

# Welcome to the CEF eDelivery Live Hands-on Webinar: Send your first AS4 message!

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**7 March 2019**  
*Start 10:00 (CET)*

## Ground Rules for the Live Webinar



**Please mute your microphone before the webinar starts**



**To chat with other participants and submit questions, please use the Chat function to the right of your screen**

**To connect your audio go to the Quick Start tab and connect your audio (dial-in, dial-out or connect via computer)**



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CEF eDelivery

# Hands-on Webinar: Send your first AS4 message!

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Ines Costa - DIGIT  
Ioana Dragusanu - DIGIT

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# Agenda

- |   |                                                                                                                                                                                             |     |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1 | Introduction to CEF eDelivery<br>Ines Costa – DIGIT                                                                                                                                         | 10' |
| 2 | CEF eDelivery Service offering<br>Ines Costa – DIGIT                                                                                                                                        | 10' |
| 3 | Hands-on session - Send your first AS4 message:<br><br>Launch instance on Fiware Lab<br>PMode Configuration<br>Security File Configuration<br>Message sending<br><br>Ioana Dragusanu- DIGIT | 45' |
| 4 | Q&A and sharing of experiences<br>All                                                                                                                                                       | 25' |

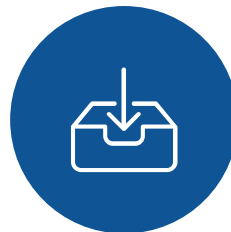
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# Highlights of the webinar

## DURING

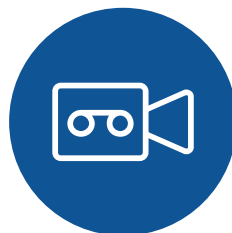


Ask questions



Download the presentation

## AFTER



Download the webinar recording



Interact with our online community

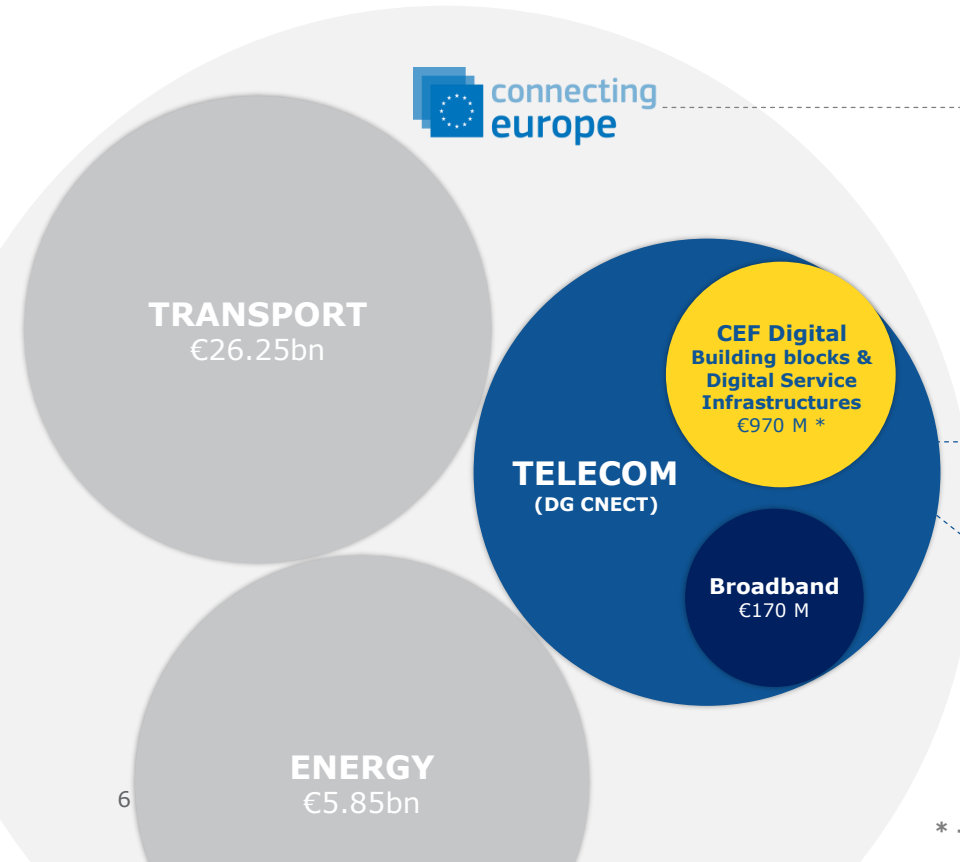
# 1

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## Introduction to CEF eDelivery

