

This chapter describes an interoperability model which is applicable to all digital public services.

It includes:

- four layers of interoperability: legal, organizational, semantic and technical;
- a cross-cutting component of the four layers, that is “integrated public service governance”;
- a background layer, that is “interoperability governance”.

Integrated public service is about supporting organizations that work together with the coordination and governance needed from the authorities.

The four layers of interoperability are:

- Legal, meaning that organizations can work together without any legal barriers;
- Organizational, meaning that public administrations have aligned business processes;
- Semantic, meaning that the format and meaning of the exchanged data is understood;
- Technical, which ensures integration of different systems.

These ensure a holistic approach to design public services.

And let's start with LEGAL INTEROPERABILITY ...

As we know, each Member State runs under a different legislative environment.

Legal Interoperability ensures that organizations in different Member States can still work together without any legal barriers, such as:

- Legal restrictions to use data only at national level, or...
- Unclear legal requirements and obligations regarding data protection and privacy.

For adopted legislation, a screening is performed in order to identify INTEROPERABILITY BARRIERS, which are aspects in legislations that do not respect the principles and recommendations set out by the EIF.

When such barriers are identified in adopted laws, it is essential to define clear arrangements and agreements on how to deal with legal differences and document aspects that will feed the evaluation of the laws.

For draft legislation, it is essential to

- consider coherence with legislation in other Member States
- make sure that legislation contributes in setting the digital twin of the physical world
- there are no barriers to digital exchange

Next, is ORGANIZATIONAL INTEROPERABILITY, which refers to the way in which public administrations align their business processes, responsibilities and expectations to achieve commonly agreed and mutually beneficial goals.

To achieve organizational interoperability, one organization must document its internal business processes using known modelling techniques, such as BPMN to clarify the organizational relationships.

This means that relationships between service providers and service consumers must be clearly defined.

Next, is SEMANTIC INTEROPERABILITY, which ensures that the format and meaning of exchanged data is preserved and understood. Basically, what is sent is what is understood.

And this is especially challenging at European level, where even the most common data field, such as hometown

Can be labelled in so many ways by each country and can mean different things, like municipality where you currently live in or the municipality where you have spent more than 6 months.

In the EIF, it covers both semantic and syntactic aspects

Semantic refers to meaning of data elements establishing clear cut definitions for data elements and precise relationships among them.

While syntactic refers to the format of the information, for example, how you input a date of birth. (5/11/1990 or 10 November 1990 or 90/11/05)

And the last layer is TECHNICAL INTEROPERABILITY, which ensures integration of different IT systems.

This happens by defining interfaces to existing systems and using open specifications and open specifications standards, which in turn allow other systems to understand how these systems work and be able to connect to each other.