process audio and video. Note that
>   processing run times, particularly for video, can be one-to-one,
>   i.e., they may process in real-time. If an original was one hour
>   in length, processing of that video could take one hour as well.
> Recommended............Relative to the consumer computer market, the Abruzzese
>   institutions should always purchase the best computers that
>   they can afford to buy. *Here, computers do as good as those on
>   the market for computer gaming fanatics would be optimal.*
> Minimum.....................32bit or 64bit AMD Quad Core (or equivalent) processor with
>   4GB to 6GB RAM running Windows 7 or Mac OS10.
>   *N.B. May consider 64bit processors as most audio processing
>   software now operates under either 32 or 64bit systems.
>   N.B. Most audio processing software is available for both
>   Windows and Macintosh. While some audiophiles consider
>   Macintosh to have the edge, consider networking implications of
>   mixing Macintosh (for audio) with Windows (for imaging). It may
>   be preferable to maintain a Windows-only shop.*

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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	Audio card: SoundBlaster X-Fi Platinum Fatal1ty Champion Series[172] or equivalent
	Graphics cards should be equipped with not less than 2GB (preferably more) on-board RAM.
	Dual monitor card is recommended for image processing workstations. Two monitors allow image editing and metatadata description to occur side-by-side.
	Monitors should be not less than 17 inch (43cm) screen, with 19 inch (48cm) screen the preferred minimum.
Optimal Storage	See Recommendation 100.
Data-devices	See Recommendation 100.
Price (USA)	between $650 and $2200 from reputable dealers.
Comment....................	Video workstations will be producing large files. Efficiency and productivity are in part factors of the processing power and memory that is provided.
Caution	Purchase only known and rated workstations from reputable dealers. Time spent with a failing machine is productivity lost. Prohibit unnecessary Internet access from these workstations. Internet access increases risk to the machine. All computers should be equipped with reputable anti-virus software.

2851

Recommendation 108:	
Video processing (software) suite – Video component	
Recommended...........	Adobe Premier Elements (current version) See also, *Comment*, below.
Reference..................	http://www.adobe.com/it/products/premiereel/
Price (Italia)	€100 from Adobe Italia.
Project Type	Oral History (video)
Comment....................	For batched generation of derivatives use the e-RightSoft Super © software may be considered. Super © is freeware. Note that finding the download page can be a bit tricky.

2852

Recommendation 109:	
Video processing (software) suite – Transcription component.	
Recommended...........	ExpressScribe
Reference..................	http://www.nch.com.au/scribe/
Price	Freeware (Internet download).
Project Type	Oral History (video)

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[172] SoundBlaster X-Fi Platinum Fatal1ty Champion Series audio card (http://www.soundblaster.com/products/product.asp?category=1&subcategory=208&product=16559&nav=1)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

97

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OTHER SOFTWARE

2856

> *Recommendation 110*:
> OCR software for (a) the Abruzzese institutions and (b) ICCU / BDI
>
> (a) the Abruzzese institutions
>
> Recommended...........either Abbyy FineReader (current version) or OmniPage Pro (current version)
>
> Abbyy Reference........http://finereader.abbyy.com/
> OmniPage Reference.http://www.nuance.com/imaging/products/omnipage.asp
>
> Price (Italia) ....Abbyy FineReader €139
> OmniPage Pro €479.
>
> Project Type ....printed text projects
>
> Caution ....Neither of these products supports ALTO – consult ICCU for status.
> Follow MAG instructions for saving and tagging page level text.
>
> (b) ICCU / BDI
>
> Recommended...........A specific recommendation cannot be made at this time. ICCU / BDI must first make a decision on ALTO deployment.
>
> For ALTO base solutions, ICCU may request recommendations from the Bibliotheque nationale de France, the British Library, or Library of Congress (USA).
>
> Various commercial solutions exist for both ALTO and non-ALTO text. An optimal configuration uses 3 to 6 OCR "voting" engines.
>
> Note............................If ICCU wishes to consider the more complicated issue of synchronization of Oral History audio or video with corresponding transcripts, then they should investigate use of the Synchronized Multimedia Integration Language (SMIL) standard. ICCU may request advice and recommendations from the University of South Florida's Oral History Program, which has successfully deployed SMIL in it digital library.

2857

> *Recommendation 111*:
> JP2 (zoom image format) software
>
> Note............................ICCU / BDI currently supports zoom image standard (JP2 base standard – solution from LuraTech) for both file encoding and display.
>
> Recommended...........*Display* – Should ICCU / BDI wish to migrate to a freeware solution, it should consult the World Digital Library at the Library of Congress. Contact information will be supplied upon request. Encoding – Should ICCU / BDI wish to integrate a freeware JP2 encoding solution with image processing and management, it should contact the University of Florida Digital Library Center, which uses the Kakadu JP2 SDK in its automated processes.

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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<table>
<tr><td colspan="2">Recommendation 112:
Geographic Information Software (GIS)</td></tr>
<tr><td>Note...........................</td><td>Recommendation originates with the University's Department of Architecture. [173]</td></tr>
<tr><td>Recommended...........</td><td>Aula Didattica ARC-GIS (licenses / seats)</td></tr>
<tr><td>Price (USA) ....</td><td>price to be determined; see also, Comment, below.</td></tr>
<tr><td>Project Type ....</td><td>Projects with GIS component</td></tr>
<tr><td>Comment....................</td><td>A project with geo-referencing need not deploy an advanced ARC-GIS solution, particularly if only longitude and latitude are to be encapsulated in MAG metadata.
Longitude and latitude can be determined, saved to and extracted from XML formats for import into MAG by either Microsoft Pro Photo Tools[174] or Google Earth.[175]</td></tr>
<tr><td>Supplemental ....</td><td>The Department of Architecture indicates that project budgets supporting a GIS component would also need to equip a laboratory with workstations and subsidize student assistants. These requests should be viewed as reasonable, as long as they are commensurate with project time-tables to be set in project planning.</td></tr>
</table>

6. Maintenance and Sustainability

Maintenance, for most digital libraries, is a big issue. Sustainability looms so large that, for many digital libraries based in cultural institutions, it would doom many commercial ventures.

The Abruzzese institutions are fortunate in that they have the ICCU / BDI. The Abruzzese institutions and the financial backers of their projects can rest assured that the ICCU offers continuity. The ICCU acts in the national interest to maintain the collections that have been built. These collections inform Italian research and cultural awareness. And, it is in the national interest both to grow these collections and the technological maturity of them. In addition to its own interests in projecting awareness of Italy, the ICCU – indeed MiBAC – has the European Union behind it, not to mention competition from and potential collaboration with other national, state and cultural digital libraries. Not the least of these is the Bibliotheque nationale de France, the British Library and the National Library of Scotland. The ICCU's awareness of digital preservation issues and the implementation of digital archiving procedures offer a degree of security that could be envied elsewhere. Funding agencies working with the Abruzzese institutions should feel confident that the work they make possible will be well and properly maintained.

Sustainability is not maintenance. Sustainability goes to maintaining not the objects of a digitization project or program, but to maintaining the vitality, the continuing existence of the program that engendered the digital objects now in the BDI. The clearest evidence of sustainability, of course, is growth of the collections. Italy, while funding BDI maintenance and archiving, has not yet refunded the ICCU's programmatic activity. In fairness, ICCU has entered a period of evaluation and continues to accept contributions to the BDI. This suggests that Italy intends to sustain the BDI. But, to contribute to the BDI, the Abruzzese institutions need planning, demonstration project, and eventually program funding of their own.

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[173] The GIS contact in the University's Department of Architecture is Professor Bernardino Romano (bernardino.romano@univaq.it).

[174] Microsoft Pro Photo Tools 2 (http://www.microsoft.com/prophoto/downloads/tools.aspx) is the freeware version of Microsoft's Expression Media 2 software.

[175] Google Earth (http://earth.google.com/) is freeware in its simplest application.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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2889 Most digital library programs, those that grow beyond their demonstration projects - with or
2890 sadly sometimes without planning - are sustained only through the funding of their institutions.
2891 There is a tremendous sense in Abruzzo, particularly within the Archivio and the University, that
2892 digitization will be planned, will work through demonstration projects and will be sustained as
2893 institutional programs. The evidence of their desire is clear; this assessment is one of its
2894 indicators. The evidence of their willingness, the verification that desire is grounded, will come
2895 with the completion of planning, first, for demonstration projects, then, presuming successful
2896 projects with institutional benefits, for program definition. Funding agencies – including the
2897 Italian government and the European Union (though funds set aside for Abruzzo) – are
2898 encouraged to fund planning projects and demonstration projects with the Abruzzese
2899 institutions.
2900
2901 But, how can digitization projects and eventually a digitization program among the Abruzzese
2902 institutions *contribute* to their own sustainability?   Several recommendations follow.   It is
2903 important to note, as the Abruzzese institutions realize, that none of these recommended
2904 activities alone or together will wholly sustain project development or a digitization program.
2905

Recommendation 113:
Mandate that funds committed to planning, project and program development (including staff training, time, etc.) be leveraged as cost-share in granting or other fund raising activity.

The Abruzzese institutions should expect to commit at least one third of a given project's funds. To receive training funds and a travel grant for Di Bartholomeo and Muzi, for example, they might expect to continue paying salary and providing the necessary release time to them while training. These institutional funds should be included, obviously, in funding request budgets.

Grants are like restaurants. Most fail. Initially, at least one of every five proposals should be expected to be funded. The Planning Committee should analyze failures, correct problems and resubmit as possible. Eventually, and to some considerable extent, with awareness of granting agency interests, granting should become cyclical. A well tuned granting program should be expected to bring in one third of program costs.

Examples of successful grants may usually be acquired from other institutions. North American institutions frequently share their documentation with the awareness that the success of competing institutions for digital projects makes more resources available to their patrons even if not in their digital library. Some institutions make their grant applications freely available after a period of time. The University of Florida's grants, for example, are available at http://www.uflib.ufl.edu/ufdc/?g=ufirg&m=hra&t=grant%20 libraries,,,&f=MD,+TX,+FC,+TI (or at http://ww.uflib.ufl.edu/ufdc/?g=ufirg by searching "grant libraries". A sample grant (albeit for newspaper digitization) may be found at http://www.uflib.ufl.edu/ufdc/?b=UF90000017.   The Planning Committee should review as many digitization grant proposals as possible from as many different sources, and review them for structure.