Ines Costa – DIGIT

# 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.

# 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**



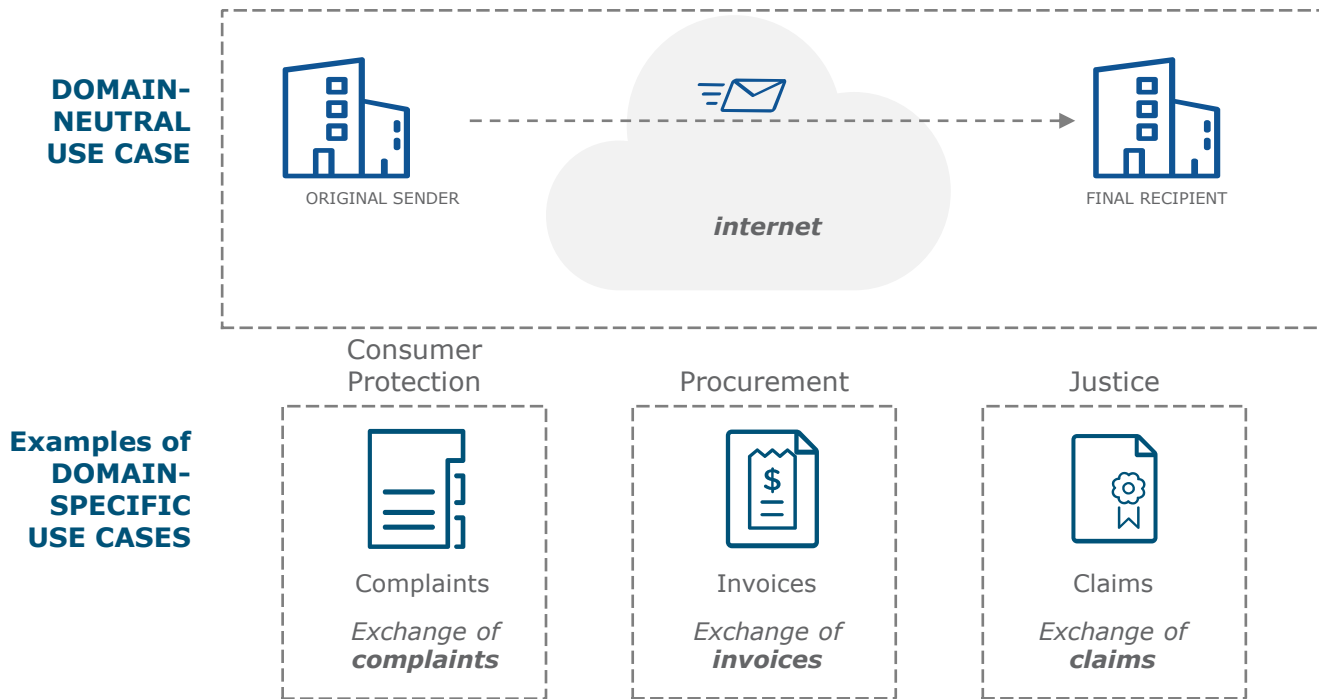
TRANSLATE with  
**eTranslation**

## 3 Grants



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

# The eDelivery Use-Case

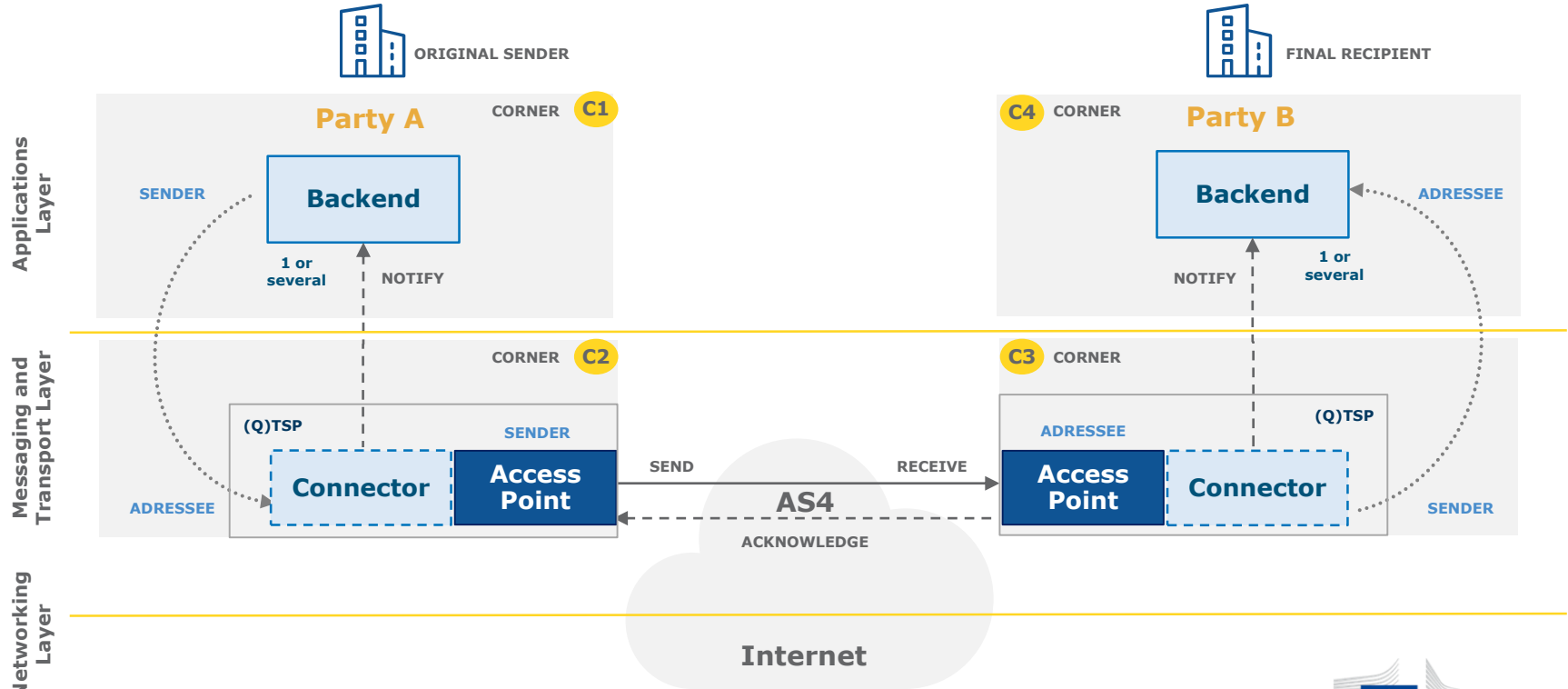




# eDelivery Messaging Infrastructure based on the 4-Corner Model

## Static discovery

□ Required component  
□ Optional component



# 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 and PEPPOL 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

**Access Point**

**Digital Certificates**

**Connector**

**Service Metadata Locator (SML)**

**Service Metadata Publisher (SMP)**

## KEY SPECIFICATIONS

- **eDelivery AS4 profile of the ebMS3/AS4 OASIS Standards**
- **PEPPOL AS2 profile of AS2 and SBDH (for the eProcurement only)**
- **ETSI – Electronic Signatures and Infrastructures profile**
- **ETSI REM for evidences**
- **eDelivery Profile based on the OASIS BDXL Specification**
- **eDelivery ebCore Party ID Profile**
- **eDelivery Profile based on the OASIS BDX-SMP Specification**

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More information: <https://ec.europa.eu/inea/>

