

## 5.8 Digitisation of cultural heritage to boost innovation

### Why invest in digitisation of cultural heritage?

Digitisation turns Europe's cultural resources into an important building block for the digital economy and provides Europe's Cultural and Creative Industries (CCIs), which already account for ca. 4% of EU-GDP and jobs and have great potential for stimulating innovation in other sectors, with a competitive edge. The digitisation and online accessibility of cultural resources as input for added-value products and services can fuel innovation in areas such as tourism, education, architecture, design, publishing, advertising or gaming. Moreover, it gives Europe's rich cultural heritage a clear profile on the Internet, promotes regions, protects cultural diversity and contributes to better quality of life.

Digitisation and online accessibility lend the collections of museums, libraries and archives much greater visibility. This does not only attract new visitors, tourists and researchers, but also business to regional economies. Digitisation and digital preservation further create employment opportunities in innovative areas such as 3D-capturing, 3D-processing and tools for text digitisation or preservation of audio-visual material. It is estimated that around 20% of Europe's collections have been digitised so far, (though for film heritage<sup>112</sup> the share of digitised collection is only 1.5%).<sup>113</sup> Making use of ESIF to co-finance digitisation activities can thus help regions play a key role in contributing to EU objectives in promoting cultural diversity as well as creative content for jobs and growth. The Czech Republic, Finland, Greece, Latvia, Lithuania, Poland, Slovakia and Sweden have used the Structural Funds for digitising cultural heritage resources.<sup>114</sup> However it is important that the digitisation activities are connected to the regional strategic framework, outlining how this will lead to economic growth and employment opportunities.

**e-Paveldas project<sup>115</sup>** - One of the most remarkable examples of using Structural Funds for digitising cultural content can be found in Lithuania: the e-Paveldas database contains over 3 million pages of old books, newspapers, artworks, manuscripts and church registers. EU funding amounted to EUR 3.6 million, and the project lasted two and a half years until Summer 2013. The Martynas Mažvydas National Library of Lithuania, the main institution implementing the project, could build on a previous project on library information systems. Apart from preserving Lithuanian cultural heritage and making it easily accessible for free, the project created 32 new jobs in promising new occupations like digitising operators and programmers.

**Lithuanian Documentary Cinema on the Internet<sup>116</sup>** - The objective is to create an archive of the digitised Lithuanian documentary cinema and to provide a simple and fast online access. It is financed by Priority 3 "Information Society for All" of the Lithuanian Economic Development Operational Programme. The total budget is € 2.7 million.

**Nitrofilm project<sup>117</sup>** - The aim of this Polish project is to set up a specialised infrastructure for the conservation and reconstruction of the oldest film materials and the digitalisation of a part of the Polish pre-war cinematography collection. It is co-financed from the ERDF (Priority XI Culture and Cultural Heritage) within the framework of the OP on infrastructure and environment. The total cost is EUR 4.8 million, of which around three quarters are EU funding.

### Barriers & challenges

The digitisation of Europe's cultural heritage and its preservation is a costly task.<sup>118</sup> With only a fraction (20%) of Europe's cultural heritage digitised, and only a small proportion of all digitised items accessible online, this work is still in its infancy. In their 2010 national progress reports, the vast majority of Member States indicated that public funding for digitisation accounts for about 80% of the costs.<sup>119</sup> Given

<sup>112</sup> <https://ec.europa.eu/digital-agenda/en/news/cinema-expert-group-subgroup-film-heritage>.

<sup>113</sup> ENUMERATE Survey Report on Digitisation in Cultural Heritage Institutions 2012; According to the European Association of Film Archives (ACE). <http://www.enumerate.eu/fileadmin/ENUMERATE/documents/ENUMERATE-Digitisation-Survey-2012.pdf>.