Sometimes projects go bad, usually for unexpected reasons. The unexpected represent planning needs; the need for projects planning is reiterated here – and – the model of the United Kingdom's Prince2 standard is exceptionally sound. Other planning processes are listed by the University of Florida at http://www.uflib.ufl.edu/digital/technologies/ projectplanning/index.htm. Once funded plans should be reviewed frequently and updated accordingly through the implementation of contingencies as needed. Nothing ensures sustainability of the grant funding cycle better than success.

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

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[176] Unlimited Priorities Corporation's Archival Initiatives Division (www.unlimitedpriorities.com) launches on 15 January 2010. Contact information will be provided upon request.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

101

ownership. Legal counsel may be required to short out templates, particularly as national laws rare cross boarders well. As possible, they should consider starting with the Creative Commons licenses.[177]

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[177] Creative Commons – Italia (http://creativecommons.org/international/it/)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

102

2911

2912

Appendices

2913
2914

2915   Appendix 1a :
2916   **Biblioteche con struttuta inagibile – patrimonio a rischio.**
2917   **Libraries with unusable structures – heritage at risk.**
2918

2919   Appendix 1b :
2920   **Biblioteche con struttura inagibile – patrimonio in sicurezza e parzialmente integro –**
2921   **servizio non attivato.**
2922   **Libraries with unusable structures – heritage safe and largely intact – service unavailable.**
2923

2924   Appendix 1c:
2925   **Biblioteche con struttura risanata – patrimonio integro -servizio riattivato censimento.**
2926   **Libraries with structures restored – heritage intact – services available.**
2927

2928   Appendix 2a :
2929   **The manuscripts of Anton Ludovico Antinori**
2930   **Inventory of Microfilm held by the Archivio di Stato**
2931

2932   Appendix 2b :
2933   **Page images copied from the manuscripts of Anton Ludovico Antinori**
2934   **Corografia (Parte II, Volume 25)**
2935

2936   Appendix 2c :
2937   **Page images copied from the manuscripts of Anton Ludovico Antinori**
2938   **Annali Degli Abruzzi (Volume 1)**
2939

2940   Appendix 3a :
2941   **Progetto di Digitalizzazione – L'Aquila**
2942   *(Versione italiana)*
2943

2944   Appendix 3b :
2945   **Digitization Project – L'Aquila (notes)**
2946   *(English version – supplemented with limited notes)*
2947

2948   Appendix 4 :
2949   **De Bartholomaeis, Vincenzo, 1867-1953 : Selected Bibliography**
2950

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

103

2951 Appendix 1a :
2952 **Biblioteche con struttuta inagibile – patrimonio a rischio.**
2953 **Libraries with unusable structures – heritage at risk.**
2954
2955 (*Copied from an official document of the Region of Abruzzo, dated 10 September 2009,*
2956 *and supplemented with an English translation.*)
2957
2958

BIBLIOTECHE CON STRUTTUTA INAGIBILE - PATRIMONIO A RISCHIO *LIBRARIES WITH UNUSABLE STRUCTURES – HERITAGE AT RISK* CENSIMENTO DEL 10.09.09			
Biblioteca Arcivescovile "Cardinale Carlo Confalonieri".	Via S. Marciano, 25 67100 L' Aquila	Struttura: inagibile. Patrimonio: parte moderna e' iniziato il trasferimento. parte antica non recuperata.	Ca. 200.000 volumi moderni Ca. 6.000 volumi antichi Ca.100 riviste 20 manoscritti
		Structure: unusable. Heritage: the modern and 'started the transfer. old part not recovered.	Approx. 200,000 modern volumes Approx. 6000 ancient volumes. 100 magazines 20 manuscripts
Biblioteca Istituto Salesiani.	Viale Don Bosco, 6 67100 L' Aquila	Struttura: inagibile Patrimonio: non recuperato.	Patrimonio moderno non quantificato ma numericamente esiguo.
		Structure: unusable Heritage: not recovered.	Heritage modern not quantified but numerically small.
Biblioteca Agenzia Regionale per la Promozione Culturale.	Via Roio, 12 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato	Ca. 2.000 volumi moderni
		Structure: unusable. Heritage: not recovered	Approx 2,000 modern volumes

2959

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

104

BIBLIOTECHE CON STRUTTUTA INAGIBILE - PATRIMONIO A RISCHIO *LIBRARIES WITH UNUSABLE STRUCTURES – HERITAGE AT RISK* CENSIMENTO DEL 10.09.09			
Biblioteca Accademia dell'Immagine "G. Tantillo".	Viale Collemaggio, 1 67100 L'Aquila	Struttura: inagibile. Patrimonio: non recuperato	Ca. 3.400 volumi moderni Ca.9.500 documenti video (anche rari) Ca.50.000 fotografie e diapositive
		Structure: unusable. Heritage: not recovered	Approx. 3400 modern volumes Approx. 9500 video files (also rare) Approx.50.000 photographs and slides
Biblioteca Convento di San Bernardino.	Via Vittorio Veneto, 1 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato.	Ca. 10.000 volumi moderni e antichi
		Structure: unusable. Heritage: not recovered	Approx 10,000 modern and ancient volumes
Biblioteca Camera di Commercio.	Corso Vitt. Emanuele, 86 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato.	Ca. 8.000 volumi 200 periodici
		Structure: unusable. Heritage: not recovered	Approx. 8000 volumes Approx. 200 periodicals
Biblioteca Provinciale "Salvatore Tommasi".	Piazza Palazzo, 30 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato.	Ca. 260.000 volumi moderni Ca.15.000 volumi antichi
		Structure: unusable. Heritage: not recovered	Approx 260,000 modern volumes Approx. 15.000 ancient volumes
Biblioteca Polo Roio Facoltà di Economia.	Piazza del Santuario, 19 Roio Poggio (AQ)	Struttura: inagibile. Patrimonio: non recuperato	Ca. 20.000 volumi moderni Ca.1.491 tesi
		Structure: unusable. Heritage: not recovered	Approx 20,000 modern volumes Approx. 1491 thesis

2960

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

105

BIBLIOTECHE CON STRUTTUTA INAGIBILE - PATRIMONIO A RISCHIO *LIBRARIES WITH UNUSABLE STRUCTURES – HERITAGE AT RISK* CENSIMENTO DEL 10.09.09			
Biblioteca Polo Roio Facoltà di Ingegneria.	P.le Pontieri Monteluco di Roio (AQ)	Struttura: inagibile. Patrimonio: parzialmente recuperato	Ca. 21.000 volumi moderni
		Structure: unusable. Heritage: partially recovered	Approx 21,000 modern volumes
Biblioteca Polo Centro Facoltà di Lettere - Filosofia - Scienze della Formazione.	Via Burri, 21 Palazzo Camponeschi 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato	Ca. 120.000 volumi moderni 150 volumi antichi 1.500 riviste
		Structure: unusable. Heritage: not recovered	Approx 120,000 modern volumes 150 ancient books 1500 magazines
Biblioteca Polo Centro Facoltà di Scienze Motorie.	Via Card.le Mazzarino 67100 L' Aquila	Struttura: parzialmente danneggiata Patrimonio: non recuperato.	Ca. 2.500 volumi moderni
		Structure: partially damaged Heritage: not recovered.	Approx 2,500 modern volumes

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

106

2964 Appendix 1b :
2965 **Biblioteche con struttura inagibile – patrimonio in sicurezza e parzialmente**
2966 **integro – servizio non attivato.**
2967 **Libraries with unusable structures – heritage safe and largely intact –**
2968 **service unavailable.**
2969
2970 (*Copied from an official document of the Region of Abruzzo, dated 10 September 2009,*
2971 *and supplemented with an English translation.*)
2972

BIBLIOTECHE CON STRUTTURA INAGIBILE -PATRIMONIO IN SICUREZZA E PARZIALMENTE INTEGRO SERVIZIO NON ATTIVATO LIBRARIES WITH UNSUABLE STRUCTURES – HERITAGE SAFE AND LARGELY INTACT – SERVICE UNAVAILABLE CENSIMENTO DEL 10. 09. 09			
Biblioteca Comunale	Piazza Municipio 67044 Cerchio (AQ)	Struttura: inagibile. Patrimonio: patrimonio recuperato in condizioni di integrita.	Ca. 3.012 volumi moderni
		Structure: unusable. Heritage: fully recovered	Approx. 3,012 modern volumes
Biblioteca Consiglio Regionale d'Abruzzo "Ignazio Silone"	Via Michele Iacobucci Palazzo dell'Emiciclo 67100 L' Aquila	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza.	Ca. 5.700 volumi moderni
		Structure: unusable. Heritage: not recovered but intact and safe	Approx. 5,700 modern volumes
Biblioteca CONI Provinciale	Via Montorio Al Vomano, 18 67100 L'Aquila	Struttura: danneggiata. Patrimonio: non recuperato.	Ca. 720 volumi moderni
		Structure: unusable. Heritage: not recovered but intact and safe.	Approx. 720 modern volumes

2973

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

107

BIBLIOTECHE CON STRUTTURA INAGIBILE -PATRIMONIO IN SICUREZZA E PARZIALMENTE INTEGRO SERVIZIO NON ATTIVATO LIBRARIES WITH UNSUABLE STRUCTURES – HERITAGE SAFE AND LARGELY INTACT – SERVICE UNAVAILABLE CENSIMENTO DEL 10. 09. 09			
Biblioteca Convento Santa Chiara	Via Borgo Rivera, 2 67100 L' Aquila	Struttura: inagibile. Patrimonio: messo in sicurezza *e' richiesto intervento urgente di restauro del patrimonio conservato in n. 13 casse allocate nei locali del primo pioano del convento dei ff. Mm. Cappuccini di avezzano*	Ca. 31.000 volumi moderni Ca. 3.000 volumi antichi
		Structure: unusable. Heritage: secured **but contents of case no. 13 (located on the first floor) requires urgent restoration**	Approx. 31,000 modern volumes Approx. 3,000 ancient volumes
Biblioteca Soprintendenza P.S.A.E. dell'Abruzzo	C/o Castello Cinquecentesco Via O. Colecchi 67100 L'Aquila	Struttura: inagibile. Patrimonio: integro e trasferito in ambienti sicuri dello stesso castello.	
		Structure: unusable. Heritage: intact and transferred to a safe location in the same Castello.	
Biblioteca Polo Coppito Facoltà di Medicina - Chirurgia - Psicologia	P.le Salvatore Tommasi, 1 Località Coppito 67010 L' Aquila	Struttura: inagibile. Patrimonio: parzialmente recuperato in condizioni di integrita' *e' previsto l'avvio delle attivita'.*	Ca. 6.100 volumi moderni
		Structure: unusable. Heritage: partially recovered **and expected resume operations** (*in a new location*)	Approx. 6,100 modern volumes