## CEF eDelivery Call 2019-1

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Call publication	14 February 2019
Deadline for the submission of proposals	<b>14 May 2019</b> (17:00 Brussels time)
Budget	Indicative 1 Million EUR
Co-funding rate	75%
Indicative duration of the actions	18 months

---

# eDelivery onboarding-race



PHASE

## PROSPECTING

## ELICIT

requirements

COMMITMENT GATE

## DESIGN

eDelivery infrastructure

## SET UP

## SELECT

eDelivery solutions

## DEPLOY

eDelivery solutions

## OPERATE

eDelivery solutions

CEF  
DSIs

CyberSec  
**DG CNECT**  
ePayments  
ECB

eHealth (AS4)  
**DG SANTE**

eTranslation / ELRC  
**DGT**

eHealth (SMP)  
**DG SANTE**  
EESSI  
**DG EMPL**

ODR  
**DG JUST**  
eProcurement (\*)  
**GROW | DIGIT**  
BRIS  
**DG JUST**  
ELRC  
**DGT**

EU-CEG  
**DG SANTE**  
PNR (*regulated*)  
**DG HOME**  
e-Justice | eCodex  
**DG JUST**

Other  
Policy  
Projects

Customs Single Window  
**DG TAXUD**  
ECRIS  
**DG JUST**  
Maritime Single Window  
**DG MOVE**  
Central Clearance  
Import **DG TAXUD**  
IRMA  
**DG HOME**  
e-enforcement academy  
**DG JUST**  
IMI  
**DG GROW**  
Inland Waterway  
Transport **DG MOVE**  
FLUX TL  
**DG MARE**

