EU4Digital

Introduction to CEF eDelivery

9 October 2020

Ines Costa, CEF Stakeholder Management Office, DIGIT, European Commission

Agenda

1. What are the CEF Building Blocks?
2. Introduction to CEF eDelivery
3. CEF eDelivery Service Offering
4. eDelivery Success Stories

1

What are
the CEF building blocks?

CEF Building Blocks

The **building blocks of the Connecting Europe Facility** promote the adoption of the same **open standards and technical specifications**, by the **different sectors** of the Union, for the most basic & common functionalities of any sectorial project/ platform.

These core commonalities will enable interoperability across borders and sectors.

Meet the Building Blocks

Find the one you need.

Big Data Test Infrastructure

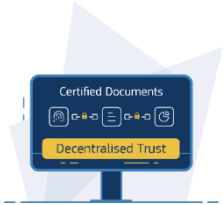
Explore and experiment with big data for improved performance and decision-making.

Context Broker

Analyse, manage and share data, in real time, at the right time, throughout Europe.

eArchiving

Facilitates the preservation, migration, reuse and trust of your data.

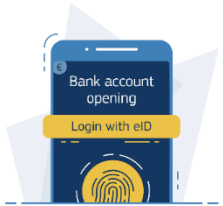


European Blockchain Services Infrastructure

Harness the power of a European-wide network of blockchain services, increasing trust through data security, privacy and transparency.

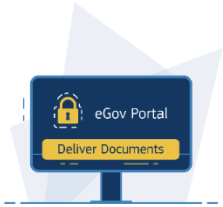
eInvoicing

Promote the implementation of the European standard for electronic invoicing across borders.



eID

Allow citizens to prove who they are across borders, making it easier to access online services in another EU Member State.



eDelivery

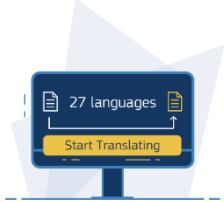
Exchange online data and documents reliably and securely.

eSignature

Create and verify electronic signatures between businesses and EU citizens.

Once Only Principle

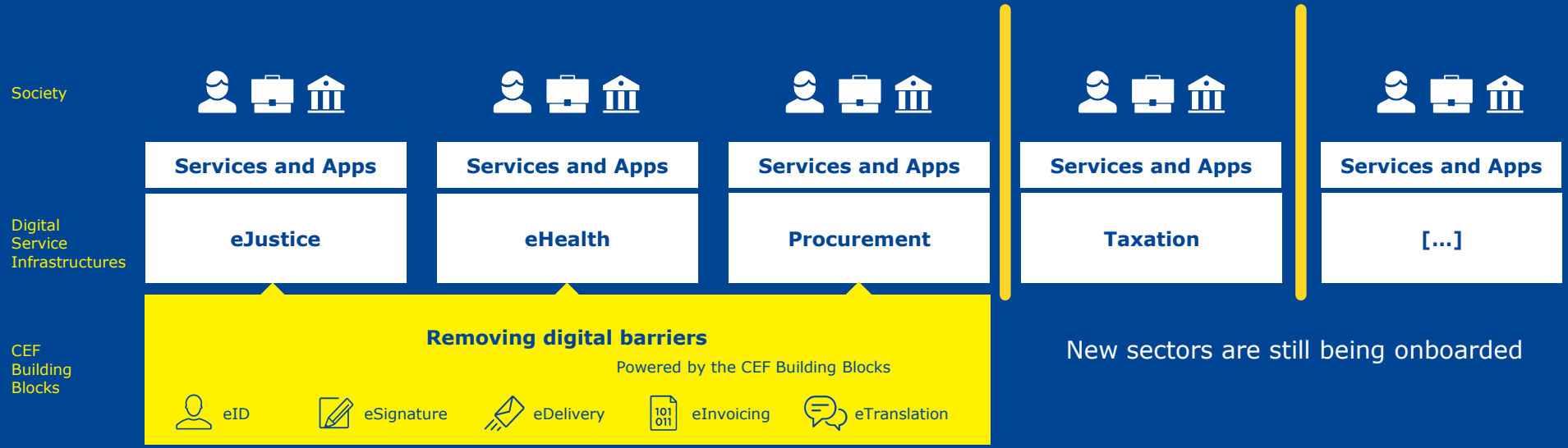
Re-use data held by Public Administrations.



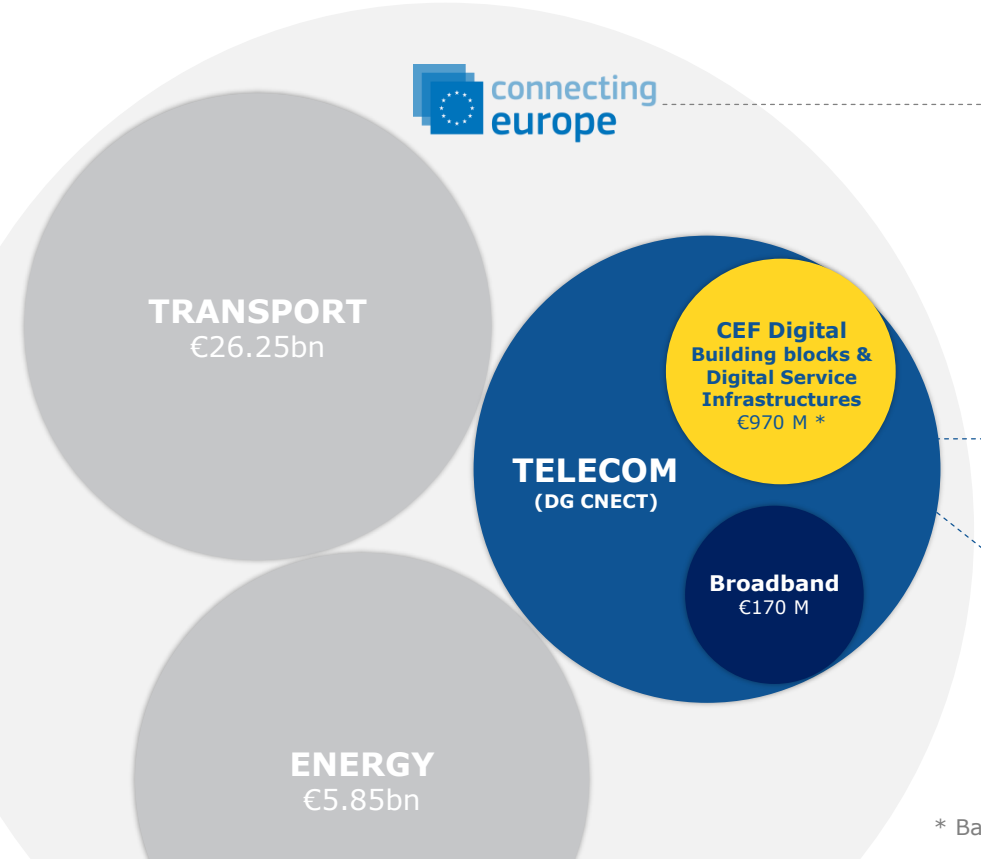
eTranslation

Offer machine translation to translate your documents and web content into any official EU language, Norwegian or Icelandic.

The CEF Building Blocks help remove digital barriers to create a fully functioning Digital Single Market



The CEF Building Blocks are funded by the Connecting Europe Facility



CEF Regulation
The Connecting Europe Facility (CEF) is a regulation that defines how the Commission can finance support for the establishment of trans-European networks to reinforce an interconnected Europe.

CEF Telecom Guidelines
The CEF Telecom guidelines cover the specific objectives and priorities as well as eligibility criteria for funding of broadband networks and Digital Service Infrastructures (DSIs).

CEF Work Programmes
Translates the CEF Telecom Guidelines in general objectives and actions planned on a yearly basis.

* Baseline amount

European Commission

CEF enables the European Digital Transformation

1 Sectorial Projects

Justice, home affairs and citizens' rights		Science and Technology	Business	Employment and Social Rights	
eJustice Portal	**ODR**	**Open Data**	**BRIS**	**EESSI**	**etc.**

2 Building Blocks

- IDENTIFY *with* eID
- SIGN *with* eSignature
- EXCHANGE *with* eDelivery
- INVOICE *with* eInvoicing
- TRANSLATE *with* eTranslation

3 Grants

Typically 'deployment' projects at national level (up to 75% of eligible cost)

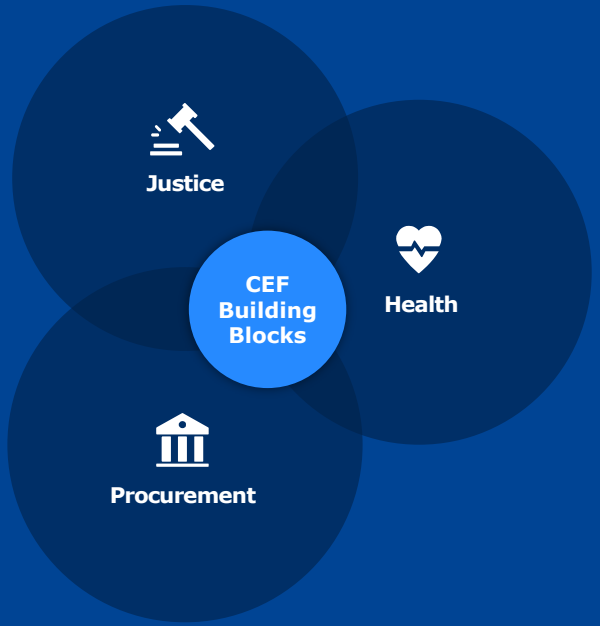
European Commission

We have the building blocks of the new paradigm expressed in the Tallinn declaration i.e. Europe without digital borders

EU2017.EE

1. Digital-by-default
2. Once-only
3. Trustworthiness and Security
4. Openness and transparency
5. Interoperability by default
6. Horizontal enabling policy steps
7. Cross-border by default

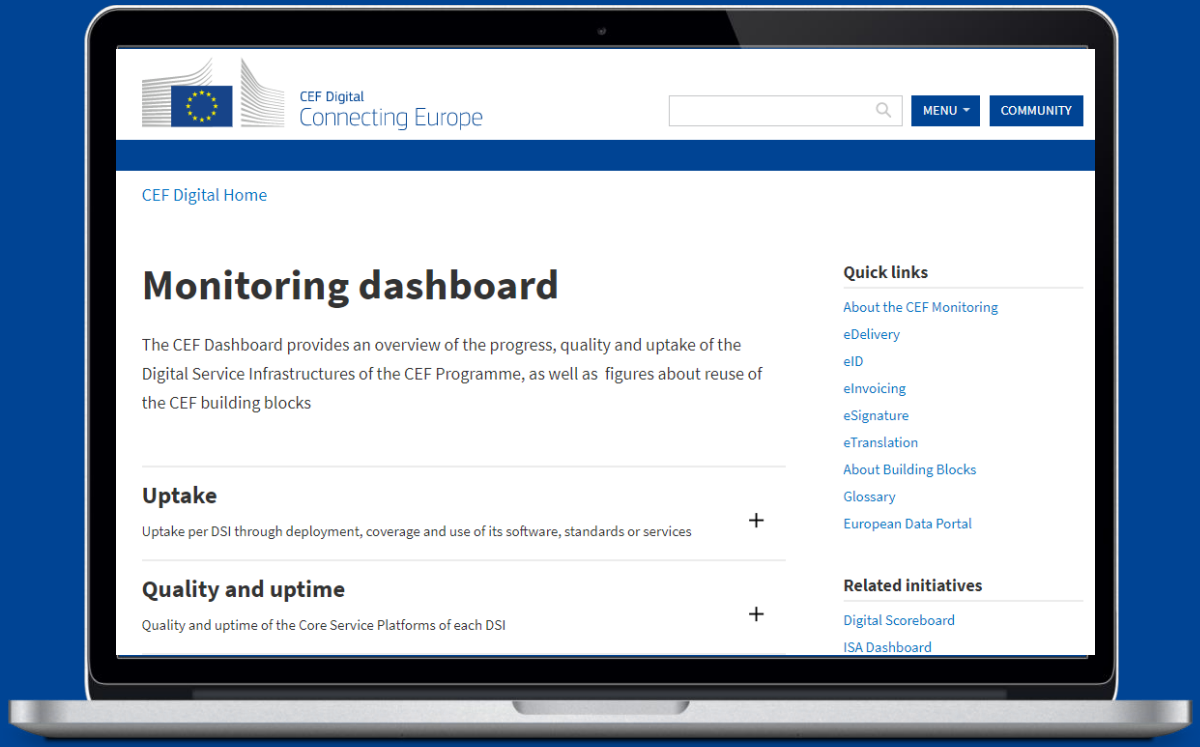
New paradigm



SOURCE Tallinn Declaration on eGovernment

Uptake

of CEF building blocks



https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Monitoring+dashboard

The monitoring Dashboard on CEF Digital

Keeping track of:

- Uptake
- Quality and uptime
- Project and Financial Management
- Reuse watch

View ›

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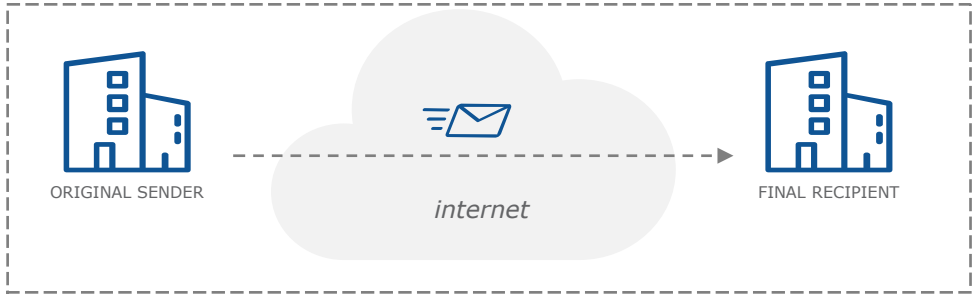
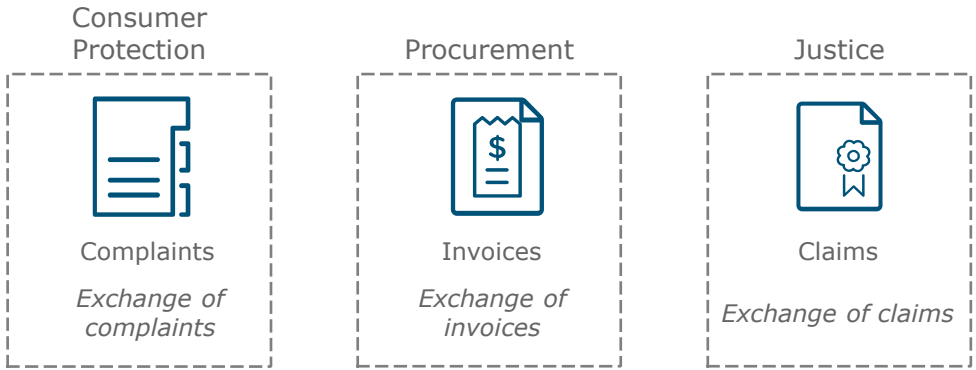
Introduction to CEF eDelivery

The eDelivery Use-Case

DOMAIN-NEUTRAL USE CASE



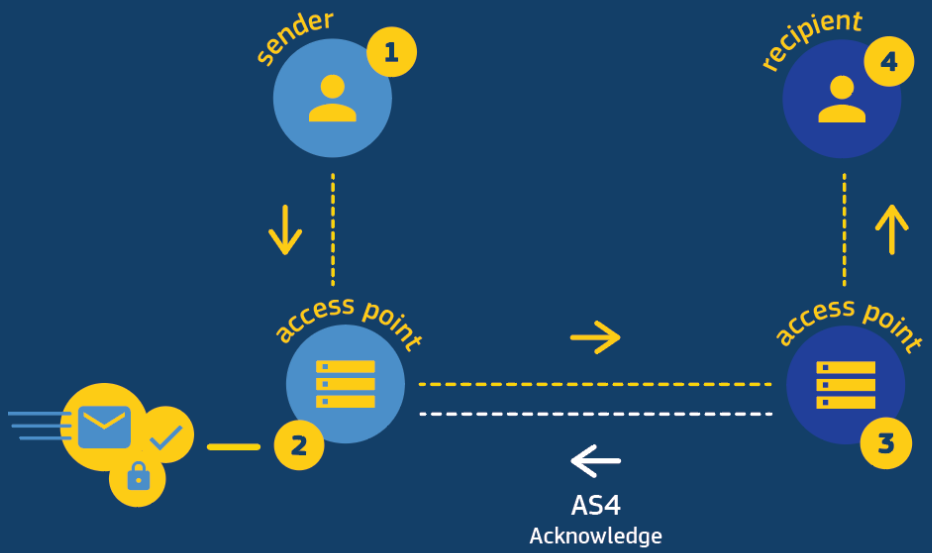
Examples of DOMAIN-SPECIFIC USE CASES



European Commission

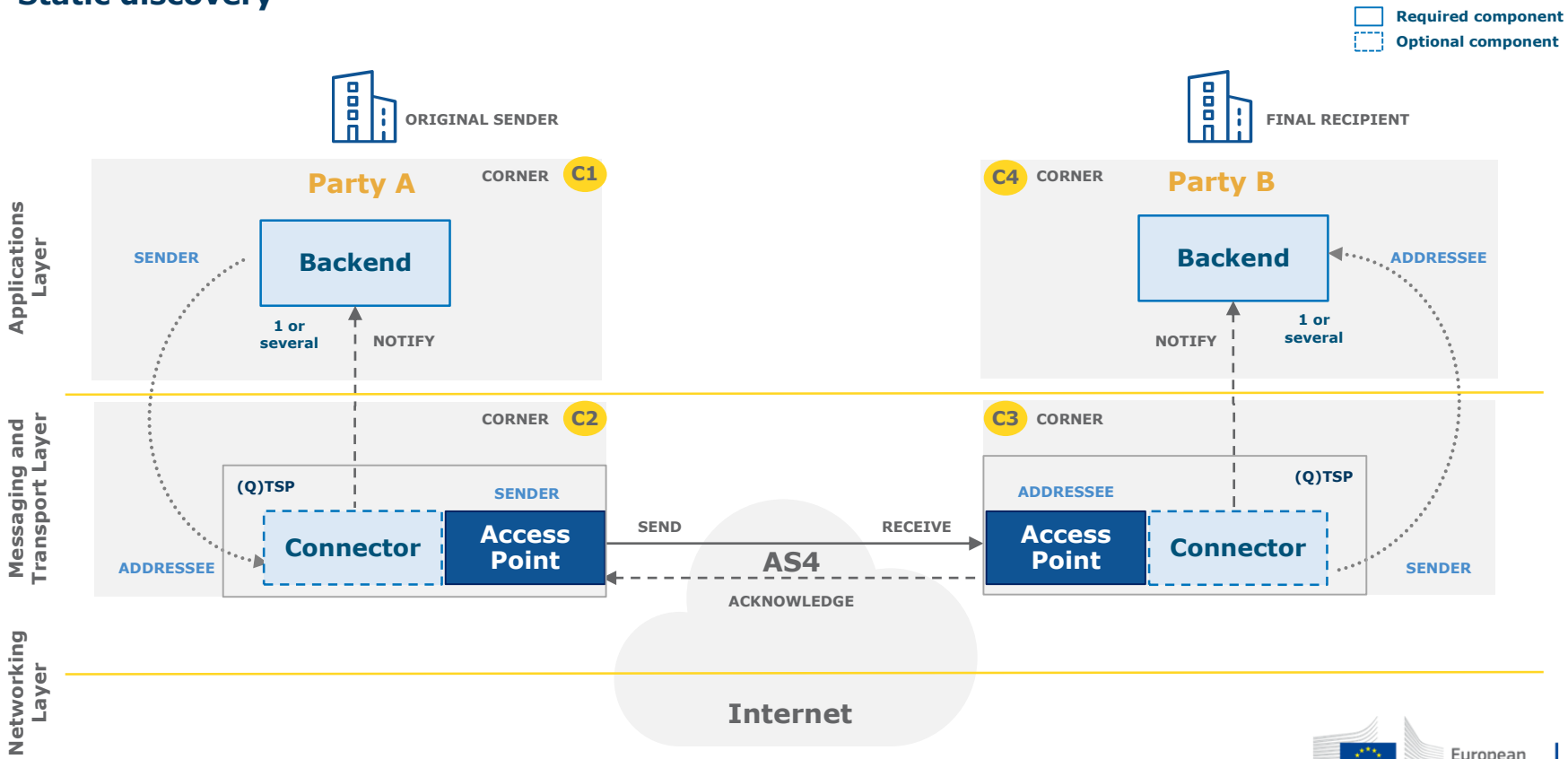
eDelivery workflow

1. **Submit**
   Sender sends message to sending AP
2. **Send**
   Sending AP processes message
   a) Validation and compression of the user message;
   b) Signing of the compressed message;
   c) Encryption of the signed compressed message.
3. **Receive**
   Receiving AP processes message
   a) Receives and decrypts the encrypted message;
   b) Verifies the sender's signature;
   c) Decompresses the decrypted message;
   d) Validates the original user message;
   e) Sends the acknowledgement to the sending AP;
   f) Archives the user message.
4. **Deliver**
   recipient receives message from receiving AP