2974

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

108

BIBLIOTECHE CON STRUTTURA INAGIBILE -PATRIMONIO IN SICUREZZA E PARZIALMENTE INTEGRO SERVIZIO NON ATTIVATO LIBRARIES WITH UNSUABLE STRUCTURES – HERITAGE SAFE AND LARGELY INTACT – SERVICE UNAVAILABLE CENSIMENTO DEL 10. 09. 09			
Biblioteca Polo Coppito Facoltà di Scienze MM. FF. NN.	Via Vetoio Località Coppito 67010 L' Aquila	Struttura: inagibile. Patrimonio: parzialmente recuperato in condizioni di integrita' *e' previsto l'avvio delle attivita'*	Ca. 30.000 volumi moderni 4.000 tesi di laurea
		Structure: unusable. Heritage: partially recovered **and expected resume operations**	Approx. 30,000 modern volumes 4,000 theses
Biblioteca Conservatorio di Musica "A. Casella"	P.le Collemaggio 67100 L'Aquila	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza.	30.000 volumi moderni
		Structure: unusable. Heritage: not recovered but intact and safe	30,000 modern volumes
Biblioteca Privata "Di Ruscio Fiorillo"	Via Del Falco, 26/28 angolo Via Del Bargello, 12/14 67100 L'Aquila	Struttura: inagibile. Patrimonio: recuperato (3.500/4.000 volumi) in condizioni di parziale integrita'	Ca. 6000 volumi sia antichi che moderni n. Q. Manoscritti
		Structure: unusable. Heritage: 3,500 to 4,000 volumes recovered in relatively good condition	Approx. 6,000 ancient and modern volumes A number of manuscripts
Biblioteca Comunale	Via Del Lago 67038 Scanno (AQ)	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza.	Ca. 10.000 volumi moderni Ca. 250 volumi antichi
		Structure: unusable. Heritage: not recovered but intact and safe	Approx. 10,000 modern volumes Approx. 250 ancient volumes

2975

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

109

BIBLIOTECHE CON STRUTTURA INAGIBILE -PATRIMONIO IN SICUREZZA E PARZIALMENTE INTEGRO SERVIZIO NON ATTIVATO LIBRARIES WITH UNSUABLE STRUCTURES – HERITAGE SAFE AND LARGELY INTACT – SERVICE UNAVAILABLE CENSIMENTO DEL 10. 09. 09			
Biblioteca Comunale "Publio Ovidio"	Piazza S. Tommasi 67039 Sulmona (AQ)	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza.	Ca. 15.456 volumi moderni Ca. 3.000 volumi antichi
		Structure: unusable. Heritage: not recovered but intact and safe	Approx. 15,456 modern volumes Approx. 3,000 ancient volumes
Biblioteca e Archivio storico	Palazzo Franceschelli De Santis 65022 Bussi sul Tirino (PE)	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza.	N. Q. Volumi antichi e moderni
		Structure: unusable. Heritage: not recovered but intact and safe	A number of ancient and modern volumes
Biblioteca Comunale "G. Romualdi"	Via Duca Degli Abruzzi, 2 64024 Notaresco (TE)	Struttura: inagibile. Patrimonio: non recuperato ma integro ed in sicurezza	Ca. 3.550 volumi moderni
		Structure: unusable. Heritage: not recovered but intact and safe	Approx. 3,550 modern volumes

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Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

110

2979 Appendix 1c:

2980 **Biblioteche con struttura risanata – patrimonio integro – servizio riattivato**
2981 **censimento.**

2982 **Libraries with structures restored – heritage intact – services available.**
2983
2984 (*Copied from an official document of the Region of Abruzzo, dated 10 September 2009,*
2985 *and supplemented with an English translation.*)
2986

BIBLIOTECHE CON STRUTTURA RISANATA – PATRIMONIO INTEGRO – SERVIZIO RIATTIVATO LIBRARIES WITH STRUCTURES RETORED – HERITAGE INTACT – SERVICES AVAILABLE. CENSIMENTO DEL 10.09.09		
BIBLIOTECA	**CONSISTENZA PATRIMONIO**	**STATO DI AGIBILITA' RIATTIVAZIONE DEL SERVIZIO BIBLIOTECARIO**
LIBRARY	**HOLDINGS**	**STATUS**
Regionale Giunta Regionale *"B. Croce"* L'AQUILA	Ca. 5.500 volumi moderni.	Struttura risanata. Patrimonio integro. Servizi riattivati.
	Approx. 5,500 modern volumes	Structure repaired. Heritage intact. Services resumed.
Statale *"Archivio di Stato"* L'AQUILA	Ca. 14.000 volumi antichi e moderni 11 manoscritti. 153 periodici.	Struttura inagibile. Patrimonio integro e trasferito nella sede del nucleo industriale di bazzano. Servizi riattivati.
	Approx. 14,000 ancient and modern volumes 11 manuscripts 153 periodicals	Structure repaired. Heritage intact and moved to new facilities in Bazzano. Service resumed.
Deputazione Abruzzese di Storia Patria *"A. L. Antinori"* L'AQUILA	Ca. 20.000 volumi moderni. Ca. 2.500 volumi antichi.	Struttura inagibile. Patrimonio integro e trasferito nella sede del nucleo industriale di bazzano. Servizi riattivati.
	Approx. 20,000 modern volumes Approx. 2,500 ancient volumes	Structure repaired. Heritage intact and moved to new facilities in Bazzano. Service resumed.
Universitaria *"Coppito 1"* L'AQUILA	Non quantificata.	Struttura inagibile. Patrimonio integro e parzialmente trasferito nella sede atrio di coppito 1. Servizi riattivati.
	Unknown.	Structure repaired. Heritage intact and partially transferred to Coppito 1 city hall. Service resumed.

2987

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

111

BIBLIOTECHE CON STRUTTURA RISANATA – PATRIMONIO INTEGRO – SERVIZIO RIATTIVATO LIBRARIES WITH STRUCTURES RETORED – HERITAGE INTACT – SERVICES AVAILABLE. CENSIMENTO DEL 10.09.09		
BIBLIOTECA	**CONSISTENZA PATRIMONIO**	**STATO DI AGIBILITA' RIATTIVAZIONE DEL SERVIZIO BIBLIOTECARIO**
LIBRARY	**HOLDINGS**	**STATUS**
Comunale *"Biblioteca Comunale"* POPOLI (PE)	Ca. 8.000 volumi moderni e antichi.	Struttura inagibile. Patrimonio integro e trasferito nella sede provvisoria sita in via decondre Servizi riattivati
	Approx. 8,000 ancient and modern volumes	Structure repaired. Heritage intact and transferred to temporary headquarters in Via Decondre Service resumed.
Ecclesiastica *" Convento S. Maria del Paradiso"* TOCCO DA CASAURIA (PE)	Ca. 253.000 volumi moderni Ca. 500 volumi antichi	Struttura messa in sicurezza ma da risanare. Patrimonio integro. Servizi riattivati.
	Approx. 253,000 modern volumes Approx. 500 ancient volumes	Structure secured but to be repaired. Heritage intact. Service resumed.
Istituto Culturale *"Centro di Studi Peligni A. De Nino"* PRATOLA PELIGNA (AQ)	300 volumi moderni (abruzzesistica)	Struttura risanata. Patrimonio integro. Servizio da riattivarsi a seguito di accorpamento del patrimonio con quello della biblioteca comunale.
	300 modern volumes (on Abruzzo)	Structure repaired. Heritage intact. Service will be restored after merging the holdings with those of the Biblioteca Comunale.
Comunale *Biblioteca Comunale* PRATOLA PELIGNA (AQ)	Ca. 7.300 volumi moderni.	Struttura agibile Patrimonio integro Servizi riattivati.
	Approx. 7,300 modern volumes	Structure repaired. Heritage intact. Service resumed.
Diocesana *" Polo Culturale S.Chiara"* SULMONA (AQ)	Ca. 5.000 volumi antichi. Ca. 18.000 volumi moderni.	Struttura agibile. Patrimonio integro Servizi riattivati.
	Approx. 5,000 ancient volumes Approx. 18,000 modern volumes	Structure repaired. Heritage intact. Service resumed.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

112

2988   Appendix 2a :

2989   **The manuscripts of Anton Ludovico Antinori**

2990   **Inventory of Microfilm held by the Archivio di Stato**

2991

2992   *The following is a version of Archivio di Stato document Fotoriproduzioni\Unitá.doc (19/01/2002), modified*
2993   *with the addition of English translation and redaction of unnecessary information, e.g., shelf-mark,*
2994   *chronology of the original.*

2995

2996   Manoscritti (voll. 32-56) = Manuscript (volumes 32-56)
2997   (Vedasi l'*Indice delle opere inedite ed edite di Anton Ludovico Antinori,* in *Anton Ludovico*
2998   *Antinori. Elogio storico letto dal Prof. Enrico Casti,* Aquila, Vecchioni, 1887)[178]

2999

<table>
<tr><td colspan="4">ARCHIVIO DI STATO - L'AQUILA
STATE ARCHIVES - L'AQUILA</td></tr>
<tr><td colspan="4">Laboratorio di Fotoriproduzione
Photoreproduction Laboratory</td></tr>
<tr><td colspan="4">FONDI, SERIE e UNITA FOTORIPRODOTTI
PHOTOREPRODUCTION TITLE, SERIES and UNITS</td></tr>
<tr><td>Denominazione

Identification</td><td>Data riprod.