CISE  
**DG MARE**  
eTransport Docs  
**DG MOVE**  
NIVA project  
**REA/AGRI/CNECT**

NEW

TACHonet  
**DG MOVE**  
eEvidence  
**DG JUST**  
IRI  
**DG JUST**

ICS2  
**DG TAXUD**

DECIDE (upgrade)  
**SG**  
EPREL  
**DG ENER**  
EUDAMED 3  
**DG GROW**

Member  
State  
led projects  
(including  
CEF grants)

X-Road  
**NIIS**

NEW

NEW

Utdataprojektet  
**DIGG**

TOOP (once-only)  
Development of NL  
eDelivery gateway  
**Logius.nl**

e-Impact  
(CEF Transport)  
e-Boks  
**Nets and PostNord**

NOBLE project  
(Postal Services)  
Slovenia Supreme  
Court's communications  
**Laurentius**

PEPPOL  
(upgrade to AS4)  
iADAATPA  
**Pangeanic's  
consortium**

Other  
institutions

European Data  
Protection Supervisor  
European Aviation  
Safety Agency  
European Anti-Fraud  
Office  
Eurojust  
IMMC  
**Parliament**

NEW

Parliamentary Q +  
Trilogue + OP  
**Parliament**  
SafeSeaNet  
**EMSA**

NEW

European Citizens'  
Initiative  
European Union  
Agency for Railways  
European Chemicals  
Agency

CixP  
**The European Council**  
eDocX2017  
**DG HOME (EMCDDA)**

ENTSOG  
(Gas operators)



(\*) Also part of PEPPOL

# 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) 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


# 2

## CEF eDelivery Service offering

Ines Costa – DIGIT

# CEF eDelivery Service offering



-  Available
-  Coming soon



## 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 >](#)

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Operations services

# Managed services

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## OBJECTIVE OF THE SERVICE

Sample software centrally hosted and managed by the EC, based on sample implementations that are based on technical specifications of CEF eDelivery.

The European Commission develops, maintains and provides software as a service for the following components of a CEF eDelivery solution:

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

These services facilitate the re-use of CEF eDelivery by different Policy Domains.

## BENEFITS

- Reduced cost of hosting the service, which is sustained by the European Commission
- Full support by the European Commission
- Defined and agreed Service Levels



[Back to Service offering >](#)

---

## USERS

Policy Domains

---

## STATUS

- Service
- Documentation

---

## More info

CEF Digital



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# 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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## USERS

Software Providers

Service Providers

## STATUS

Service

Documentation

## More info

CEF Digital



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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 specifications of the CEF eDelivery Access Point.

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



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## USERS

Software Providers  
Service Providers

## STATUS

● ● ● Service  
● ● ● Documentation

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# eDelivery AS4 conformant solutions

The screenshot shows the CEF Digital website page for eDelivery AS4 conformant solutions. The page header includes the CEF Digital logo and navigation links. The main content area features a list of solutions that have passed or are in the process of passing conformance testing. A legend at the bottom indicates that a document listing all vendors supporting AS4 is available at the bottom of the page.

CEF Digital  
Connecting Europe

CEF Digital Home > eDelivery > All CEF eDelivery services > Access Point software

## 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
- 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
- RSSBus
- SEEBURGER
- 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.

More information on CEF Digital

[Conformant Solutions >](#)

<b>Domibus</b>	
<b>Flame</b>	
<b>Holodeck</b>	
<b>IBM</b>	
<b>Laurentius</b>	
<b>Mendelson</b>	
<b>RSSBus</b>	
<b>iFenix</b>	
<b>Axway</b>	
<b>EESSI AS4.NET</b>	
<b>eefacta Server</b>	
<b>Bizbrains</b>	
<b>Edicom Asx server</b>	
<b>Navitasoft</b>	
<b>Data Interchange</b>	
<b>SEEBURGER</b>	
<b>B2BRouter</b>	
<b>DCS EIP</b>	
<b>ADES</b>	
<b>Integration cloud</b>	

Conformant

Ongoing

---

Software

# Sample software maintained by the EC

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## 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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## USERS

Software Providers  
Service Providers  
Policy Domains

---

## STATUS

Service  
 Documentation

---

## More info

CEF Digital



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Operations services

# Supporting services

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## 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



[Back to Service offering >](#)

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## USERS

Policy Domains  
Software Providers  
Service Providers

---

## STATUS

Service  
   Documentation

---

## More info

[CEF Digital >](#)

---

## Get started

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# 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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## USERS

Service Providers

Policy Domains

## STATUS

Service

Documentation

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CEF Digital



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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