eDelivery Messaging Infrastructure based on the 4-Corner Model

Static discovery



European Commission

Roadmap to deploy CEF eDelivery

Domain Owner — *Participants in eDelivery Messaging Infrastructure*

PHASE	ELICIT requirements	DESIGN eDelivery infrastructure	SELECT eDelivery solutions	DEPLOY eDelivery solutions	INTEGRATE with backend(s)	INTEGRATE with partners	OPERATE eDelivery solutions
CEF TEAM	Technical Specifications Onboarding Self-Assessment tool	Documentation (COD, SOD, …) Design message exchange model	List of Software solutions SML Service PKI Service	Service Desk Training and deployment		Connectivity Testing	Service Desk CEF eDelivery Community
YOUR TEAM	Attend workshops • Complete self-assessment tool • Identify business requirements • Carry out feasibility study	Design discovery model • Design security model • Design integration approach • Participate in the writing of a SDD • PoC (optional)	***Open source*** Assess OSS projects Customise/ extend solution ***Commercial solution*** Assess Vendors Buy solution ***Custom built*** Build solution	Deploy components • Configure components	Integrate with eDelivery Access Point • Perform Integration testing • Perform Pre-production testing	Participate in Connectivity testing • Perform Pre-production testing	***Open source*** Hosting • Maintenance ***Commercial solution*** Hosting • Fees ***Custom built*** Hosting • Maintenance

eDelivery *onboarding-race*

COMMITEMENT GATE

SET UP

PHASE	PROSPECTING	ELICIT requirements	DESIGN eDelivery infrastructure	SELECT eDelivery solutions	DEPLOY eDelivery solutions	OPERATE eDelivery solutions	
CEF DSIs	EU Student eCard **DG CNECT** Platform on Disinformation **DG CNECT**		eHealth (AS4) **DG SANTE**		eHealth (SMP) **DG SANTE** EESSI **DG EMPL** eTranslation **DGT**	ODR **DG JUST** eProcurement (*) **GROW | DIGIT** BRIS **DG JUST**	e-Justice | eCodex **DG JUST** ELRC **DGT** eInvoicing **DG GROW**
Other Policy Projects	Customs Single Window **DG TAXUD** ECRIS **DG JUST** Central Clearance Import **DG TAXUD** Inland Waterway Transport **DG MOVE** CISE **DG MARE** Exchange of road-safety-related traffic offences **DG MOVE** ODOCAR **DG MOVE** Digital Criminal Justice **DG JUST**	eTransport Docs **DG MOVE** NIVA project **REA/AGRI/CNECT** FLUX TL **DG MARE** Single Digital Gateway **DG GROW** eHealth ERN **DG SANTE** NEW European Hull Database **DG MOVE** NEW	Maritime Single Window **DG MOVE**	ICS2 project (using TAPAS via SPEED2) **DG TAXUD**	DECIDE (upgrade) **SG** EUDAMED 3 **DG GROW** eEvidence **DG JUST** IRI **DG JUST** TACHOnet **DG MOVE** European Crew Database **DG MOVE** NEW	EPREL **DG ENER** PNR *(regulated)* **DG HOME**	EU-CEG **DG SANTE**
Member State led projects (including CEF grants)	Pension benefits **CNAV (FR)** NEW	Secure Digital Communication **DIGG (SE)**	Utdataprojektet **DIGG (SE)** X-Road **NIIS** Dutch Energy Market **NEDU** Global Interoperability Framework **EESPA**	EDI4STEEL **TNO (NL)**	eDelivery national gateway **AMA (PT)** eDelivery national gateway in **CY** AS4 Interoperability of SP in **IE and SE** UP-Access upgrade to AS4 of SP in **BE, DE, ES, IT** eDelivery national gateway in **RO**	NOBLE project (Postal Services) TOOP (once-only) Slovenia Supreme Court's communications **Laurentius** e-Impact (CEF Transport) NL eDelivery gateway **RINIS**	PEPPOL (upgrade to AS4) iADAATPA **Pangeanic's consortium** e-Boks **Nets** and **PostNord** Logistics Single Window **Safety and Maritime services (PT)**	APSMP **eIUS svetovanje** Multiple Access to eDelivery (MADE) **UC3M (SP)** AS4EU upgrade to AS4 of SP in **BE, IT, IE and UK** eDeliveryLT in **LT**
Other institutions	**EASA** **OLAF** **Eurojust** **EMA** NEW **European Citizens' Initiative** **European Public Prosecutor's Office** NEW	SafeSeaNet **EMSA** RegCom **Sec Gen + Parliament** NEW	OSS system **European Agency for Railways**		CIxP **The European Council**	eDocX2017 **DG HOME (EMCDDA)** PCN system **European Chemicals Agency**	ENTSOG (Gas operators)	

(*) Also part of PEPPOL

Pilot/PoC projects

Technical specifications of eDelivery

Available for free

Supported by multiple programming languages

Independent from any specific vendor products

Supported by (Open Source and Commercial) solutions that can be purchased in a competitive environment

CEF eDelivery specifications

The approach employed by eDelivery is to promote the use of existing technical specifications and standards rather than to define new ones.

The profiling work of eDelivery on these standards, i.e. constraining configuration choices, is equally taken on board. Even though eDelivery makes software available implementing these specifications, the use of commercial software or other Open Source software projects is also possible.

COMPONENT	KEY SPECIFICATIONS
Access Point	➢ eDelivery AS4 profile of the ebMS3/AS4 OASIS Standards
Service Metadata Locator (SML)	➢ eDelivery Profile based on the OASIS BDXL Specification ➢ eDelivery ebCore Party ID Profile
Service Metadata Publisher (SMP)	➢ eDelivery Profile based on the OASIS BDX-SMP Specification

European Commission

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CEF eDelivery Service Offering

CEF eDelivery Service offering

SOFTWARE

Sample software maintained by the EC (with documentation)

- Access Point (AP)
- Service Metadata Publisher (SMP)
- Service Metadata Locator (SML)

OPERATIONS SERVICES

Managed services

- Public Key Infrastructure (PKI)
- Service Metadata Locator (SML)

Testing services

- Connectivity testing
- Conformance testing

Supporting services

- Training & Deployment
- Service Desk

STAKEHOLDER MANAGEMENT SERVICES

Onboarding services (for stakeholders)

- Self-assessment tool (reuse approach)
- Onboarding of new stakeholders

Community management services

- Developers Community

(example) TECHNICAL SPECS OF EU-WIDE INITIATIVES

- Access point specifications
- SMP specifications
- SML specifications
- Security control guidance

STANDARDS OF ESOs

- Connector specification

Service offering Description (SoD)

All services are described in an SoD describing its purpose, the users for which it is for, its benefits and the process to obtain it

Service Level Arrangements (SLA)

Documents that describe Service Level Targets to be reached when delivering Building Block Services.

eLearning, videos, success stories

Some services feature multimedia such as eLearnings, instructional videos or success stories to help grasp what the service is about

CEF Digital platform

CEF eDelivery service offering, and more about the building block, can be found online

CEF Digital >

Connectivity testing

OBJECTIVE OF THE SERVICE

Test if a newly installed AS4 Access Point, conformant with the CEF eDelivery specifications, can successfully communicate with the sample AS4 Access Point hosted by the European Commission. If successful, these tests confirm that the new Access Point is in all likelihood correctly deployed and configured.

The CEF Support Team facilitates the Connectivity Testing by making available a sample AS4 Access Point in a cloud environment, as well as providing guidelines and support during the testing process.

BENEFITS

- Confirm that newly deployed AS4 Access Points can successfully communicate with a neutral organization i.e. the sample Access Point of the European Commission;
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission

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Service Providers

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Conformance testing

OBJECTIVE OF THE SERVICE

Verify that an implementation of the CEF eDelivery Access Point and SMP specifications, a software package either commercial or Open Source, conforms to the relevant CEF eDelivery specifications.

The following specifications are tested within the scope of this service:

- eDelivery AS4 Profile
- eDelivery SMP Profile

The CEF eDelivery Team provides ready to use test cases, a testing platform, and supports the users of the CEF eDelivery Conformance Testing service during the entire testing process.

BENEFITS

- Confirm and assure your users/customers that your software package or implementation of the CEF eDelivery Access Point conforms to the CEF eDelivery specifications
- Testing anywhere at anytime
- Testing supported by professional staff of the European Commission

USERS

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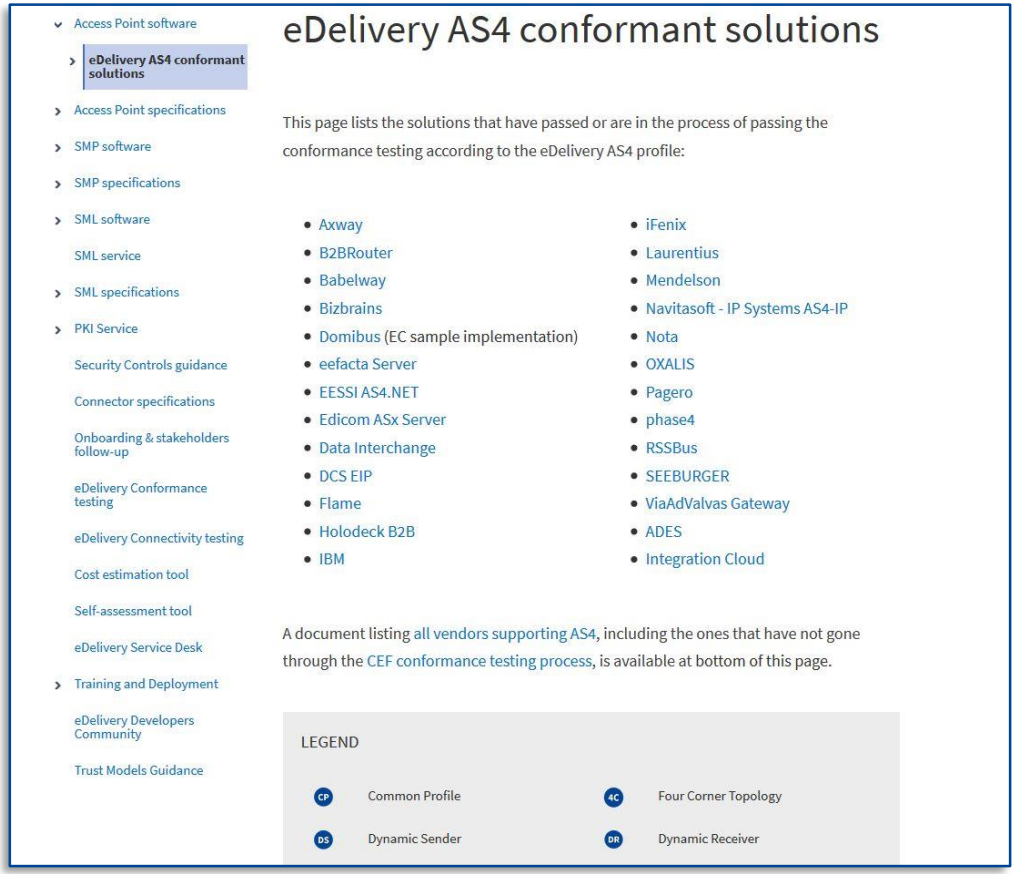
Users can choose from a variety of eDelivery AS4 conformant solutions



- Access Point software
  - eDelivery AS4 conformant solutions
- Access Point specifications
- SMP software
- SMP specifications
- SML software
- SML service
- SML specifications
- PKI Service
- Security Controls guidance
- Connector specifications
- Onboarding & stakeholders follow-up
- eDelivery Conformance testing
- eDelivery Connectivity testing
- Cost estimation tool
- Self-assessment tool
- eDelivery Service Desk
- Training and Deployment
- eDelivery Developers Community
- Trust Models Guidance

eDelivery AS4 conformant solutions

This page lists the solutions that have passed or are in the process of passing the conformance testing according to the eDelivery AS4 profile:

- Axway
- B2BRouter
- Babelway
- Bizbrains
- Domibus (EC sample implementation)
- eefacta Server
- EESSI AS4.NET
- Edicom ASx Server
- Data Interchange
- DCS EIP
- Flame
- Holodeck B2B
- IBM
- iFenix
- Laurentius
- Mendelson
- Navitasoft - IP Systems AS4-IP
- Nota
- OXALIS
- Pagero
- phase4
- RSSBus
- SEEBURGER
- ViaAdValvas Gateway
- ADES
- Integration Cloud

A document listing all vendors supporting AS4, including the ones that have not gone through the CEF conformance testing process, is available at bottom of this page.

LEGEND

CP Common Profile
4C Four Corner Topology
DS Dynamic Sender
DR Dynamic Receiver

More information on CEF Digital

Conformant Solutions >

Software

Sample software maintained by the EC

OBJECTIVE OF THE SERVICE

Standard software implementations of the technical specifications of CEF eDelivery. The European Commission maintains and develops sample software that is openly available to be re-used. The following components of a CEF eDelivery solution are provided:

- Access Point
- Service Metadata Publisher (SMP)
- Service Metadata Locator (SML)

Through the "Operational Management Board", CEF eDelivery stakeholders define the evolution of these solutions, by suggesting features that are then developed by the CEF's team.

BENEFITS

- Released under an open source license
- Viable solutions for use in production environment
- Fully supported by the European Commission
- Based on market-driven technical specifications

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Operations services

Supporting services

OBJECTIVE OF THE SERVICE

The CEF eDelivery team offers:

- **Service Desk** – a Single Point of Contact (SPOC) to address questions, incidents, requests and changes reported by the Users with regards to the CEF eDelivery service offering.
- **Training and deployment support -** Training sessions about the technical specifications underpinning the components of CEF eDelivery, the services offered by the Commission and its sample implementations, and interactive sessions to support in the deployment of the solution.

BENEFITS

- Day to day monitoring and business hours (8 am – 6 pm CET) service to maintain a high-level of availability and capacity of the CEF eDelivery Managed Services
- Proactive incident detection and resolution
- Increased autonomy of the Public Administration in handling and maintaining the CEF eDelivery components

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Stakeholder management services

Onboarding services

OBJECTIVE OF THE SERVICE

CEF offers onboarding services for new projects interested in re-using CEF eDelivery:

- **Self-assessment tool** - a survey that maps the requirements of the users to the CEF eDelivery Service Offering. During the self-assessment, users assign different scores to the relevant requirements of their business system and the eDelivery messaging infrastructure. Based on the answers provided, the tool calculates how CEF eDelivery can help users achieve their goals by indicating which services provided by CEF eDelivery will allow them to meet their specified needs and requirements.
- **Onboarding of new stakeholders** – A direct contact point for all policy domains interested in re-using CEF eDelivery, that will facilitate the understanding, adoption and deployment of the solutions.

BENEFITS

- Business-driven and time-efficient assessment
- Comparability – the self-assessment tool provides a benchmarking with use cases of other projects already re-using CEF eDelivery
- Direct and easy contact with the CEF eDelivery technical teams, through the onboarding services

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Stakeholder management services

Community management

OBJECTIVE OF THE SERVICE

Develop, expand and engage with a community of developers contributing to the evolution of CEF eDelivery's open source sample implementations.

Among the 5 components that the CEF eDelivery team develops, CEF manages an online community of developers interested in contributing to the code of the sample implementations.

BENEFITS

- Cost effective development
- Wide set of skills
- Faster response to emerging requirements

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Developers

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eDelivery Success Stories

A Connecting Europe Success Story

European Database on Medical Devices (EUDAMED)

A Connecting Europe Success Story

EUDAMED

CHALLENGE

Member States need to ensure that medical devices comply with provisions of **Medical Devices Directives**.

Enable transmission of **data from more than 80,000** manufacturers and notified bodies.

Share knowledge about technological progress, faulty devices and approved machinery.