Reprod. Date</td><td>Supporto

Description</td><td>Leggibilità

Legibility</td></tr>
<tr><td>vol. 32, Corografia storica degli Abruzzi, (lettere G, I)
vol. 32, Corografia storica degli Abruzzi, (letters G, I)</td><td>apr. 1984</td><td>Microf., neg.
bob. 1 ftg. 318
Microfilm negative,
1 reel, 318 images
@ 636 pages</td><td>Buona
Good</td></tr>
<tr><td>vol. 33, Idem, (lettera L)
vol. 33, Ibid., (letter L)</td><td>ott. 1983</td><td>Microf., neg.
bob. 1 ftg. 633
Microfilm negative,
1 reel, 633 images
@ 1266 pages</td><td>Buona
Good</td></tr>
<tr><td>vol. 34/I, Idem, (lettera M, Mac-Mon)
vol. 34/I, ibid., (letter M, Mac-Mon)</td><td>feb. 1984</td><td>Microf., neg.
bob. 1 ftg. 419
Microfilm negative,
1 reel, 419 images
@ 838 pages</td><td>Buona
Good</td></tr>
<tr><td>vol. 34/II, Idem, (lettera M, Mon-Muc)
vol. 34/II, ibid., (letter M, Mon-Muc)</td><td>feb. 1987</td><td>Microf., neg.
bob. 1 ftg. 313
Microfilm negative,
1 reel, 313 images
@ 626 pages</td><td>Buona
Good</td></tr>
</table>

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[178] The original Antinori manuscripts are held by the Biblioteca provinciale "Salvatore Tommassi". Facsimile reprints are held by each of the Abruzzese institutions. The microfilm is held in parts by the Biblioteca provinciale and the Archivio di Stato. Per the SBN catalog, other Italian institutions hold other reprints in incomplete sets. No report of holdings of this title in any form has been made to WorldCat, suggesting that there are no North American holdings. Records in both SBN and WorldCat may be incomplete.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

113

Denominazione	Data riprod.	Supporto	Leggibilità
Identification	Reprod. Date	Description	Legibility
vol. 35, *Idem,* (lettere N, O) vol. 35, ibid., (letters N, O)	feb. 1987	Microf., neg. bob. 1 Lav. 2055, ftg. 266 Microfilm negative, 1 reel (item 2055), 266 images @ 532 pages	Buona Good
vol. 36, *Idem,* (lettera P, Pac-Pic) vol. 36, ibid., (letter P, Pac-Pic)	feb. 1987	Microf., neg. bob. 1 *idem* Microfilm negative, 1 reel, ibid (?)	Buona Good
vol. 37, *Idem,* (lettera P, Pie-Pul) vol. 37, ibid., (letter P, Pie-Pul)	mag. 1987	Microf., neg. bob, 1 ftg. 377 Microfilm negative, 1 reel, 377 images @ 754 pages	Buona Good
vol. 38, *Idem,,* (lettera R) vol. 38, ibid., (letter R)	lug. 1986	Microf., neg. bob. I ftg. 387 Microfilm negative, 1 reel, 387 images @ 774 pages	Buona Good
vol. 39, *Idem,* (lettera S, Sab-San) vol. 39, ibid., (letter S, Sab-San)	feb. 1984	Microf., neg. bob. 1 ftg..517 Microfilm negative, 1 reel, 517 images @ 1028 pages	Buona Good
vol. 40, *Idem,* (lettera S, San-Sur) vol. 40, ibid., (letter S, San-Sur)	feb. 1984	Microf., neg. bob. 1 ftg. 463 Microfilm negative, 1 reel, 463 images @ 926 pages	Buona Good
vol. 41, *Idem,* (lettera T) vol. 41, ibid., (letter T)	feb. 1987	Microf., neg. bob. 1 fftg. 589 Microfilm negative, 1 reel, 589 images @ 1178 pages	Buona Good
vol. 42, *Idem,* (lettera V) vol. 42, ibid., (letter V)	feb. 1987	Microf., neg. bob. 1 ftg. 479 Microfilm negative, 1 reel, 479 images @ 958 pages	Buona Good
vol. 43, *Iscrizioni lapidarie degli Abruzzi.* (lettere A-G) vol. 43, *Iscrizioni lapidarie degli Abruzzi.* (letters A-G)	feb. 1987	Microf., neg. bob. 1 ftg. 351 Microfilm negative, 1 reel, 351 images @ 702 pages	Buona Good
vol. 44, *Idem*, (lettere H-O) vol. 44, ibid., (letters H-O)	giu. 1987	Microf., neg. bob. 1 ftg. 443 Microfilm negative, 1 reel, 443 images @ 886 pages	Buona Good

3001

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

114

Denominazione	Data riprod.	Supporto	Leggibilità
Identification	**Reprod. Date**	**Description**	**Legibility**
vol. 45, *Idem*, (lettere P-S) vol. 45, ibid., (letters P-S)	giu. 1987	Microf., neg. bob. 1 ftg. 292 Microfilm negative, 1 reel, 292 images @ 584 pages	Buona Good
vol. 46, *Idem*, (lettere T-V) vol. 46, ibid., (letters T-V)	giu. 1987	Microf., neg. bob. 1 ftg. 243 Microfilm negative, 1 reel, 243 images @ 486 pages	Buona Good
vol. 47 *Monumenti, uomini ittustri e cose varie* - Chiese della diocesi aquilana (ordine alfab S. Agnese - S. Maria *ad Graianum)* vol. 47 *Monumenti, uomini ittustri e cose varie* - Churches in the Diocese of L'Aquila (alphabetically arranged: Saint Agnese – Saint Maria of Graianum)	giu. 1987	Microf., neg. bob. 1 .ftg. 810 Microfilm negative, 1 reel, 810 images @ 1620 pages	Buona Good
vol. 48, *Idem*, (S. Maria de Raccomandati - S. Pietro in Poppleto) vol. 48, Ibid., (Saint Maria de Raccomandati – Saint Peter in Poppleto)	giu. 1987	Microf., neg. bob. 1 ftg. 640 Microfilm negative, 1 reel, 640 images @ 1280 pages	Buona Good
vol. 49, *Idem,* (SS. Quattro Coronati - S. Vittorino). Notizie delle Chiese di Chieti e Sulmona. Uomini illustri vol. 49, Ibid. (SS. Quattro Coronati - S. Vittorino). News of the Churches of Chieti and Sulmona. Illustrated.	giu. 1987	Microf., neg. bob. 1 ftg. 659 Microfilm negative, 1 reel, 659 images @ 1318 pages	Buona Good
vol. 50, *Idem*, Arcivescovi e vescovi vol. 50, Ibid, Archbishops and Bishops	1983-84	Microf., neg. bob. 1 ftg. 766 Microfilm negative, 1 reel, 766 images @ 1532 pages	Buona Good
vol. 51, *Idem,* Sinopsi della storia dell'Aquila dal 1256 al 1512 vol. 51, Ibid, Overview of the history of L'Aquila 1256 to 1512	1983-84	Microf., neg. bob. 1 ftg. 481 Microfilm negative, 1 reel, 481 images @ 962 pages	Buona Good
vol 52, *Appendice,* Successioni di papi, re, principi e signori di alcune citta d'Italia vol. 52, Appendix, Succession of Popes, kings, princes and lords of the cities of Italy	1983-84	Microf., neg. bob. 1 ftg. 72 Microfilm negative, 1 reel, 72 images @ 144 pages	mancano 66 ftg. Iniziali Missing the first 66 img. @132 pgs

3002

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

115

Denominazione	Data riprod.	Supporto	Leggibilità
Identification	**Reprod. Date**	**Description**	**Legibility**
vol. 53, *Idem,* Sigle lapidarie vol. 53, Ibid., Acronyms	1983-84	In stessa. bob. ftg. 37 On same the reel, 1 reel, 37 images @ 74 pages	See above
vol. 54, *Idem,* Notizie storiche sulla vita e gli scritti di A.L. Antinori, redatte dal pronipote. vol. 54, Ibid., Historical perspectives on the life and writings of A.L. Antinori, written by his great-grandchild.	1983-84	In stessa. bob. ftg. 134 On same the reel, 1 reel, 134 images @ 268 pages	See above
vol. 55, Estratti di scritture vol. 55, Extracts of writings	1983-84	In stessa. bob. ftg. 113 On same the reel, 1 reel, 113 images @ 226 pages	See above
vol. 56, Estratti di scritture di San Martino d'Ocre vol. 56, Extracts of the writings on (*the village of*) San Martino d'Ocre	1983-84	In stessa. bob. ftg. 10 On same the reel, 1 reel, 10 images @ 20 pages	Mediocre Poor
TOTAL			
A.L. ANTINORI, Manoscritti (voll. 32-56) (Vedasi l'*Indice delle opere inedite ed edite di Anton Ludovico Antinori,* in *Anton Ludovico Antinori. Elogio storico letto dal Prof. Enrico Casti,* Aquila, Vecchioni, 1887)	1983-87	Microf., neg. bob. 26 (duplicate per integrazione dalla Biblioleca Prov.le) Microfilm negative, 26 reels (duplicated in whole from the Provincial Library copy) 26 reels, 9812 images @ 19,624 pages	Buona Good

3003

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116

Appendix 2b :
Page images copied from the manuscripts of Anton Ludovico Antinori
Corografia (Parte II, Volume 25)

3008

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

117

Per ciò che spetta alla spiega del fenomeno, Cicerone dice che in qualunque Republica anche ottima erano sempre molto va- luti gli auspicj, e i presaggi, e ne avevano fatto uso i Re, e i popoli non solamente in tempi di pace, ma anche quì in tem- pi di guerra, nei quali era maggiore il dubbio, e il pericolo della salvezza. Addotti gli esempj dei Greci, passa a quei de' Roma- ni, e del conto, che ne face il Senato, e fra i capi particolari, nei quali gli Aruspici avevano riposto, e indicato quello, che poi avvenne, ripose l'essere scorso sanguigno il fiume Atrato. Con tutto ciò soggiunge, che i dotti Fisici non l'avrebbero creduto, perciochè il sangue non può provenire nè sgorgare se non che dal corpo, e un certo coloramento per qualche contatto di terra si può fare simile al sangue. Finalmente, che gli fatti portenti si multiplicano, e compariscono maggiori in tempi di guerra ai timidi, e non se ne vedono tanti in tempo di pace, e che nel timore, e nel pericolo sono con più di facilità creduti, o con più d'impunità finti.

Cicer. de Div. li.1.c.43.

id. lib.2.c. 27.

3009

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

118

Amiterno e S. Vittorino.

