



CEF Digital  
Connecting Europe



# The CEF Building Blocks

Digital Building Blocks for Horizon 2020 eGovernment Projects

9 December 2020, 10:00 – 12:00

## Moderating today's session...

Thomas FILLIS (AKA “**CEF Building Blocks**” in Webex)

### Comms, PR, events coordinator

CEF Stakeholder Management Office (SMO) in the Directorate General for Informatics (DIGIT).

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# First, a welcome from...

**Georgios LAPPAS (CNECT)**

**Alma-Joy RIDDERHOF (CNECT)**

**Jarkko SIREN (REA)**

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# Today's agenda

**1** **CEF Digital**  
Connecting Europe

**2** **CEF Building Block Presentations**  
Mature, reusable solutions provided for you

**3** **Innovation & Networks Executive Agency**  
A word on CEF Grant funding and its results

**4** **Q&A / Discussion**  
Ask your requests and find it how to reuse a Building Block

# CEF Digital

# What can be done to help public administrations and businesses make the most of the digital world?

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- **Regulate**

European legislation should promote interoperability and take into consideration the impact and use of digital technologies worldwide

- **Enable**

Public administrations and businesses should have access to secure and standardized tools they can use to function in the digital world

The background features a stylized map of Europe composed of a grid of dots, overlaid with a network of interconnected nodes and lines, suggesting a digital or data network. A yellow horizontal line is positioned above the text, and a black horizontal line is positioned below it.

For the Digital Single Market to come to fruition,  
we need **common standards and specifications**  
for digital technologies so businesses, public  
administrations and citizens can enjoy the benefits of  
interconnectedness across borders, industries and sectors.

# Since 2014, we have been providing precisely that

## Regulating

*to support the adoption of European-wide specifications and standards*

eIDAS, OOP, SDG... are the new regulatory frameworks for the Digital Age

## Enabling

*by providing ready-made reusable digital solutions based on common standards, called Building Blocks*

By adopting Building Blocks, actors in the Single Market become bridges that connect National and European digital infrastructures, automatically complying with EU regulation



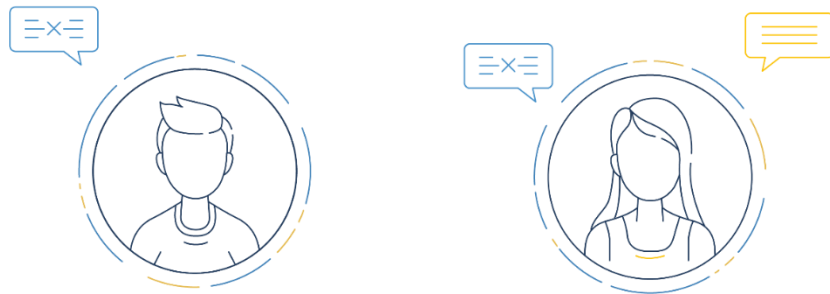
# How can CEF Digital help you

Our mission is to increase the interconnection between trans-European networks by helping public administrations, businesses and citizens fully benefit from what “digital” has to offer.

## We promote the adoption of common digital standards by:

- Providing **technical support** to public administrations and businesses in their digital transition;
- Helping them develop **secure, interoperable digital services**;
- Providing funding to projects that can contribute to a more connected Europe;

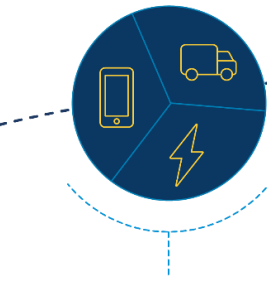
This support package comes in the form of **Building Blocks**.



# Where does the funding come from?

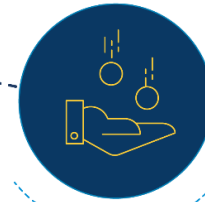
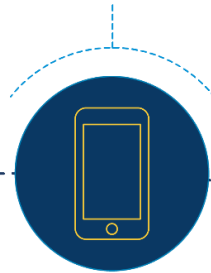
Let's take a look at CEF Digital's origin and how the Building Blocks' funding is organized

The **Connecting Europe Facility (CEF)** is a funding mechanism of the EU to increase the development of the Digital Single Market's critical infrastructure



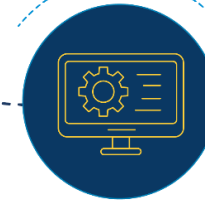
Which is why CEF is organised in three sectors: **Transport, Energy** and **Telecom**

**CEF Telecom** encompasses broadband projects and **CEF Digital**



**CEF Telecom's guidelines** define the objectives and eligibility **criteria for funding** of projects within its remit.

Some of these projects are Digital Service Infrastructures (DSIs). Such is the case of **Building Blocks**



## In short...

CEF Digital's work programmes translate CEF Telecom's guidelines into concrete actions planned and funded on a yearly basis.

# Meet the CEF Building Blocks



## Big Data Test Infrastructure

Experiment with big data in a safe test environment to inform decision making and improve performance



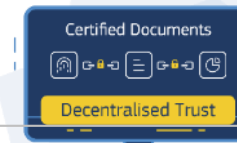
## Context Broker

Collect and analyse diverse data, sharing it in a useable format in real time



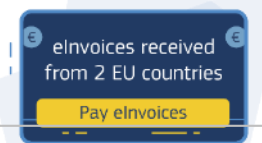
## eArchiving

Preserve, migrate, reuse and your data with secure digital archiving



## European Blockchain Services Infrastructure

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



## eInvoicing

Implement cross-border, B2G electronic invoicing in line with the European standard



## eID

Empower citizens to verify their identity across borders, making it easier to access online services in other EU Member States



## eDelivery

Exchange online data and documents reliably and securely



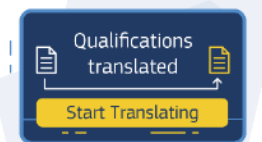
## eSignature

Create and verify electronic signatures between businesses and EU citizens



## Once Only Principle

Re-use data held by Public Administrations.



## eTranslation

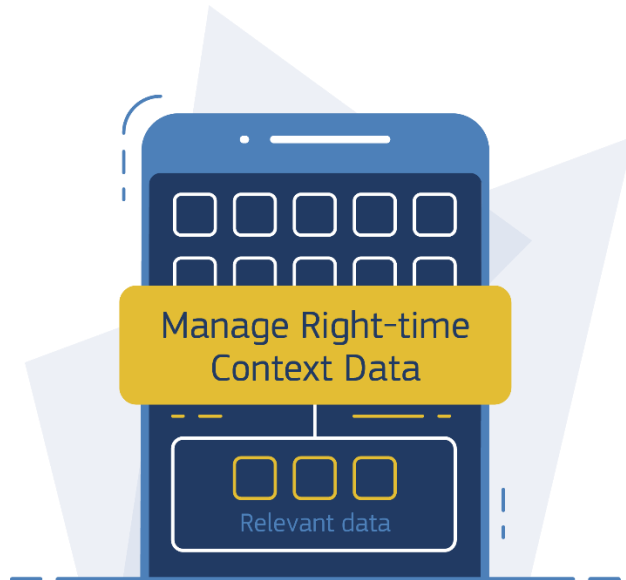
Use machine translation to translate your documents and web content into any official EU language, Norwegian or Icelandic

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# The Data Value Chain (Context Broker, BDTI, eArchiving)

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# What is Context Broker?



## Context broker

Gather, analyse and share context data from multiple sources in real-time to make smart, data-driven decisions.



## Data Broker

Assemble information from different systems, eventually belonging to different organisations, instead of having them perform in separate silos.



## Leverage Investments

Enable the creation in the Digital Single Market (of portable and interoperable solutions) a data marketplace.



## Easy Development

Reduce costs and time in the development of context information based platforms and solutions. Experience has shown that it is possible to create meaningful dashboards in a few days!

# Benefits of Context Broker

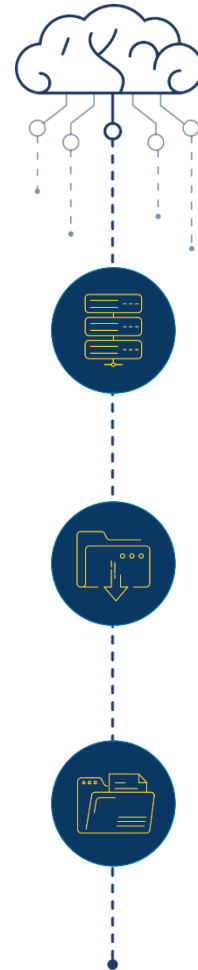
How do we help?

## Benefits

Make smarter decisions faster by leveraging contextualized data in real-time from various sources

Use standards-based ecosystems exploiting the same data, ensuring you can scale up

Take your product to market faster thanks to compliance support, through specifications and reference implementations



## How CEF Digital helps

Offering a set of standards and sample software with clear documentation

Ensuring connectivity and conformance-testing services in our data analytics sandbox

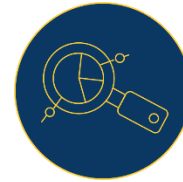
Supporting your project through our service desk and online community

# What is Big Data Test Infrastructure?



## Big Data Test Infrastructure

Experiment with your Big Data in our analytics sandbox, free of charge. A safe, virtual environment to improve your decision-making and performance.



### Experiment with data tools

Test and play around with software tools without wasting time on installation and settings.



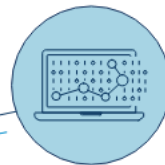
### Collect insights

Explore data and collect useful insights that might challenge and redirect your moves.

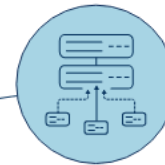


### Free-of-charge pilot

We help you set up a pilot project for creating, testing and implementing your own services based on big data.



Generate Data



Collect & Aggregate Data



Analyse Data



Preserve Data

# Benefits of BDTI

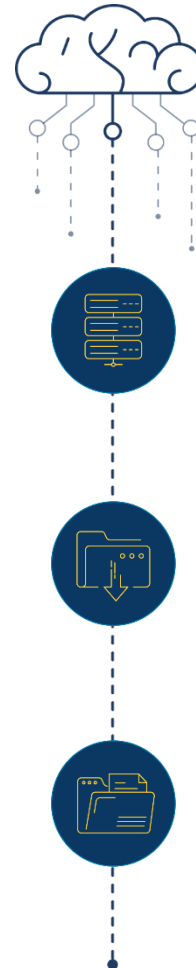
How do we help?