WHO ARE WE CONNECTING

Competent Authorities in Member States + European Commission (DG-ENTR) + Industry operators

BENEFICIARIES

- Citizens (patients): enjoy better healthcare and health protection
- Businesses (Medical Device Manufacturers): easier to launch new products
- Medical professionals: informed decisions thanks to increased transparency of the medical device market

BUILDING BLOCKS USED

POWERED BY THE CEF BUILDING BLOCKS

eID eDelivery eInvoicing eSignature eTranslation

Context Broker eArchiving BDTI

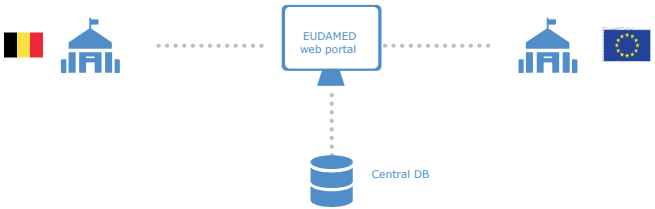
European Commission

A Connecting Europe Success Story

EUDAMED

USER NEED

A medical professional in Belgium wants to report an incident that incurred using a medical device



1. Medical professional logs into the vigilance module of EUDAMED, a secure web-based portal.
2. User is able to load, extract and modify data, and to make reports and queries on the EUDAMED database.
3. Data is securely transmitted using eDelivery.
4. Data is accessible across Europe.

KEY TAKEAWAY

*EUDAMED aims to enhance overall **transparency**, including **better access to information** for public and healthcare professionals. In addition, the objective is to **avoid multiple reporting requirements**, to **enhance coordination** between the Member States and to **streamline and facilitate the flow of information** between economic operators, notified bodies or sponsors and the Member States, and between the Member States among themselves and with the European Commission.*

A Connecting Europe Success Story

European e-Justice

A Connecting Europe Success Story

European e-Justice

CHALLENGE

10 million Europeans are involved in cross-border judicial procedures each year.

DG Just was charged with delivering a **one-stop-shop** for citizens, businesses and legal professionals across Europe.

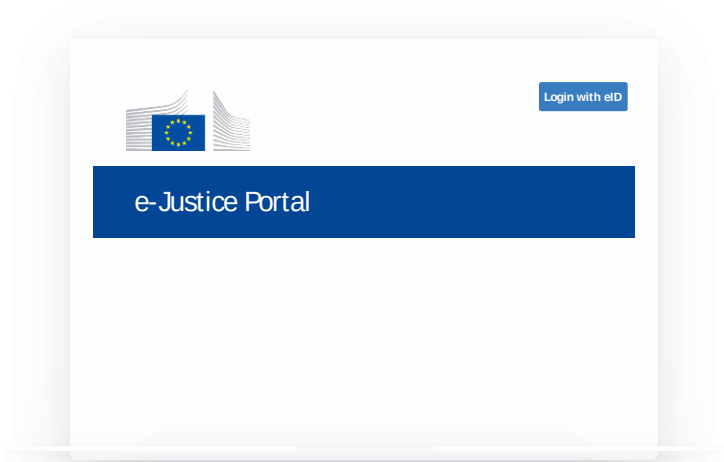
WHO ARE WE CONNECTING

Courts in 24 European Countries + European Commission

BENEFICIARIES

- Citizens can access cross-border legal services
- Businesses can access cross-border legal services
- Legal professionals can tackle cross-border cases digitally

BUILDING BLOCKS USED



POWERED BY THE CEF BUILDING BLOCKS

eID eDelivery eInvoicing eSignature eTranslation

European Commission

A Connecting Europe Success Story

European e-Justice

USER NEED

A prosecutor in Amsterdam needs to acquire evidence from a judge in Luxembourg

1. Prosecutor and judge can securely login with their national eID
2. Legal documents are securely exchanged between different IT systems using eDelivery
3. Both parties handle case in their own language using eTranslation
4. Judge can electronically sign request for evidence using eSignature

KEY TAKEAWAY

Bogdan Dumitriu
IT Policy Officer at DG JUST

> *The fact that the **CEF building blocks** handle the development, maintenance, infrastructure and support of these key functionalities of our system is great, we can focus on where we can add the most value, dealing with issues relating to the justice domain.*

European Commission

A Connecting Europe Success Story

Business Register Interconnection System

A Connecting Europe Success Story

Business Register Interconnection System

CHALLENGE

Businesses are expanding beyond national borders thanks to the digital single market. This has led to an **increasing demand for information on companies** in a cross-border context.

DIGIT was challenged to build a system to connect 35 business registers across the EEA and provide a single point of access.

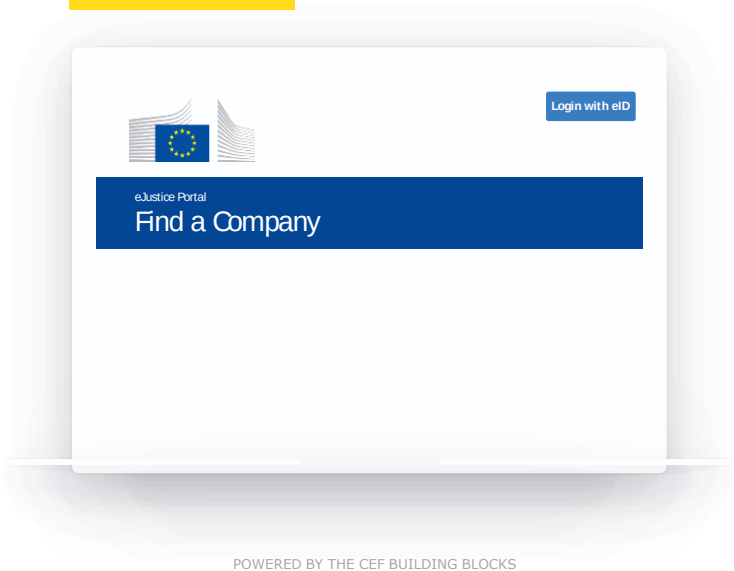
WHO ARE WE CONNECTING

Business Registers in 31 European Countries + European Commission

BENEFICIARIES

- Citizens: Increased consumer confidence in cross border commerce
- Businesses: reduced administrative burden for cross-border obligations
- Public Administrations: increased legal certainty and faster cross-border procedures

BUILDING BLOCKS USED



POWERED BY THE CEF BUILDING BLOCKS

eID eDelivery eInvoicing eSignature eTranslation

European Commission

A Connecting Europe Success Story

Business Register Interconnection System

USER NEED

Cross-border businesses need to update their company information in all Member States registries in which they do business. This is costly and time consuming.

1. Businesses only need to register company information changes on their national platform
2. Messages are securely exchanged between the business registers of all 31 participating countries using eDelivery ensuring system records are up to date
3. Businesses, citizens and Public Administrations can search for company information in their own language thanks to eTranslation
4. Users can login to the European e-Justice Portal and save searches using their national eID

KEY TAKEAWAY

Vincent Dijkstra
Project Lead at DIGIT

"CEF offers real value by offering a set of standards that projects can use to deliver a secure end-to-end solution.

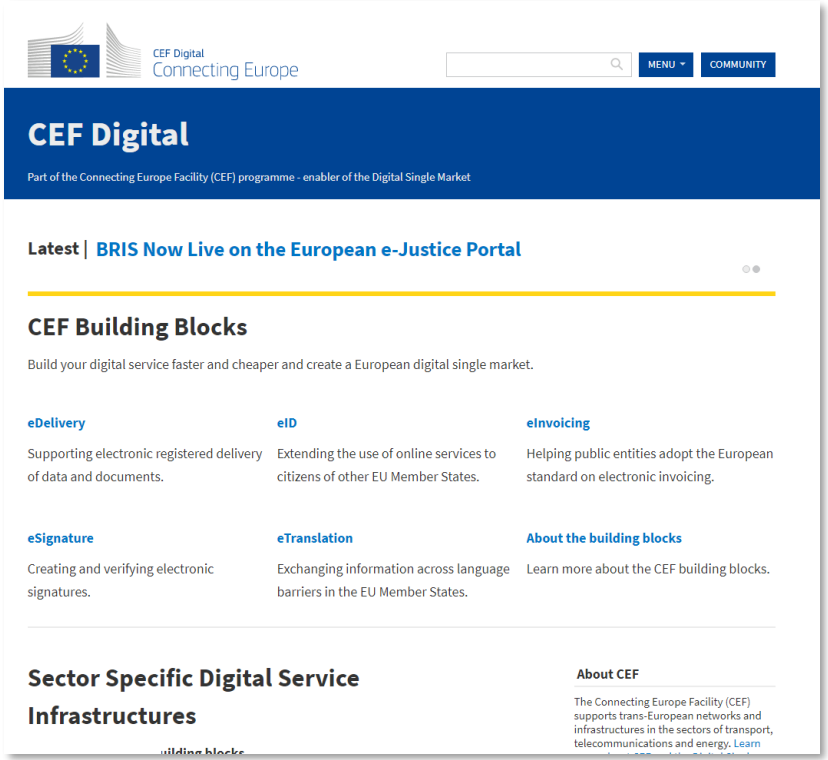
Without the dedicated eDelivery support team we could never have delivered the project within the tight two year deadline.

European Commission

Q&A

Find out more on CEF Digital

ec.europa.eu/cefdigital



#BIG

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e-CODEX deployment in EU Justice

EU4Digital Facility | eDelivery virtual study visit *, 9 October 2020*

e-CODEX

making justice faster.eu

The goal of the e-CODEX initiative

- The alignment of autonomous national business functions in the context of European legal procedures
- Creating common ground on EU level whilst respecting legal, operational and technical autonomy within MSs
- Often perceived as an IT task, but legal and business complexities are most challenging

Our assignment at the start still applies

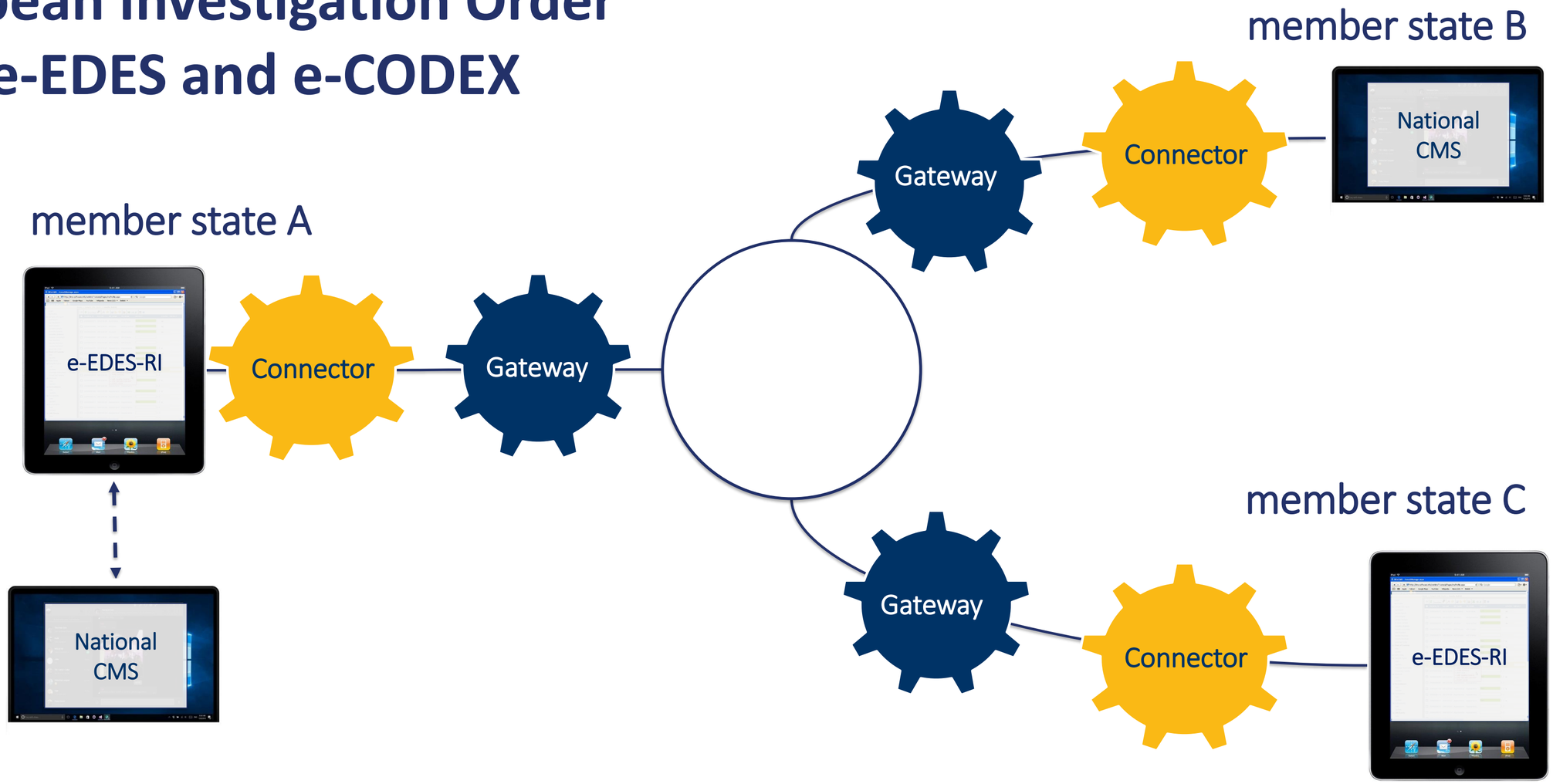
!WARNING!
Distinct in your programme between connectivity and interoperability

The goal of the e-CODEX project is to improve the cross-border access of citizens and businesses to legal means in Europe as well as to **improve** the **interoperability** between legal authorities within the European Union.

To reach this ambitious goal, a fully technically interoperable European e-Justice system must be designed. The technical solutions envisaged within this contact must **respect** both the **principle** of **independence** of the judiciary and of subsidiarity.

- The e-Services and infrastructure that **Member States have already established cover specific requirements of national legal systems**. Generally, these national solution are considerable **investments** which cannot simply be **replaced** by new centralized approaches. The objective of the e-CODEX project is **neither** to **re-invent the wheel nor to duplicate one national solution at the European level**.

European Investigation Order with e-EDES and e-CODEX

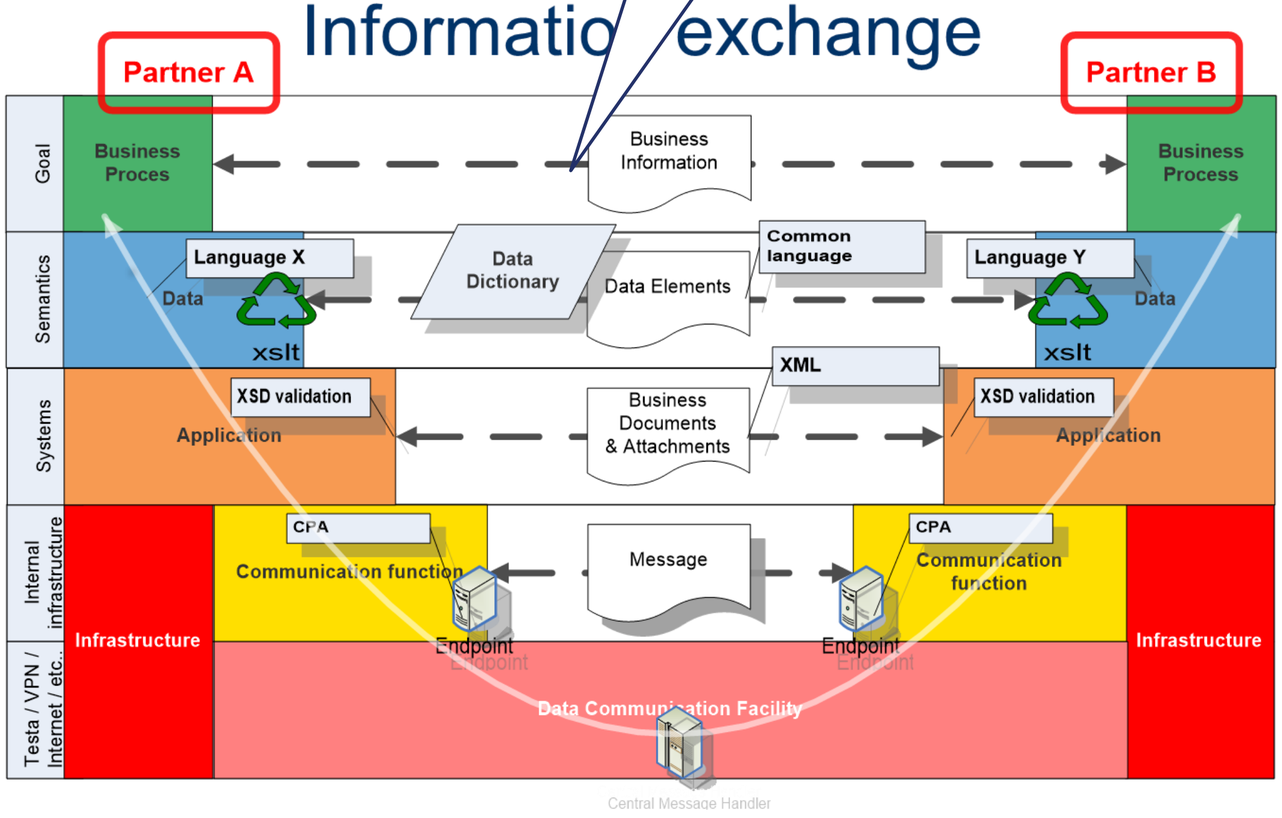


DG Digit
EU Interoperability Framework (EIF)

E-CODEX deployment of Framework (EIF)

The overall architecture framework

Political context	Cooperating partners with compatible visions, aligned priorities, and focused objectives
Legal interoperability	• Aligned legislation so that exchanged data is accorded proper legal weight
Organisational Interoperability	• Coordinated processes in which different organisations achieve a previously agreed and mutually beneficial goal
Semantic Interoperability	• Precise meaning of exchanged information which is preserved and understood by all parties
Technical Interoperability	• Planning of technical issues involved in linking computer systems and services