Amiterno fu così certamente   Casll. de
chiamato dal luogo ov'è situato. Ben-   aborig L.1
chè i monumenti dell'antichità non ni   p. 6
nanifestano il fondatore, ne indicano p:
ò la nobiltà ingenua, e ne afferiscono
antichissima l'origine della gente. ()

Non è Amiterno per la via de
onti lontano molto da Norcia, e vieni
ad

() Il Casella con due ipotesi spaccia per certa una favolosa   Casll. p. 6
origine. È Amiterno, scrive, Regia de Vettini. E quindi,
perchè crede i Vettini così detti da Vetta segui a credere vi
era d'Amiterno Fondatrice: Ella fu dice Strazia Moglie
di Giano, il quale è Noè, Madre di Giani geni, e Regina del
fuoco de Sacrificj, e delle Vestali istitutrice. Quando le cento
ed otto anni dopo il diluvio e ventitre prima della confusion
delle lingue. Creda a lui chi ha piacer di credere in Aria.
Egli ne amplifica la descrizione così Popo Vesta vi tie   p. ib.
gnò Grana e la Regia di questa, Amiterno, non era lon
tana dal Tempio (quello di Presita), e dal Pretorio (Pretu
ro) quasi posta nel Mezzo, alla Riva Sinistra del fiume:
Vesta adunque Madre de Castelli, propagati i limiti ai
Nipoti ampliò di Pomerio la Regia, e quasi Rocca Turri
ta communi la Città per l'intorno di Giardini, di termini
Pecumani, di Mura, di propugnacoli, di trincea, e di sa
cro fosso; ond'essa si pinse Turrita Assidente in un Cu
chio quasi circondante i Dori, e le Città, Maestra de' Popoli,
e Regina Madre. E tutto ciò, soggiunse, dicemmo incerta
l'origine d'Amiterno: imperciochè chi mai direbbe la città
edificata prima del Tempio, che è il fondamento dell'ò Cit
tà. E o chi negherà la città, laddove la Regina in mezzo al
popolo, ed al Senato consiste in Sedi fisse, e in Republica or
dinata

478

varj, si prese a dire S. Chiara d'Aquili, come si vedrà a suoi luoghi.

479

Che strana mai risoluzione sarebbe stata quella di Friderico in
far distruggere tante Terre abitate per lo spazio di circa tren=
ta miglia di diametro, e levare così il commodo alla coltura
de campi? non sarà fuori di proposito rapportare quanto dice
Cicerone in caso troppo consimile. Premeva al Senato Roma=
no, come avea fatto di Cartagine, e di Corinto, fare ancora
di Capoa, cioè togliere da essa il dritto di Città, e si propose,
se come quelle s'avesse a distruggere. Frequenti furono le con=
salte, ma fermarono gli cómini giudiziosi, che si levasse ai
Campani il territorio, i Magistrati, il Senato, el consiglio pub=
blico; ma vi si fosse lasciata qualche immagine di Città; e
soggiunge che così fu eseguito. Eccone la ragione colle sue
parole: *Hoc praescriptum in monumentis veteribus reperietis;*
ut esset urbs, quae res eas, quibus ager Campanus coleretur,
suppeditare posset; ut esset locus comportandi condendisque fruc=
tibus; ut aratores, culta agrorum defessi, urbis domiciliis ute=
rentur; idcirco illa aedificia non esse deleta. e poi: Ca=
puam receptaculum aratorum, nundinas rusticorum, cellam
atque horreum Campani agri esse voluerunt. Se questo luo=
go non è il caso de castelli e delle Terre abitate d'Amiterno
e di Forcona; se non è la mente di Friderico stessissima;
io ne trovi un' altro a questo contrario, e via per non detto.
Ch che si troveranno esempj di Città distrutte, e di Terre
all'into e ville all'intorno lasciate; mai non si troverà
di ville e Terre distrutte per edificare una Città lontana.
Sempre la prima mira di qualunque o edificazione o
distruzione è quella del commodo ricovero de cultori delle
campagne.

1252.

Aquila

480 13

1) In una Bolla di Bonifacio VIII. de 9 Aprile 1301. si legge:
medietatem Turris Roccae, Cassari, Castri, ... Aciliani. E dal collet=
tore vi si notò: essere il Cassaro voce Italiana, quella stessa che
Latini ricevano *caprum*, cioè in significato di quella parte con=
ava del Corpo circondata dalle coste; ma che più ed altrove
per metafora si prendeva per denotare quell' ambito e cir=
conda la Rocca.

Ball. Bon. PP.
VIII. ap. Bullar.
Francisc. 7. 4. p.
sig. not. g.
vocab. dell. Crusc.
voc. Cassaro.
Cang. Glossar. v.
Cassarum

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

120

Castri.

Si dava il nome di Castro alle Città, ma quando avevano, o erano fortezze. Fu un Placito dell'A. 715. regno fra gli altri Teodoro detto dal *Litprando Episcopus nostri castri*, che secondo ogni apparenza, come vi notò lo Zanetti, *Ticinum Pavia?*, parlando a que' tempi il nome di *Castrum*, come fortezza de Re Longobardi nella stessa significazione, venissero delle Città... Montebello, Bujeto, Peri... *certo, Bologna* d'altri, occupati da quel Re nell'A. 758. Ras lo dicono, che le chiamò *Castra familiae, e Anastasio, che le dice- familiae Castra generabilem cum suis appodiis, ad dicimanas Civitas nell'A. 789 il Papa Paolo si lagnò col Re Pippino delle ostilità de Longo= bardi in castro nostro quod vocatur Valentia*. Se ne anno documenti del Secolo VIII. e IX.

Nel 1255. Ruggieri di Parigi fece sapere a Manfre= di, che si approssimasse alla Città di Troja, perciocché fuggito il Legato Pontificio *ipse Castrum Civitatis ipsius coepit, et ad fidelitatem Regis et Principis custodiebat.*

Pochi anni dopo Pietro Ruffo, che teneva *Castrum Civitatis Messanae, Castra quoque Milatii, Montis Fortis.... Regii, et Calanae.... tractatum est quod praedicta Castra ei assignari facerent ad hono= rem et fidelitatem Regis custodienda per eos.*

castris diruendis   Per Rocche, e non per Terre abitate fu inteso ancor dopo quell'ordine, e fu eseguito. Antonio di Buccio vivente nel 1380, in cui si cominciarono a riedificare alcune di tali Rocche, rammenta, che rimproverà ch'era quella rie= dificazione un contrariare alle massime e de primi edificato= ri dell'Aquila, e de riedificatori di essi i quali le distrasse= ro ancor a costo di lor vita, e cita i passi di Buccio spet= tanti al 126?, e 1293.

Cassari castro. Ancor ne secoli seguenti, e nell'Aquila per cassaro s'intendevano i recinti, e forti intorno alla Roc= ca, o castello primario, e più altro. nel 1380. Antonio di Buc= cio deficiuvia il cassaro dato da Francesco Antonio Pretatti alla Rocca d'Introdoco, insin che ci non potette conquistare la cima, ... la Rocca più alta ma fuor di quella, in

[right margin notes:]
v. A. Bol. not.

Anon. de Reb.
Frider. et FF.
ap. Ugh. 7.10.
c. 596.

481

id. 16. c. 602.

v. A. 1380.

v. A. 1380.

14

3014
3015

3016   Appendix 2c :
3017   **Page images copied from the manuscripts of Anton Ludovico Antinori**
3018   **Annali Degli Abruzzi (Volume 1)**
3019

3020

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Erich Kesse, Consultant in Library Digitization

122

4

Varr. de lingu.
lat. l.1. in 4.

Fest. in voc.
Atrium.

Serv. ad Virg.
l.7. aen. ...
730

un sostegno agli edificj. Varrone all'istesso tempo ... gli Atriani in vendon degli Atrj, e Festo replicò che gli Atrj erano una specie di edificj la prima volta inventati in Atri dell'Etruria. E Servio alludendo all'espansione del Regno Etrusco in tutta Italia scrisse che Atria era città dell'Etruria.

Si aggiunga che dicendo Plinio che dai Liburni ci veniva Atria, non si possono credere essi Liburni gente barbare essendo chiaro presso i dotti che dall'oriente soltanto si cominciarono a diffondere le colonie sopra la terra. E l'Italia, che ... ricevè le ... dal Oriente per la via de' monti, ... prima delle altre parti, via al ... parti diffusa poi le sue ne le ... ricevette da altre occidentali Regioni, le quali storicamente si vedono popolate di poi. Se Plinio dunque disse Atria degli Liburni, e se Livio all'incontro la disse de gli Atrj Toscani: unendo insieme il detto di questi due, e il detto di tutti gli altri autori, è chiaro che i Liburni erano Toscani.

Dirai se Plinio ha detto, che i Siculi, e i Liburni ... avevano tenuto un gran tratto del Piceno e dell'Abruzzo fino ...

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

123

Appendix 3a :
Progetto di Digitalizzazione – L'Aquila
*(*Versione italiana – *originally compiled by Grazia Di Bartolomeo)*

Elenco delle istituzioni e loro referenti:
1. Università degli Studi - L'Aquila: .... Grazia DI BARTOLOMEO
2. Biblioteca Provinciale "Salvatore Tommasi": .... Elpidia MARIMPIETRI
3. Deputazione Abruzzese di Storia Patria: .... Paolo MUZI
4. Archivio di Stato - L'Aquila: .... Paolo MUZI

1. Universita degli Studi dell'Aquila

Le biblioteche dell'Universita degli Studi deU'Aquila costituiscono il Sistema Bibliotecario di Ateneo, istituito nel 2005. II Sistema bibliotecario di Ateneo (SBA) coordina la conservazione, l'incremento e la fruizione del patrimonio bibliografico e documentale dell'Ateneo, che consta di circa 205.000 volumi e di migliaia di periodici in formato cartaceo ed elettronico, al fine di consentire le attivita di didattica e di ricerca, obiettivi fondamentali dell'istituzione.

II Sistema Bibliotecario di Ateneo dell'Universita degli studi dell'Aquila aderisce dal 1991 al Servizio Bibliotecario Nazionale (SBN). Aderisce anche al CIBER, coordinamento interuniversitario finalizzato alia condivisione in rete di risorse elettroniche bibliografiche e documentarie.