<sup>114</sup> Second progress report on the digitisation and online accessibility of cultural material and on digital preservation in the European Union (November 2010) and Third implementation report of the EP and Council Recommendation on Film Heritage (December 2012). [http://ec.europa.eu/information\\_society/activities/digital\\_libraries/doc/recommendation/reports\\_2010/2010%20Digitisation%20report%20overall.pdf](http://ec.europa.eu/information_society/activities/digital_libraries/doc/recommendation/reports_2010/2010%20Digitisation%20report%20overall.pdf).

<sup>115</sup> <http://www.epaveldas.lt/en/web/guest/home>.

<sup>116</sup> <https://ec.europa.eu/digital-agenda/en/news/cinema-expert-group-subgroup-film-heritage>.

<sup>117</sup> <http://www.nitrofilm.pl>.

<sup>118</sup> The Comité des Sages Report indicates some €100 billion to digitise Europe's heritage. [http://ec.europa.eu/information\\_society/activities/digital\\_libraries/doc/refgroup/final\\_report\\_cds.pdf](http://ec.europa.eu/information_society/activities/digital_libraries/doc/refgroup/final_report_cds.pdf).

<sup>119</sup> The reports indicate Member States' progress towards implementation of the Commission Recommendation of 24 August 2006 on the digitisation and online accessibility of cultural material and digital preservation (2006/585/EC). See also the Recommendation (2011/711/EU) from 29.10.2011, p. 39. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:236:0028:0030:EN:DF>.

the high reliance on public funding for digitisation<sup>120</sup> and the severe cuts to culture budgets as a result of the current crisis, the potential of digitisation's contribution to regional development may not be fully tapped. However ESIF should not replace national or regional funds, but complement these and enable what would not be done otherwise.

### How to act?

Regions wishing to invest in the digitisation of cultural heritage should consider the following 5 steps:

**1. Analysis:** (a) Assess the kinds of cultural heritage material available in their region and in which ways they could be of use once digitised. Can this material serve as input for the Cultural and creative industries CCIs or spur other forms of innovation or specialisation (e.g. educational or cultural tourism)? (b) Estimate the cost of digitisation and investigate the potential sources of public and private financing, including through Public-Private Partnerships (PPPs); (c) Determine the available skills and necessary technological resources. A number of EU-funded projects explore how ICT can facilitate large-scale digitisation and make it more cost-effective:

**3D-COFORM**<sup>121</sup> - Tools and Expertise for 3D Collection Formation focuses on the digitisation of cultural heritage artefacts and delivers new tools in the areas of 3D-capture, 3D-processing, the semantics of shape, material properties etc., resulting in richer and more realistic representations, better documentation and increased cost effectiveness of the digitisation process.

**IMPACT**<sup>122</sup> - IMProving ACcess to Text brings together centres of competence in large-scale text digitisation in order to share know-how and best practices and to develop innovative tools enhancing the capabilities of OCR engines and the accessibility of digitised text and to lay down the foundations for future mass-digitisation programmes.

**PRESTOSPACE**<sup>123</sup> - Preservation towards Storage and Access. Standardised Practices for Audio-visual Contents in Europe - Institutions traditionally responsible for preserving audio-visual collections (broadcasters, research institutions, libraries, museums, etc.) face major technical, organisational, resource-related, and legal challenges in taking on the migration to digital formats and the preservation of already digitised holdings. The project has developed technical tools and a semi-automated integrated system, the 'Preservation factory',

for digitisation and preservation of all types of audio-visual collections.

**2. Governance/stakeholder involvement:** Public regional and local authorities should engage with relevant stakeholders. These actors will vary depending on the potential available in a region, but may include:

- public sector, such as national/regional ministries in charge of ICT, culture, or regional and local governments;
- cultural institutions (galleries, libraries, museums, archives and film heritage institutions) - as content providers;
- CCIs - as re-users of cultural heritage content in applications and added-value services, e.g. in the education, edutainment, design, gaming, and tourism sectors;
- technology firms - as providers of digitisation/preservation technologies;
- Internet actors - such as social networks, online reference works or philanthropic organisations.

