



# SEMIC 2019

Semantic Interoperability Conference

## Linking Data Spaces for Citizens



Helsinki, Finland  
21 October 2019



#SEMIC 2019  
**Conference Highlights Report**



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3. Conference Insights
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Video



Presentation



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# 1. Introduction – About the SEMIC Conference

The 9th edition of SEMIC, the annual semantic interoperability conference, was held in Helsinki, Finland on 21 October 2019. The event was co-organised by the ISA<sup>2</sup> Programme and the Finish Presidency of the Council of the EU. The event gathered Policy makers, IT practitioners and researchers interested in topics related to semantic interoperability for public administrations with a strong focus on creating value for citizens.

This year's theme was "Linking Data Spaces for Citizens". These days, Semantic interoperability is a key enabler of e-government and it fosters the creation of benefits for European citizens. While the data layer of interoperability is not directly visible to citizens, it allows them to use digital public services in a more efficient and transparent way and in cross-border context. New technologies are enabling public administrations to create new services driven by citizens' needs while giving them more control over their own personal data. Ensuring that interoperable solutions guarantee the highest standards of cyber security is key to build trust in the new technologies and ultimately in the public administrations and the services they offer.

The SEMIC community is working on various solutions which help public administrations to exchange data seamlessly. SEMIC 2019 has brought practitioners from different Member States who showed how their public administrations are linking data spaces and creating value for their citizens.

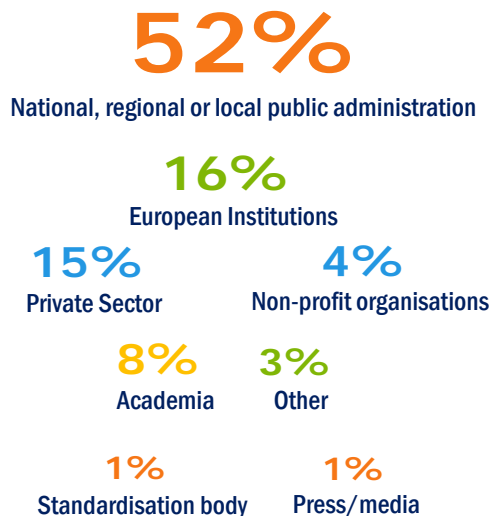


## 2. Facts & Figures

A diversity of participants.



Different sectors.



Various insights.



## 3. Conference Insights

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# Morning Session





*“We need to plan the use of data and services starting from the citizens and their needs.”*

## Opening – Finish Presidency

**Sami Kivivasara**

Director at the Information Policy Unit  
Finish Ministry of Finance



- Trans-European data spaces are crucial: they create a framework for experimenting and implementing interoperable cross-border digital public services.
- Good, effective and inclusive services of the future are built upon data: when public sector authorities facilitate the use of such data they are able to increase its value. The value of data materialises through business opportunities, research and education.
- An increased value of the data means that public administrations are able to provide better services to their citizens, promote information based decision-making and work more efficiently and transparently.
- It is vital to work on interoperability together throughout Europe. Cooperation is already going on: the Finish authorities have been invited by the European Commission to evaluate EIRA, the European Interoperability Reference Architecture.
- FIRA, the Finish counterpart of EIRA is exploring how to build an interoperable architecture that supports end-to-end service path for citizens and businesses alike.



*“Interoperability is at the core of our strategy. For the benefit of Europeans we want to explore how to exchange information between public administration in cross-border, cross-domain and semantically reach manner.”*

## Opening – European Commission

**Gertrud Ingestad**

Director-General of DG Informatics  
European Commission



- The core of SEMIC, a data driven digital public administration fuelled by semantic interoperability, is more relevant than ever. Technologies have changed the way we live, our needs and expectations regarding public services. Public administrations do have to adapt to that or they will be outdated.
- A lot of good work has already been done on the digital transformation of the public sector in the EU. For instance, the actions taken in the context of the European e-government action plan, the European interoperability framework and the Tallinn Ministerial Declaration.
- The Commission itself is committed to become digital. The newly elected Commission President has set the digitalisation of the Commission as a priority for the next 5 years with the ultimate goals of making the Commission more effective, transparent, secured and efficient.
- In the next future, ISA<sup>2</sup> Programme will become a part of the Digital Europe Programme. It aims at increasing the digital capacity in Europe together with the Member States.
- ISA<sup>2</sup> plays a central role in improving the interoperability landscape of the EU. It is really important to continue these actions under the Digital Europe Programme.