Oltre alle pubblicazioni cartacee reperibili attraverso il Catalogo collettivo del Polo aquilano SBN (OPAC SBN), il Sistema Bibliotecario mette a disposizione anche una biblioteca digitale che consente di ricercare e consultare in linea numerose pubblicazioni in edizione elettronica (libri, riviste, atti di convegni).

II Sistema bibliotecario di Ateneo e articolato in tre biblioteche di Polo che fanno capo alle aree territoriali del Centro, di Coppito e di Roio:

- Biblioteca di Polo Centro (Facolta di Lettere e Filosofia, Facolta di Scienze della Formazione, Facolta di Scienze Motorie)
- Biblioteca di Polo Coppito (Facolta di Scienze MM., FF. e NN., Facolta di Medicina e Chirurgia, Facolta di Biotecnologie, Facolta di Psicologia)
- Biblioteca di Polo Roio (Facolta di Ingegneria, Facolta di Economia)

Materiale proposto per la digitalizzazione:

- Tesi di dottorato (da far confluire nei progetti nazionali attualmente gia attivi)
- Libri di testo
- Manualistica scientifica e tecnica
- Libri esauriti e fuori catalogo
- Alcuni libri rari (un centinaio circa)
- Un manoscritto
- II fondo "De Bartholomeis"

2. Biblioteca Provinciale "Salvatore Tommasi"

La Biblioteca Provinciale "Salvatore Tommasi", aperta ufficialmente nel 1848, e una biblioteca pubblica. La sede principale e al centro della citta, in *Piazza* Palazzo; una sezione staccata opera nei locali del complesso abbaziale di Collemaggio. Essa ha il duplice compito della conservazione e della divulgazione, al fine di promuovere le condizioni perche si eserciti l'effettivo diritto di ogni cittadino allo studio, alia ricerca, all'informazione e alia cultura.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

124

Attuahnente il patrimonio e costituito circa da 260 mila unita bibliografiche.

Il fondo antico e costituito da 911 manoscritti, 31 libri corali, 131 incunaboli, circa 3500 cinquecentine, e da migliaia di secentine e settecentine.

Ha una ricca sezione di Abruzzesistica che ha il compito di documentare e conservare la cultura del territorio.

Svolge la funzione di Istituto per il deposito legale delle pubblicazioni per la provincia dell'Aquila. Ha un settore periodic! nel quale sono presenti giornali e riviste che datano fin dal 1700. Possiede molti giornali locali, attraverso i quali e possibile ricostruire storia e tradizioni della citta e della provhicia e, in alcuni casi, anche della regione.

Possiede molti fondi di donazioni private.

Partecipa dal 1991 al Servizio Bibliotecario Nazionale (SEN) insieme a circa tremila biblioteche italiane.

3. Deputazione Abruzzese di Storia Patria

Fondata all'Aquila il 26 settembre 1888, come "Societa di storia patria 'A. L. Antinori' negli Abruzzi".

Elevata a "Regia Deputazione di storia patria", con Regio Decreto del 16-01-1910, n° 264. Approvato il relative Statuto con Decreto del Presidente della Repubblica del 16-11-1950.

La Deputazione Abruzzese di Storia Patria ha lo scopo di favorire gli studi storici regional! principalmente con la pubblicazione e illustrazione di documenti della Regione. Svolge la sua funzione di promozione culturale, con una sempre piu vigile e vivace artenzione alPaffinamento delle metodologie, per 1'opportune adeguamento della cultura storiografica regionale ai metodi rigorosi degli istituti cultural! nazionali.

Pubblica un "Bollettino" periodico dal 1889 e cura otto collane editoriali.

La Biblioteca della Deputazione di Storia Patria negli Abruzzi, intitolata al polistore abruzzese Antinori (1704-1778) corrispondente del Muratori, e nata contemporaneamente alia Deputazione stessa (1888), raccogliendo subito le numerose pubblicazioni di cui la Istituzione storica veniva in possesso per singole donazioni, acquisizioni dirette e recensioni sul proprio periodico. Si e successivamente arricchita di importanti donazioni, tra le quali va ricordata innanzi tutto quella della nobile Famiglia Rivera i cui principal! esponenti sono sempre stati legati attivamente alia storia della Deputazione; e quelle, piu recent!, dell'aw. Gabriele Sartorelli, gia Presidente del Sodalizio, dell'aw. Ciarletta e della Famiglia Bafile. I fondi librari sono owiamente e quasi esclusivamente a carattere storico, sia in relazione alPAbruzzo e al Molise (Regione quest'ultima sulla quale la Deputazione estende la propria competenza istituzionale) che a dimensione nazionale ed internazionale.

Consistenza del patrimonio librario: circa 25.000 monografie e 350 periodici di cui 85 correnti.

Materiale pregiatorManoscritti: 7 codici (secc. XVI-XVIII) e numerosi carteggi con autografi di illustri studiosi e personaggi storici abruzzesi e molisani (secc. XIX-XX); Cinquecentine 37; Edizioni rare 229.

Partecipa dal 2002 al Servizio Bibliotecario Nazionale (SBN) e dal 2006 all'Archivio Collettivo

Nazionale dei Periodici (ACNP).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

125

4. Archivio di Stato – L'Aquila

L'Istituto e sorto nel 1835 nell'ex convento di S. Agostino trasformato in *Palazzo* del Governo. Nel tempo ha acquisito oltre cento fondi archivistici, con documenti che vanno dal 1193 agli anni Novanta del Novecento. Tra i piu importanti si segnalano il fondo *Pergamenaceo, VArchivio Civico Aquilano* (1193- 1820), il fondo *Notarile* (dal XV al XX sec.), i *Catasti antichi* (1544-1804) e vari archivi nobiliari.

E organo periferico a competenza provinciale del Ministero per i Beni e le Attivita Cultural! (MiBAC). NeH'ambito della propria circoscrizione, ha il compito di:

- conservare, a seguito di versamento (consegna obbligatoria all'Archivio di Stato), gli archivi prodotti dagli organ! e dagli uffici degli Stati preunitari; la documentazione relativa agli affari esauriti da oltre quarant'anni prodotta dagli organ! giudiziari e amministrativi statali; gli archivi dei notai che cessarono l'esercizio professionale anteriormente all'ultimo centennio; gli archivi degli uffici statali soppressi e degli enti pubblici estinti;
- conservare gli archivi ricevuti da enti pubblici a seguito di comodato o deposito, o da privati a seguito di comodato, deposito, donazione o acquisto;
- rendere consultabili gli archivi;

Sono articolazioni dell'Archivio di Stato di L'Aquila le due Sezioni di Archivio di Stato di Sulmona e Avezzano.

La Biblioteca deiPIstituto, ricca di 14.000 volumi, nel 2008 e entrata nel Servizio Bibliotecario Nazionale (SBN).

Materiale proposto per la digitalizzazione:

- Opere manoscritte / Antonio Ludovico Antinori (1704-1778)

  1 manoscritti furono donati nel 1886 alia Biblioteca Provinciale dai marchesi Giulio e Giovanni Dragonetti. Il primo e stato uno dei fondatori nel 1888 e primo presidente della Societa di Storia Patria negli Abruzzi.

  Essi sono stati riordinati e descritti da Enrico Casti, al tempo bibliotecario della Provinciale *(Indice delle opere inedite ed edite di Anton Ludovico Antinori,* hi *Anton Ludovico Antinori. Elogio storico letto dal Prof. Enrico Casti,* Aquila, Vecchioni, 1887).

  Struttura del'opera:
  - Annali degli Abruzzi, voll. l°-24°
  - Corografia storica degli Abruzzi e de' luoghi circonvicini, voll. 25°-42°
  - Iscrizioni lapidarie degli Abruzzi e de' luoghi circonvicini, voll. 43°-46°
  - Monumenti, uomini illustri e cose varie, voll. 47°-49°
  - Arcivescovi e vescovi, vol. 50°
  - Sinopsi della storia dell'Aquila dal 1256 al 1512, vol. 51°
  - Appendice, voll. 52°-56°

  Tutta l'opera ora e divisa, a seguito di restauro, in 106 tomi, per un totale di circa 32 mila pagine.

  La Biblioteca Provinciale possiede il microfilm dell'intera opera. L'Archivio di Stato di L'Aquila possiede il microfilm dei voll. 32-56.

  Sicuramente l'opera nel suo complesso costituisce una delle fonti storiche più accreditate per l'intero Abruzzo, ed è attuahnente utilizzata da studiosi di varie discipline (es. storici, architetti, storici dell'arte ed altri).

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

126

Questo per la sua caratteristica fondamentale costituita dal fatto che l'Antinori ha reperito e utilizzato gran parte delle fonti documentarie al tempo disponibili, kidicandole dettagliatamente. Molte di esse pertanto sono oggi conosciute, anche se non piu esistenti, grazie alle citazioni antinoriane.

Molti sono stati gli srudi sull'opera. In merito si possono ricordare i principal!:

- *Regesto Antinoriano,* a cura di Salvatore Piacentino. L'Aquila, Deputazione Abruzzese di Storia Patria, 1977 (Documenti per la storia d'Abruzzo, 1).

- *Antinoriana. Studi per il bicentenario della morte di A. L. Antinori,* 1978 - voll. 4, L'Aquila, Deputazione Abruzzese di Storia Patria, 1978-79.

Una parziale edizione in trascrizione della *Corografia,* promossa ai primi del Novecento da Vincenzo De Bartholomaeis, e stata pubblicata sul "Bullettino della Deputazione Abruzzese di Storia Patria" negli anni 1913-1934, relativamente ai primi due volumi (esclusa peraltro la voce Aquila).

Una parziale edizione in copia anastatica e stata pubblicata dall'Editore Forni di Bologna negli anni 1971-1980 ed ha riguardato gli *Annali degli Abruzzi* e parte della *Corografla* (voll. 25°-31°). Sarebbe auspicabile una edizione digitale integrale dell'intera opera, con supporto di adeguati Indici, come piu volte considerate in varie occasioni d'incontro dai soci della Deputazione Abruzzese di Storia Patria, poiche essa costituisce tuttora una fonte essenziale per la storia dell'intero Abruzzo e dei suoi monumenti.