## Benefits

Access to a **ready-to-use** data analytics environment **free of charge**

Share and re-use data across organisations and policy domains

Access to best practices and knowledge-sharing on big data



## How CEF Digital helps

Offering various data sources, software tools and big data techniques

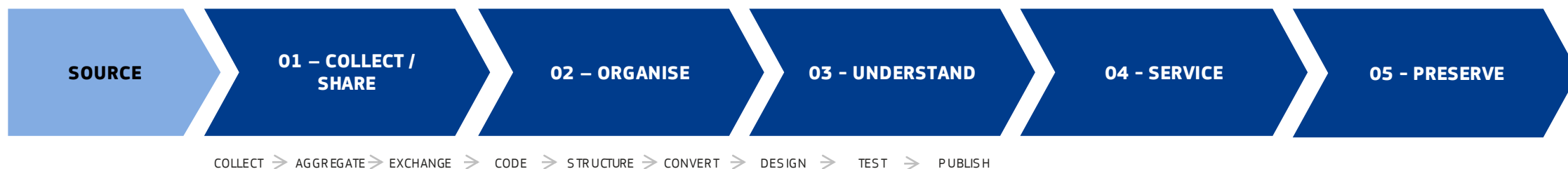
Including an onboarding service, advice and ongoing support from the CEF BDTI team

Access to the BDTI community and knowledge space, providing insight into the platform and big data techniques



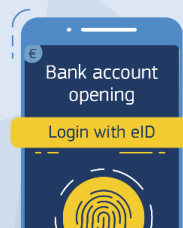
# Urban Digital Platforms are made of different components (building blocks) not a monolithic solution

## Data Value Chain



## Digital Platform

Building Blocks promoted by the European Commission for cross-border and cross-sector interoperability



eID



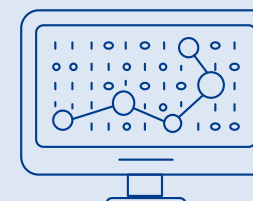
eDelivery



Context Broker



Big Data Test Infrastructure



Business Applications



eArchiving

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# The eArchiving Building Block



# What is eArchiving?

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eArchiving>



## eArchiving

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



## Standard specifications

- **E-ARK** Common Specification for Information Packages:
  - Submission (**METS**)
  - Archive (with **PREMIS**)
  - **Interoperable** dissemination & re-use
- Geodata (**INSPIRE** Directive)
- **eHealth** (soon)



## Sample software

- **Relational Database** archiving and reuse tools (**SIARD**)
- Pre-ingest and **SIP creation** tools
- **Long-term Repository** solutions
- Online **validation** tool



## Support

- **Service Desk**
- Training and user guides
- **Knowledge Center**
- E-ARK General model



## Onboarding & follow up

- Awareness raising
- **Conformance, compliance**
- Maturity Assessment Service
- **Webinars** and workshops

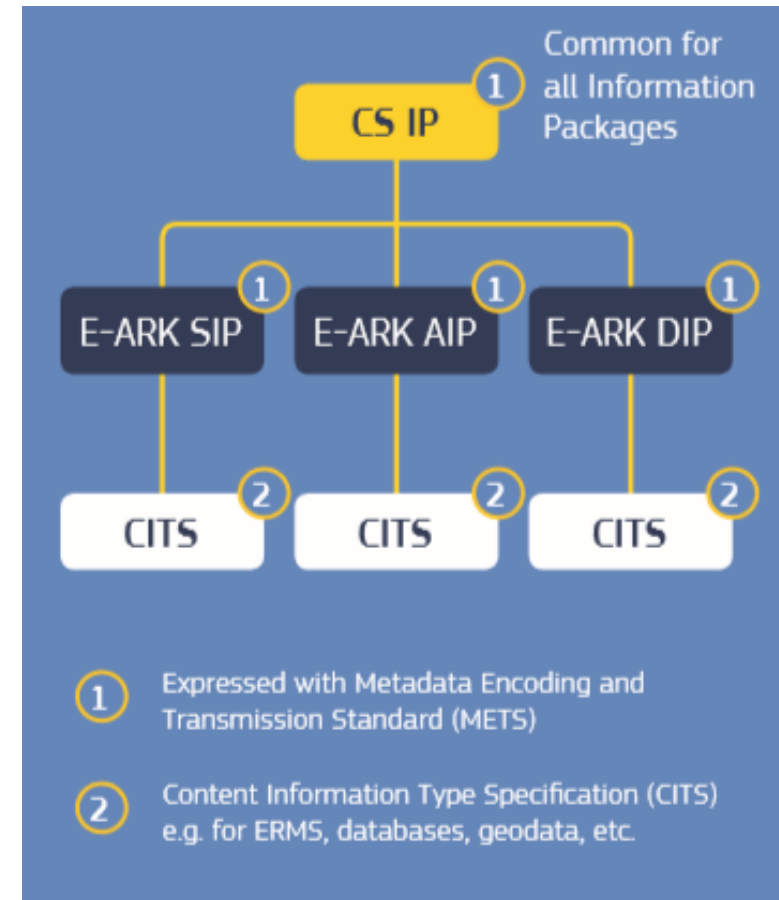
# eArchiving specifications

## Common Specification for Information Packages (CSIP)

1. Submission Information Packages (**SIP**), based on
  - Metadata Encoding Transmission Standards (**METS**)
2. Archival Information Packages (**AIP**), including
  - Preservation Metadata standard (**PREMIS**)
3. Dissemination Information Package (**DIP**)
  - **Interoperable** across borders and institutions

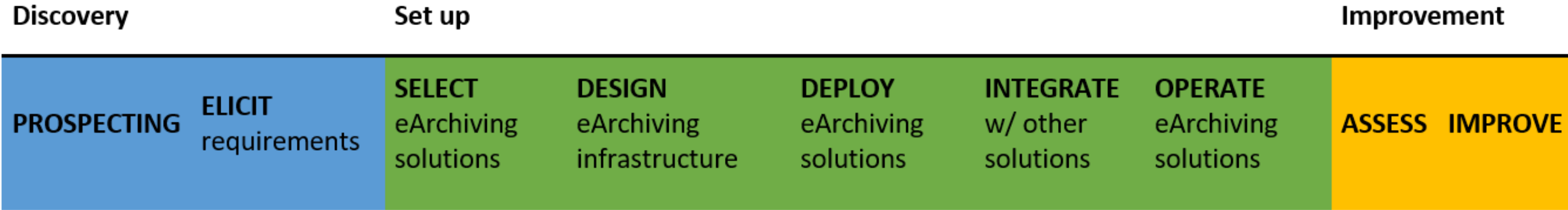
## Content Information Type Specifications (CITS)

- **Databases** (**SIARD** standard)
- **Geographical data** (including **INSPIRE** Directive)
- Electronic Record Management Systems (**ERMS**)
- **eHealth** (Two different specifications of eHealth)



# Highlights: Uptake

Onboarding process



- 11 new organizations have committed to analyse eArchiving;
- 2 new organizations have committed to reuse eArchiving;
- 8 new organizations are reusing eArchiving;
- Italian Central State Archives onboarded: success story in press;
- Collaboration with French National Archives: Archimag article and French participation in training survey.

## Indicators

### Uptake

21

implementations or proofs of concept use eArchiving

### Financial Monitoring

€ 4,900,000

CEF Core Service Platform funding

### Reuse of eArchiving

23

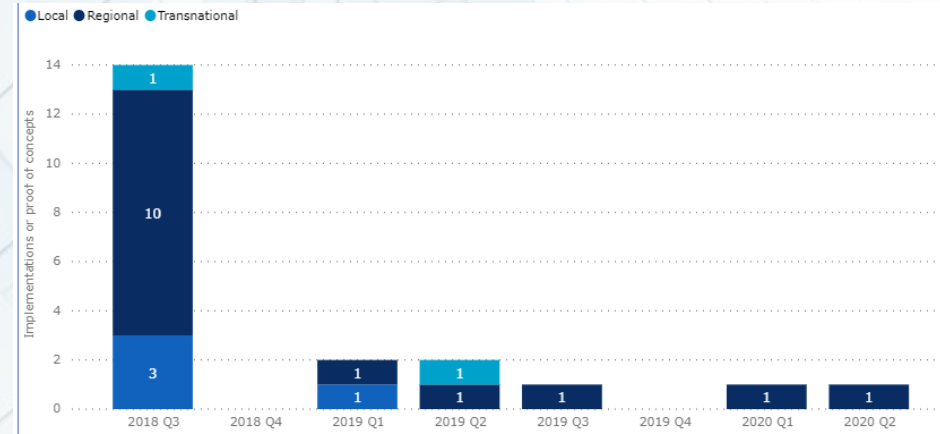
initiatives reuse eArchiving

## eArchiving Dashboard

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eArchiving+dashboard>

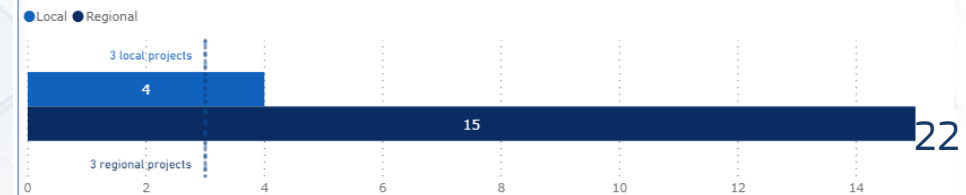
### Highlights:

21 implementations or proofs of concept use eArchiving. The first implementation starting using eArchiving in 2018.



### Target

3 local project and 3 regional projects that implemented or did a proof of concept with eArchiving, by the end of 2020.



# Vision



## Wide Adoption

Wide adoption of the E-ARK specifications across a broad range of sectors, domains and countries.



## Effective User communities

Going beyond the EAG and the three E-ARK Advisory Boards, we need a broader and deeper range of user groups.



## EU-wide Legal Mandate

Individual Member States have legislation mandating digital archiving practices for safeguarding government records etc. but there is nothing at the EU level.