*“Managing innovation means overcoming a number of challenges, taking risks and allowing failure.”*

## Keynote

### Magdalena Cordero

Director of Information, Workplace and Innovation  
European Court of Auditors



- Digitalisation means big changes for an historical and traditional institution such as the European Court of Auditors. The evidence for the auditors is now digital, and it is important that the technology allowing the auditors to work is reliable and accessible.
- Audit means building trust, in particular in the information systems. Trust in the system will be the base to generate further trust.
- ECA is currently undergoing a digital transformation of the financial and compliance audit. This is based on four main elements: data process automation, data analytics, block-chain and auditing Information technology.
- As a result of interinstitutional cooperation, ECA has created the ECAREgistry. This is a prototype using public block-chain for registering audit evidences that would remain available over time.
- The ECALab allows people with technical skills to meet and share knowledge and ideas on new technologies for audit.
- New digital services imply new risks. Coordination, interoperability, architecture, data quality and data veracity are the instruments to reduce such risks.



*“Good data governance does not happen in isolation. It benefits from open, inclusive, iterative, collective and value-based approaches.”*

## Keynote

### João Vasconcelos

Digital government policy analyst  
Public Governance Directorate, OECD



- According to the OECD Digital Government Framework, a digital government has six dimensions: government as a platform, open by default, data-driven, digital by design, user-driven and proactive.
- A data-driven approach starts with recognizing data as a key asset. To release its full potential this approach needs a cultural change: new mind-set, leadership and vision, and technological skills.
- A good data governance is essential for a digital government that functions properly. This means adopting holistic, scalable and flexible frameworks to lead, guide and steer data efforts, control and monitor data access and data sharing.
- Applying data to generate public value means that the digital government is able to anticipate citizens' needs, create inclusion and continuous improvements.
- A data-driven public sector enables strategic use of data for productive, inclusive and trustworthy governance.
- The concept of digital rights is fundamental to ensure that citizens have trust in the digital government and that their data is used in an ethical and transparent manner.



*“We are on the road to a society that is proactively identifying service needs and that can better respond to the varying needs of every citizen.”*

## Main Session

**Mikko Rusama**

Chief Digital Officer  
The City of Helsinki



- Our main ambition and vision for the City of Helsinki Strategy is to have the most functional city of the world that makes the best use of digitalisation. A functional city means that personalised services are offered proactively to the citizens at the right time and in a user-friendly way.
- The main challenge is to match the big amount of data available to the City of Helsinki with the right service provisioning. Interoperability is key to answer this challenge.
- Finland is already doing a lot: for instance tax authorities offer a personalised tax service. The city of Helsinki is also working on proactive services. Next year a few school districts will take part to a pilot for the pre-enrollment of children: by responding to a personalised text message from the school, parents will automatically enroll their children. The Helsinki City Library and Preventive Healthcare Services are also part of the proactive services.
- A proactive city means that the city is able to detect risk, save lives, improve quality of life, save money and energy. To function correctly a proactive city needs the trust of its citizens. To build trust means to empower individuals by improving their right to self-determination regarding their personal data.



## Panel on the Linked Data Showcase pilot



*“What areas should we focus on to increase the applicability of Linked Data in the future?”.*

**Jaana Nevalainen**

Senior specialist, Ministry of Finance, Finland



*“Support for Public Administrations in the procurement of supplier providing interoperable solutions”.*

**Jakub Klímek**

Linked Open Data Expert, Ministry of the Interior, Czech Republic



*“To increase the quality of data we need to work with the authoritative sources”.*

**Steinar Skagemo**

Senior Advisor, Brønnøysund Register Center, Norway



*“Increase the quality of data because this is essential for valuable interoperable solutions”.*

**Peter Bruhn Andersen**

Linked Data Architect, Agency for Digitisation, Denmark



- **Linked Data is a technical interoperability solution. Its main goal is to link data that have different structures and comes from different sources. It provides techniques for publishing, sharing, interconnecting and reusing data.**
- **A Linked Data environment has numerous benefits: shorter time from idea to implementation, quicker adaptability to requirements, more flexibility to specific user needs, new ways to combine data easily and on the fly and enhanced potential for automation.**
- **High quality data is a result of data being actively managed by someone with a high interest in the quality of the data. Therefore data should be distributed in accordance with the responsibility. Using Linked Data we can combine this distributed governance with data that can easily be integrated with data from other sources.**