Notizie biografiche:

Anton Ludovico Antinori (L'Aquila, 26 agosto 1704 - L'Aquila, 1° marzo 1778) e stato un arcivescovo cattolico, storico ed epigrafista italiano. Appartenente alia *Congregazione dell 'Oratorio,* occupo le sedi di Lanciano e poi di Acerenza e Matera. Come erudito, interessandosi in particolar modo di epigrafia ed archeologia, contribui con segnalazioni, studi ed interpretazioni all'opera del Muratori.

Di padre bolognese e madre napoletana, dopo aver iniziato gli srudi di grammatica nella sua citta natale, ando a Napoli, sotto gli auspici dell'abate Galiani, laureandosi in giurisprudenza. Tomato a 25 anni a L'Aquila, decise di approfondire la storia della sua citta, la cui introduzione invio a Ludovico Antonio Muratori, che la inseri nella raccolta degli scrittori d'Italia *(Rerum Italicarum Scriptores).* Alcuni testi di epigrafi scovate dal religiose aquilano furono dallo stesso Muratori inserite nel tomo VI delle *Antiquitates italicae Medii Aevi.*

A 30 anni Antinori venne ordinato sacerdote e in seguito, dopo aver trascorso tre anni nell'Oratorio di San Filippo Neri del capoluogo abruzzese, si trasferi a Roma. Qui, Benedetto XIV lo destino al ruolo di bibliotecario di una istituenda biblioteca di Bologna, senza pero partire per la citta paterna. A causa di ragioni di salute viaggio tra Napoli e L'Aquila, dove fu canonico della Collegiata di San Silvestro.

Nel 1745 fu nominato con regio decreto di Carlo III arcivescovo di Lanciano, mentre nel 1754 fii trasferito a capo dell'arcidiocesi di Acerenza e Matera, dove fece abbellire la Cattedrale di Santa Maria Assunta e San Canio Vescovo. Per causa di salute chiese, e ottenne, nel 1758, di ritirarsi, ritornando nuovamente all'Aquila, ottenendo peraltro una pensione regia, oltre ai benefici legati ad una chiesa nei pressi di Giulianova e, dal 1770, al Monastero di San Pietro ad Oratorium di Capestrano, in cui si trasferi nel 1775.

Pubblico numerosi documenti di storia abruzzese, confluiti in particolare nei 4 volumi della *Raccolta di memorie istoriche delle tre provincie degli Abruzzi* (Napoli 1781-1783). La maggior parte delle sue opere sono conservate manoscritte presso la *Biblioteca provinciale "Salvatore Tommasi"* dell'Aquila, molte delle quali edite postume, anche su iniziativa della *Societa abruzzese di storia patria* a lui intitolata.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

127

3257   **Digitization Project – L'Aquila (notes)**
3258   *(English version – supplemented with limited notes)*

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3261   **List of institutions and their contact persons:**
3262   1. Università degli Studi - L'Aquila: .... Grazia DI BARTOLOMEO
3263   2. Biblioteca Provinciale "Salvatore Tommasi": .... Elpidia MARIMPIETRI
3264   3. Deputazione Abruzzese di Storia Patria: .... Paolo MUZI
3265   4. Archivio di Stato - L'Aquila: .... Paolo MUZI

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3267   **1.   University of L'Aquila**

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3269   The University of L'Aquila libraries are grouped in the Sistema Bibliotecario di Ateneo,
3270   established in 2005. The Sistema bibliotecario di Ateneo (SBA) coordinates preservation,
3271   development and use of bibliographic collections of the University, which consists of
3272   approximately 205,000 volumes and thousands serials both in paper and in electronic form. It
3273   supports teaching and research activities which is the mission of the institution.
3274

3275   In 1991, the SBA of the University of L'Aquila joined the Servizio Bibliotecario Nazionale (SBN),
3276   a national network of cataloguing and bibliographic services. It also joins "Archivio Collettivo
3277   Nazionale dei Periodici" (ACNP), a national online catalogue of periodicals, and CIBER, an
3278   interuniversity institution whose aim is sharing via Web bibliographic resources.
3279

3280   Besides books searchable through the collective Online Catalogue of Polo aquilano SBN
3281   (OPAC SBN), the SBA offers a digital library which allows searching and downloads many
3282   publications in digital form (books, serials, conference proceedings).
3283

3284   The SBA consists of three main libraries which include the libraries located in the town
3285   geographical areas of Centro, Coppito and Roio:
3286   • Biblioteca di Polo Centro (Faculty of Liberal Arts, Faculty of Educational Training, Faculty of
3287   Physical Sciences)
3288   • Biblioteca di Polo Coppito (Faculty of Mathematics, Physics and Natural Sciences, School of
3289   Medicine, Faculty of Biotechnologies, Faculty of Psychology)
3290   • Biblioteca di Polo Roio (Faculty of Engineering, School of Economics)

3291

3292   Materials proposed for digitization:
3293
3294   • Ph. D. Theses (to be included in national projects already existing)
3295   • Textbooks
3296   • Scientific and technical manuals
3297   • Out of print books
3298   • Rare books (approximately a hundred)
3299   • A manuscript
3300   • The "De Bartholomeis" collection

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3302   **2.   Biblioteca Provinciale "Salvatore Tommasi"**

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3304   Biblioteca Provinciale "Salvatore Tommasi" is a public library, officially opened in 1848. Its main
3305   building is located in Piazza Palazzo, in the downtown district; a branch is located in the
3306   buildings of the cloister of Collemaggio Abbey. The library's mission is to preserve collections
3307   and to spread information in order to promote the right of each citizen to reading, research,
3308   information and culture.
3309

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

128

Presently its collections consist of approximately 260,000 volumes. Rare books collection consists of 911 manuscripts, 31 choir books, 131 incunabula, about 3,500 sixteenth century books, and thousands seventeenth- and eighteenth-century books.

The library boasts a rich section of books about Abruzzo, whose aim is to document and preserve local culture.

It is the official institution in charge of legal deposit for all the publications issued in the province of L'Aquila.

Its serials collection consists of newspapers and magazines which date back to 1700. Many are local newspapers which document the history and tradition of the town, of the province and, in some cases, of the whole region of Abruzzo. Many are the private donations owned by the library.

In 1991, the Biblioteca Provinciale joined the Servizio Bibliotecario Nazionale (SBN) together with about 3,000 other Italian libraries.

Materials proposed for digitization:

- *Manuscript Works* / by Antonio Ludovico Antinori (1704–1778)

  The manuscripts were given to the Biblioteca Provinciale in 1886 by Marquis Giulio and Marquis Giovanni Dragonetti. The former is among the founders in 1888 and first Chair of "Società di Storia Patria negli Abruzzi".

  They were reorganized and described by Enrico Casti, at that time librarian of the Biblioteca Provinciale (*Indice delle opere inedite ed edite di Anton Ludovico Antinori*, in *Anton Ludovico Antinori. Elogio storico letto dal Prof. Enrico Casti*, Aquila, Vecchioni, 1887).

  The work consists of:

  - Annali degli Abruzzi, volumes 1-24;
  - Corografia storica degli Abruzzi e de' luoghi circonvicini, volumes 25-42;
  - Iscrizioni lapidarie degli Abruzzi e de' luoghi circonvicini, volumes 43-46;
  - Monumenti, uomini illustri e cose varie, volumes 47-49;
  - Arcivescovi e vescovi, volume 50;
  - Sinopsi della storia dell'Aquila dal 1256 al 1512, volumes 51;
  - Appendice, volumes 52-56.

  Following a restoration, the whole work is made of 106 volumes, for a total amount of about 32,000 pages.

  This selection has the strong backing of each of the Abruzzese institutions.
  Of its sections, the Corografia is considered to be the most important.

  The Archivio di Stato provides these additional notes on the Antinori manuscripts:

    "The work on the whole is one of the most important and reliable historical sources for Abruzzo and is presently used by scholars of several disciplines (historians, architects, art historians, etc.).

    "This is due to the fact that Antinori gathered and used many of the documentary sources available at his time, citing them very accurately. Thanks to his citations, therefore, many of them are still known today though no longer existing.

    "Many studies were carried out on his Works, among which the following are considered the most important:

    "- *Regesto Antinoriano*, edited by Salvatore Piacentino. L'Aquila, Deputazione Abruzzese di Storia Patria, 1977 (Documenti per la storia d'Abruzzo, 1) .

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

129

"- Antinoriana. Studi per il bicentenario della morte di A. L. Antinori, 1978 - voll. 4, L'Aquila, Deputazione Abruzzese di Storia Patria, 1978-79.

"In 1913-1934 a partial transcribed edition of *Corografia* (the first two volumes only, without the entry Aquila), promoted at the beginning of the 20th century by Vincenzo De Bartholomaeis, was published in "Bullettino della Deputazione Abruzzese di Storia Patria".

"In 1971-1980 a partial anastatic reprint was published by the Publisher Forni, Bologna (only the *Annali degli Abruzzi* and part of *Corografia* (volumes 25-31)*.

"The unabridged digital edition of the whole *Works* with Indexes would be desirable and very useful, as already considered in many meetings with the members of Deputazione Abruzzese di Storia Patria, since the work is a basic source for the history of Abruzzo and its monuments."

3. **Deputazione Abruzzese di Storia Patria**

It was founded in L'Aquila on September 26th 1888 as "Società di storia patria 'A. L. Antinori' negli Abruzzi".

It was raised to the dignity of "Regia Deputazione di storia patria" with Royal Decree n° 264 of January 16th 1910. Its charter was approved by a decree of the President of Italian Republic on November 16th 1950.

The mission of "Deputazione Abruzzese di Storia Patria" is to promote regional historical research and preserve local culture mainly by publishing documents about the region.
Since 1889 it publishes its periodical "Bollettino" and edits eight series.

The library of "Deputazione di Storia Patria negli Abruzzi" is named after the scholar Antinori (1704-1778) correspondent of L.A. Muratori. It was opened in 1888, the same year as Deputazione; it soon started to collect the many publications owned by the institution as donations or acquisitions. Afterwards its collection continually became enriched by important donations especially by local noble families such as Famiglia Rivera, lawyer Gabriele Sartorelli, lawyer Ciarletta and Famiglia Bafile. The collections, therefore, are relevant as far as the history of Abruzzo and Molise (this region, too, falls under the institutional competence of Deputazione) are concerned but they also document national and international events.

