



# PROJECT PERIODIC REPORT

## Publishable summary

### Period 2

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# 1. Publishable summary

MLi is a 30 months Support Action Project, under the domain of Content analytics and Language Technologies Developing plans and services, which finished on April 30th 2016.

MLi aimed at delivering the strategic vision and operational specifications and the initial definitions and requirements sought for the European MultiLingual data & services Infrastructure (MLi), formulating an actionable multiannual plan for its development and deployment, and fostering the multi-stakeholder alliances ensuring its long term sustainability.

To accomplish the MLi project outputs we have worked simultaneously on three dimensions: the technical aspects of the infrastructure, the managerial considerations of the MLi, in terms of future operation, governance and sustainability, and the strategic aspects linked to the extension of the MLi infrastructure in the coming years.

From the technical perspective, MLi has defined a layered architecture for the so called MLi Hub (the proposed MultiLingual data & services Infrastructure infrastructure). This architecture is articulated in two axes:

- On the horizontal “Language Value Chain” the value is created by combining Language Technologies, Machine Translation and Natural Language Processing services, and components, into more complex and higher level features that fulfil requirements of the end user.
- On the vertical axis “IT Value Chain” the value is created by providing more abstract access to the system functionalities, starting from low-level infrastructural services, through LT/MT/NLP domain-specific services until the high-level workflows and LT marketplace services for support of the business services and information and process integration within the Business Entity.

In this context, the LTi Cloud has been prototyped in the scope of MLi, as an instantiation of the MLi Hub architecture. It focusses and validates the upper layer of the platform, which focuses on the business and high-level service integration; it provides components the MLi Hub such as the Broker, LT Marketplace and Access service facilities. The LTi Cloud prototype has been used as a tool to provide the market and LT stakeholders an “actual feel” of the architecture and how it will interact with them; as well as to refine the known requirements.

Thus, the LTi Cloud is a prototypical LTC Broker that provides a marketplace (or something similar to the App Store concept) that connects LT SaaS endpoints into one unified entry point for LT services. The main idea is to bring LT Vendors and LT Consumers together on one platform and overcome the decentralisation and fragmentation of Europe’s LT market. It is also a platform for rapid prototyping of LT systems that need to provide more sophisticated language stacks that combine various services from other providers.

The design of the Hub aims to be generic and use-case agnostic. It serves as a reference and a starting point for instantiating concrete LT oriented implementations, tailored to any concrete business case. However, in order to bring the design of the resulting MLi architecture closer to the real-world usage, the MLi project has provided applied and tailored sample scenarios to the concrete application to market areas, such as it has been the case of e-commerce.

From the managerial perspective, a comparative study of different modes and forms governance and sustainability models that might be applicable for MLi future offerings has been performed during the project. A governance with an overview of Intellectual Property regimes and plausible business models has been produced based on the services provided by the LTi Cloud prototype.

From the strategic perspective, the MLi project has selected and analysed the e-commerce market segment to enable a tailored strategic vision based on real-life needs. e-Commerce is an economic

sector that has matured and grown rapidly during the last five years. The e-commerce market is a relevant market segment for the European economy; it provides more than 2 million of direct and indirect jobs in Europe, and it is expected to reach almost the 6% of European GDP in 2016. Moreover, it is a market that still is highly fragmented by language barriers.

Through the e-Commerce Special Report of LT in e-Commerce, we have characterized and analysed the organisational design and business models of this market sector. This has allowed to produce interactive use cases and examples to integrate real domain-specific needs, the users' perspectives and real-world operational specifications in the LTi Cloud.

Moreover, the use cases have supported MLI to illustrate how to use LT tools to overcome language and cultural barriers when selling cross-border. Currently, many organisations that are selling cross-border create branches in the specific countries they operate in, to localize their content and products. Through, MLI we have presented alternative solutions, where LT technologies shall have a substantial role improving efficiency and cross-border market penetration by supporting multilinguality; as in the case of using a multilingual search and SEO, Machine Translation or multilingual text analytics.

Also, the MLI project has fostered synergies with other initiatives related to the Europe 2020 strategy, namely the Connecting Europe Facility (CEF) programme along with its Digital Service Infrastructures (DSIs) as well as the efforts taken towards machine translation by the Directorate-General for Translation (DGT).

Overall, MLI project has shown: a) the potential role of Language Technologies (LT) as an enabling component for growth and competitiveness in a Europe, which is currently moving towards a European Digital Single market; more specifically in the case of e-commerce; b) the potential of horizontal and vertical integration of LT with other solutions, or among LT solutions, which support the overcoming the fragmentation of the LT supply value chain and the demand side. Moreover, the potential to move commercial and non-commercial organisations towards a European market with no language barriers, in which currently coexist multiple small market segments defined by the 60+ European languages.

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