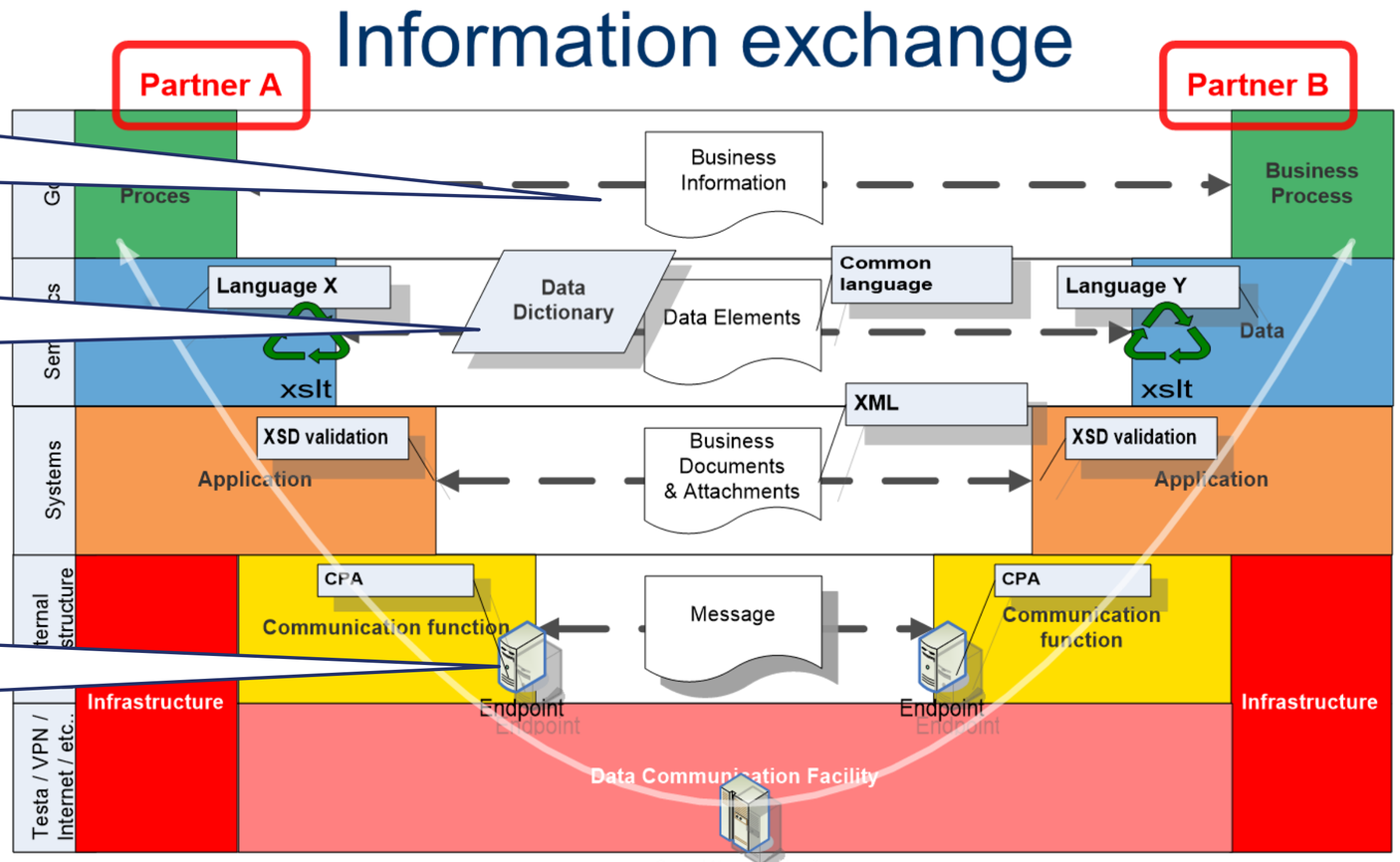
Context of work

E-CODEX services

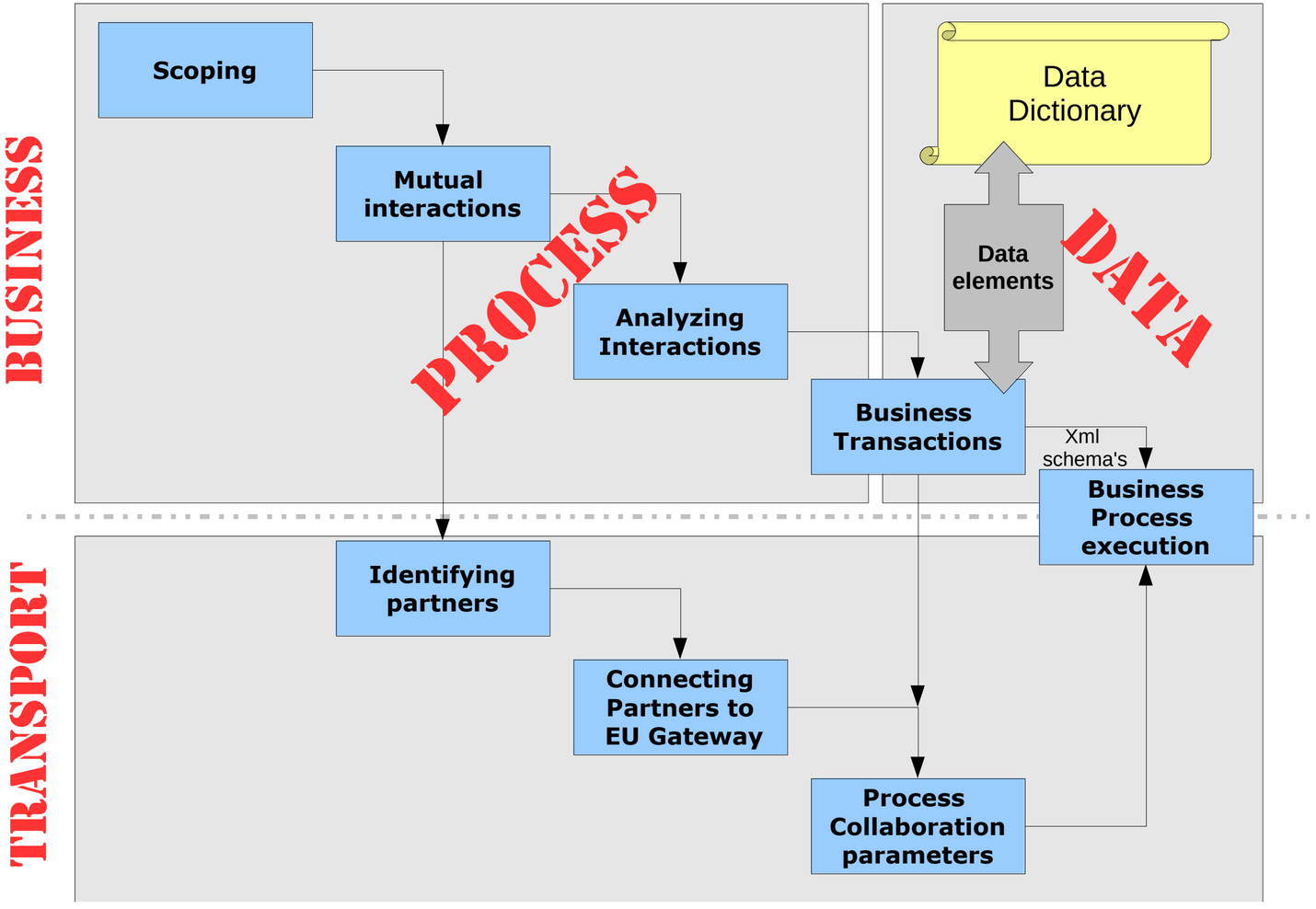
EU e-CODEX
Process design

EU e-CODEX
Core vocabulary

EU commission
CEF Gateway



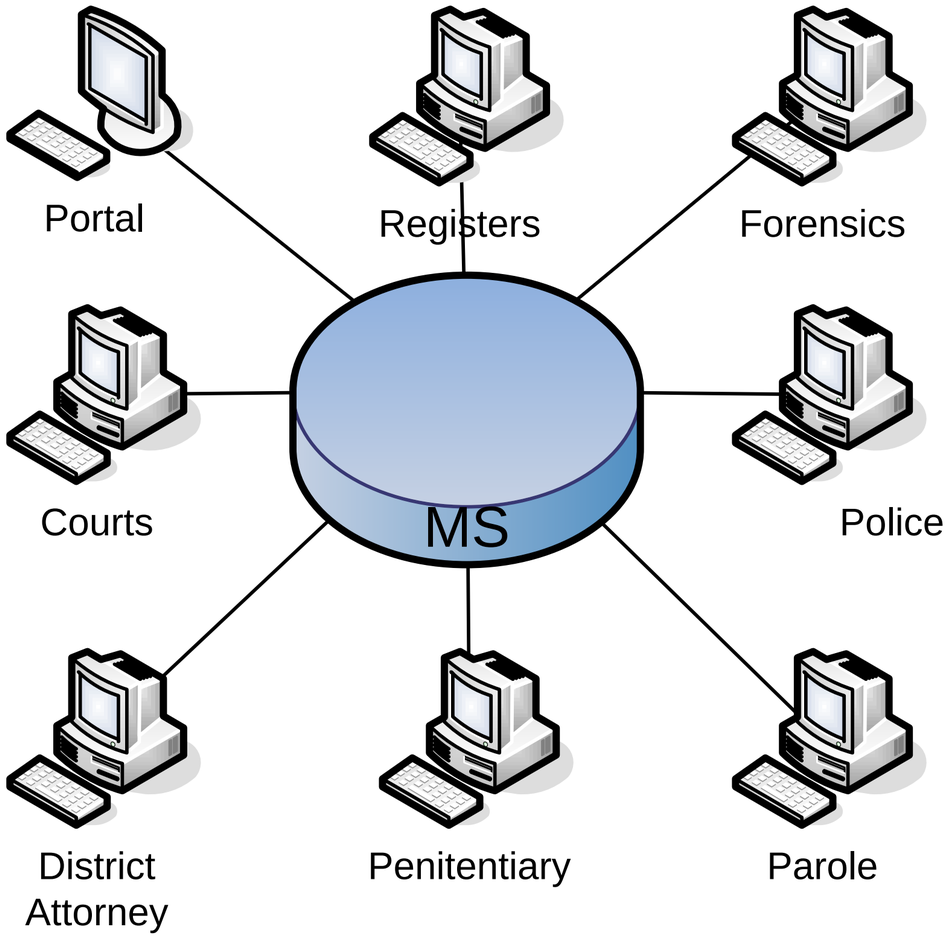
Interoperability layer relations



The infrastructure layer

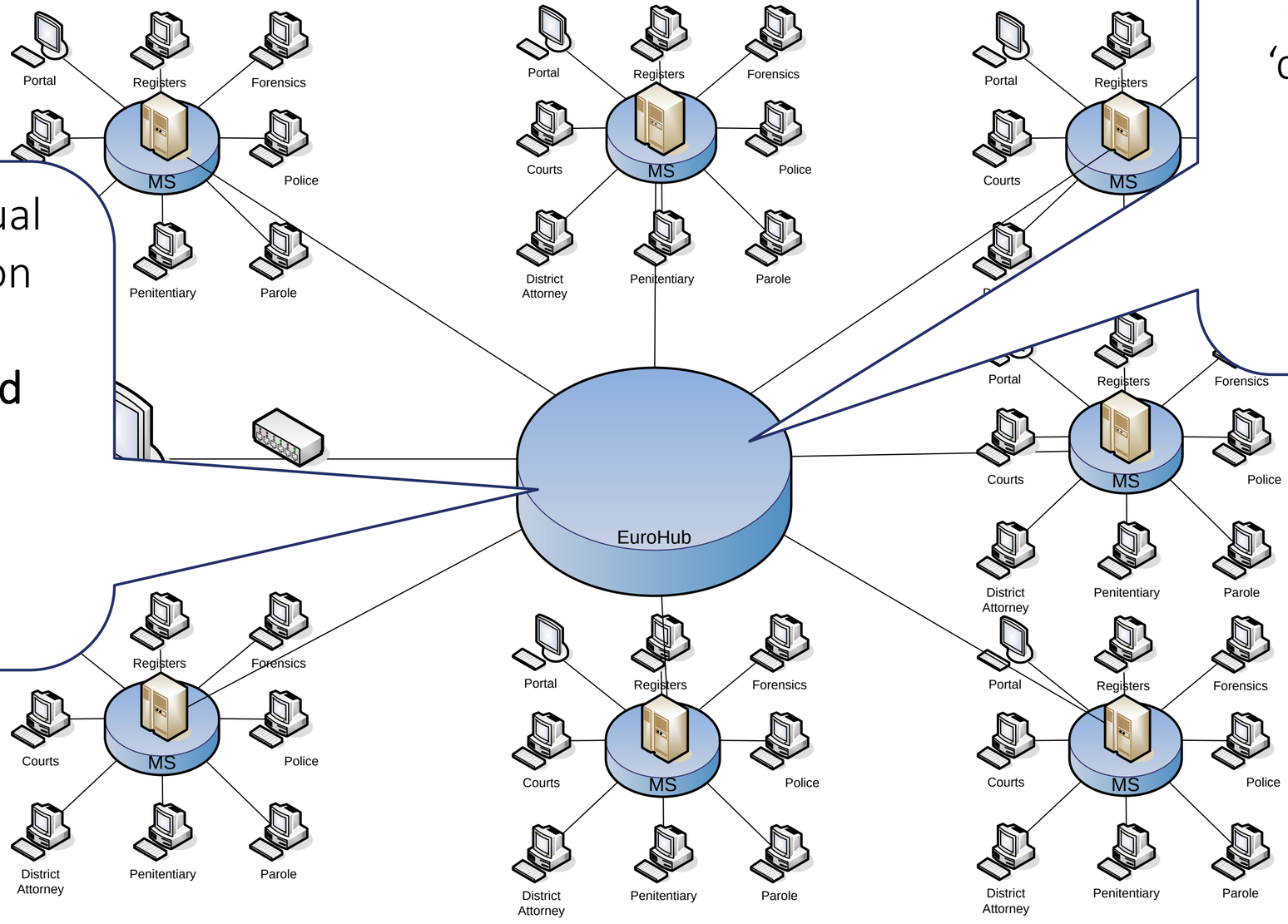
- E-CODEX had provided an infrastructure layer which is based on open international standards
- The Commission required that an open source implementation would be available to support the Open Standard in order not to force Member States into a Vendor lock
    - The domibus Gateway was released (open standards & open source) available for anyone, cost free.
- A standards conversion between several EU projects and different EC DGs was conducted, resulting in a de facto standard in European cross-border collaboration. (Health, Justice, Procurement, etc…)
    - Domibus Gateway became CEF Gateway and is now deployed in many EU domains and even on a global scale in the context of child maintenance obligations (i-Support)

National interoperability



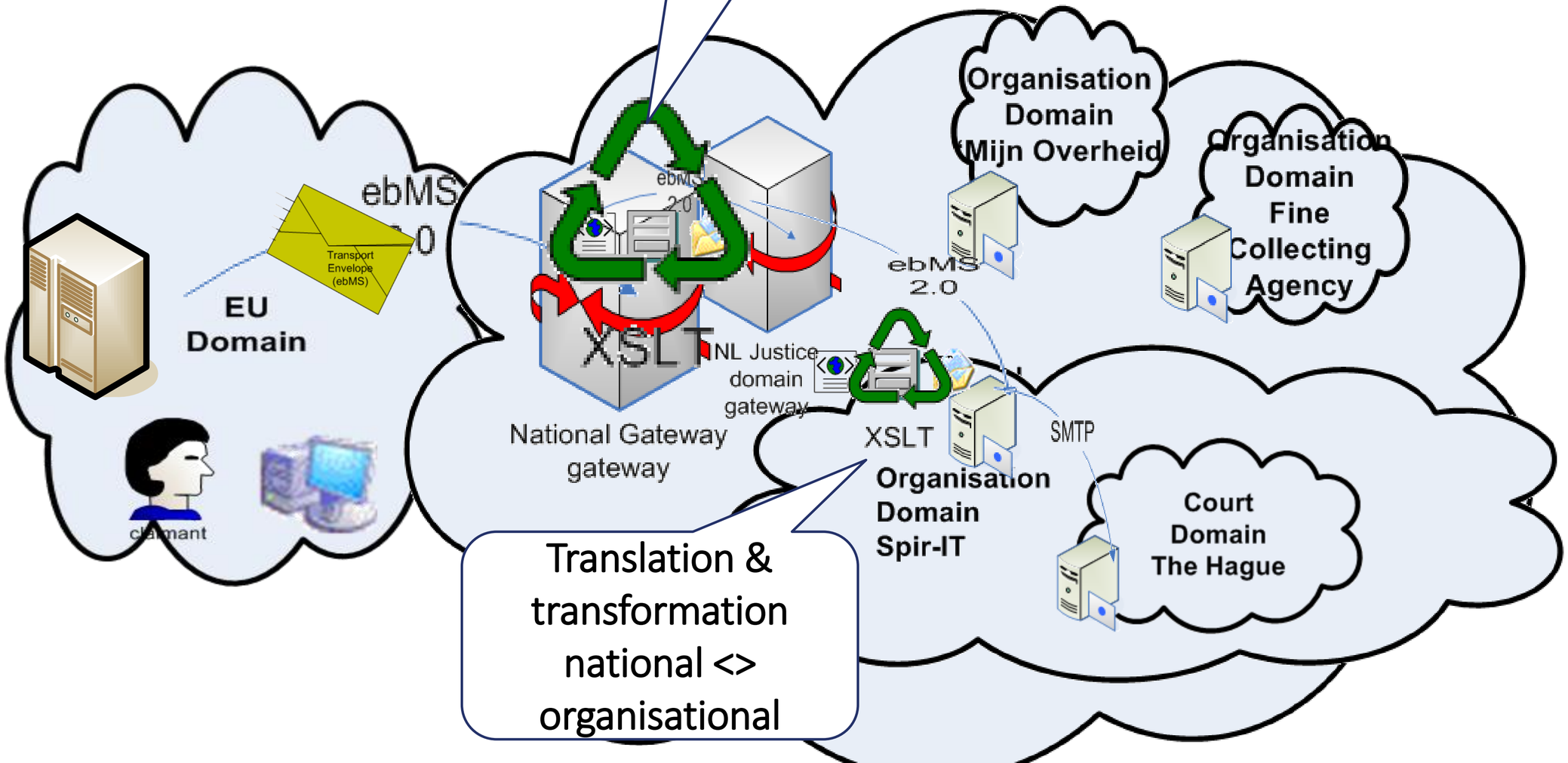
International interoperability

It depicts the conceptual approach as a ‘common layer’.
There is NO centralized physical component handling data.
Direct MS to MS communication



This conceptual approach as a ‘common layer’.
Applies to:
Infrastructure
Semantics
Process

Touch point e-Delivery t ational implementation



Means vs. Goals

- The exhange infrastructure is often perceived as the greatest challenge an biggest value to cross-domain collaborations.
  - **The infrastructure is only means to reach *connectivity***
- In order to achieve interoperability between multiple legal systems and autonomous business processes, the business collaboration layer and exchanged business information determine the level of actual business interoperability
  - **Business *interoperability* is the ultimate goal!**

Added value process & semantic design

Process design builds your enterprise architecture

- Internal processes are respected whilst aligning it to your partners
- Idem dito regarding information structures
- You will know what to expect from each other
- Building blocks to re-use in implementation

Reusable semantic building blocks help participants to easily integrate into their national environments

Only predictable behaviour can be programmed into IT systems

The process layer (EIF)
A model for the common collaboration

- The process analysis describes and visualizes the cross-border alignment of business functions and information requirements