## Sustainable set-up

We are aiming for a self-sustaining long-term set up that does not depend wholly on grants or subsidies.



[https://www.europeana.eu/en/item/9200397/BibliographicResource\\_3000126312806](https://www.europeana.eu/en/item/9200397/BibliographicResource_3000126312806)

# 05 Next in eArchiving

Workshop *eArchiving in action*  
25-28 January 2021



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# The eIDAS-enablers (eID, eSignature, eDelivery)

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# Introduction to CEF eID

## CEF eID

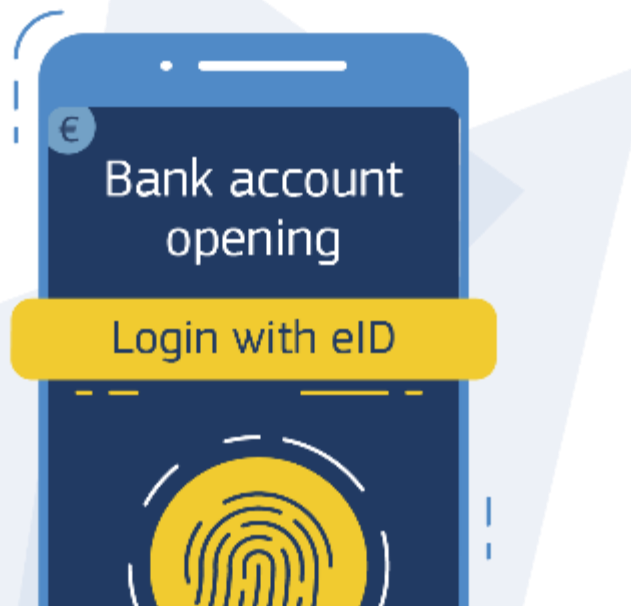
Enables the mutual recognition of nationally-issued eID schemes:

- to access public services (mandatory), and
- to access private services (voluntary)



