



Introducing the CEF Building Blocks

Enablers of secure cross-border digital interactions

DIGIT
Directorate-General
for Informatics

DG Connect
Directorate-General for Communications
Networks, Content and Technology

A decorative graphic consisting of three overlapping squares. The front-most square is white and contains the number '1'. The two squares behind it are light blue and are slightly offset to the left and top, creating a layered effect.

1

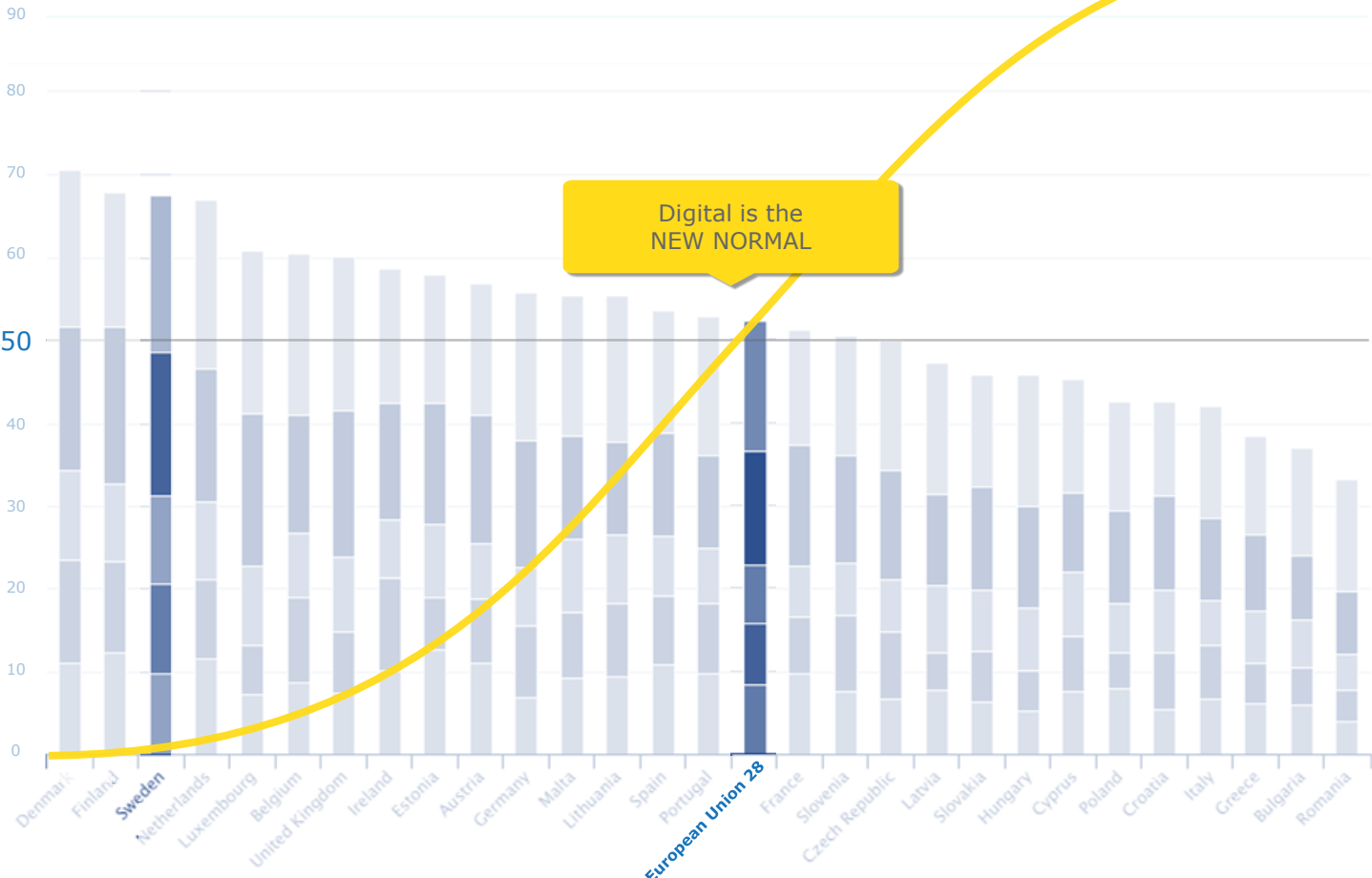
Introduction to the CEF building blocks

Overall Digital Economy and Society Index - 2017



100

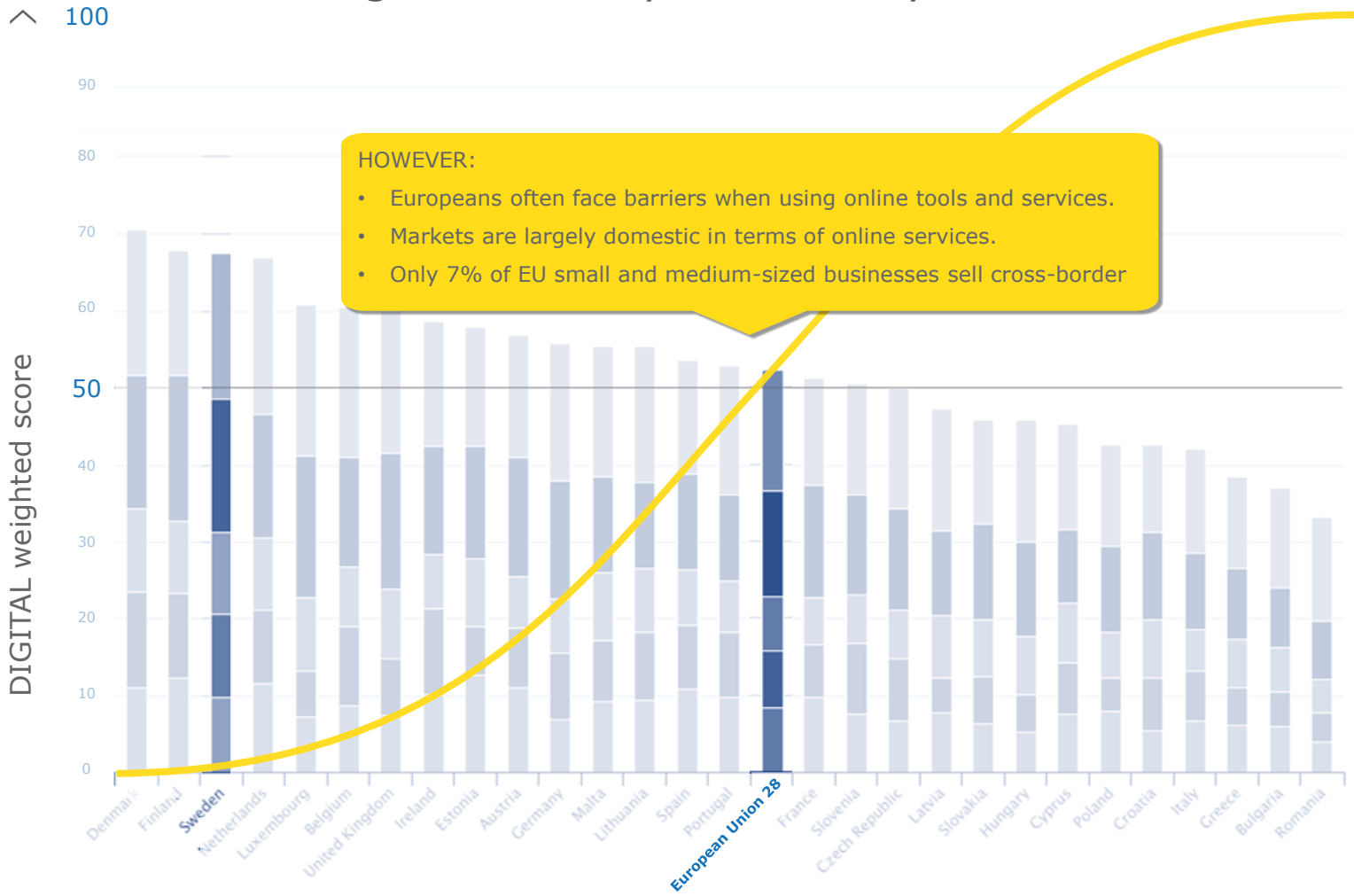
DIGITAL weighted score



Digital is the NEW NORMAL

- LEGEND**
- 1 Connectivity
 - 2 Human Capital
 - 3 Use of Internet
 - 4 Integration of Digital Technology
 - 5 Digital Public Services

