Industry Roundtable Report

Interoperable IT systems for Europe: Towards more Harmonisation, Quality and Efficiency

Tallinn, Estonia
28th October 2016

Interoperability – Why and how?

Focus on single search interface

eu-LISA introduced the meeting by delivering a presentation based on the Commission's Communication on Stronger and Smarter IT Systems for Borders and Security, the concept of interoperability as presented therein was introduced, potential benefits for stakeholders highlighted and possible approaches to implementation discussed.

In follow up discussions, the need for standardisation of data entries in order to be able to query multiple systems in a harmonised manner was emphasised. The importance of data quality in interoperable systems was also frequently mentioned. Obstacles that need to be overcome were noted, including the need to present solutions that complement those already in place at national level and that add value to all stakeholders.

eu-LISA representatives spoke in some depth about leveraging the capacities and systems already in place, speaking about possible architectures that could achieve such added value in cost-effective manners. It was emphasised, nevertheless, that there is no firm approach that has been agreed upon nor any definitive timetable for development as the European Commission is steering the developments – in that regard, the High-Level Expert Group steering work on interoperability will continue to meet until mid-2017 and only upon conclusion of the group's work will planning likely be fully clear.

eu-LISA also noted that the single search interface is not being developed as a solution in itself but is rather a means to improve the usage of existing systems. By enabling more structure and harmonisation, data quality in systems can be improved and new capabilities enabled. The Agency noted that the industry will need to contribute with ideas about how these goals can best be achieved and also provide support as necessary later in the design and development process.

JHA Agencies as end-users: needs and experiences

A Europol representative described on-going activities of the Agency, highlighting their use of technologies to provide enhanced support to law enforcement authorities across Europe. Specific references were also made to the use of digital evidence in the work of Europol and Member States. Legal issues that arise when one considers interoperability in the law enforcement domain were mentioned while the need to harmonise user access rights models was emphasised as a topic of critical importance as interoperability concepts are introduced.

Interoperability globally

Three vendor representatives provided informative and thought-provoking presentations in turn. Across the presentations, various perspectives on interoperability were put forward.

The first speaker spoke in some depth about the issues that interoperability should seek to address and challenges that may need to be overcome. In these regards, he mentioned fragmentation of IT, the variable purposes of different large-scale IT systems, the various data and data types therein and the different capabilities of each. He also spoke in some depth about organisational issues that can impede developments and advised on how to obviate such issues. He provided an overview of some lessons learned based on projects that his company has engaged in, proposing on the basis of these examples that eu-LISA look into developing horizontal application layers across systems accessible by APIs at particular endpoints and seeking gradual transformations on a path towards increased interoperability. .

The second industry presentation looked specifically at the common data repository as one of the four possible approaches to interoperability mentioned in the Commission communication 205 (2016). The presenter proposed a horizontal platform that would interact with existing systems in a vertical manner without any need to make changes to the systems themselves. A single point of access – some form of single search interface – could be built on top of the repository offering queries using different data types. A shared biometric matching service – another possible approach to interoperability – was put forward as an important component of the repository. Concrete suggestions for implementation were provided.
The presenter also looked at blockchain technology and its possible application in the eu-LISA context. Within a data repository of the type proposed, identity data could be registered in the repository, hashed and sent to all relevant systems/nodes as part of an immutable blockchain, ensuring data consistency and tracking capabilities. Benefits of the blockchain-based approach included low transaction costs, immutability, transparency and trust.

A third presenter provided some information on interoperability within biometric systems. Bringing forward examples from across the world, developments including self-service booths for registration of biometric and biographic that interface to shared AFIS/AFIS cloud environments were mentioned. The need for high data quality for interoperable biometric systems was emphasised, requiring use of state-of-the-art quality assessment metrics.

How can actions undertaken in the short term take us forward towards creation of a common data repository as envisaged? (panel)

Within the panel discussion, topics of conversation included possible architectures for interoperable solutions, possible development scenarios, the necessary utilisation of standards and the need to engage data scientists, business process modellers and especially user groups in all development efforts to ensure that solutions provided meet needs On the first topic, it was emphasised that any interoperability layer will have to meet all requirements of existing systems, enable easy incorporation of new systems and be future-proof. The importance of privacy by design and security by default was mentioned by several panellists. Other crucial steps discussed related to the need to clarify how access rights will be controlled for different categories of data.

Summary and conclusions

The chair noted that participants had discussed many diverse topics throughout the day and briefly put forward some particular aspects that were particularly prominent for him and about which further discussions were probably warranted and further assessment needed. He mentioned the need to assure reliability of data from different sources when merged and the implied need to emphasise high data quality in all systems. He also spoke about the need to identify appropriate technical and operational approaches to securing access, the need to identify end user needs and communicate possibilities to the end user community to ensure alignment of possibilities with expectations, the requirement that business process modelling be a core part of technical development work and the absolute need that standards be utilised throughout. He also agreed that data protection aspects will be prominently considered in all work and data protection by design will be of fundamental importance in all steps, with the concept needing to be realised practically.

Finally, on behalf of the Agency, he expressed his gratitude to all industry representatives and attendees and thanked the participants for their presentations, various contributions to fruitful discussions, questions posed and suggestions made. He looked forward to further discussions on these topics with several of those in attendance once the next steps of work in this domain were clarified.