- **Domestic tasks and responsibilities such internal procedures and orchestration are linked to, but not incorporated in the design**

Input for design

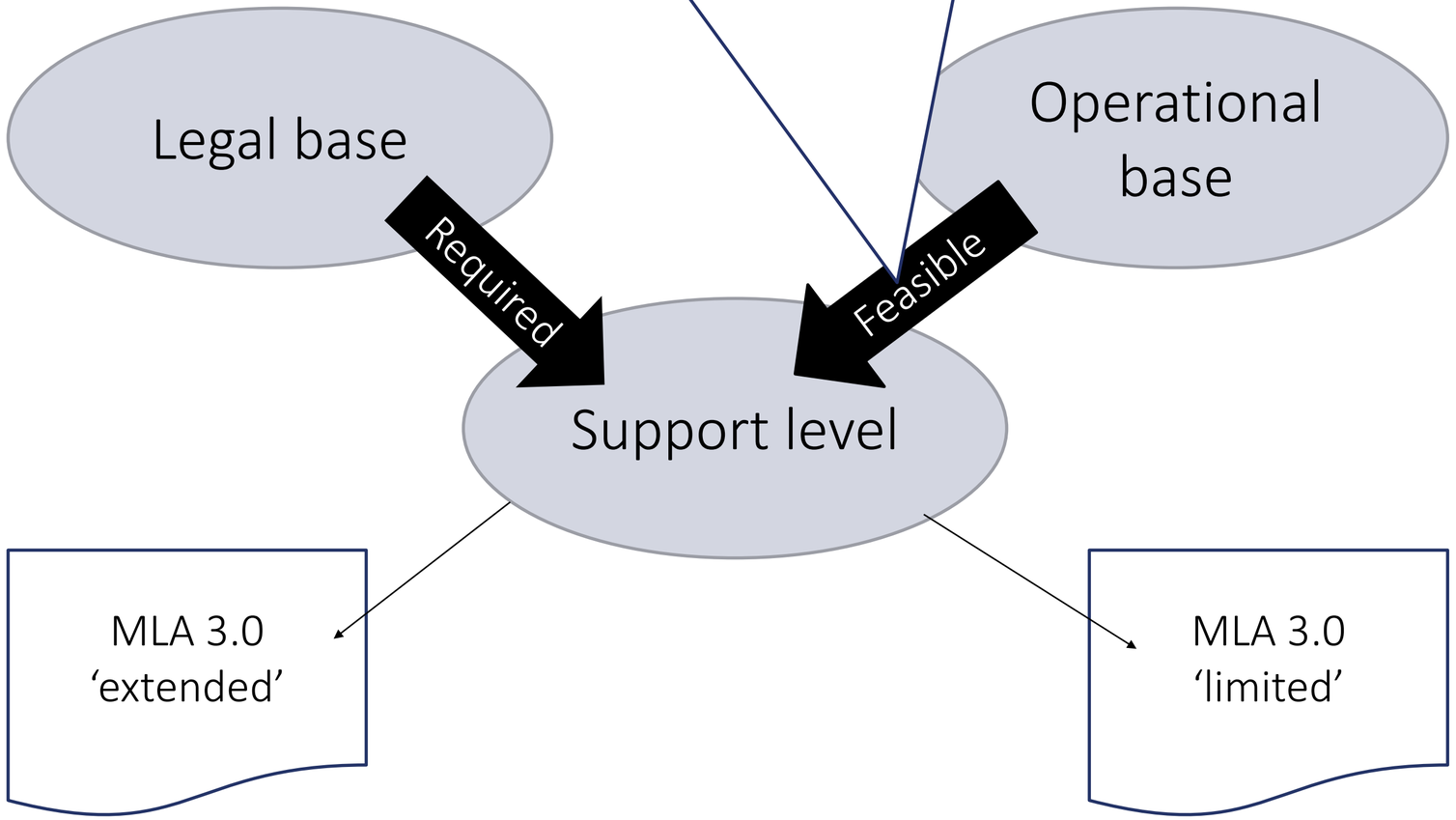
- EU legal basis: Decision, Framework decision, etc..
- Domestic process design(s)
- Key operators in the domestic processes
  - Process owners
  - Information Managers
  - Key operators
  - Legal practioners

Example ‘Mutual Legal Assistance’

Some Member States have more digital capabilities to support the procedure than others

Thus: distinction between ‘extended’ and ‘limited’support.

Support level to the business



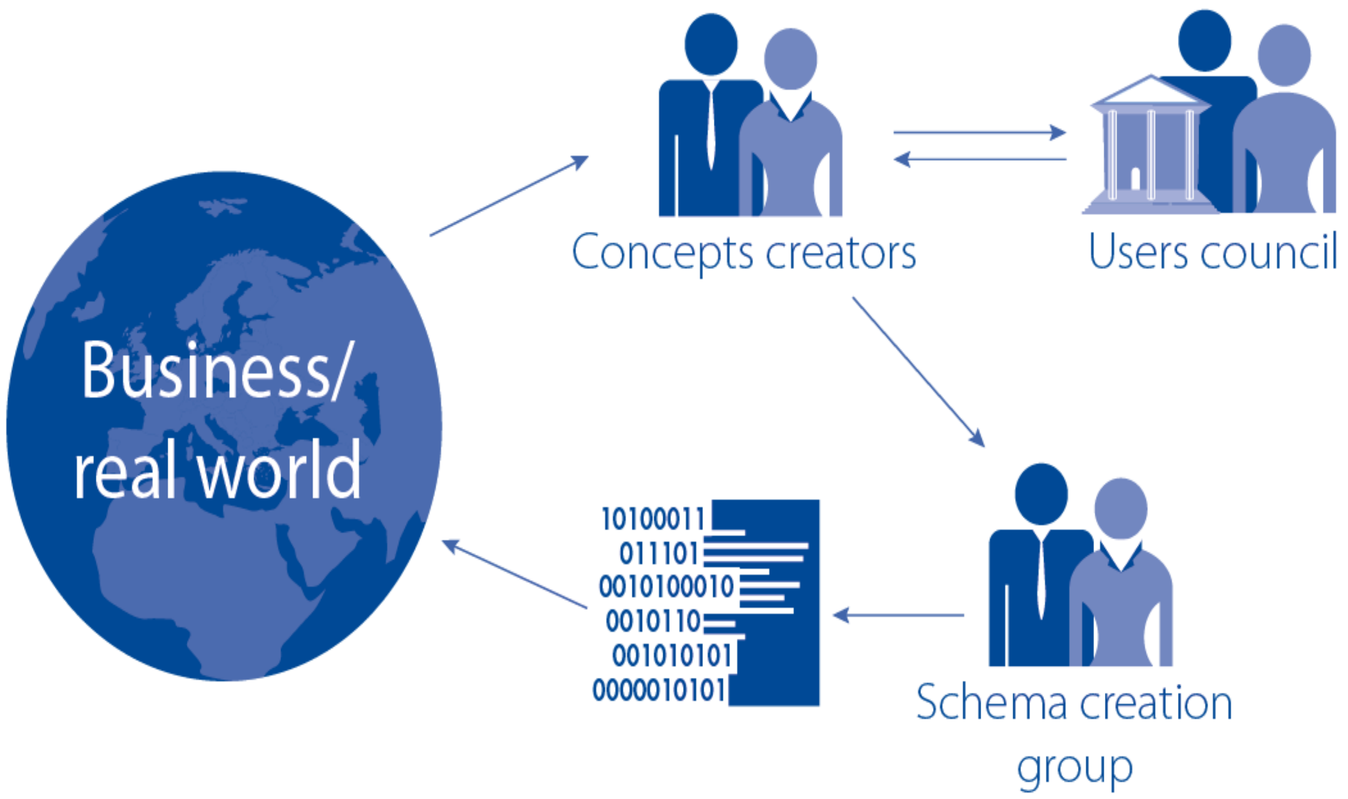
topic

XML schemas are generated from the Core Vocabulary
'pushing your cart through the *semantic supermarket*'

The semantic layer

E-CODEX provides the EU Justice Core Vocabulary

- In e-CODEX a Core Vocabulary is created in Metadata Workbench
- A collaboration methodology for maintaining & extending the vocabulary and deploying XSD output is defined
  - Actual status: all XML schemas in EU justice context are created and maintained accordinly.

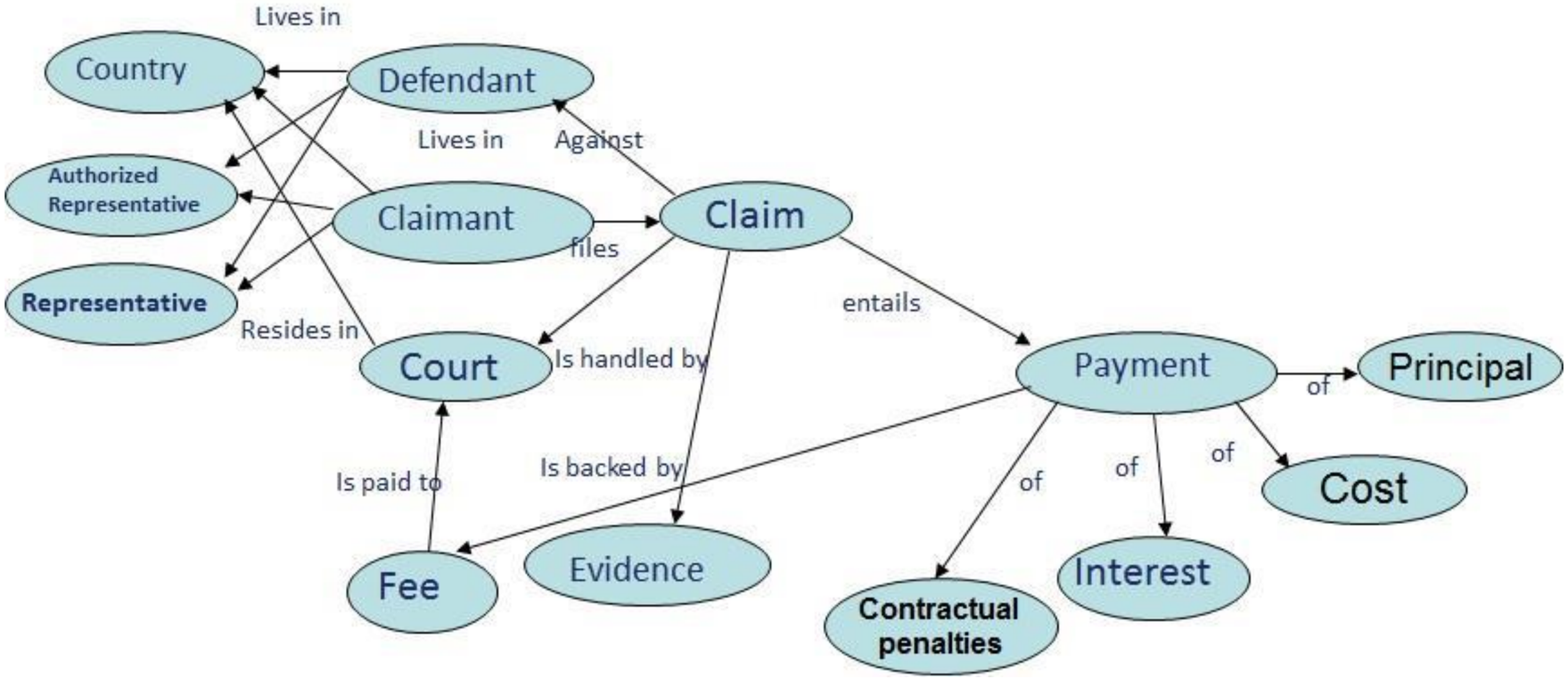


Concept creators:
Identify-usable existing concepts or create new concepts from legal basis

Semantic User Council:
Validate concepts & defi nitions

Schema Creation Group:
Create XSD document based on approved concepts & codelists

Process information to building blocks



Recommendations

- Set basic principles and stick to them. Pragmatism is ‘ #1 fail factor’
- Agree on (open) standards. Create open specifications on that.
- Respect existing national solutions. Create interoperability between them
- Cross-border processes are not viable on their own. They merely interlink existing national processes.
- Put the collaborating business partners in charge. As a project you assume a supporting and advising role

Thank you for your attention!

www.e-codex.eu

h.moelker@justid.nl

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Questions?

e-CODEX in a Nutshell

EU4Digital Facility | eDelivery virtual study visit *, 9 October 2020*

e-CODEX | making justice faster.eu

e-CODEX at a glance

- **Project:** 10 years since December 2010
- **Result:** European digital technical solutions for fast, reliable and secure online cross-border communication between competent legal authorities in both criminal and civil law.
- **Partners:** 27 Partners from 25 countries (incl. NO, TR) & CCBE, CNUE
- **Live since:** July 2013 (civil law procedures) & November 2015 (criminal law procedures)

e-CODEX making justice faster.eu

Flagship project of European e-Justice

- Allows digital cross-border exchange between courts, public prosecutors and other competent authorities
- Generic, reusable solution for cross-border data exchange in the area of Justice
- Merely digitalizes the analogue communication and exchange process that is already there.
- Working method based on active involvement of user communities for each specific use case, while respecting national process design and judicial peculiarities in MS.

What is e-CODEX?

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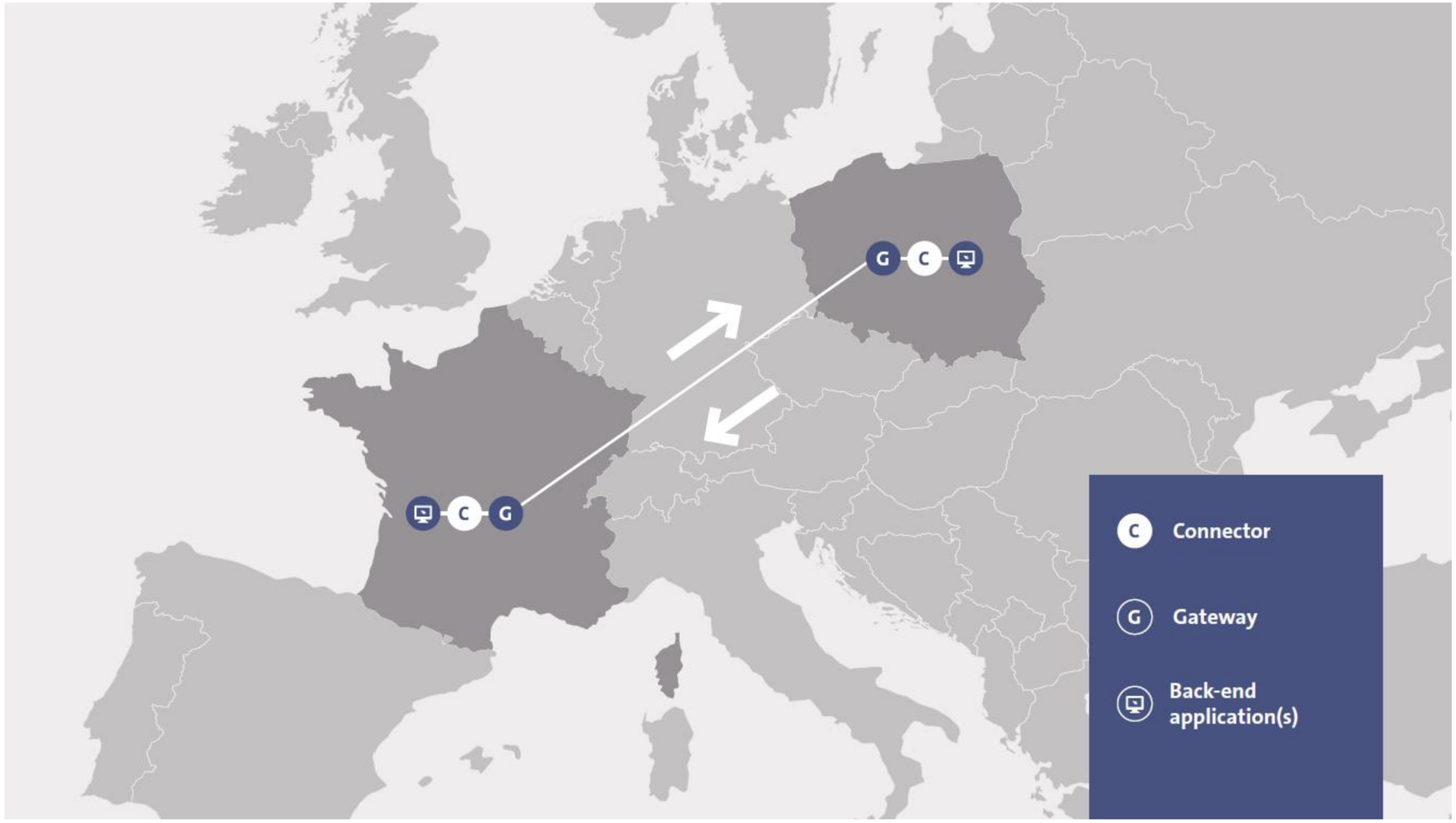
e-CODEX / Technical infrastructure



Me-CODEX II (maintenance of e-CODEX)

- MoJNL is responsible for community & external relations management within the Me-CODEX II project
- Outside the project:
  - Handover to eu-LISA
  - e-CODEX regulation
- Inside the project:
  - Preparation of handover
  - Dissemination: more participants, more relevant use cases
  - Technical and social sustainability