Overall Digital Economy and Society Index - 2017



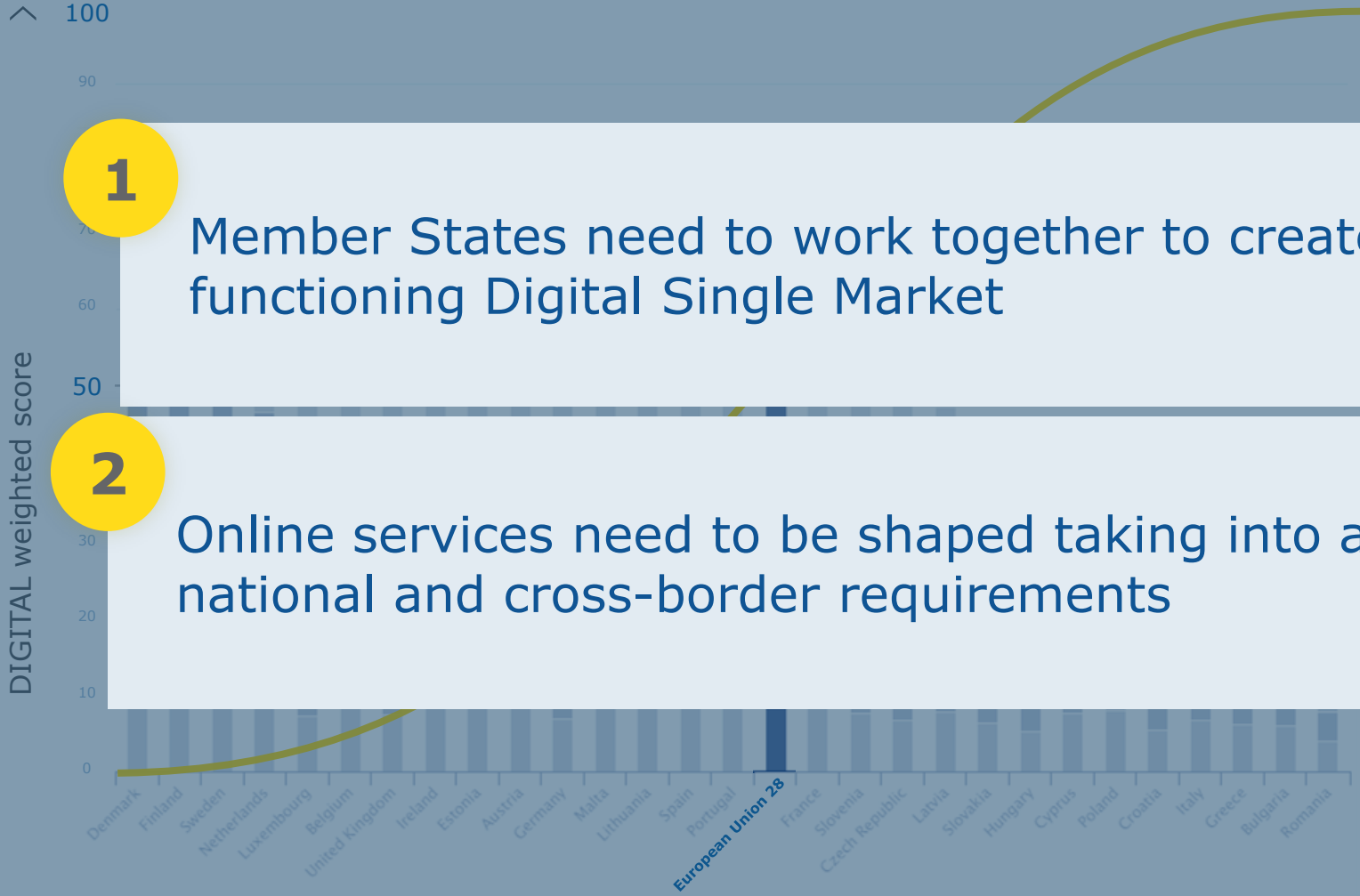
HOWEVER:

- Europeans often face barriers when using online tools and services.
- Markets are largely domestic in terms of online services.
- Only 7% of EU small and medium-sized businesses sell cross-border