[Back to Service offering >](#)

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## USERS

Developers

---

## STATUS

- Service
- Documentation

---

## More info

[CEF Digital >](#)

---

## Get started

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# 3

---

## Hands-on session - Send your first AS4 message:

Launch instance on Fiware Lab

PMode Configuration

Security File Configuration

Message sending

Ioana Dragusanu- DIGIT



---

Let's get started



**eDelivery**  
Connecting Europe

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



**FIWARE**

Catalogue



<https://catalogue.fiware.org/enablers/electronic-data-exchange-domibus>



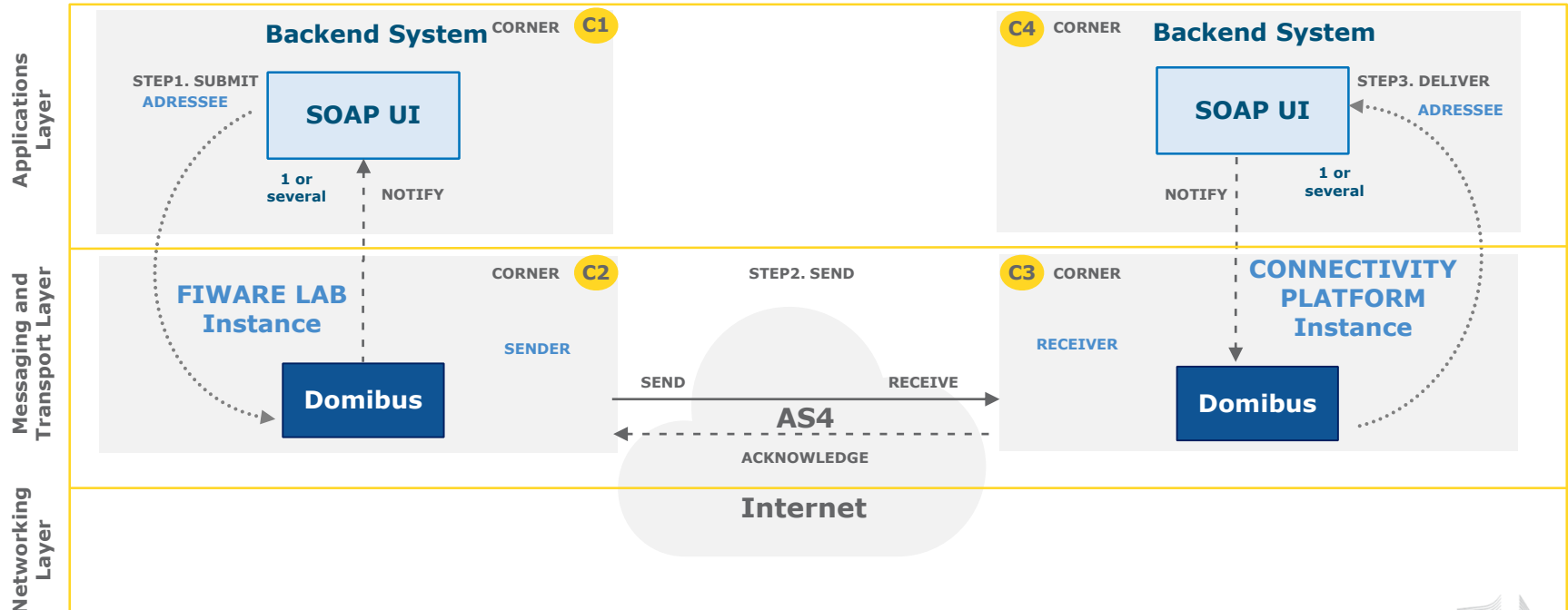
**FIWARE**

Lab

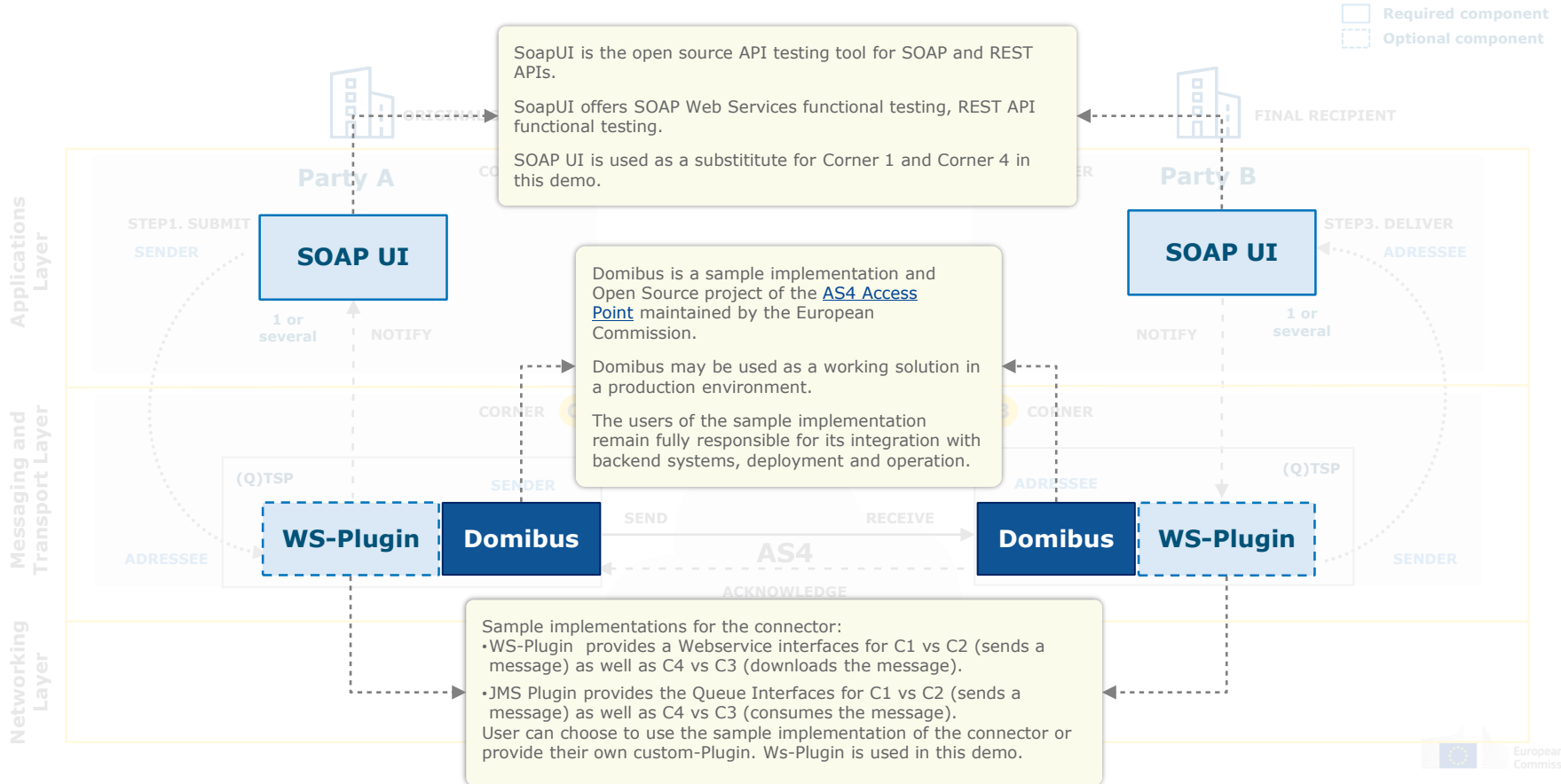


<https://www.fiware.org/lab/>

# Demo in detail



# Demo scenario



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# Demo Steps

DEMO TIME

## Launch instance

---

### FIWARE LAB Instance

- Launch an instance based on a public VM image on the FIWARE lab.

DEMO TIME

## Configuration *(pre-configured)*

---

### PMode File

- Configure the parties, endpoint URLs for the sending and receiving Access Points
- Configure compression, number of retries, etc.

### Truststore .jks

- Configure the public certificate of the CTP

DEMO TIME

## Runtime Scenario

---

Backend C1 sends the message to Access Point C2

The Message is sent from sender Access Point C2 to receiving Access Point C3

An acknowledgement is sent from C3 to C2

C4 downloads the message from C3

# I. Launch instance

Image: **domibus-r4.0**

## **II. Configuration**

## **a. PMode Configuration**

---

# Configure Parties container

**PMode[1].businessProcesses.parties.party:** This parameter Contains the name of the partner Access Points and the address (endpoint URL) of the Receiver MSH to which User Messages under this PMode are to be sent.