An example of a project involving regional and local stakeholders to give their collections greater visibility online is the *EuropeanaLocal* project.<sup>124</sup>

**EuropeanaLocal** was funded under the eContentplus programme of the European Commission. It involved local and regional libraries, museums, archives and audio-visual archives to make their collections available through Europeana and deliver new services. Consult the list of project participants from your country.<sup>125</sup>

Besides ESIF to co-fund digitisation activities as part of projects having an impact on the regional economy, MS and regions should consider PPPs to create new ways of funding digitisation. Stakeholders may therefore also include companies willing to invest in digitisation:

120 For some key facts and figures on digitisation across the EU see Commission Staff Working Paper; [http://ec.europa.eu/information\\_society/activities/digital\\_libraries/doc/recommendation/staffworkingpaper1.274final.pdf](http://ec.europa.eu/information_society/activities/digital_libraries/doc/recommendation/staffworkingpaper1.274final.pdf).

121 <http://www.3d-coform.eu>.

122 <http://www.impact-project.eu>.

123 <http://prestospace.org>.

124 <http://www.europeanalocal.eu>.

125 <http://www.europeanalocal.eu/eng/About/Partners2>.

**BnF-Partenariats**, a private company wholly owned by Bibliothèque Nationale de France (BnF), has launched a large-scale 15-year partnership agreement with Proquest LCC (UK) for the digitisation of 10 million pages of ancient books. Already 70,000 works printed in France from Incunabula to 1701 have been digitised in 5.5 years instead of 50 years without the partnership. The National Fund for the Digital Society contributes €5 million. Another large-scale partnership was signed with Believe Digital and Memnon for BnF's sound recordings collection, which corresponds to 1/3 of the estimated EUR 15 million total cost; the remaining 2/3 expected to be covered by the partners and revenue from the commercial exploitation of the digital collection. All the digitised books will be fully accessible for BnF patrons on Gallica's intranet, while 5% will be immediately available on Gallica's website. The partners will have a temporary preferential right (10 years for Proquest) to exploit the corpus of digitised books.

**3. Priority setting:** (a) Position your level of ambition *vis-à-vis* the *Europeana* project and its indicative targets per Member State by 2015 (see Annex II of Recommendation 2011/711/EU); (b) Establish your RIS3/OP priorities taking into account the expected socio-economic impacts of digitisation of cultural material may have; (c) Establish roadmap to reach the defined goals.

**Europeana**<sup>126</sup> is the common, multilingual access point to Europe's cultural heritage online, which currently provides visitors with more than 26 million books, paintings, films, recordings, photographs and archive material from over 2,200 partner institutions, including prestigious museums, libraries and archives. Europeana, together with all the related projects, has established an interoperable infrastructure and a thriving cross-border network for digital cultural heritage. Europeana can help local and regional stakeholders capitalise on investments in digitisation and create the conditions to drive innovation and growth. Audiovisual content is particularly appealing for users. Nevertheless, it currently provides access to only 450,974 sound (2% of total) and 167,983 video items (0.75% of total).

**4. Policy mix:** In this process, regions should also seek synergies with other national and regional initiatives and EU activities. Of particular interest in this area could be: (a) FP7/H2020 programmes that explore i.a. the potential of ICT to enhance creative processes in cultural and educational contexts aim to enhance user experiences with digital cultural resources; (b) Current CIP ICT Policy Support Programme, especially the ones connected to Europeana; (c) Connecting Europe Facility (2014-2020), in particular regarding the deployment of Digital Service Infrastructures which aim at providing trans-European interoperable services of common interest for citizens, businesses and governments.

**5. Monitoring and evaluation:** The Commission calls upon Member States and regions to further develop their planning and monitoring of digitisation and provides a number of targets. ENUMERATE<sup>127</sup> is gathering statistics on the digitisation of cultural heritage in Europe. It is useful for benchmarking and monitoring. While this is a first approximation, more exact statistics need to be developed for specific sectors, such as film heritage.

#### Further reading & forthcoming events

<http://s3platform.jrc.ec.europa.eu/digitisation-heritage>

126 <http://www.europeana.eu/portal>.

127 <http://www.enumerate.eu>.