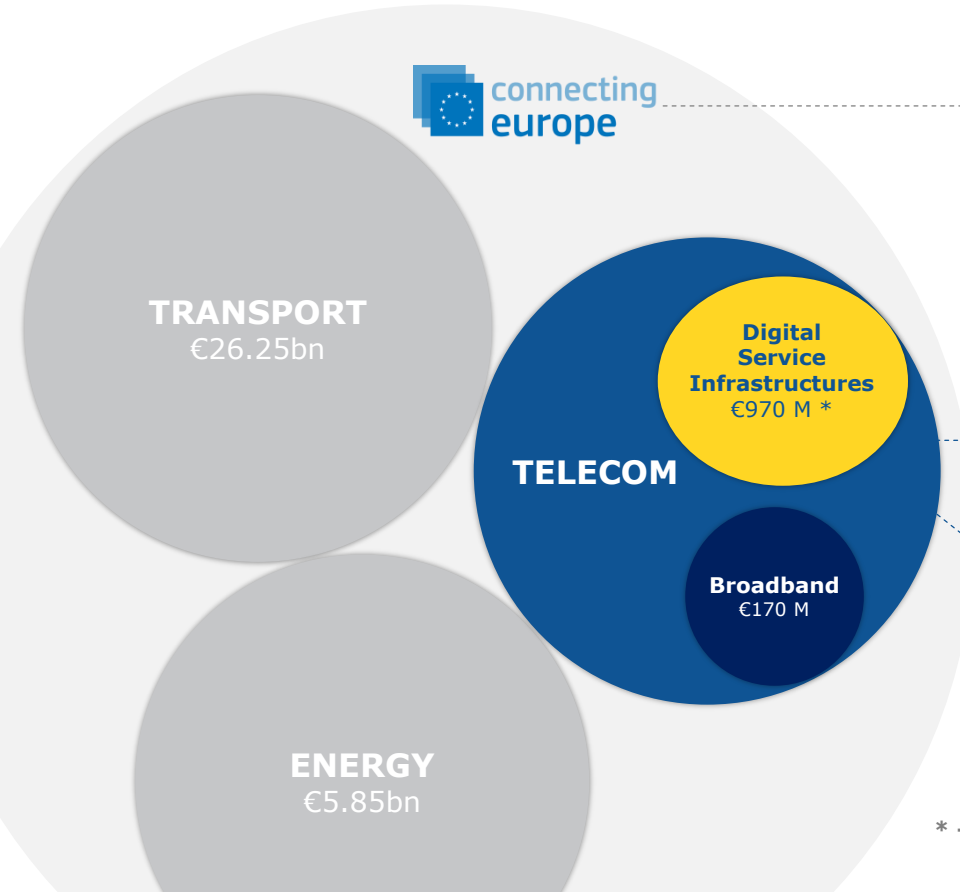
LEGEND

- 1 Connectivity
- 2 Human Capital
- 3 Use of Internet
- 4 Integration of Digital Technology
- 5 Digital Public Services

Overall Digital Economy and Society Index - 2017



What is the Connecting Europe Facility (2014 -2020)



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.

* - 100 M Juncker Package

The CEF 'Big Picture'

*Funding at EU LEVEL
(Commission)*

Justice, home affairs and
citizens' rights



eJustice Portal



ODR

Science and
Technology



Open Data

Business



BRIS

Employment and
Social Rights



EESSI

etc.

*Funding for the
MEMBER STATES*

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

We're the
Digital
Citizens of
the Future

Authentication based on eID systems in the Member States



IDENTIFY
with **eID**

eTranslation



TRANSLATE
with **eTranslation**

Electronic Invoicing



INVOICE
with **eInvoicing**

Recognition of eSignatures



SIGN
with **eSignature**

Secure exchange data and documents



EXCHANGE
with **eDelivery**

The CEF 'Big Picture'

Funding at EU LEVEL
(Commission)

Justice, home affairs and
citizens' rights



eJustice Portal



ODR

Science and
Technology



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Business



BRIS

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Social Rights



EESSI

etc.



IDENTIFY
with eID



SIGN
with eSignature



INVOICE
with eInvoicing



EXCHANGE
with eDelivery



TRANSLATE
with eTranslation

Funding for the
MEMBER STATES

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

Research* shows that reuse of building block like solutions:



REDUCE COSTS

**20% to 40%
cost savings**

By benefiting from common services and proven technology



SHORTER TIME TO MARKET

**40% to 50%
performance gains**

Value-add time

Total lead time



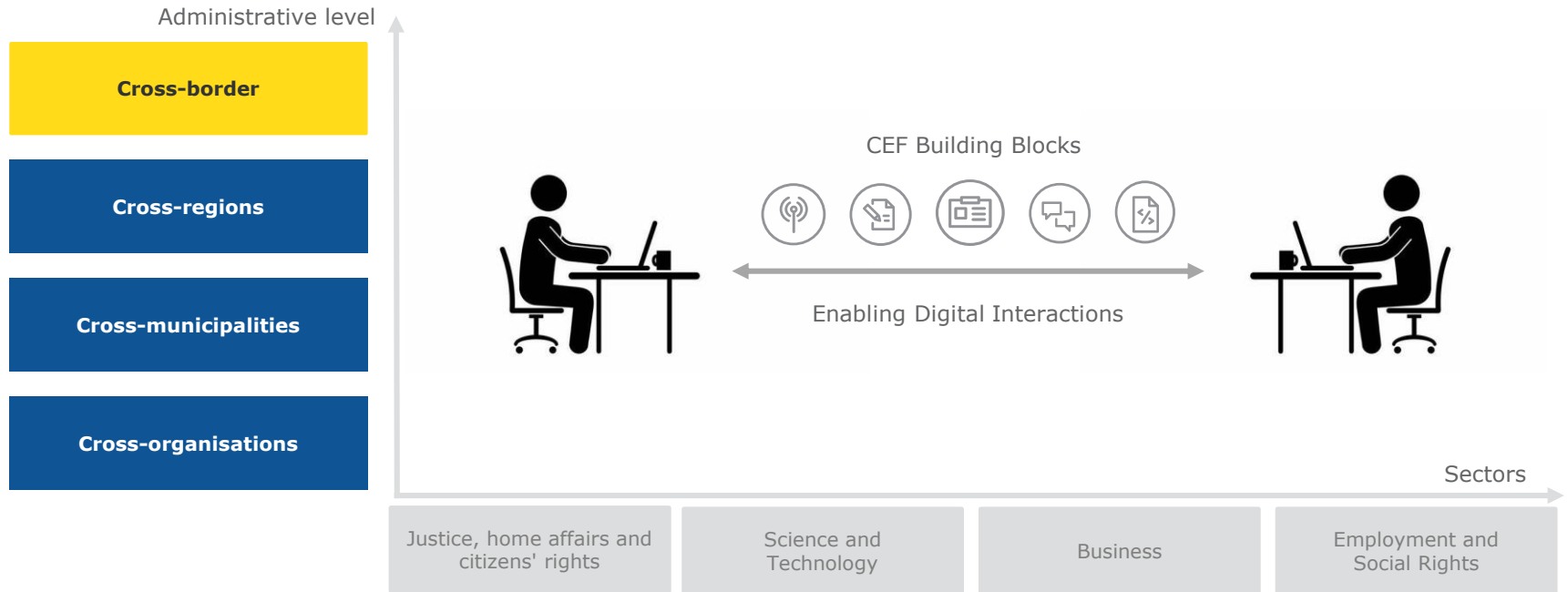
PROMOTE SIMPLIFICATION

At all levels

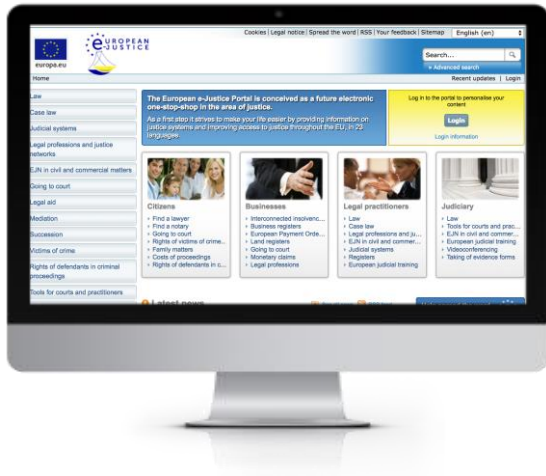
Including the allocation and mobility of human resources (expertise pools)

* Joint research paper between Gartner research and the MIT

CEF Building Blocks support **digital interactions** at different levels and across sectors



The building blocks power the eJustice Portal



The Portal was launched on 16 July 2010 and has been expanded ever since – today it has **approximately 300.000 visitors each month.**

The Portal's objective is to contribute to the creation of a European judicial area by facilitating access to justice and **enable electronic cross-border judicial proceedings and judicial cooperation.**



e-justice.europa.eu

Multiple Languages

eTranslation

building block

Send documents securely

eDelivery

building block



Secure Authentication

eID

building block

Easily sign documents

eSignature

building block

**Access
Point**

Internet

**Access
Point**

Germany

**Access
Point**

Italy

**Access
Point**

Portugal

How were the Building Blocks identified?