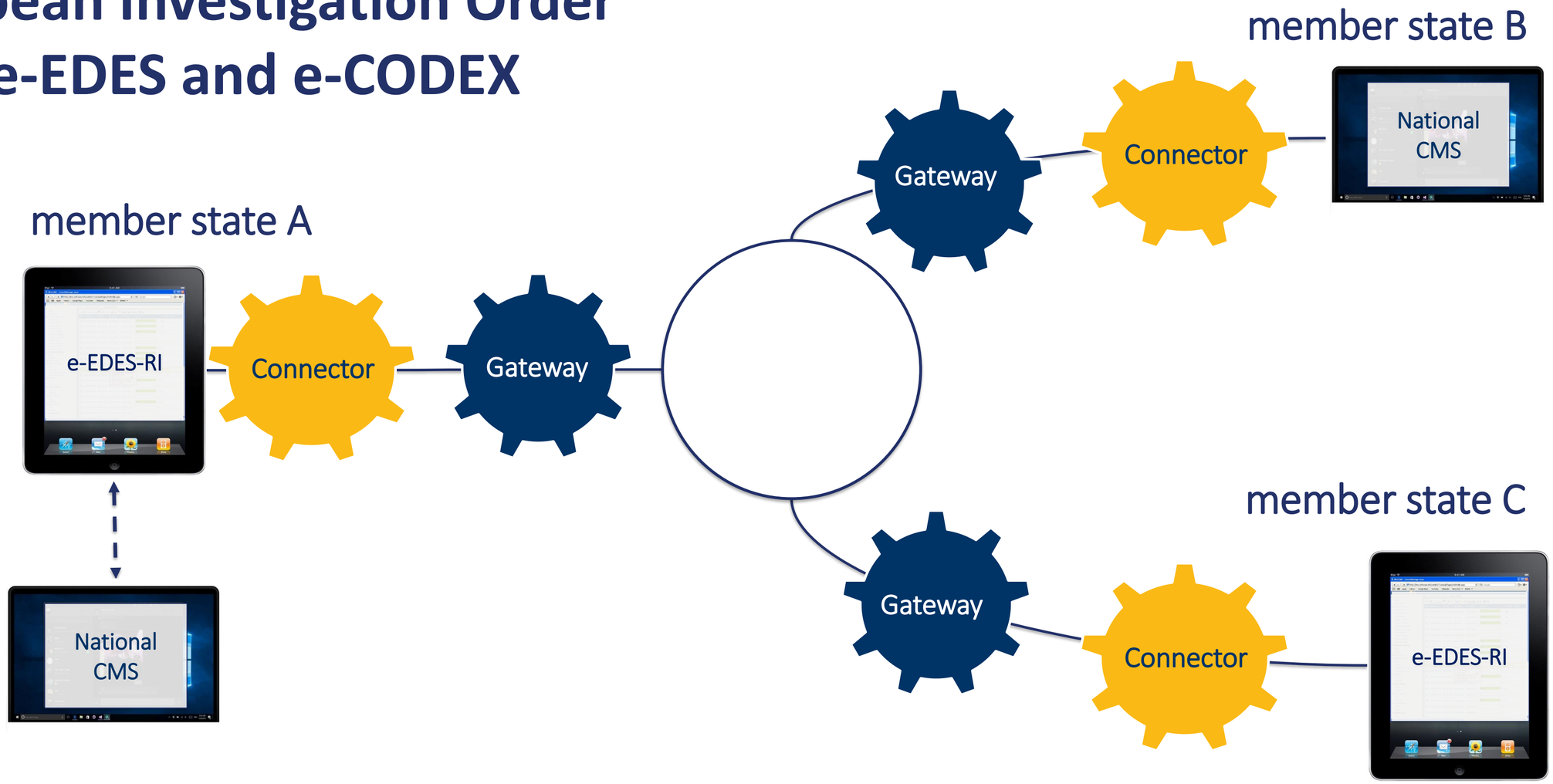
Civil law procedures supported by e-CODEX

- European Payment Order
- Small Claims Procedure
- Insolvency Register Interconnection
- Business Register Interconnection
- In view: Service of Documents (Council Regulation (EC) No 1393/2007), see Art. 3a of the proposal of an amending Regulation
- In view: Cooperation between the courts in the taking of evidence in civil or commercial matters (Council Regulation (EC) No 1206/2001), see Art. 6 of the proposal of an amending Regulation

Criminal law procedures supported by e-CODEX

- European Investigation Order (e-EDES implementation)
- Mutual Recognition of Financial Penalties
- Potentially:
  - Exchange of digital evidence
    - EVIDENCE2e-CODEX Project (2018-2020)
    - Possible follow up as part of EXEC II
  - E-Evidence Regulation (third parties)
  - European Arrest Warrant
  - Forms regarding prisoner exchange

European Investigation Order with e-EDES and e-CODEX



Final remarks

- e-CODEX is a mature solution
- The software is free of charge
- Existing national solutions are respected
- Only one interface is needed to communicate with all MS

e-CODEX

Thank you for your attention!

www.e-codex.eu

f.woud@minjenv.nl

e-CODEX making justice faster.eu

Questions?

Norwegian experience on implementation of eInvoicing and the Peppol eDelivery Network

Anna-Lis Berg,
Senior Advisor & Norweigan Peppol Authority Lead at
the Norwegian Agency for Public and Financial Management (DFØ)

Direktoratet for forvaltning og økonomistyring

Agenda

- Introducing myself
- Introducing the Norwegian approach to electronic procurement
- Showing the current state of play, future prospects and future roadmap to succeed
- Sharing observations, experiences and lessons learned
- Wrapping up my presentation with closing remarks and recommendations

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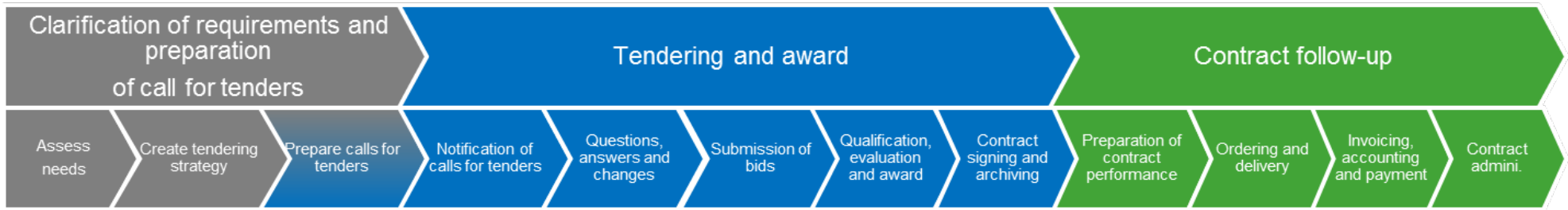
About me

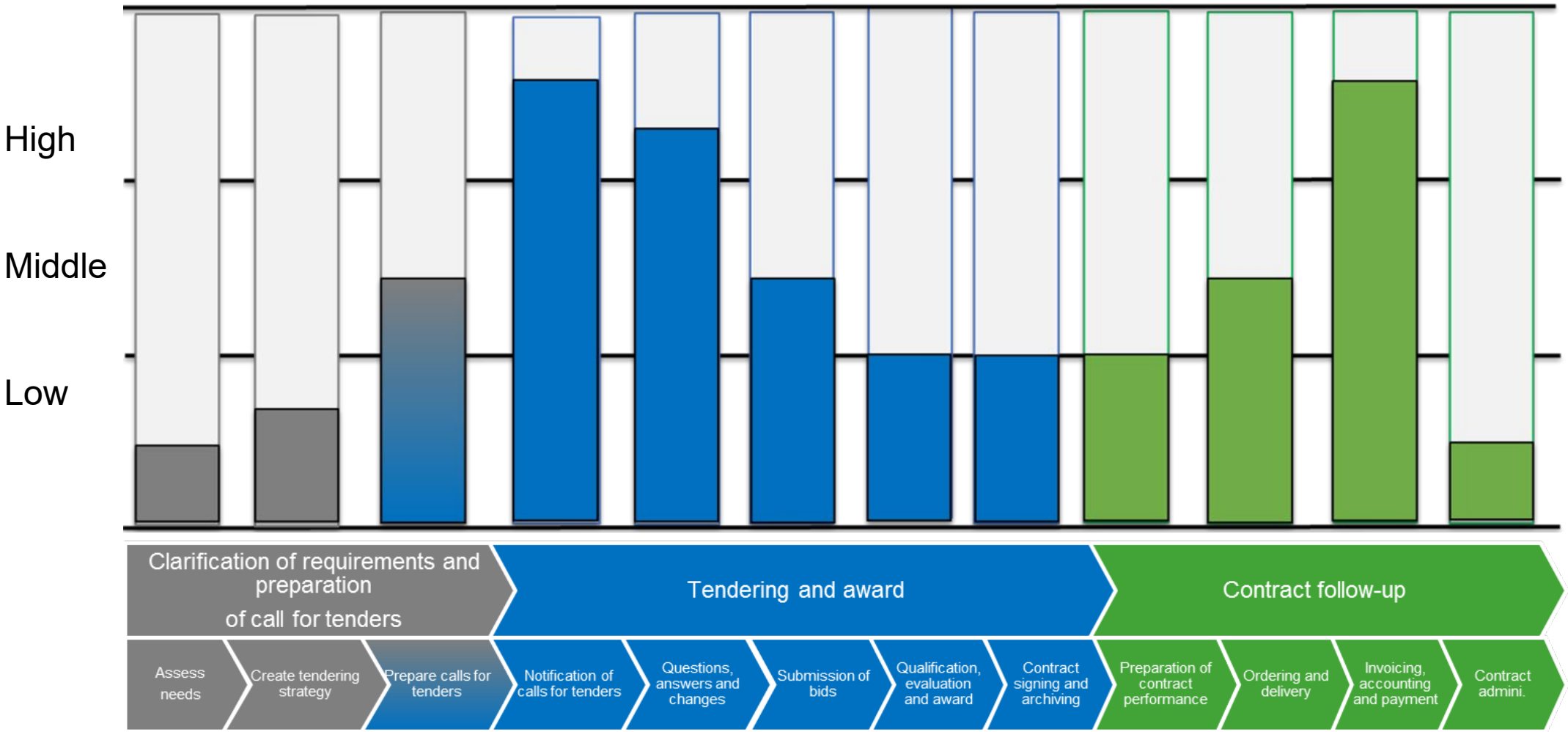
- Professional key words:
  - Digitalisation and process optimisation
  - Transition, transformation and organisational changes
  - Implementation & institutionalisation
- Professional background
  - System Engineering
  - IT related project, program & account manager
  - EU project involvements: PEPPOL, PSIP, ECOGRID etc.
  - OpenPeppol Deputy Secretary General & Operations Manager
  - Norwegian Peppol Authority Leader

Digital eProcurement in Norway

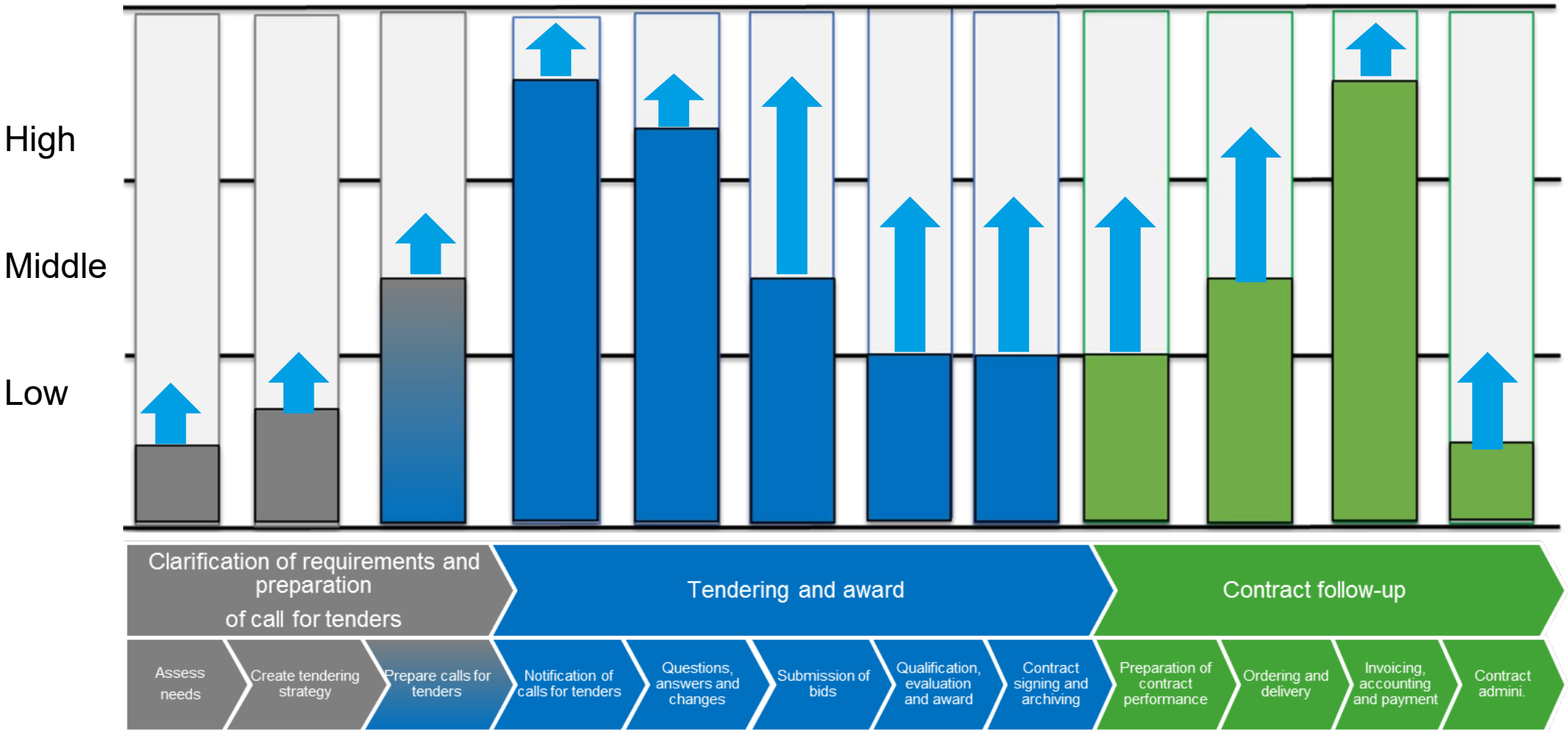
- Digitalisation used to standardise, improve and further develop the public procurement processes
- The procurement process is being digitalised end to end
- E-Invoicing has been used as starting point
- Interoperability and standardisation in focus
- High level of engagement at European level
- Efficiency, transparency and end-user needs as the key drivers



Starting point – high level assessment



Current status – high level assessment



Key enablers for Norwegian eInvoicing

- Legislative measures – mandating central government usage, later also regional and local authorities
- Peppol based standardisation of business processes and information flow in the invoicing process and use of Peppol eDelivery Network
- Part of OpenPeppol governance as a Peppol Authority
- Capacity building among public sector buyers, their suppliers, the ICT industry and decision makers
- eDelivery and eInvoicing services delivered by a well functioning market

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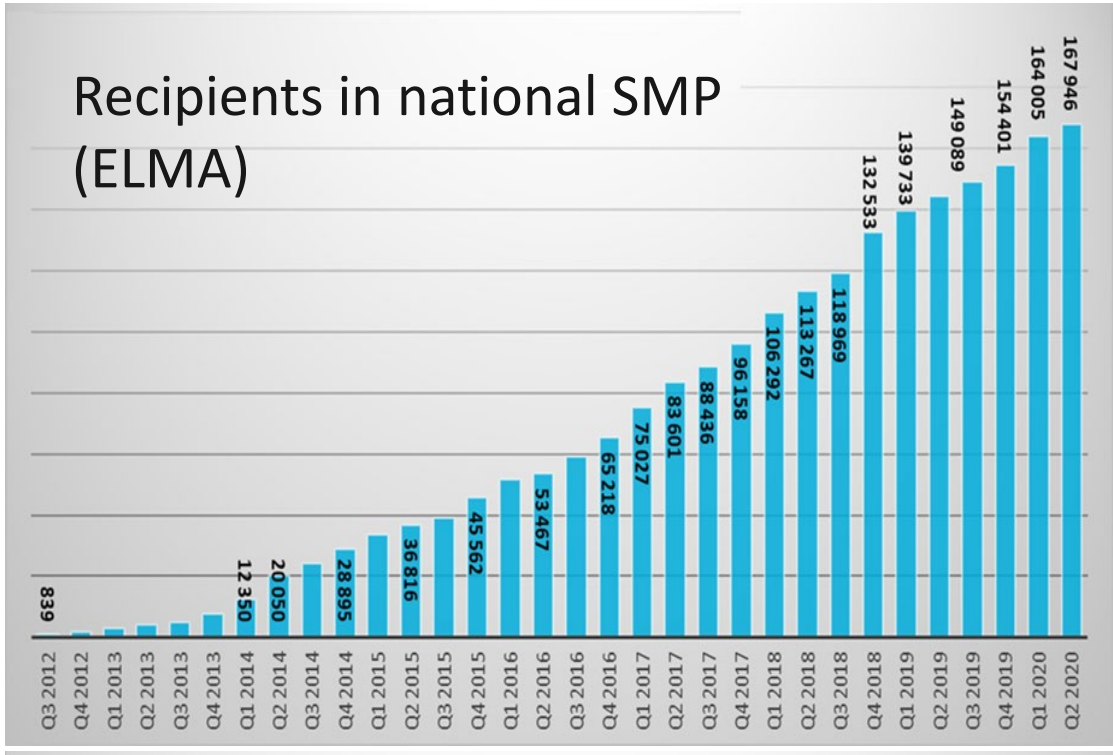
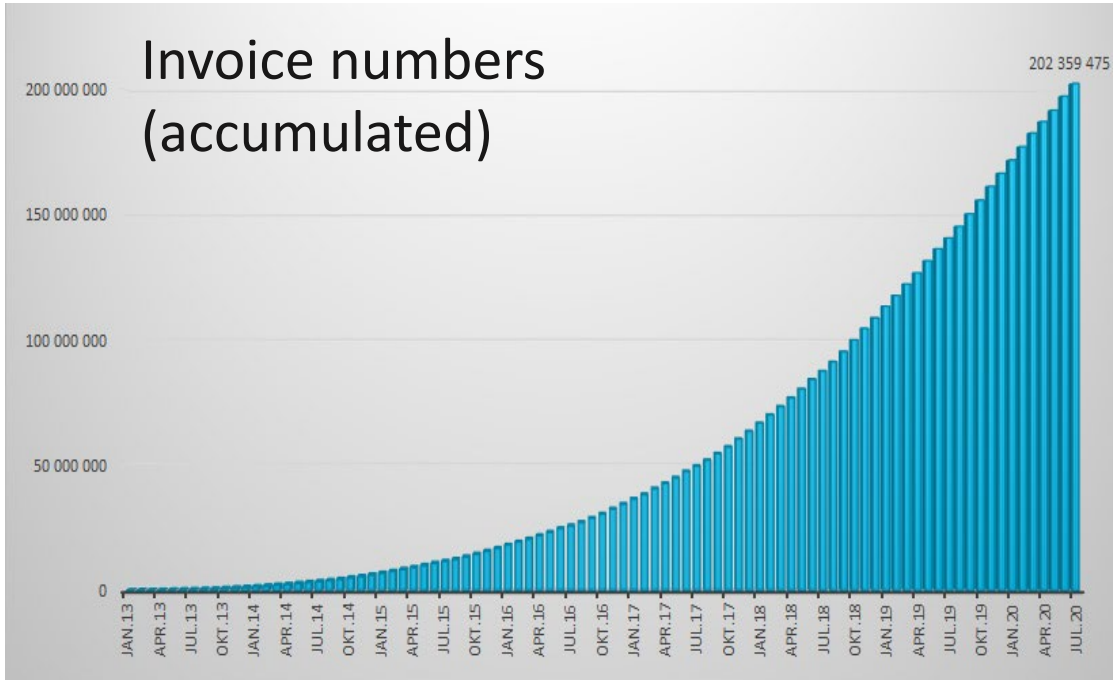
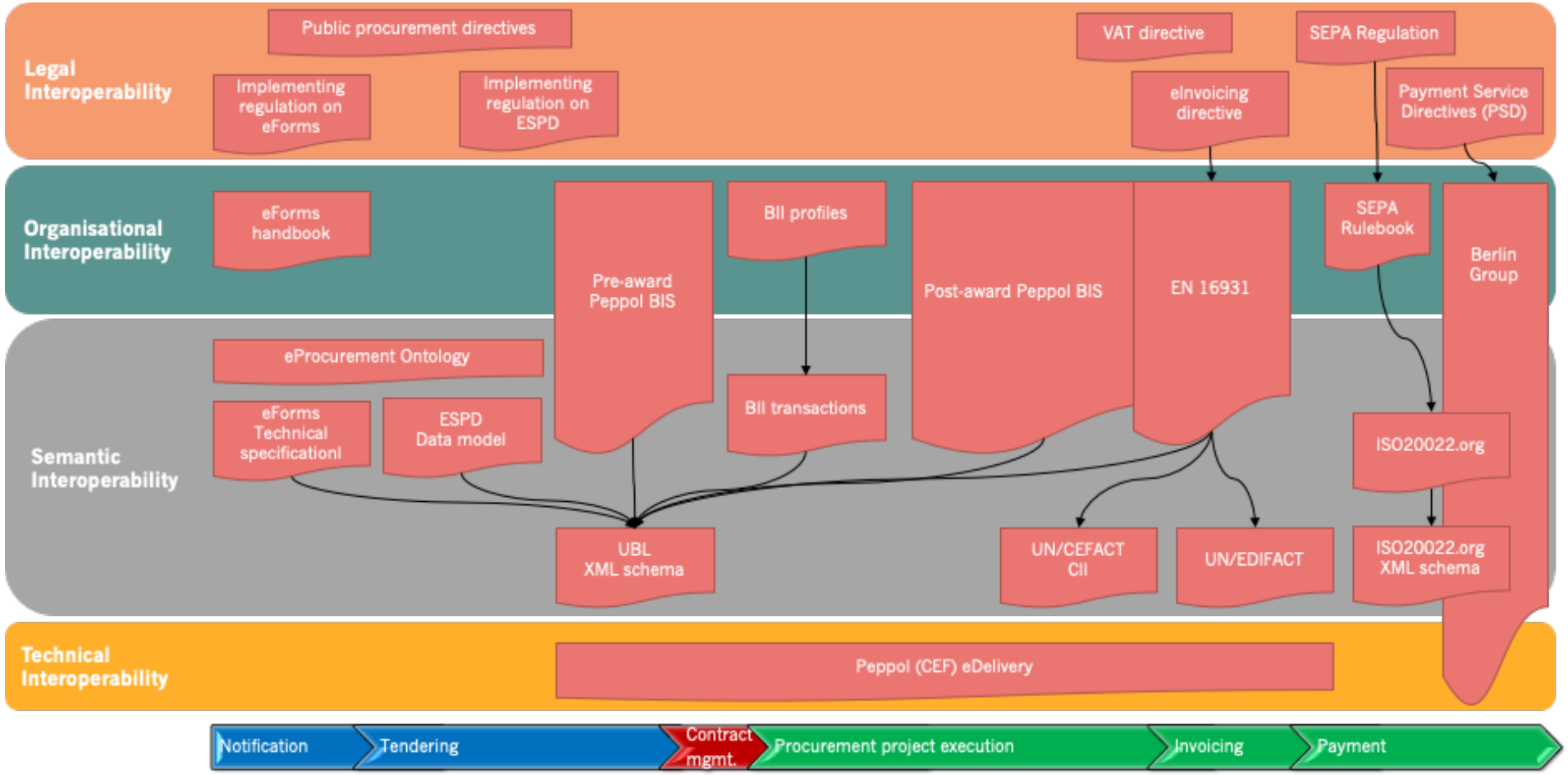
eInvoicing in Norway