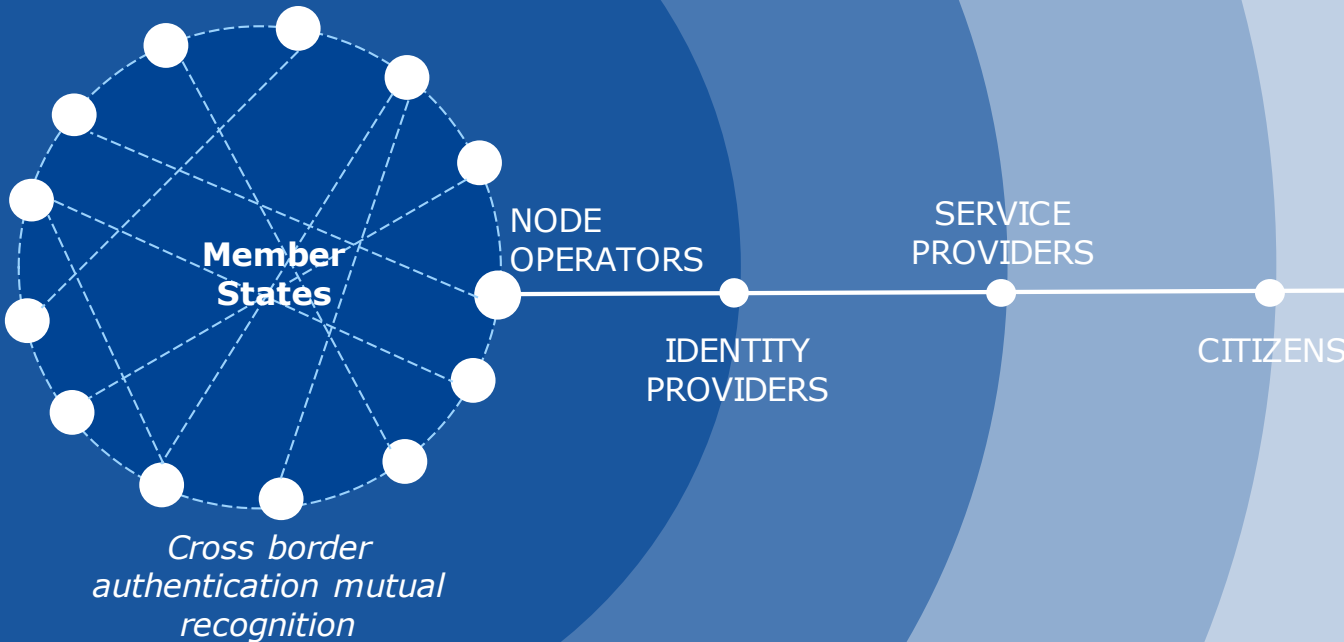
**George O'Neill**

CEF eID onboarding manager

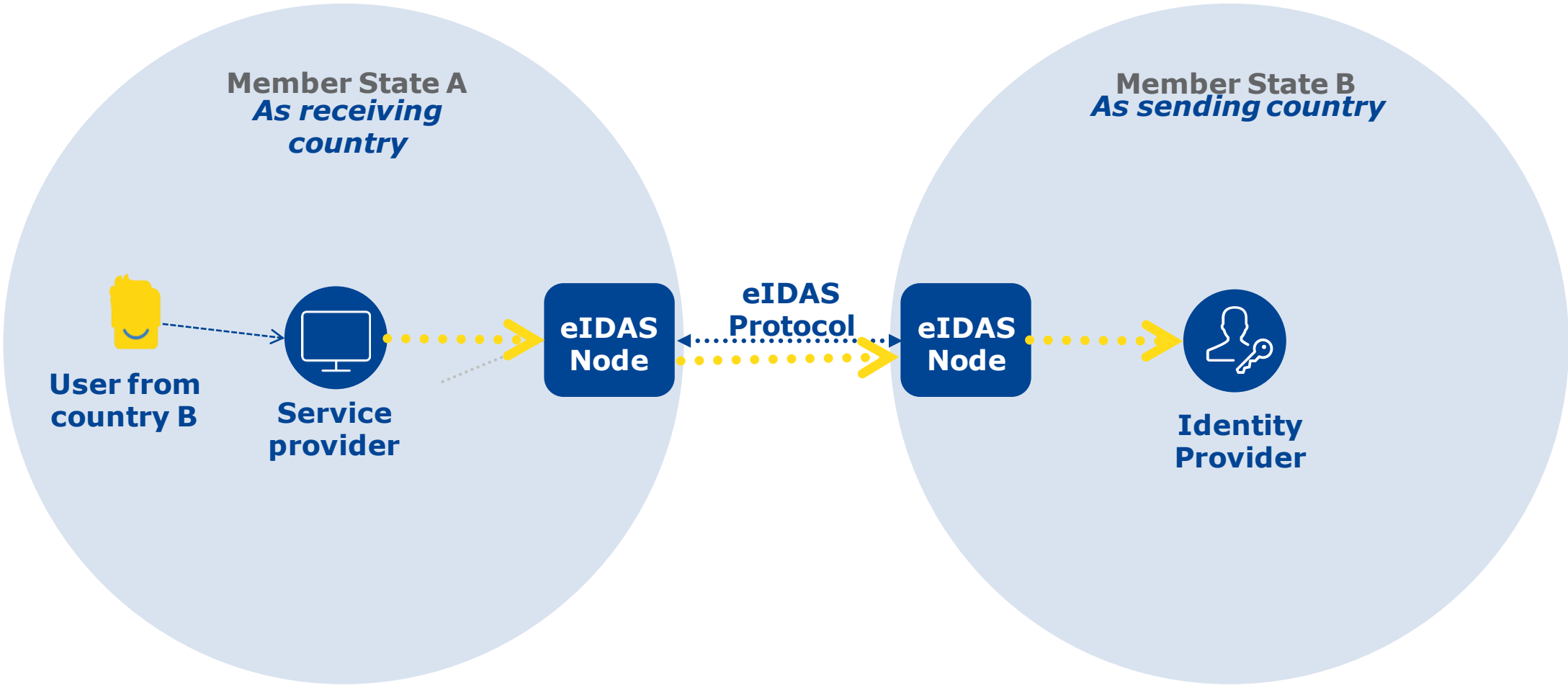


# eID ecosystem

A network of eIDAS nodes across EU Member States

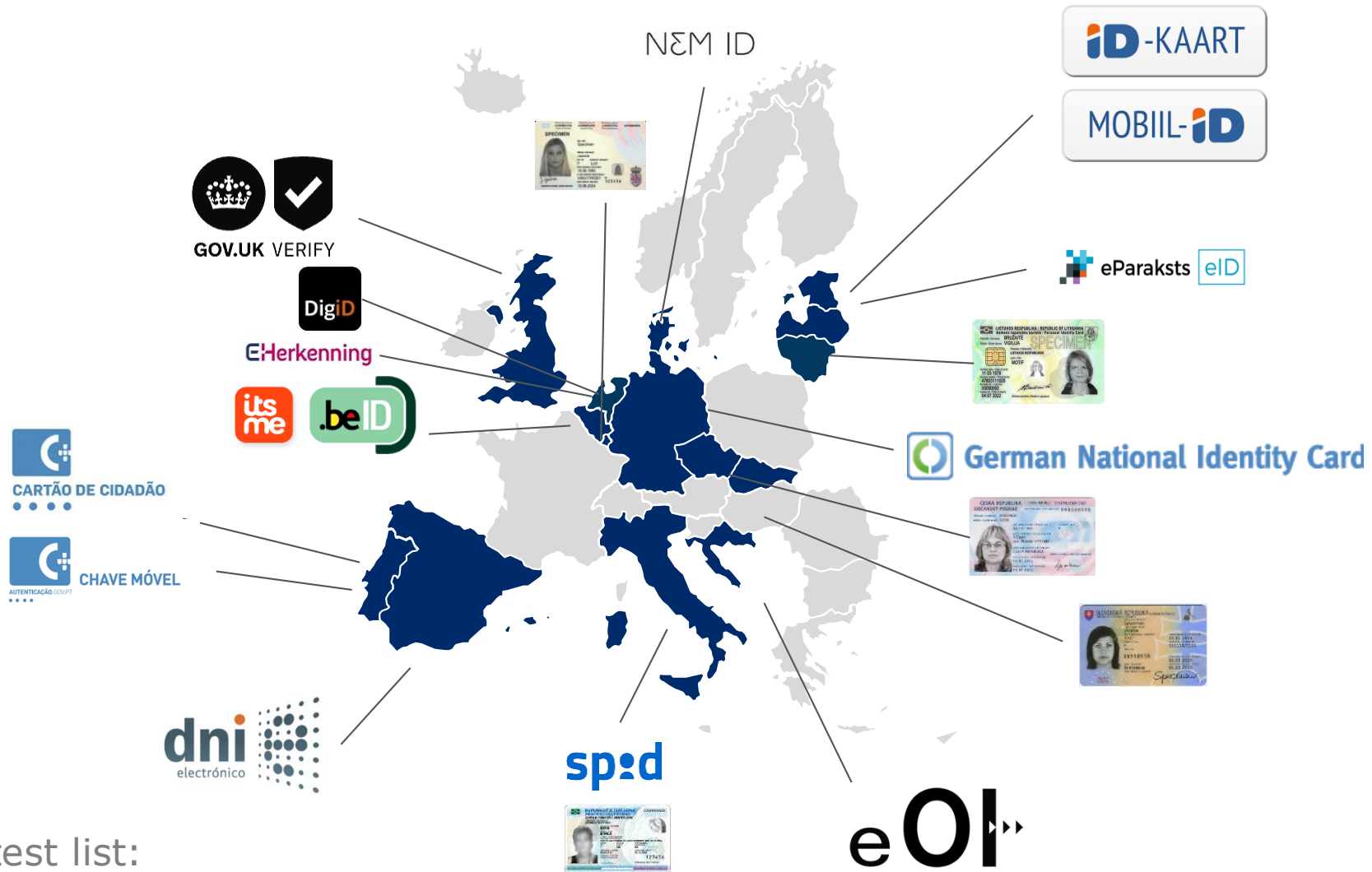


# eIDAS architecture



# Notified eID schemes

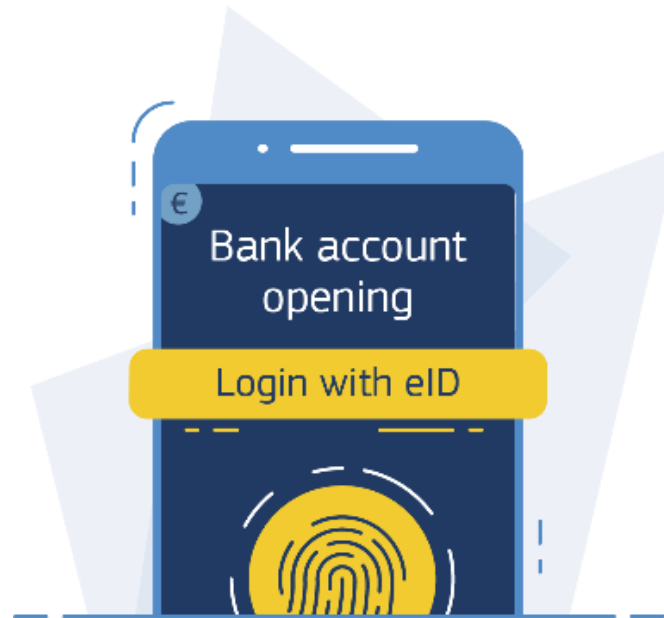
19 eID schemes across 15 Member States



Access the latest list:  
<https://ec.europa.eu/cefdigital/wiki/x/iw3oAg>

# Re-using CEF eID as a service provider

Connecting to your national eIDAS node



eID

Allow citizens to prove who they are across borders



- Find out more about eID on the [CEF Digital eID webpages](#)
- Contact your national [Single Point of Contact](#)
- Integrate your service with the **national eIDAS Node**

CEF Digital eID:

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eID>





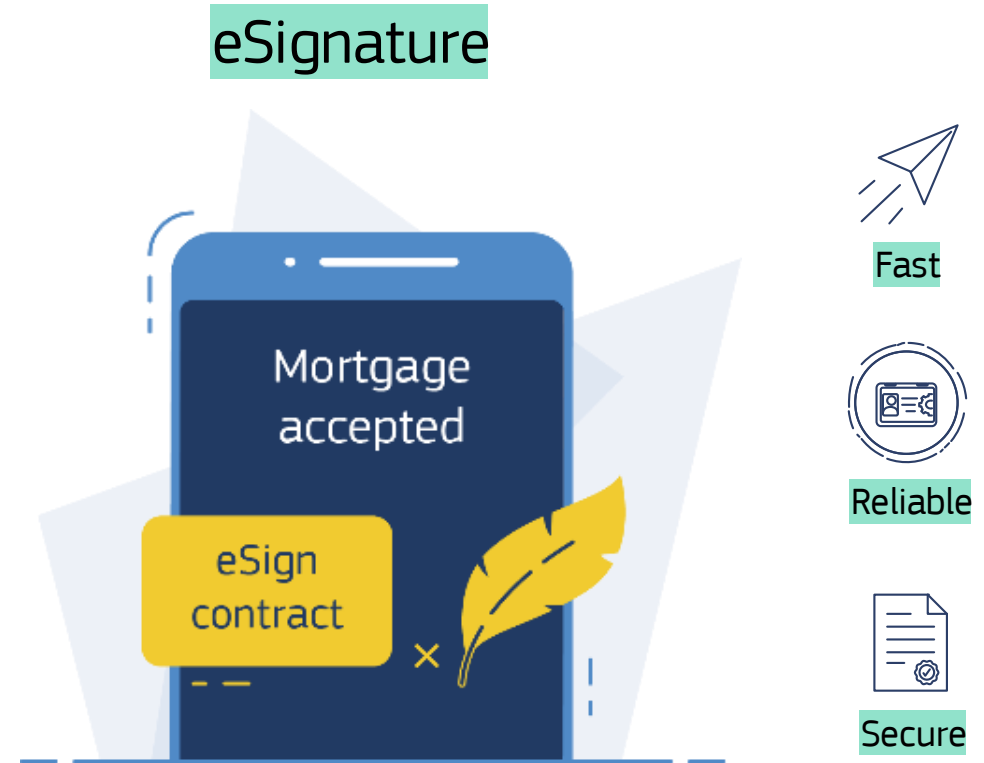
# eSignature

Sign electronic documents securely and reliably



# What is eSignature?

**eSignature** is a CEF building block consisting of a set of standards, tools and services that allows the creation and verification of electronic signatures. The electronic signatures produced with eSignature are compliant with eIDAS, and therefore recognised in the European Union and further.



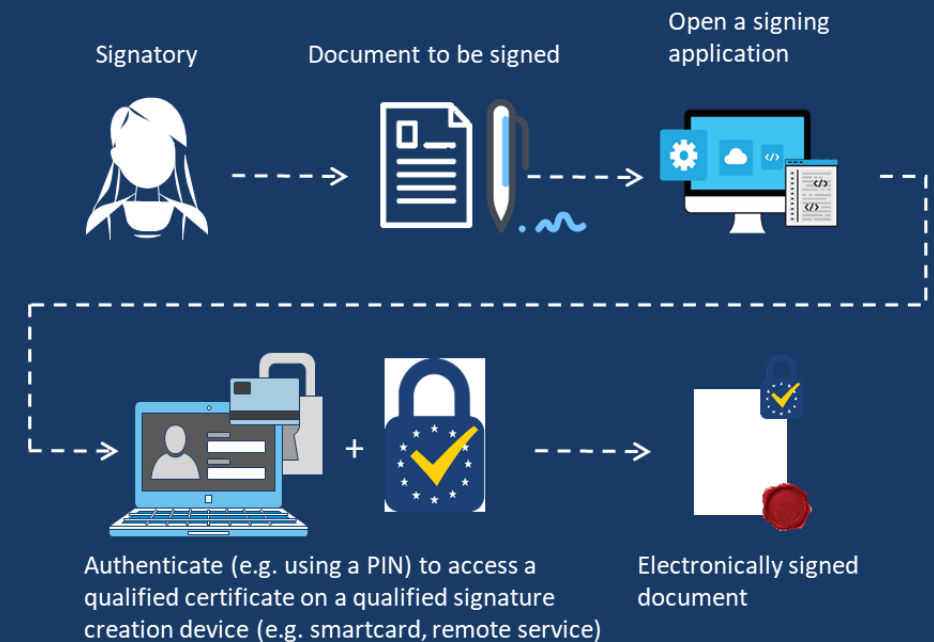


# How does it work?

CEF eSignature is conformed of a series of reusable software components, standards and libraries that enable out-of-the-box compliance with the eIDAS Regulation.

## eSignature is composed of three main components:

- The **Digital Signature Software (DSS) Open-Source library** is an open-source software library for electronic signature creation and validation. DSS supports the creation and verification of interoperable and secure electronic signatures in line with European legislation, and it can be re-used in an IT solution for electronic signatures to ensure its alignment with European legislation and standards.
- The **Trusted List Browser** is an online tool provided by the European Commission that allows for searching qualified trust service providers in Europe.
- The **TL Manager** is a web application for browsing, editing, and monitoring Trusted Lists used by the Trusted List Operators of each Member State.



# What can I do with it?

You can **build your signing solution** with CEF's open-source library, **Digital Signature Software (DSS)**, and enjoy out-of-the-box compliance with the eIDAS regulation and related standards.

You can **test the interoperability** and conformity of your own e-signature solutions with our **ETSI signature Conformance Checker** and our **Qualified electronic signature validation test cases**.

As a service provider, you can **obtain a digital certificate for eSignature, eSeal or website authentication** from a Trust Service provider, using our **Trusted List Browser** to choose from over 200+ active TSPs.



A qualified trust service provider (QTSP) is a TSP who provides one or more qualified trust services (QTS) and is granted the qualified status by the national supervisory body.