Top Down

Regulation

eIDAS | eInvoicing



IDENTIFY
with eID



SIGN
with eSignature



INVOICE
with eInvoicing



EXCHANGE
with eDelivery



TRANSLATE
with eTranslation

Bottom Up

MS Large Scale Pilots

Large Scale Pilots (PEPPOL, STORK, etc.)

eIDAS – The Regulation in a nutshell

2 MAIN CHAPTERS SUBJECT TO DIFFERENT RULES AND REQUIREMENTS

Chapter II

Mutual recognition of e-identification means

Chapter III

Electronic trust services

- **Electronic signatures**
- **Electronic seals**
- **Time stamping**
- **Electronic registered delivery service**
- **Website authentication**



Chapter IV

Electronic Documents

Time Perspective

Users

PILOTING

SCALING UP

SUSTAINING

STORK

PEPPOL

SPOCS

epSOS

eCODEX



e-SENS

REGULATORY

- Link to EU Legislation e.g. eIDAS

DEMAND CREATION

- Offer CEF Services
- Link to eGovernment Action Plan
- Link to the DSM Catalogue of Standards

SUPPLY CREATION

- CEF Grants (subsidies)




2014

2020

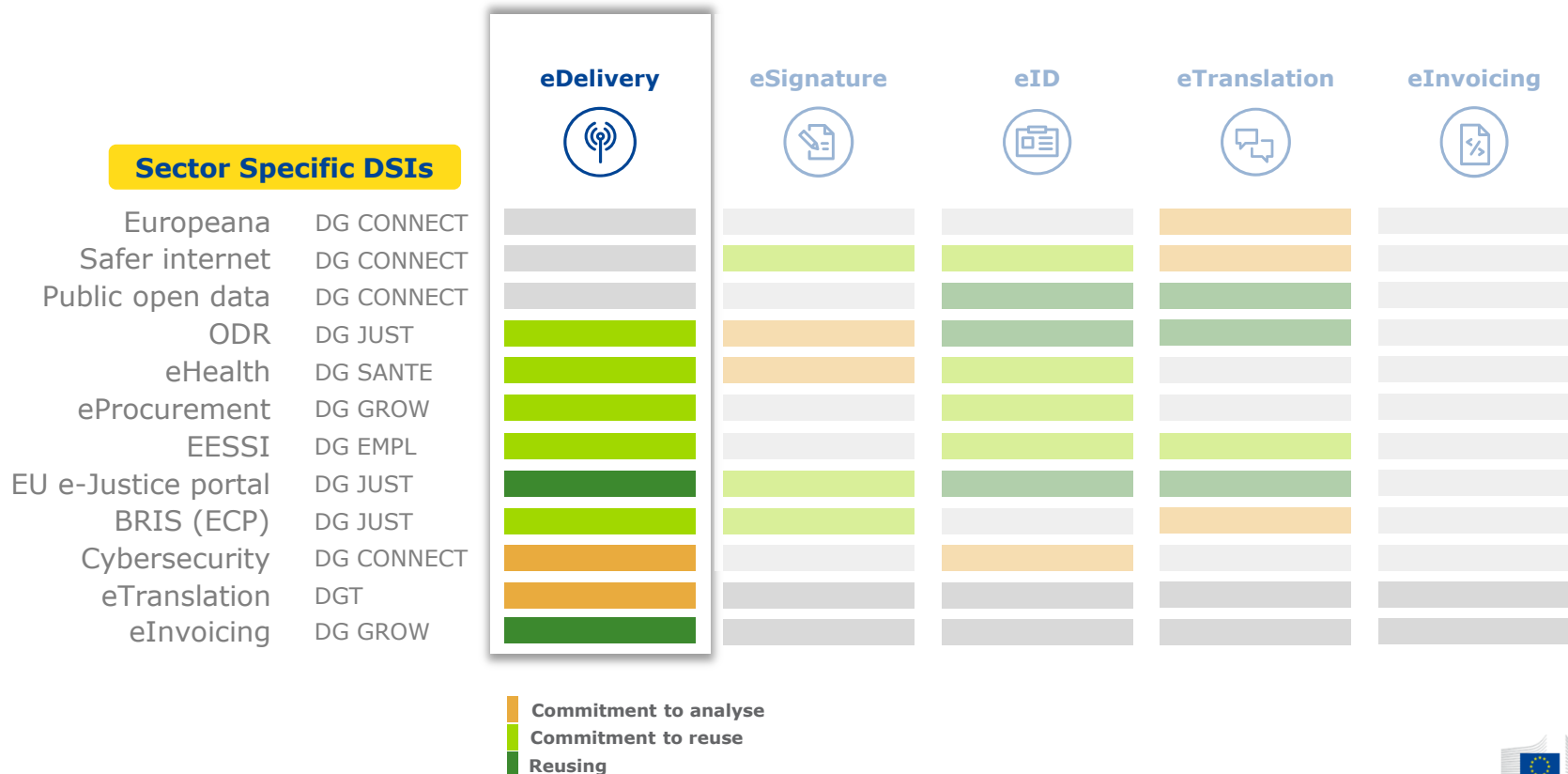
Time

Reuse of building blocks within the CEF Programme

Sector Specific DSIs		eDelivery	eSignature	eID	eTranslation	eInvoicing
						
Europeana	DG CONNECT	Grey	Grey	Grey	Orange	Grey
Safer internet	DG CONNECT	Grey	Light Green	Light Green	Orange	Grey
Public open data	DG CONNECT	Grey	Grey	Dark Green	Dark Green	Grey
ODR	DG JUST	Light Green	Orange	Dark Green	Dark Green	Grey
eHealth	DG SANTE	Light Green	Orange	Light Green	Grey	Grey
eProcurement	DG GROW	Light Green	Grey	Light Green	Grey	Grey
EESSI	DG EMPL	Light Green	Grey	Light Green	Light Green	Grey
EU e-Justice portal	DG JUST	Dark Green	Light Green	Dark Green	Dark Green	Grey
BRIS (ECP)	DG JUST	Light Green	Light Green	Grey	Orange	Grey
Cybersecurity	DG CONNECT	Orange	Grey	Orange	Grey	Grey
eTranslation	DGT	Orange	Grey	Grey	Grey	Grey
eInvoicing	DG GROW	Dark Green	Grey	Grey	Grey	Grey

-  Commitment to analyse
-  Commitment to reuse
-  Reusing

Reuse of building blocks within the CEF Programme



Reuse of building blocks outside CEF

1

Commission services

16% of the Policy Systems projects and **67% of the Corporate Systems** projects are reusing or committed to reuse at least one Building Block.