- Mandatory for all central government entities to receive and process EHF invoices from 1.7.2011
- Mandatory for all central government entities to require EHF invoices from their suppliers from 1.7.2012
- Mandatory for all public sector entities to use EHF from 1.1.2015
- Mandatory for all contracting authorities (public sector and utilities) to receive and process EN 16931 enabled EHF/Peppol BIS from 2.4.2019 as implementation of directive 2014/55/EU on eInvoicing in public procurement





Interoperability and standardization in focus



Source: **Nordic-Baltic eProcurement state of play (2019 publication)**
https://nbprocurement.org/position-papers/nordic-baltic-eprocurement-state-of-play-2019/

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High level of engagement at European

2019 status of engagement

Standardisation activity	IS	NO	SE	DK	FI	EE	LV	LT
EXEP								
eProcurement Ontology								
eForms								
ESPD								
Peppol Pre-award								
Peppol Post-award								
CEN/TC 440								
CEN/TC 434								
UBL								

Level of engagement in eProcurement standardization activities*

High

- Actively participating in development and coordination with a view to influence

Medium

- Participating with a view to be informed

Low

- Occasional or no participation

Source: **Nordic-Baltic eProcurement state of play (2019 publication)**
https://nbprocurement.org/position-papers/nordic-baltic-eprocurement-state-of-play-2019/

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What did we actually take responsibility for

- Supported development of pan European standards by participating actively in standardisation organisations, and taking leadership of technical committees and workgroups
- Acted as drivers and first movers in development and implementation of Peppol Business Interoperability Standards and Peppol eDelivery in the eProcurement domain, taking leadership of the PEPPOL project
- Actively involvement of national Service Providers in the initial phases of digitalisation and standardisation
- Implemented National standards for eProcurement processes, including areas not yet covered by OpenPeppol
- Provided the market with open source software for implementation of Access Point services (Oxalis)
- Provided direct support to the establishment, management and operation of OpenPeppol
- Established a proactive Peppol Authority in Norway, also supporting implementation of eDelivery outside the eProcurement domain
- Actively coordinating national engagements in the CEF Programme

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Where are we

- eInvoicing almost completely digitalised and standardised
- Main part of the public procurement process is using eDelivery
- Use of Peppol eDelivery is an integrated part of in national reference architecture
- Implementation of Peppol eDelivery spreading into new domains
- Amounts of B2B transactions higher than amount of B2G transactions

FACTS & FIGURES

- Approximatly **50% of the public procurements process** using Peppol eDelivery
- **167.946 end-users** registered as receivers in the National SMP, of which the 90% are from the private sector
- **5.000.000 E-Invoices** pr month as average
- **48 Authorized Access points** Service Providers
- **e-delivery in use in 4 domains**
  Peppol PreAward, Peppol PostAward, Norweigan eGovernance, Norweigan ePayment.

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Main priorities

- Digital tendering and award (directive 2014/24/EU)
  - Dynamic Procurement System (DPS)
  - Digital tender documents
  - eSubmission
  - New tender notification service (Doffin) and Implementation of eForms
- Digital contract follow-up
  - eOrdering
  - Advanced eOrdering (EHF)
  - eInvoicing (directive 2014/55/EU)
  - Payment instructions (ISO20022-based)
  - Contract administration

Activities in pipeline for the next 3-5 years

Many plans and activities are identified for the next 3 years, but the following activities are in focus:

- Implementation of eForms either via PEPPOL BIS or EHF (in production by September 1st, 2022)
- Further development of ESPD
- PEPPOL BIS/EHF Dispatch Advice is in production together with other post-award formats
- Encryption and signing of invoices to achieve 100% electronic invoice
- Increased use of ISO20022 using ASiC, encryption and signing of documents
- Implementation of CTC solutions in public procurement
- Further standardisation and digitalitsation of contract follow up processes

Main observations

- Business domain interoperability is an optimal driver for implementing eDelivery
- Governmental commitment is a key enabler for success
- Early involvement of service providers is a key enabler for success
- Governmental involvement is the basis for getting started
- Market driven approach is the basis for getting impact
- International collaboration is the basis for return of investment
- Public focus is an optimal driver for adoption in the private sector

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Key enablers for eProcurement

- **Standardisation of business processes and information flow in the procurement process**
  - National standardisation – EHF – coordinated with joint standardisation efforts in CEN and the European Commission and through OpenPeppol AISBL
- **Provision and use of shared services / building blocks**
  - Peppol eDelivery network, national shared services / building blocks
- **Capacity building among public sector buyers, their suppliers, ICT industry and decision makers**
  - Increase digital maturity and enable realisation of benefits

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Main barriers towards eProcurment

- **The market's digital solutions do not communicate sufficiently with each other**
  - information has to be re-entered several times, resulting in duplication of work and increased risk of errors
- **The market lacks incentives or is prevented from offering certain shared services**
  - sub-optimisation of resources if all software providers would duplicate instead of re-using building blocks and shared services
- **Many public entities and their suppliers lack the resources and expertise to digitalise procurement on a sound basis**
  - lack of strategic ICT skills and understanding of how technology can be used to improve procurement processes

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Potential gains from eProcurement

- **More effective purchasing and simpler processes** – the least possible time and cost spent on procurement activities
- **Better purchasing and fulfilment of requirements** – the right item or service purchased in the right quantity and for the best price
- **Purchasing more in line with legal requirements** – fulfilment of regulatory requirements and suppliers' rights while avoiding corruption or default

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Closing Remarks

- Digitalisation, standardisation and interoperability cross boarder & cross domain
- National anchoring at governmental level is basis for success
- Early involvement of Service Providers is essential for adabtation
- Level of Governmental involvement sets the pace for standardisation and digitalisation
- Level of decentralisation and market driven increases the sets the pace for dissemination and uptake

Get Focused - Get started - Get results

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Additional information

- Norwegian eProcurement website: https://www.anskaffelser.no/public-procurement
- National Norwegian standards: https://anskaffelser.dev/
- Norwegian Peppol Authority country profile: https://peppol.eu/what-is-peppol/peppol-country-profiles/norway-country-profile/
- 2019 Survey on Nordic Baltic State of Play for e-procurement
  - Survey introduction: https://nbprocurement.org/position-papers/nordic-baltic-eprocurement-state-of-play-2019/
  - Nordic Country profiles: https://nbprocurement.files.wordpress.com/2020/06/country-profiles-2019-whitepaper-v1.pdf
  - Norwegian country-profile survey details: https://drive.google.com/file/d/1xP7nv4T3qU6yL4MZhVu-Xd8IXvo1bzmK/view
- Other surveys
  - 2019 eInvoicing Country factsheets; https://ec.europa.eu/cefdigital/wiki/display/HOME/2019+eInvoicing+Country+factsheets
  - ECertice Performance index; https://ec.europa.eu/internal_market/scoreboard/performance_by_governance_tool/e-certis/index_en.htm
  - International market reports from Billentis: https://www.billentis.com/Publikationen_e.htm

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Direktoratet
for forvaltning og
økonomistyring

Peppol

The future is open

EU4 Digital eDelivery virtual study visit

9th October 2020

Application of the Peppol eDelivery Network

Steve Graham
OpenPeppol

Peppol is owned by OpenPeppol AISBL

Agenda

- About OpenPeppol and Peppol
- How Peppol works
- Peppol Interoperability Framework
- Current Peppol applications
- Peppol applications in development
- Find out more

About OpenPeppol and Peppol

OpenPeppol is who we are

OpenPeppol was established in 2012 following a large-scale pilot co-funded by the European Commission and a consortium of 18 government entities to enable cross-border public procurement and eInvoicing. We are a not-for-profit international association, democratic, member-led organisation, consisting of public and private sector members.

Peppol is what we do

We integrate business processes by standardising the way information is structured and exchanged. Peppol is the name of the eDelivery Network and Business Interoperability Specifications that we provide, as part of the comprehensive Peppol Interoperability Framework, which includes legal agreements, governance and compliance measures

Peppol stakeholders and service domains

Peppol stakeholders

- End Users — who send and receive business transactions
- Service Providers — who enable the exchange of business transactions
- Peppol Authorities — government bodies that drive Peppol adoption

Current Peppol service domains

- Pre-award procurement
- Post-award procurement
- eDelivery

Future Peppol service domains in development

- Continuous Transaction Controls
- Logistics

Peppol adoption

Membership

- 431 members and observers from 36 countries
- activity in Europe, Americas, Asia, and Oceania

Adoption

- More than 300,000 active end users (invoice recipients)
- More than 150 million business transactions exchanged in last year
- Adoption is driven by:
  - governments (currently 13 countries)
  - a network of service providers (currently 297 certified providers)

Infrastructure in the Peppol four-corner model

C2 and C3

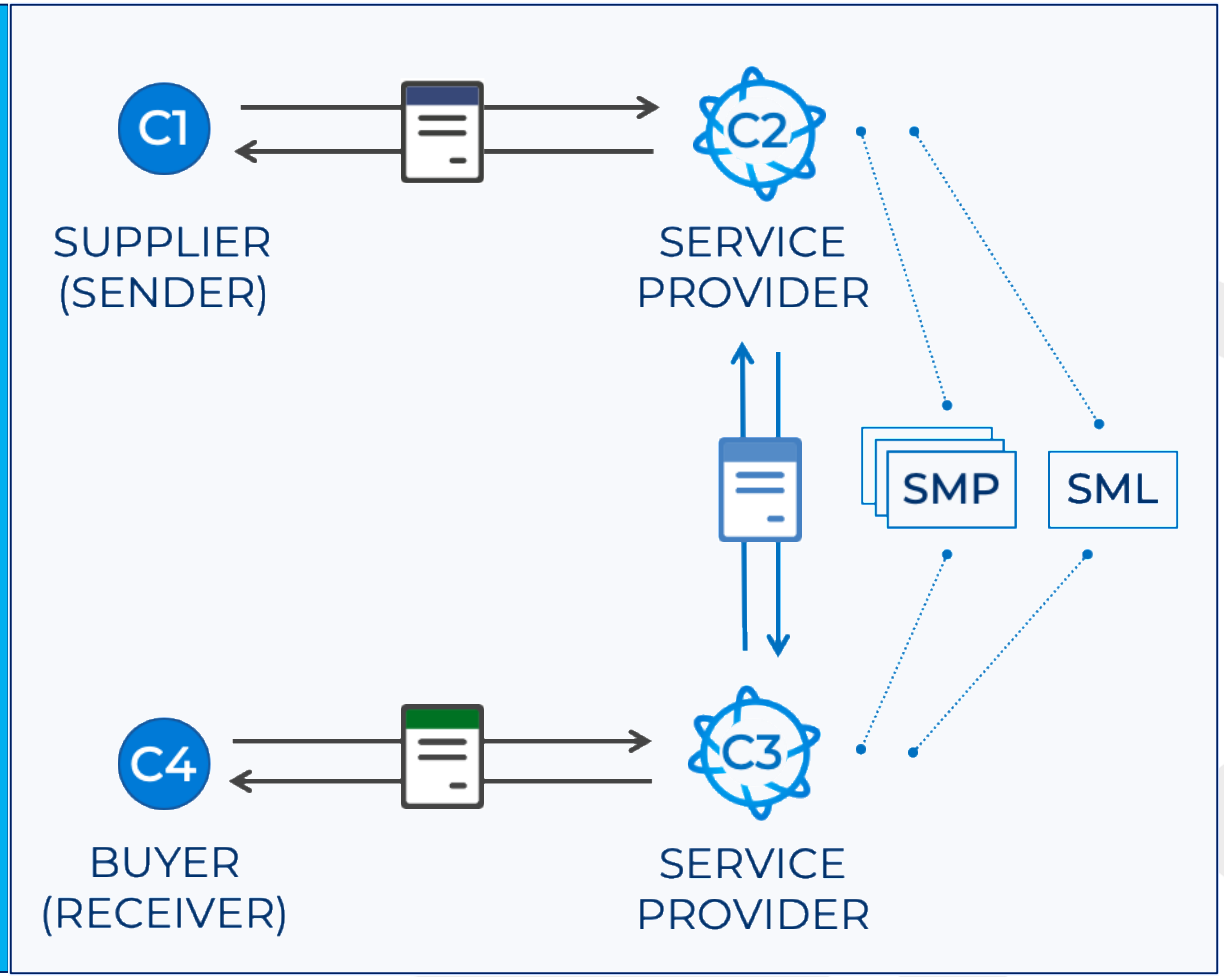
- Peppol-certified Service Providers exchange Peppol BIS documents
- C3 places customer address and capability data in the SML and SMP

Service Metadata Locator (SML)

- C2 connects to the SML to look up the address of the Receiver's SMP

Service Metadata Provider (SMP)

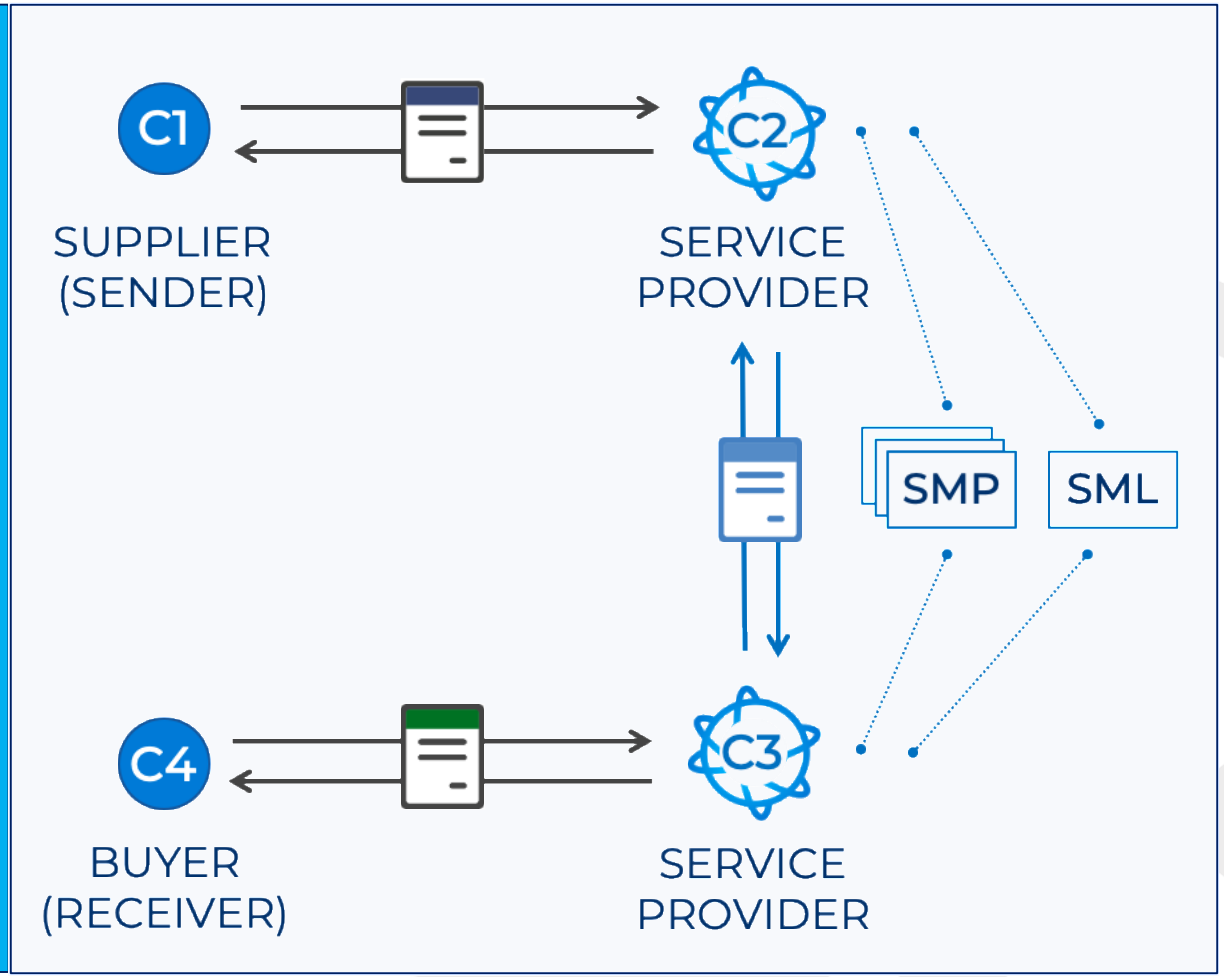
- C2 connects to the Receiver's SMP to look up the capability of the receiver to accept Peppol BIS