**ESTAT**

**Henric Anselm**  
European Commission



**TOOP**  
**The Once Only  
Principle**

**Piotr Fenger**  
Instytut Logistyki i Magazynowania



**European Land  
Registry  
Association**

**Jesús Camy**  
Interoperability Model for Land Registers project  
**Anabel Fraga**  
Universidad Carlos III de Madrid



**Ref2Link**

**Laurent Vinesse**  
European Commission



# Projects Corners







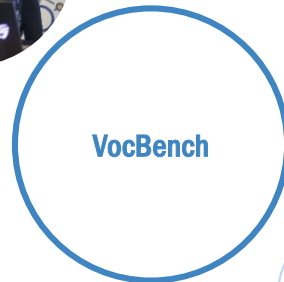
**SOLID**

**Ruben Verborgh**  
Ghent University  
**Ralf Buyle**  
Ghent University  
**Katrien Mostaert**  
Informatie Vlaanderen



**ISA2**

**Eliska Kolinkova**  
ISA2 Programme



**VocBench**

**Anikó Gerencsér**  
Publication Office of the EU



**European  
Language  
Resource  
Coordination**

**Lilli Smal**  
German Research Center for  
Artificial Intelligence

# Projects Corners





# Parallel Sessions

## Cross-border examples of data exchange between Slovenia & Sweden



*"The Once Only Principle and Core Vocabularies can be succeed only if Member States implement it together. Semantic is a key element of success and core vocabularies can play an important role."*

**Alenka Žužek Nemec**  
Secretary, Ministry of Public  
Administration, Slovenia



*"Consistent and strong collaboration with TOOP partners is essential for cross-border exchange."*

**Hans Ekstål**  
Strategist on Information Supply,  
Companies Registration Office, Sweden



- According to a Eurochamber study, 81% of companies spend a sizable part of their human resources on familiarizing themselves with applicable rules and procedures required to exercise their activity. The starting point of the cross-border data exchange was the need to reduce the administrative burden for companies that wanted to do business in another country.
- Different public agencies request the same information multiple times to the same company. This creates inefficiencies that increase the cost and time spent on administrative activities. The Once Only Principle (TOOP) is the basis for administrative burden reduction. The Principle entails that citizens and businesses provide diverse data only once to the public administration, while public administration bodies take actions to internally share and reuse these data, including across borders.
- The pilot of Slovenia and Sweden implements the OOP. It showcases the process of registration of a Slovenian company in Sweden using eIDAS nodes for cross-border authentication.
- The pilot's architecture uses TOOP components. In order to use these components Slovenia and Sweden were requested to map the national data to a central concept model.



## Cross-border examples of data exchange between Estonia and Finland



*“A great cooperation experience depends on the willingness to find consensus and sharing priorities.”*

**Miia Mänd**

Head of Department of IT Policy, Ministry of Economic Affairs and Communications, Estonia



*“X-Road has the potential to become one of the EU wide data exchange layer in the future.”*

**Katja Väänänen**

Senior Specialist, Public Sector ICT, Ministry of Finance, Finland



- The exchange of data between Finland and Estonia was triggered by the fact that the two countries' economies are closely connected and people and businesses move regularly across borders.
- The NIIS, Nordic Institute for Interoperability Solutions, is responsible for developing core X-Road software enabling data transfers between various governmental and private databases.
- NIIS' 2020-2022 Strategy is based on the following elements: strategic management, high level standards, the Institute as a network & cooperation platform as well as an executioner of IT developments.
- X-Road is the interoperability solution promoted by NIIS and used between Finland and Estonia. A seventh version of X-Road is currently being designed: it will be developed in 2020 and the first release is foreseen in 2021.
- Developments to X-Road are done iteratively using agile development methods in an efficient manner and with a focus on user field.



## Streamlining governmental data-processes by putting citizens in control of their own data



*"We have to rethink citizen-government relationship and grant citizens ownership on their data."*

### Ruben Verborgh

Professor of Semantic Web technology,  
IDLab - Ghent University, Belgium



*"The goal is to have one personal digest of government services"*

### Katrien Mostaert

Programme Manager, Informatie  
Vlaanderen, Belgium



- **The Flemish government produces a big amount of personal data for its citizens. However, citizens do not have control over this data. The two projects Solid and My Citizen Profile seek a solution to the challenge of data control for citizens.**
- **Solid is a web-based ecosystem that separates data from their applications by providing people with their personal data pod. In this pod, citizens can store data independently of the applications that they or others use to access that data.**
- **My Citizen Profile is an application which provides each citizen with an overview of all authentic government-generated information relating to him or her. In addition, the application provides status information of any interaction that takes place between the citizen and any public administration agency.**
- **With both initiatives, Solid and My Citizen Profile, citizens gain control on their data. They can choose where they store such data. Moreover, they can grant apps and people access to very specific parts of their data.**
- **The next actions will focus on how to improve the current APIs approach so that it works better with the need of decentralisation. In addition, cross-member states cooperation will take place as well as pilots with commercial partners such as pod-suppliers, application supplier and data-brokers.**