2

Other EU Institutions

Reusing



Interested

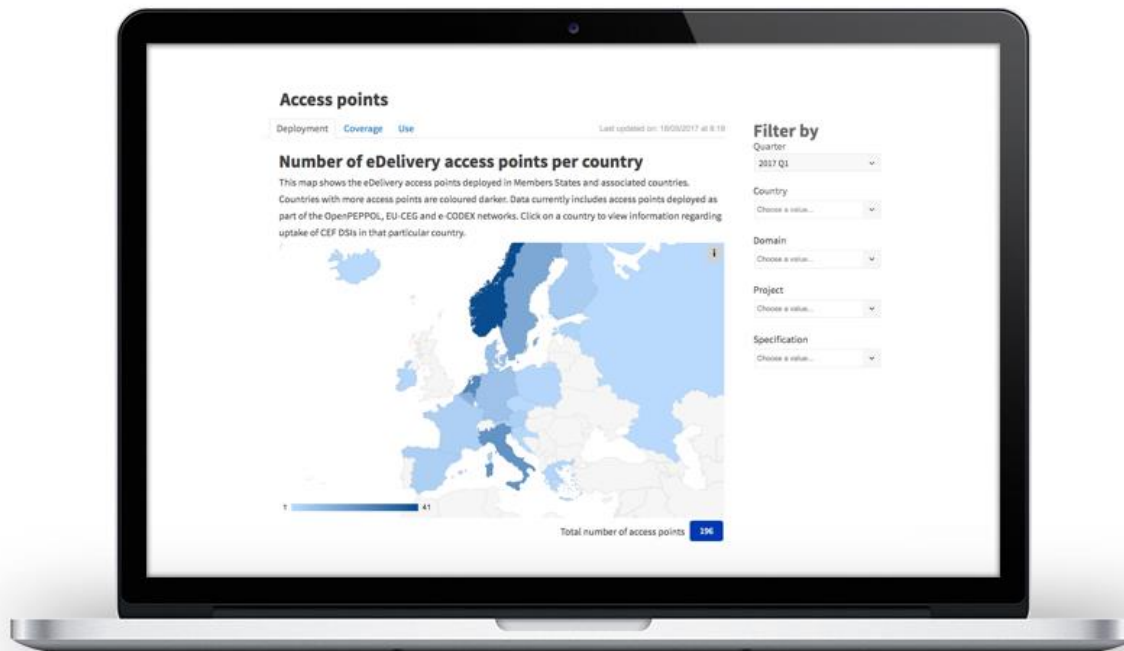


3

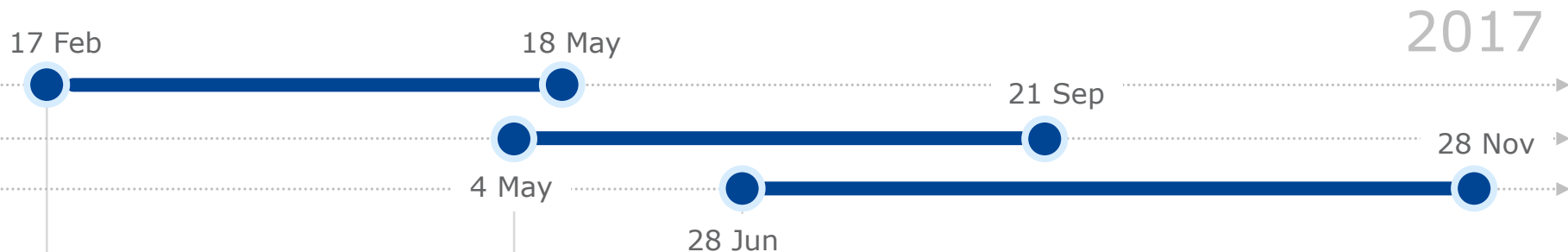
Member States

Continuous promotion and support through **services** as well as through **grants**

See the latest reuse statistics



Join the wave, apply to the CEF grants



CALL 1

Budget

Business Registers Interconnection System (BRIS)	€2 mln
Exchange of Social Security Information (EESSI)	€17 mln
European eJustice Portal	€1.5 mln
eIdentification and eSignature	€7 mln

CALL 2

Budget

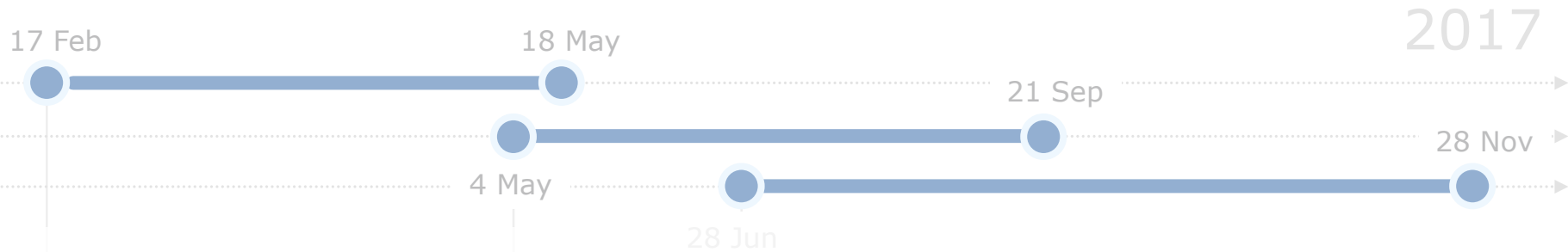
eDelivery	€0.5 mln