The collections consist of about 25,000 volumes and 350 periodicals, of which 85 are current.
Rare books section: Manuscripts: 7 codes (16th-18th centuries) and several collections of letters signed by eminent scholars and famous historical personalities from Abruzzo and Molise (19th-20th centuries); Sixteenth century books: 37; Rare editions: 229.

In 2002, it joined the Servizio Bibliotecario Nazionale (SBN). In 2006 it also joined the "Archivio Collettivo Nazionale dei Periodici" (ACNP).

Materials proposed for digitization (*added subsequently during conversation*):

- None specifically.
  However, if the permission of the authors can be secured, selections from the Deputazione's monographic series might be suitable for digitization.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

130

4. Archivio di Stato – L'Aquila

The institution was founded in 1835 and was located in the former monastery of St. Augustine, which then became the headquarters of the Palazzo del Governo (Government Offices).

It later acquired over a hundred archival materials, with documents which date back to 1193 up to the late 1990s. Among the most important, it is worth mentioning: archive *Pergamenaceo*, the *Archivio Civico Aquilano* (1193- 1820), archive *Notarile* (from 15th to 20th cent.), the *Catasti antichi* (1544-1804) and several other archives which were owned by noble families.

Presently it is a local branch of the Ministry for Cultural Heritage and Activities (MiBAC). Its mission is:

- to preserve the archives (subject to compulsory submission to Archivio di Stato) issued by the bodies and offices of the several States existing prior to the unification of Italy; documents issued by judicial and administrative state bodies concerning matters settled from over forty years; archives which belonged to notaries who ceased their profession prior to last century; the archives which belonged to state offices and to public bodies which closed down;

- to preserve the archives received by public bodies following to accommodate or deposit, or by private bodies following to accommodate, deposit, donation or acquisition;

- to make the archives available.

The Archivio di Stato of Sulmona and Avezzano are local branches of the Archivio di Stato of L'Aquila.

The library of the institution consists of 14,000 volumes. In 2008, it joined the Servizio Bibliotecario Nazionale (SBN).

Materials proposed for digitization:

- The microfilmed *Manuscript Works* / by Antonio Ludovico Antinori (1704–1778)

  The Biblioteca Provinciale owns the microfilm of the whole work. The Archivio di Stato of L'Aquila owns the microfilm volumes from 32 to 56. (*The microfilm negative is comprised of 26 reels, containing 9,812 images or approximately 19,624 pages.*)

Additional materials that might be digitized (*added subsequently during conversation*):

- *Other manuscript and print collections in the Archivio's holdings.*

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

131

Appendix 4 :
De Bartholomaeis, Vincenzo, 1867-1953 : Selected Bibliography

This bibliography was made for purposes of random sampling (non-scientific sample) of availability to a researching public of De Bartholomaeis titles. For this small sample, only libraries in Canada, the United Kingdom and the United States were checked. In each of these countries, titles were generally held by the same institutions. Holdings might be taken as an indication of potential for interest or for a letter of support. Several titles were also located in other European and Asian-Pacific libraries.

A more complete sampling would select titles either by scientific method (mathematically random selection method) or without exclusion (i.e., the complete bibliography). That more complete sampling would include: a bibliographic component as below; a preservation component; general assessment of availability through lending from holding institutions both for research use and for reproduction use; statements of alternate availability whether by reprint, preservation microfilm or a digital version either available to researchers fixed in physical medium (e.g., a disk) or via the Internet, together with a characterization of access terms, e.g., freely available, available as part of a digital collection that must be purchased whole, or available at cost for fixed term (term limited) use; etc. Given a template, OCLC, the WorldCat maintenance agency, will run a report against a given bibliography, classification, etc.

N.B. De Bartholomaeis, Vincenzo, 1867-1953 is recognized in SBN name authority records as De Bartholomaeis, Vincenzo and, in USA Library of Congress name authority records as De Bartholomaeis, Vincenzo, 1969- .

Ricerche abruzzesi, in Bullettino dell'Istituto Storico Italano, n. 8, 1889.
- Held by at least 6 Italian libraries, per the SBN union catalog.
- Held by at least 1 other world library, per the WorldCat union catalog.
- A preservation microfilm copy of this imprint also exists.

La Lingua di un rifacimento chietino della Fiorita d'Armannino da Bologna, in Zeitschrift für romanische Philologie, 23, 1899.
- Not reported as held by any other Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Libro delle tre scritture e dei Volgari delle vanità di Bonvesin da la Riva, Presso la Società, Roma 1901.
- Held by at least 22 Italian libraries, per the SBN union catalog.
- Held by multiple world libraries, including 1 library in Canada, 5 libraries in the United Kingdom, and 25 libraries in the United States, per the WorldCat union catalog.
- Digital copy freely available from the Internet Archive

    Note that this item is listed by the Internet Archive as "NOT IN COPYRIGHT". Under the copyright legislation of the United States of America, the volume is no longer protected by copyright in the USA. However, under Italian copyright legislation, this title remains under copyright protection until sometime in 2023.

    This copy was originally digitized by the Google Books project under contract with the Harvard University Libraries. Harvard subsequently provided a copy of its copy to the Internet Archive.

    The copyright question here points to the issue of applicable copyright law. That question is being argued in cases currently lodged against the Google Books project in several European and Asian countries, including a case recently lost by Google in

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

132

the French courts. The De Bartholomaeis works in both Google Books and the Internet Archive were produced, in the United States, legally under U.S. copyright legislation.[179] The problem here is that these digital libraries are available across international borders without regard to various national implementations of the Berne Copyright Convention.[180] As a matter of law, *alone*, decisions against Google may be the right conclusion made for all of the wrong reasons.

It is unclear if the French decision will be applied or be seen to apply to other European countries, in this case in Italy. The decision's impact upon partnerships with U.S. institutions working under U.S. rather than European copyright legislation is also unclear. And, while defending the letter of European copyright law, the benefit of the decision is unclear. If the works are the *fruit of the forbidden tree*, the decision appears to poison the fruit, at least outside the United States.

In any case, Google Books maintains a freely available collection of De Bartholomaeis works – as of this writing – numbering 153 volumes. See http://books.google.com/books?q=+inauthor:"+Vincenzo+De+Bartholomaeis"& source=gbs_authrefine_t for the most current complete listing. The Internet Archive currently holds only two De Bartholomaeis titles at http://www.archive.org/ and one of these is listed as an "old French" translation.

Rime antiche senesi, trovate da E. Molteni e illustrate da V. De Bartholomeis, con appendice, Presso la Società, Roma 1902.
- Held by at least 14 Italian libraries, per the SBN union catalog.
- Held by multiple world libraries, including at least 4 libraries in the United Kingdom and 6 libraries in the United States, per the WorldCat union catalog.

Una antica versione del "Libro di Sidrac" in volgare di Terra d' Otranto, in AGI, XVI, 1902.
- Not reported as held by any other Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Cronaca aquilana rimata di Buccio di Ranallo di Popplito di Aquila, a cura di V. De Bartholomaeis, Roma 1907.
- Held in original imprint by at least 37 Italian libraries and by an additional 9 libraries in 1970 reprint edition, per the SBN union catalog.
- Held by multiple world libraries, including at least 2 libraries in Canada, 7 libraries in the United Kingdom, and 39 libraries in the United States, per the WorldCat union catalog.

Prose e rime aquilane del Sec. XIV, in Bullettino della Regia Deputazione abruzzese di Storia Patria, 1914.
- Held by at least 4 Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Un documento relativo a Buccio di Ranallo, in Bullettino della Regia Deputazione abruzzese di Storia Patria, S. III, anno V, 1914.
- Held by at least 3 Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Monumenti Paleografici degli Abruzzi, Pompeo Sansaini, Roma 1924.
- Held by at least 4 Italian libraries, per the SBN union catalog.
- Held by multiple world libraries, including at least 6 libraries in the United States, per the WorldCat union catalog.

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[179] U.S. copyright law (http://www.copyright.gov/title17/)

[180] Berne Copyright Convention (http://www.wipo.int/treaties/en/ip/berne/trtdocs_wo001.html)

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

133

Il teatro abruzzese nel medioevo, Bologna 1924.
- Held in the original imprint by at least 22 Italian libraries, by an additional 14 libraries in 1979 reprint, and by 8 more libraries in 1997 reprint, per the SBN union catalog.
- Held by multiple world libraries, including at least 5 libraries in Canada, 4 libraries in the United Kingdom, and 47 libraries in the United States, per the WorldCat union catalog.

Le origini della poesia drammatica italiana, N. Zanichelli, Bologna 1924.
- Held in the original imprint by at least 18 Italian libraries, by an additional 37 libraries in 1952 reprint, and 1 more library in 2009 reprint, per the SBN union catalog.
- Held by multiple world libraries, including at least 6 libraries in Canada, 7 libraries in the United Kingdom, and 61 libraries in the United States, per the WorldCat union catalog.

Poesie provenzali storiche relative all'Italia, Tipografia del Senato, Roma 1931.
- Held by at least 45 Italian libraries, per the SBN union catalog.
- Held by multiple world libraries, including at least 1 library in Canada, 6 libraries in the United Kingdom, and 48 libraries in the United States, per the WorldCat union catalog.

Niccolò da Borbona rimatore, Nicola De Arcangelis, Casalbordino 1932.
- Not reported as held by any other Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Storia dei Normanni di Amato di Montecassino volgarizzata in antico Francese, Fonti per la Storia d'Italia, n. 76, Roma 1935.
- Held in the original imprint by at least 38 Italian libraries and by an additional 10 libraries in 1970 reprint, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

La leggenda di S. Bernardino da Siena di Niccolo da Borbona, Vecchioni, L' Aquila 1935.
- Held by at least 5 Italian libraries, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Un volgarizzamento abruzzese della postilla di Niccolò da Lira, Coop. Tip. Azzoguidi, Bologna 1940.
- Held by at least 1 Italian library, per the SBN union catalog.
- Not reported as held by any other world library, per the WorldCat union catalog.

Primordi della lirica d'arte in Italia, Società editrice internazionale, Torino 1943.
- Held by at least 46 Italian libraries, per the SBN union catalog.
- Held by multiple world libraries, including at least 6 libraries in Canada, 6 libraries in the United Kingdom, and 27 libraries in the United States, per the WorldCat union catalog.

Abruzzese Cultural Institutions : Digitization Readiness & Project Viability
Erich Kesse, Consultant in Library Digitization

134