**PMode[1].businessProcesses.parties.party.Identifier:** This Parameter contains the name of the clients' backend associated to the parent Access Point.

```
<party name="cefsupportgw"
  endpoint="http://40.115.23.114:8080/domibus/services/msh?domain=static"
  allowChunking="false">
  <identifier partyId="cefsupportgw" partyIdType="partyTypeUrn"/>
</party>
<party name="ceftestparty9gw"
  endpoint="http://domibus.lab.firmware.org:8080/domibus/services/msh"
  allowChunking="false">
  <identifier partyId="ceftestparty8gw" partyIdType="partyTypeUrn"/>
</party>
```



## **b. Truststore upload**

# Truststore .jks file

## Certificate Hierarchy:

 cefsupportgw

Version: 3

Subject: C=BE,O=eDelivery,CN=cefsupportgw 

Issuer: C=BE,O=eDelivery,CN=cefsupportgw 


Serial Number: 0x9877F2F02226A379


Valid From: 20/Jun/2017 17:20:42 EEST

Valid Until: 06/Sep/2025 17:20:42 EEST

Public Key: RSA 2048 bits 

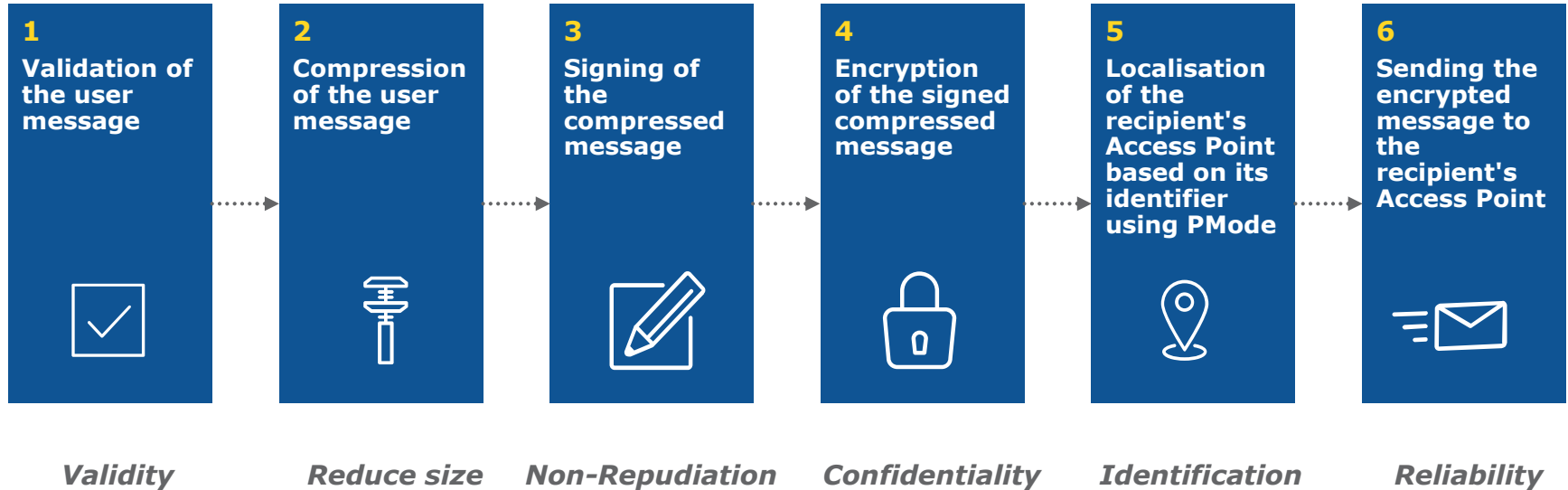
Signature Algorithm: SHA256WITHRSA

Fingerprint: SHA-1 

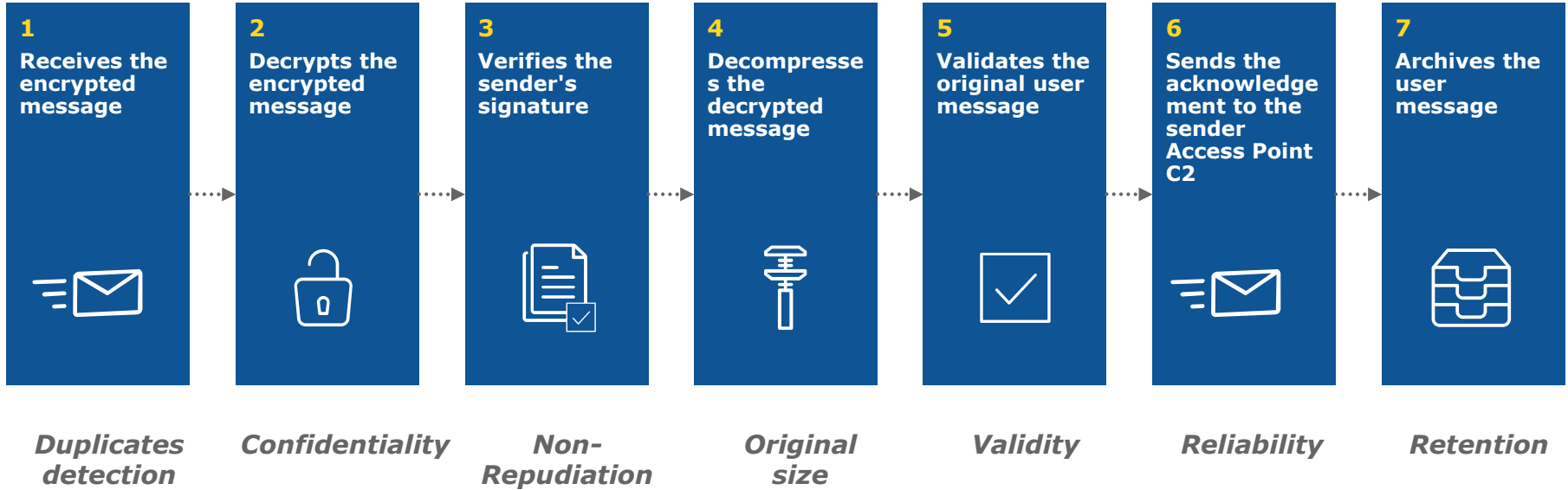
72:2A:E8:97:2C:5C:07:95:D4:CB:BB:B6:48:1B:36:04:78:7D: 

# **III. Run-time process**

# SEND: Processing at C2.



# RECEIVE: Process at C3



---

# Release 4.0

## Specifications

---

- eDelivery AS4 Profile
- OASIS AS4 Profile
- ebMS3 Core

## App serves

---

- Tomcat 8, WebLogic 12, Wildly 9

## Databases

---

- MySQL, Oracle

## Technologies

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- SOAP 1.2 *with attachments*
- Apache CXF
- Apache WSS4J
  - WS-Security: *WSSSMA, WSSX509, WSSSWA,*
  - WS-Policy: *rsa-sha256, aes128-gcm, rsa-oaep, mgf1sha256*
- GZIP
- WS, FS, JMS plugins

# Anatomy of a message

```
<?xml version="1.0" encoding="utf-8"?>
<env:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope">
  <env:Header>
    <eb:Messaging xmlns:eb="http://docs.oasis-open.org/ebxml-msg
  <eb:UserMessage mpc="http://docs.oasis-open.org/ebxml-msg           ...
    </eb:UserMessage>
  </eb:Messaging>
  <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss
    <xenc:EncryptedKey xmlns:xenc="http://www.w3.org/2001
      <xenc:EncryptionMethod Algorithm="http://www.w3.
        ...