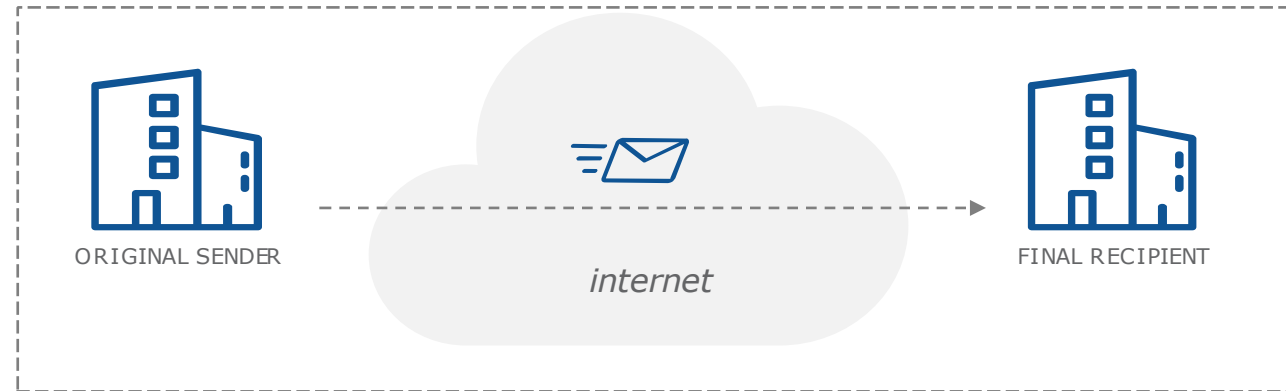
## **CEF eDelivery**

Ines Costa, CEF eDelivery  
December 2020



# The eDelivery Use-Case

DOMAIN-NEUTRAL USE CASE



Examples of DOMAIN-SPECIFIC USE CASES

Consumer Protection



Complaints

*Exchange of complaints*

Procurement



Invoices

*Exchange of invoices*

Justice



Claims

*Exchange of claims*

# 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

# Goals of eDelivery (AS4)



## Inter-operability

Implementing common technical specifications that enable diverse organisations to exchange data and documents



## Security

Promoting an atmosphere of trust among all parties in the message exchange network



## Scalability & Performance

Enabling the number of parties in the data exchange network to grow as well as the number of exchanged messages



## Legal Assurance & Accountability

Promoting a high level of transparency and confidence among all participants in the message exchange network

# eDelivery workflow

1

## Submit

Sender sends message to sending AP

2

## Send

Sending AP processes message

- Validation and compression of the user message;
- Signing of the compressed message;
- Encryption of the signed compressed message.

3

## Receive

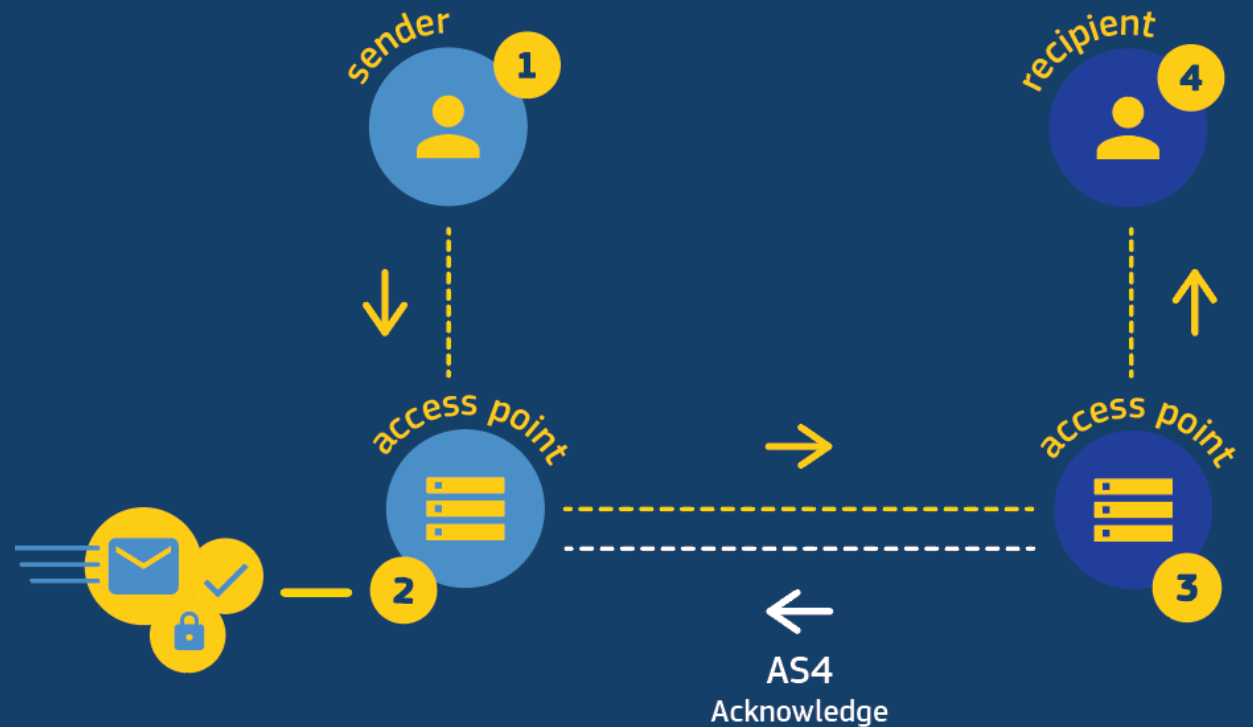
Receiving AP processes message

- Receives and decrypts the encrypted message;
- Verifies the sender's signature;
- Decompresses the decrypted message;
- Validates the original user message;
- Sends the acknowledgement to the sending AP;
- Stores the user message for download.

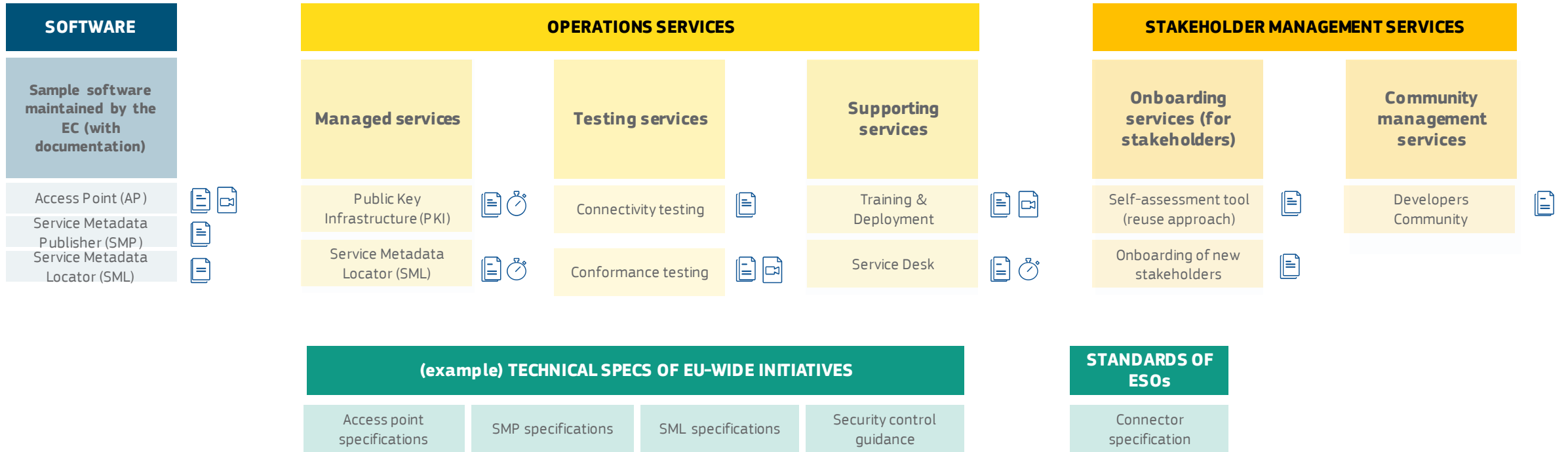
4

## Deliver

Recipient receives message from receiving AP



# CEF eDelivery Service offering



## 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

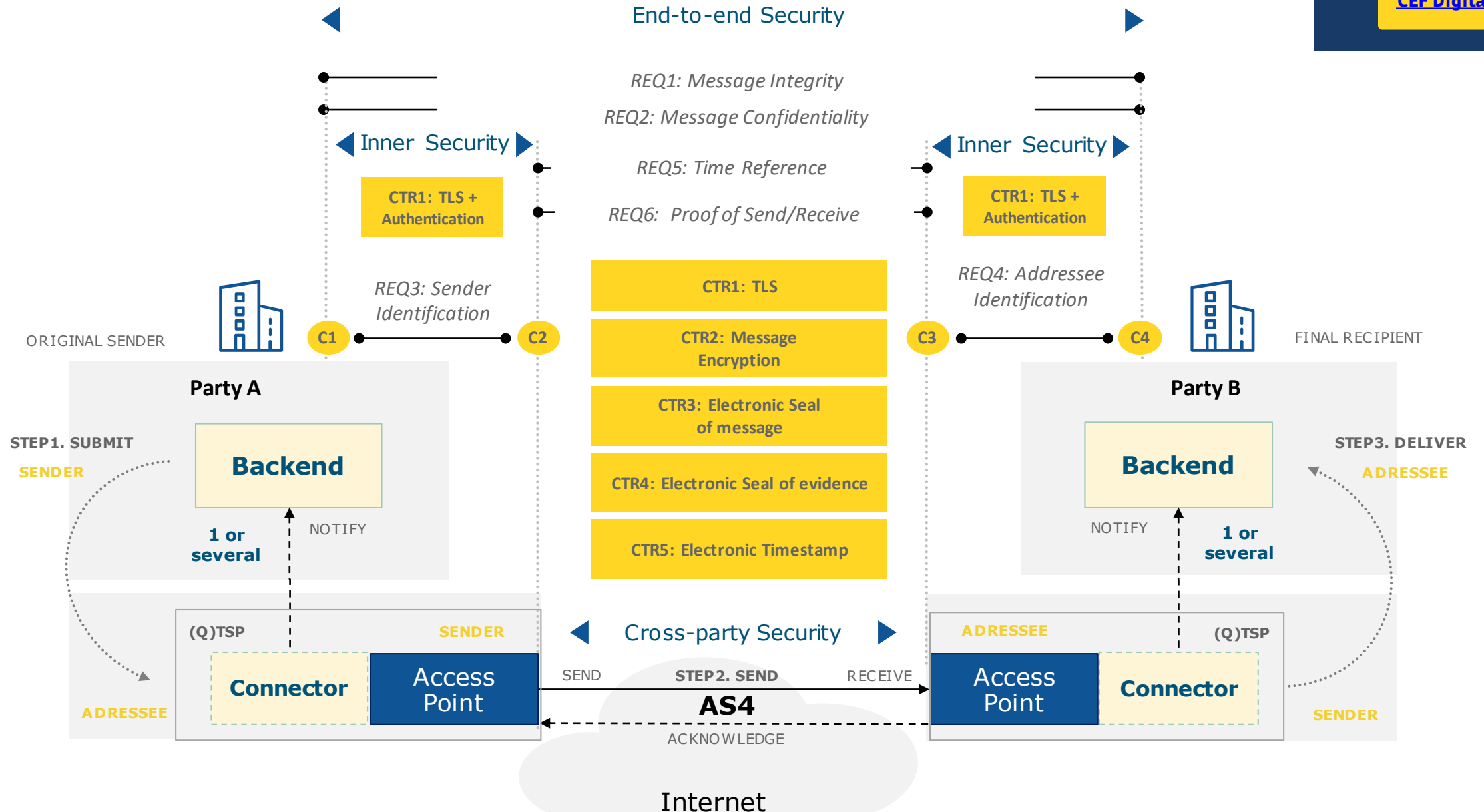
## CEF Digital platform

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

CEF Digital



# Mapping of ERDS Security Controls



**Thank you!**



[ec.europa.eu/cefdigital](https://ec.europa.eu/cefdigital)