## Natural Language and AI solutions for citizen services evolution



*“Investing in Artificial Intelligence is key to promptly respond to the new needs of our citizens.”*

**Salvador Estevan Martínez**

Deputy Head of Unit, Ministry of Territorial Policy and Public Function, Spain



*“Thanks to the Open Data Directive there is a huge potential in using open data as resource for HTL.”*

**Doaa Samy**

PhD, Advanced Computational Linguist & Member of the General Technical Office of Plan TL



- In the context of developing technologies that generate value for the society, the Spanish Digital Agenda promotes the Plan TL. The Plan TL has the objective of encouraging the development of Human Language Technologies for Public Administration and Industry.
- Human Language Technologies are the set of technologies that enable to interface with machines by voice and language. They are essential for multi-lingual and cross-border information exchange. They have the potential to enable High Growth Innovative Industries in the Digital Single Market. As well as to offer new public services for citizens and enterprises on strategic sectors (health, justice, etc.).
- HLT enable the extraction of meaning from data, turning it into useful knowledge. Tools and services to analyse both structured (text, documents) and unstructured data (human speech, social media content) are required in order to fully exploit the huge quantities of data available. Interoperability between HLT resources and components is a key aspect for the governance and sustainability of the HLT infrastructure.
- The Plan TL already showcases a few flagship projects such as the project on Dialogue System for Citizens' Information Services, the Automatic Translation Platform or the one on Health evaluation campaigns for the recognition of substances in medical texts.



## Panel Summary of Parallel Sessions



*“We don’t necessarily need new technologies to innovate but new ways of using the same technologies”.*

### **Natalia Aristimuño**

Head of Interoperability Unit, DG DIGIT, European Commission



*“We should further promote the concept of digital sovereignty not only at national, but also at EU level”.*

### **Eileen Fuchs**

Head of Division for Digital Policy, EU and International Affairs at the Federal Ministry of the Interior



*“The role of natural language processing will become broader with the emerging of new technologies in the future”.*

### **Riitta Autere**

Ministerial Adviser, Ministry of Finance, Finland



- Putting citizens at the center, is one of the success factors for the alignment of Member States’ priorities and for increasing cross-border exchanges between them.
- Digital support is essential if we want all citizens to benefit from the use of new technologies. For instance, AI technologies, such as handwriting recognition, is already helping overcoming the digital divide that exists in our societies.
- The panel discussions provided good examples of how high performance computing, artificial intelligence, cybersecurity, digital skills and interoperability interact with each other. In the upcoming Digital Europe programme, these elements will be further promoted with the final goal of offering better services to the citizens.





**Closing**





*“The main asset when it comes to interoperability is the Community, we need to collaborate with institutions, developers, designers and citizens”.*

**Closing**

**Emanuele Baldacci**

Director of Digital Services, DG DIGIT  
European Commission



- The big ambition of the Commission is to build a government-to-government sharing information platform that will allow to deliver user-centric services. Trust, quality and security will characterise the way the government platform of the future is built.
- The Digital Europe Programme is the main instrument to enable the creation of such platform, to define the investment priorities and ultimately to give the possibility of re-designing services.
- Service re-design means two things: on the one hand working on making the interoperability toolkit technically richer and more effective and, on the other hand, providing new types of services which are user-centric and enabled by smart technologies.
- Providing user-centric services is a big challenge for public administrations because it implies a big change in the way services are provided and in the way public administrations are organised. It means putting ourselves in the shoes of citizens. Today we have a tremendous opportunity to do that because the technology is available but we have to take seriously the service re-design exercise.
- We have to look at technologies that allow to connect data while ensuring that such data is not misused and it is processed according to data protection and security principles.







See you all next year!  
**#SEMIC 2019**





## 4. Stay tuned



Relive the conference

Watch the conference [video](#)



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[DIGIT-SEMIC-TEAM@ec.europa.eu](mailto:DIGIT-SEMIC-TEAM@ec.europa.eu)



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