      </xenc:EncryptedKey>
    <xenc:EncryptedData xmlns:xenc="http://www.w3.org/2001
      <xenc:EncryptionMethod Algorithm="http://www.w3.org/2009/xmlenc11#aes128-gcm"/>
        ...
      </xenc:EncryptedData>
    <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
      ...
    </ds:Signature>
  </wsse:Security>
</env:Header>
<env:Body/>
</env:Envelope>
```

# 4

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## Q&A and sharing of experiences

All



# Find out more on CEF Digital

ec.europa.eu/cefdigital



The screenshot shows the CEF Digital website homepage. At the top left is the logo for CEF Digital, featuring the European Union flag and the text "CEF Digital Connecting Europe". To the right of the logo is a search bar and two buttons labeled "MENU" and "COMMUNITY". Below the logo is a dark blue header with the text "CEF Digital" and "Part of the Connecting Europe Facility (CEF) programme - enabler of the Digital Single Market". The main content area has a "Latest" section with the headline "BRIS Now Live on the European e-Justice Portal". Below this is a section titled "CEF Building Blocks" with the subtext "Build your digital service faster and cheaper and create a European digital single market." This section contains three columns of information: "eDelivery" (Supporting electronic registered delivery of data and documents), "eID" (Extending the use of online services to citizens of other EU Member States), and "eInvoicing" (Helping public entities adopt the European standard on electronic invoicing). Below these are "eSignature" (Creating and verifying electronic signatures), "eTranslation" (Exchanging information across language barriers in the EU Member States), and "About the building blocks" (Learn more about the CEF building blocks). At the bottom, there is a "Sector Specific Digital Service Infrastructures" section and an "About CEF" section with the text: "The Connecting Europe Facility (CEF) supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy. Learn more about CEF.".

# #BIG

# REUSE

## Contact us



CEF-BUILDING-BLOCKS@ec.europa.eu

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