 [CEF-BUILDING-BLOCKS@ec.europa.eu](mailto:CEF-BUILDING-BLOCKS@ec.europa.eu)

# CEF eInvoicing

# eInvoicing

Send and receive electronic invoices in line with the Directive and standard

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**Solène Drugeot**  
Onboarding Manager



# Is eInvoicing for me?

**Yes,** if you need to send or receive electronic invoices.

## What we can help you achieve



Implement eInvoicing in public procurement



Be compliant with the eInvoicing Directive (2014/55/EU) and implement the European standard on eInvoicing



Provide stakeholders with implementation tools and information about eInvoicing at the country level



Ensure continuity and onboarding (since April 2020) of businesses (for public sector suppliers)

# Main Benefits

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**1**

Support in the implementation of the eInvoicing Directive (2014/55/EU) and the European standard



**2**

Reduce learning curve to implement B2G eInvoicing and improved integration with other eProcurement processes



**3**

Go beyond B2G eInvoicing and tackle B2B onboarding and eInvoicing transmission topics since April 2020

# How do we support you?

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**1**

Tools and services to support in eInvoicing implementation



**2**

Effective and ongoing support from the CEF Digital Team



**3**

Active eInvoicing User Community as an exchange platform between stakeholders and the EC



# CEF eInvoicing Services

CEF eInvoicing Team remains available to guide you through eInvoicing adoption

## 1

### Online country workshops

These online workshops are facilitated by CEF eInvoicing experts to provide government representatives with **best practices, knowledge** and **customised advice** for the country to implement an **eInvoicing solution**.

## 3

### Benefits Analysis of the Directive 2014/55/EU implementation

The CEF eInvoicing team is conducting a benefits analysis on the implementation of the Directive 2014/55/EU. This work aims to **assess the positive changes** associated with this Directive in the EU Member States and other countries.

## 2

### eInvoicing Technical Documentation

The CEF eInvoicing **Help Desk** provides you with a set of **technical tools and Registry of artefacts** (EN and national standardisation bodies, CIUS & Extensions, code lists and validation artefacts) and **eInvoicing information**.

For any questions, you can liaise with us via CEF Digital.

## 4

### eInvoicing Country Factsheets

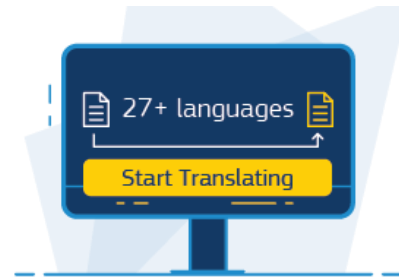
These documents provide you with **country-specific Information** about eInvoicing. Get details about the **national requirements** and find direct access to information about **network infrastructure, legislation** and **future projects** in your country.



# CEF eTranslation



# What is eTranslation?



eTranslation

The European Commission's free of charge state-of-the-art machine translation service for two complementary purposes

## *eTranslation inside the EU bodies*

- Translators of the EU institutions
- Digital services of the EU institutions
- All staff of EU institutions



## *CEF eTranslation*

- CEF Digital Service Infrastructures
- Pan-European digital public services
- Public administrations in Member States
- SMEs



# eTranslation features

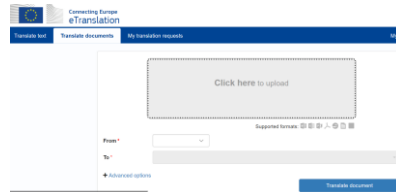
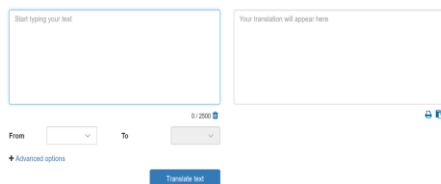


The European Commission's free of charge state-of-the-art machine translation service

- translates **text snippets / whole documents** between all official EU languages and more

- preserves the **document type and formatting** of the original document

- provides quality machine translation in a **secure system** that **protects privacy** and **passes on Intellectual Property rights to the requestor of the machine translation text**



Supported formats:

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3.1. Promotion	..... 3
3.2. Duration	..... 3
3.3. Questionnaire	..... 4
4. RESULTS OF THE CONSULTATION	..... 4
4.1. Number of responses	..... 4
4.2. Country coverage	..... 4
4.3. Sector coverage	..... 5
4.4. SME size in terms of employees	.....
4.5. International profile and prospects of the SMEs	.....
4.6. Working language(s) of the SMEs	.....

# How to access eTranslation?

A screenshot of the CEFDigital website. The header includes the CEFDigital logo and navigation links: 'About us', 'Building Blocks', 'DSIs', and 'CONTACT US'. A search bar is also present. The main content area is a grid of service cards, each with an icon and a brief description:

- Big Data Test Infrastructure**: A free big data analytics sandbox to power your data-driven decision-making.
- eArchiving**: Preserve, migrate and reuse data securely, according to European Standards.
- eInvoicing**: Send and receive electronic invoices in line with the European Directive.
- Once Only Principle**: Reduce administrative burden for individuals and businesses.
- Blockchain (EBSI)**: Build the next generation of European Blockchain Services Infrastructure.
- eDelivery**: Exchange electronic data and documents in an interoperable and secure way.
- eSignature**: Create and verify electronic, paperless signatures.
- Context Broker**: Make data-driven decisions in real time, at the right time.
- eID**: Offer services capable of electronically identifying users from all across Europe.
- eTranslation**: Enable multilingual public services and communication.

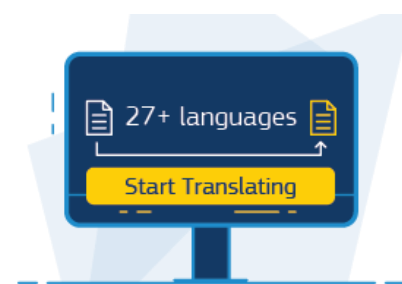
A yellow button labeled 'APPLY FOR GRANTS' is located at the bottom right of the grid.A screenshot of the eTranslation registration page. The header shows the 'Connecting Europe eTranslation' logo and the title 'Machine Translation'. The main content area contains a welcome message and a list of instructions for registration:

- If you don't already have an EU Login, click [here](#) to get one, then return to this page.
- Enter the email address associated with your EU Login account: [input field]
- eTranslation is intended for European public administrations, Small and Medium-sized enterprise, EU Freelance Translators and Univer Europe Facility projects. Please indicate the type of user you are: [dropdown menu].  
 I certify that I belong to the category indicated above and therefore fall within eTranslation's remit.
- Don't forget to bookmark the eTranslation page once you are there for easy future access!

A '+ Privacy Statement' link and a 'Start Translating!' button are also visible.

A screenshot of the eTranslation user interface for text translation. The header includes the 'Connecting Europe eTranslation' logo and navigation links: 'About | Help', 'Translate text', 'Translate documents', 'My translation requests', 'My settings', and 'En'. The main content area features two large text boxes: 'Start typing your text' and 'Your translation will appear here'. Below the text boxes, there are dropdown menus for 'From' and 'To', a character count '0 / 2500', and a '+ Advanced options' link. A 'Translate text' button is located at the bottom center.

# eTranslation 2020 achievements



eTranslation

## Opening to SMEs in March 2020

- 8000 SMEs have registered
- Increased interest in MS public administrations
- SMEs and public administrations represent about 40% of the usage through the web page

## Language coverage has been extended

- EU24, Icelandic and Norwegian + Russian, Chinese and Turkish
- Japanese will be soon released

## Domains

- New general text domains
- Updated EU formal language domains

## Web service usage

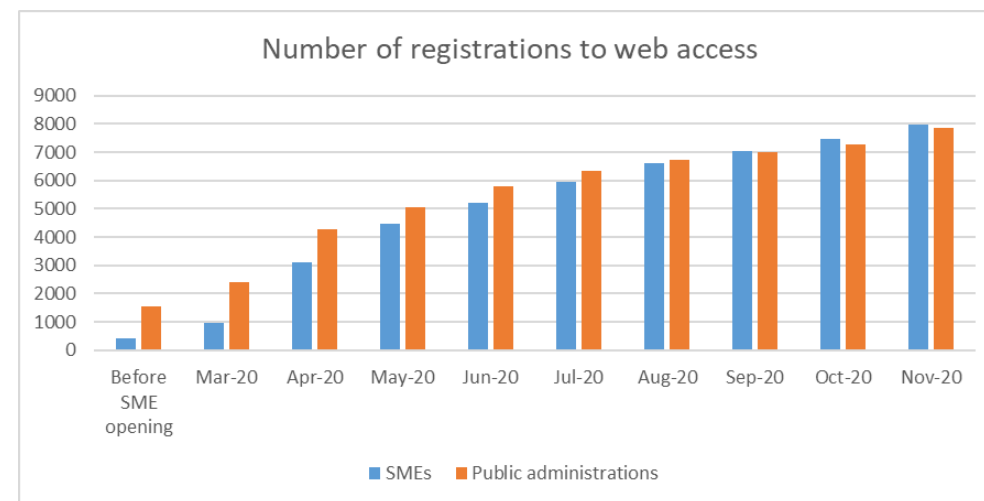
- About 50 administrations, such as Ministries, national portals are connected to the API