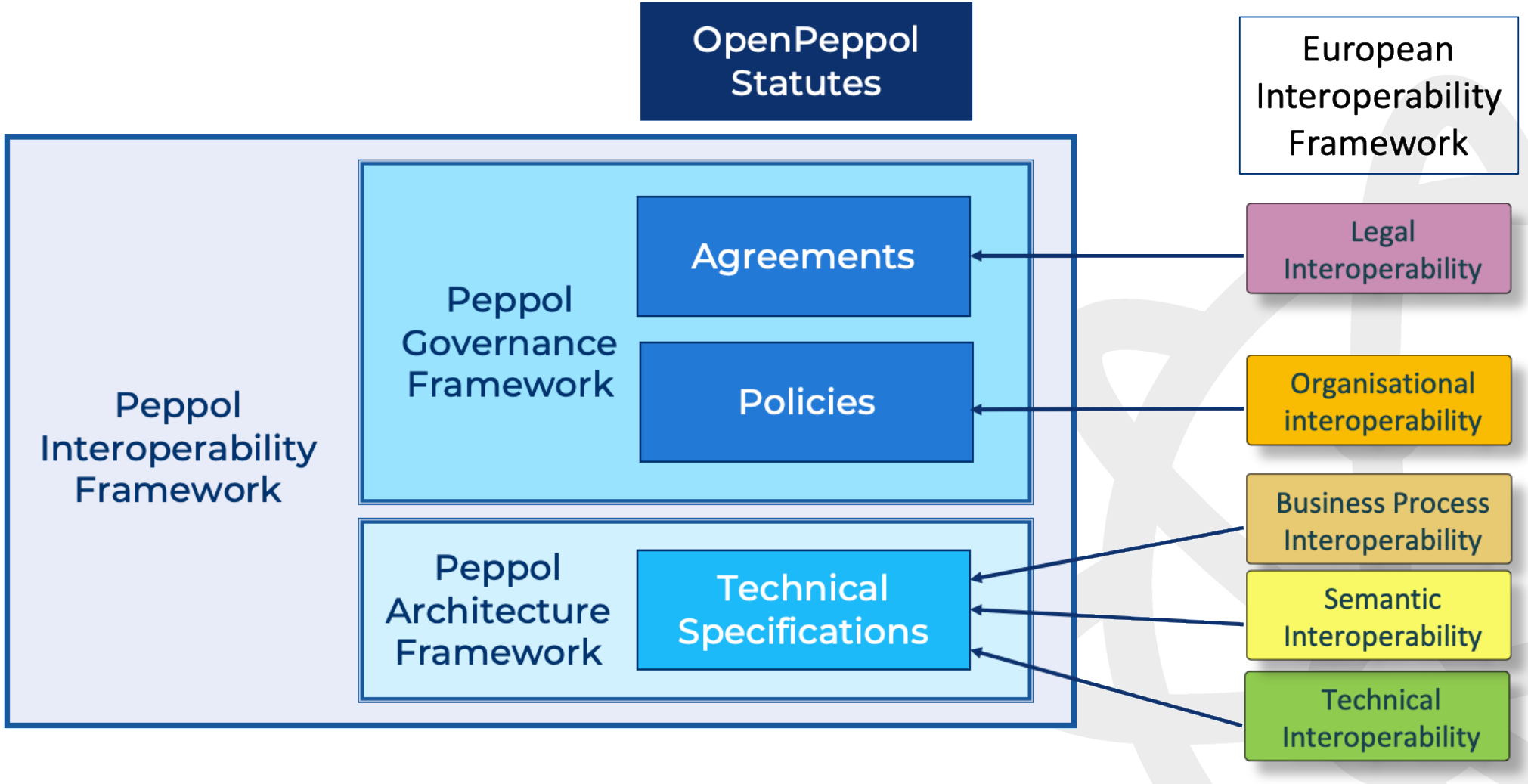
Interoperability in the Peppol four-corner model

SUPPLIER sends eDOCUMENT to his chosen Service Provider, who validates format and sends eDOCUMENT to the BUYER's chosen Service Provider

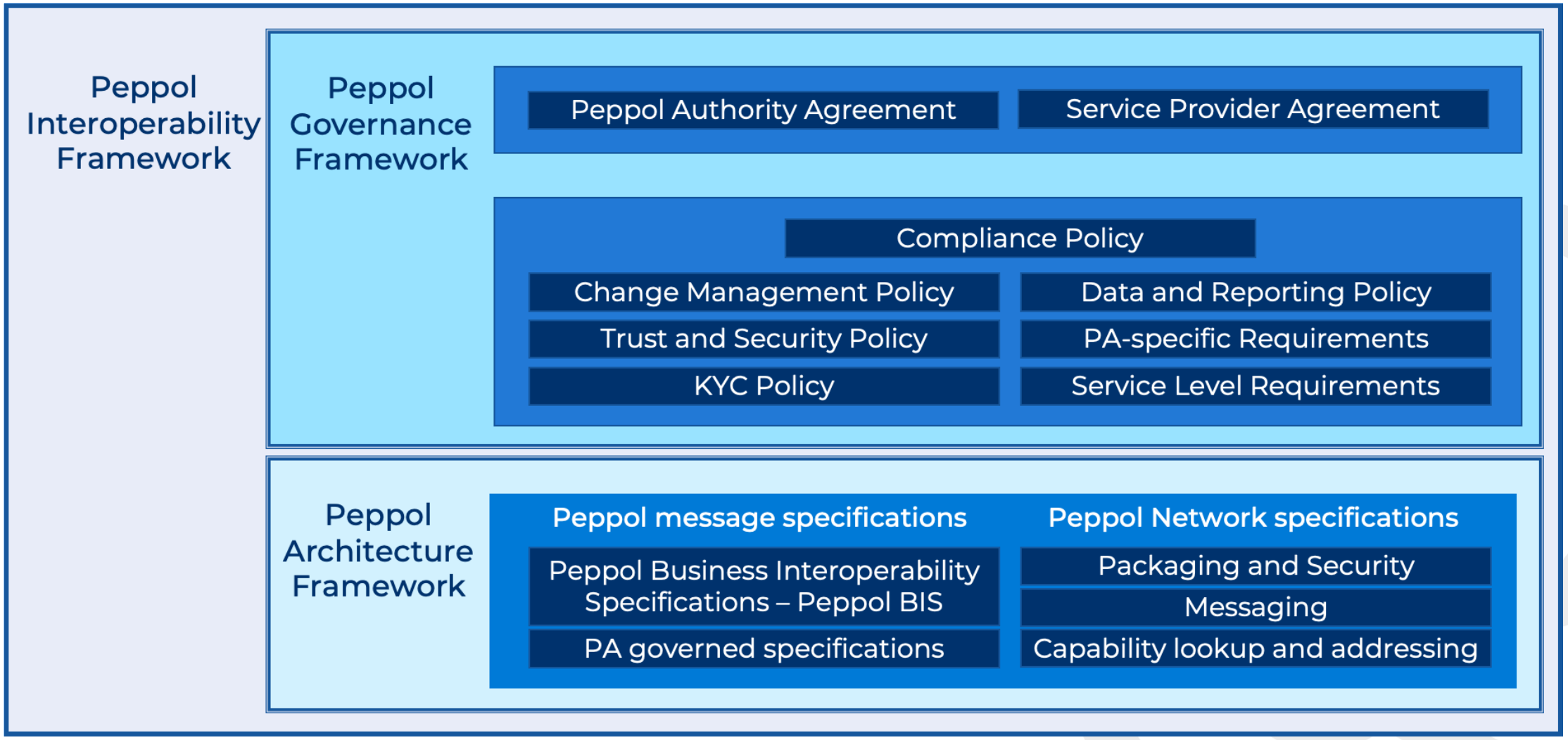
- Peppol-certified Service Provider (C2) sends eDOCUMENTs that comply with the Peppol Business Interoperability Specifications (BIS)
- Strengths
  - provides interoperability
  - low-cost with no lock-in



Achieving interoperability



Peppol Interoperability Framework - artefacts



Current applications (messages types in production)

Post Award	Pre Award
Invoice/credit note	ESPD request
Invoice response	ESPD response
Order only	Procedure description
Ordering	Document access
Order agreement	Tender submission
Despatch advice	Catalogue
Message level response	
Catalogue	
Catalogue without response	
Punch out	

Moving towards international interoperability

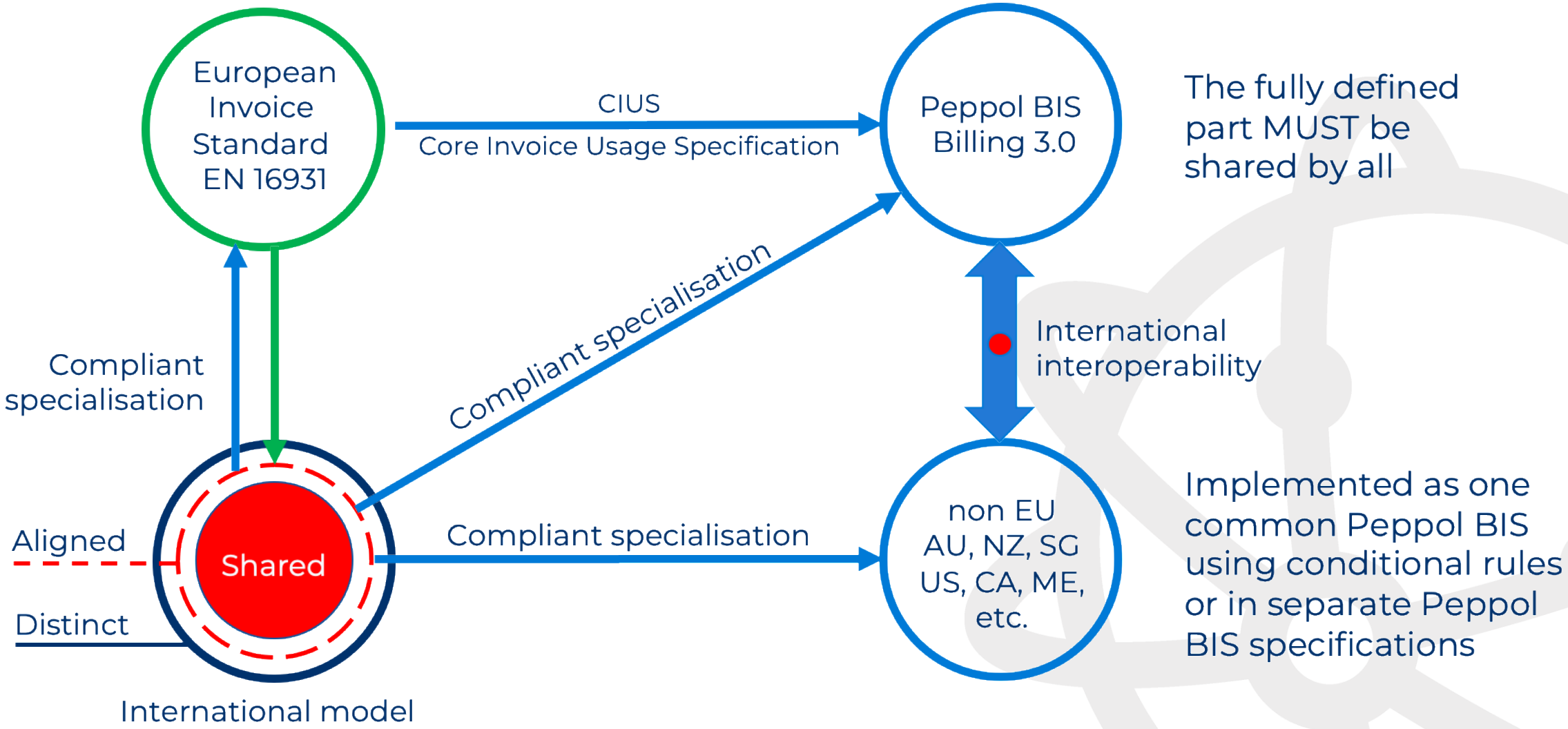
Peppol eInvoicing supports Internal EU Market trade, utilising Peppol BIS Billing, which is a Core Usage Invoice Specification meeting EN16931

As the adoption of Peppol continues to expand globally, we need to create solutions that provide international interoperability, both to meet the needs of national markets and also to enable EU global trade

The Peppol International Invoice will meet this increasing requirement and is currently in development

In principle, other message types can become international to provide increasing levels of interoperability between organisations and jurisdictions.

Peppol International Invoice (in development)



Continuous Transaction Controls (CTC)

According to the International Chamber of Commerce (ICC) Practice Principles for the Implementation of Continuous Transaction Controls (CTCs)

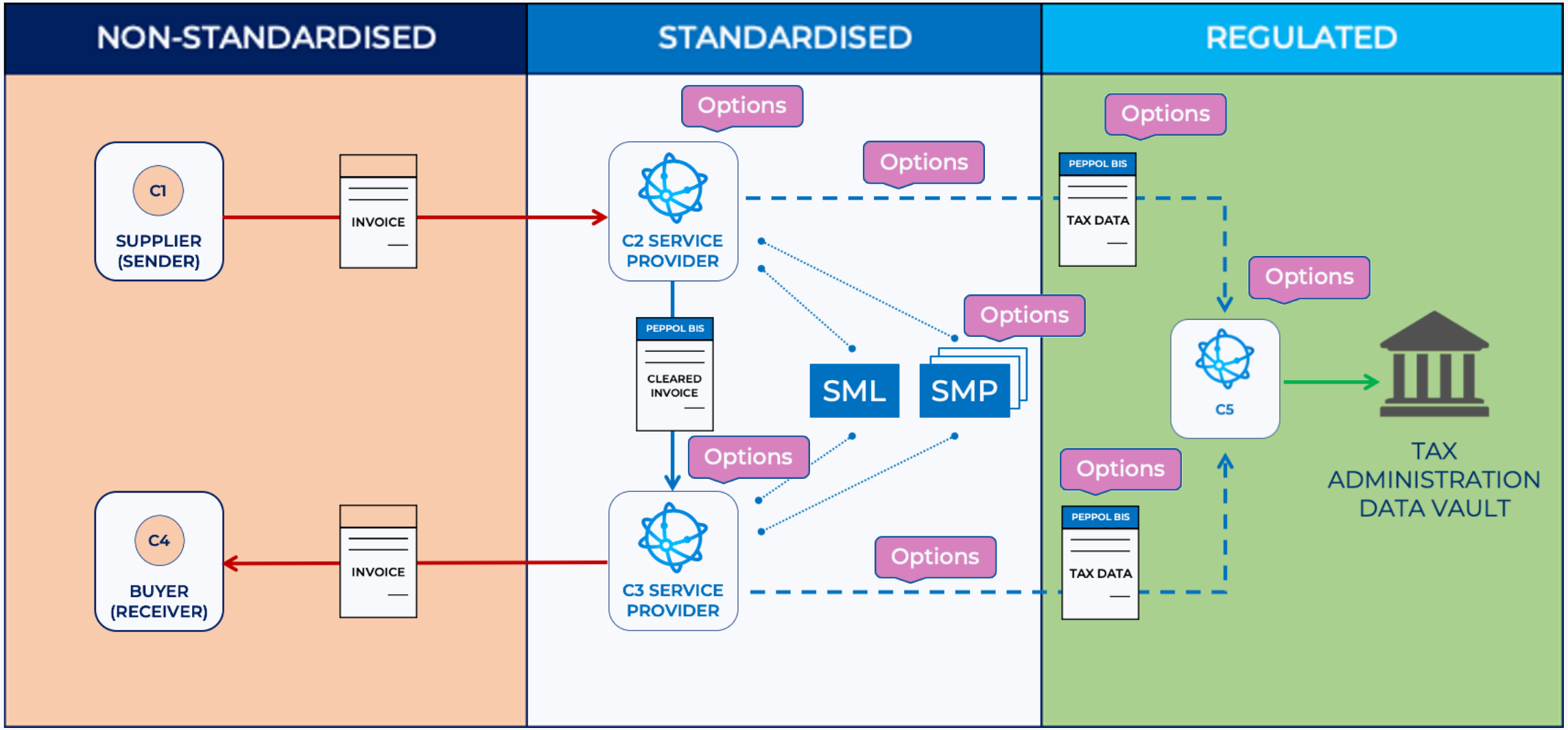
- CTCs enable law enforcement agencies such as tax administrations, to collect data associated with business activities that are relevant to the exercise of their function. Such data is obtained directly from business transaction processing and/or data management systems, in real-time or near-real-time

The ICC has established the following principles

- balance, including economic benefits, flexibility, automation
- efficiency, including harmonisation, consistency, interoperability, once-only
- having a holistic and long-term strategy
- cooperation between the public and private sectors
- data protection and data privacy
- minimised trade impact and non-discrimination

Peppol CTC (in development)

(*delegated clearance/regulated distribution*)



Find out more

- eMail info@peppol.eu
- website www.peppol.eu
- any questions?

THANK YOU!

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