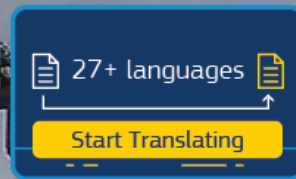
## Capacity

- More than 1 million pages per day

## Quality

- Ranked competitively for all submitted language pairs at 2020 Workshop for Machine Translation





eTranslation



Named-entity Recognition



Catalogue of services



Multilingual Tweet



European Language Resource  
Coordination (ELRC)



eTranslation



CEF Building Block Information

<https://language-tools.ec.europa.eu/>

# Links & contacts



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Directorate-General for  
Communications Networks,  
Content and Technology

Unit G3: Accessibility,  
**Multilingualism** and Safer Internet

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**eTranslation on CEF Digital website:**

<http://ec.europa.eu/cefdigital/etranslation>

**eTranslation promotional website for SMEs:**

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eTranslation+for+SMEs>

**eTranslation registration webpage:**

<https://webgate.ec.europa.eu/etranslation/public/welcome.html>

**Connecting Europe Facility Language Technologies:**

<https://language-tools.ec.europa.eu/>

# Pan-European Infrastructures (OOP & EBSI)

# Once Only Principle

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Citizens and businesses provide their data only once to public administrations



CEF Digital  
Connecting Europe



# Once Only Principle (OOP)

Citizens and businesses provide their data only once to public administrations

**Once Only Principle (OOP)** means that **citizens and businesses provide their data only once** to public administrations. Those public administrations will share and reuse data the data among themselves, even across borders, according to data privacy regulations.

**Once Only Technical System** is the technical system currently being built by the European Commission and the Member States.

The OOP technical system is an EU-wide initiative stemming from the [Single Digital Gateway Regulation \(SDGR\)](#) (Article 14 thereof) that will make the principle of **once only** a reality for key public services, businesses, and citizens across the EU.



# OOP in the context of the SDG Regulation

The Single Digital Gateway Regulation has three main objectives:

**1**

Ensure access to information

(Annex I)

**2**

Introduce a list of procedures to be offered fully online

(Annex II)

**3**

**Set up a technical system for the cross-border automated exchange of evidence and application of the 'once-only' principle**

**(Annex II)**

**The Once Only Principle addresses the third objective.**

SDG Article 14 foresees the adoption of **implementing acts** setting out the specifications of the technical system necessary for the implementation of the SDG once-only principle before **June 2021**.

Go live of the technical system: **12 December 2023**.

# The SDG Once-Only Technical System

Work towards the SDG Once-Only Technical System is organised into a number of Work Packages

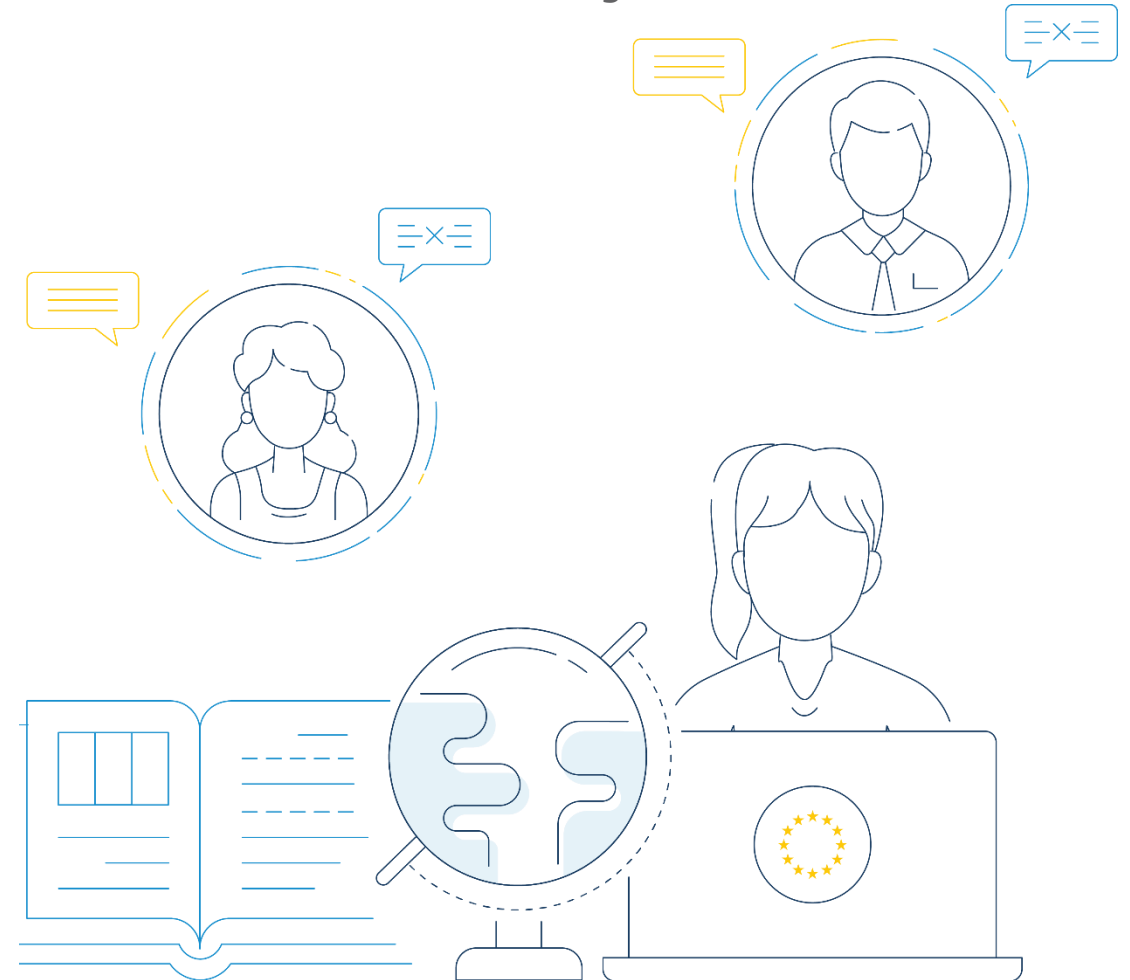
Preparatory work for the entry into force of the SDG Once-Only Technical System, which is set to be in place and ready for use by **12 December 2023**, is organised into a number of Work Packages, operating under the SDG Coordination Group involving the Commission and the Member States.

WP - User Centricity

WP - Data Semantics, Formats & Quality

WP - User Identification, Authentication & Record Matching

WP - Technical Design & Evidence Exchange

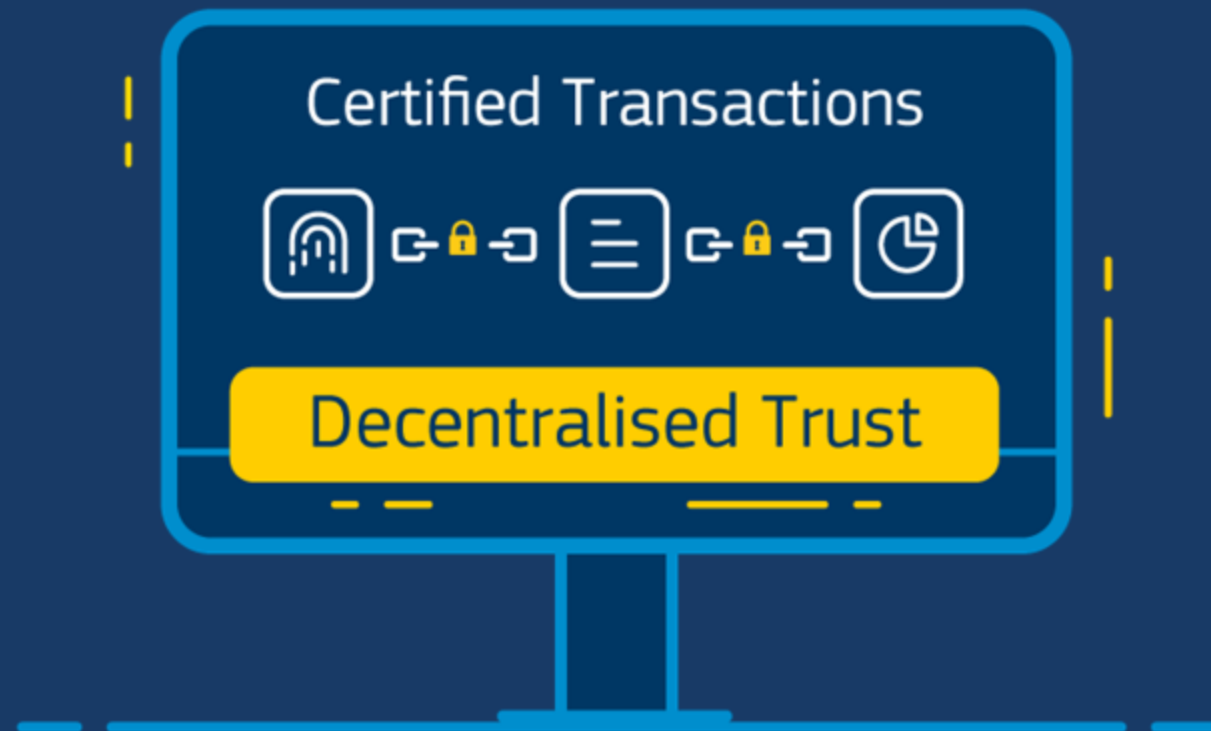


Meet

## European Blockchain Services Infrastructure

HARNESS THE POWER OF BLOCKCHAIN  
SERVICES, INCREASING TRUST THROUGH  
DATA SECURITY, PRIVACY AND  
TRANSPARENCY

**#Blockchain4Europe**



# The EBSI network

**34 Member State Nodes**

**34 nodes** have been requested by Member State institutions from **15 Member States**, of which:

- **24 nodes** have been connected with all available services
- **10 nodes** are in the preparatory stages to connect

+

**5 Commission Nodes**

=

**39 nodes**



# EBSI node

## 1 BUSINESS APPLICATIONS

### BUSINESS APPLICATIONS

Enables private or public organisations to develop applications that connect to EBSI nodes and consume exposed core services, having the option to reuse the code from sample use cases layer.

## 2 USE CASES

### USE CASES

Sample applications for each selected use cases to showcase functionalities, technical implementation and use of exposed services

### CORE SERVICES

Enablers for all applications, that provide interfaces for on-chain and off-chain services

## 3 MAIN SERVICES

### CHAIN AND STORAGE

This layer encompasses the blockchain protocols and off-chain storage protocols, currently supported by EBSI

### INFRASTRUCTURE

This layer enables the deployment and connectivity of the EBSI nodes (at the blockchain and off-chain storage level) and includes network, compute, security and operation capabilities.

GOVERNANCE

# The use cases

These 4 use cases enable you to simplify administrative processes, increase efficiency and instill trust in citizens. These can be used to start piloting EBSI applications as they come with sample code.



Notarisation of documents



European Self-Sovereign Identity



Diplomas management



Trusted data sharing



**SME financing**

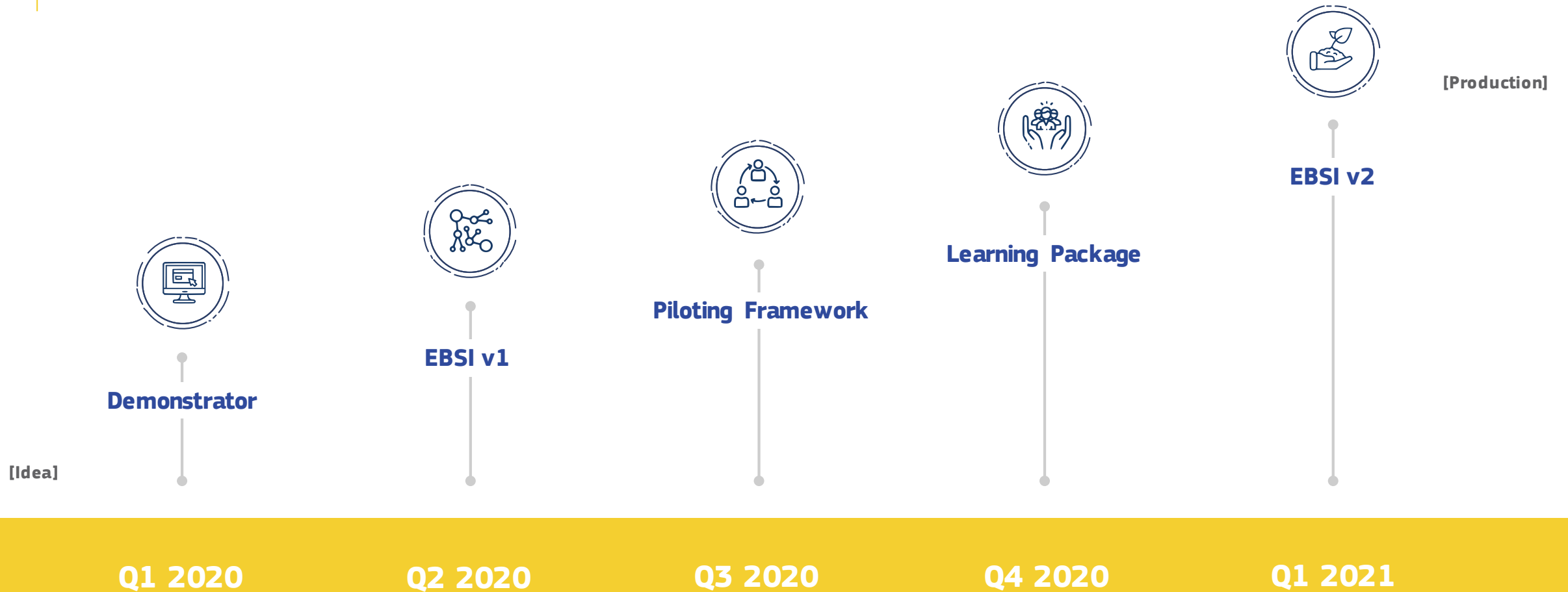


**ESSN**  
(access to welfare services)



**Asylum demand management**

# Where are we now?





**Find out more about**

## **The European Blockchain Services Infrastructure**

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**Click the link:**

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/ebsi>

**Drop us a line:**



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T: +32 229-52574

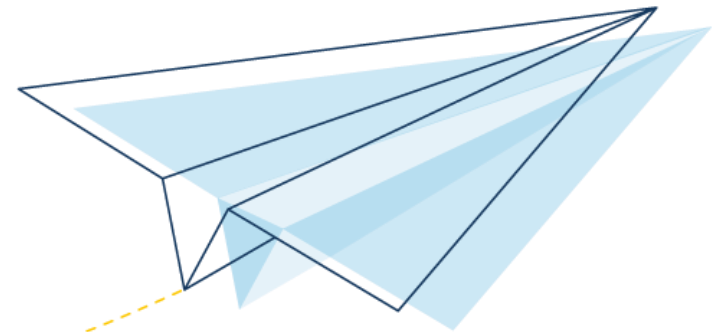


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# A word from the Innovation & Networks Executive Agency

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# Digital Service Infrastructures (DSIs)

**EU FUNDING**

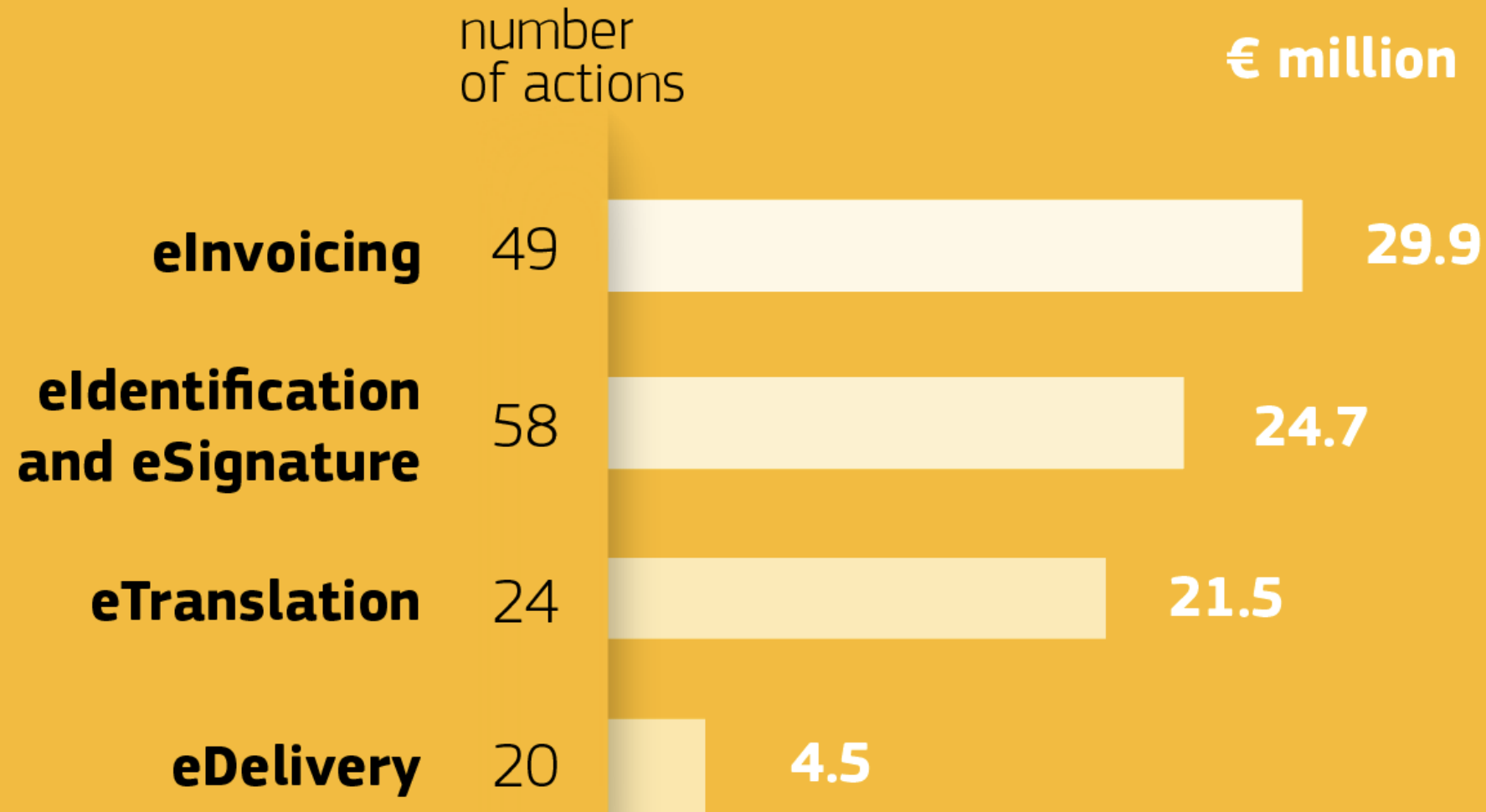
**€308  
MILLION**

**TOTAL INVESTMENT**

**571  
ACTIONS**

**€448  
MILLION**

# FUNDING PER DSI BUILDING BLOCK



# Synergies with H2020 projects: examples

- eTranslation (Action 2019-EU-IA-0015): public “smart city” services multilingual, with pilots in Vienna and Brussels;
- eID (Action 2017-ES-IA-0042): FIWARE integrated eID into the FIWARE platform
- eID (Action 2018-EU-IA-0036): a bridge between eIDAS and eduGAIN (identity interederation service set up by GEANT) to support student mobility
- More CEF projects examples: <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/cef-telecom-projects>

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# Q&A / Discussion

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**Thank you and keep in touch with us!**



[ec.europa.eu/cefdigital](https://ec.europa.eu/cefdigital)

 [CEF-BUILDING-BLOCKS@ec.europa.eu](mailto:CEF-BUILDING-BLOCKS@ec.europa.eu)