Cyber Security	€12 mln
eProcurement	€4 mln
eHealth	€9 mln

CALL 3

Budget

eTranslation	€6 mln
Public Open Data	€6 mln
eInvoicing	€10 mln
Europeana Generic Services	€2 mln

Join the wave, apply to the CEF grants



CROSS BORDER BENEFITS + NATIONAL BENEFITS – COST + GRANTS > 0

CALL 1

Budget

Business Registers Interconnection System (BRIS)	€2 mln
Exchange of Social Security Information (EESSI)	€17 mln
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Budget

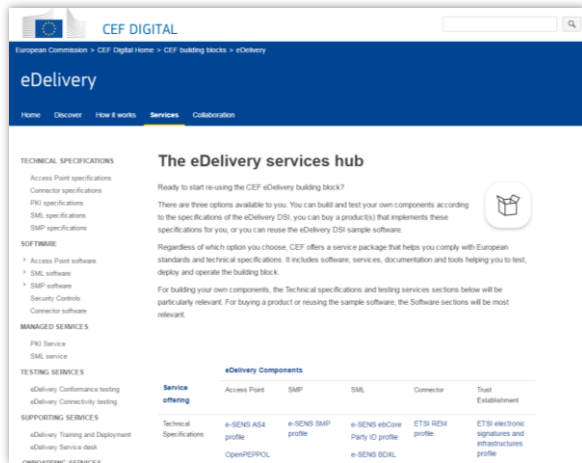
eTranslation	€6 mln
Public Open Data	€6 mln
eInvoicing	€10 mln
Europeana Generic Services	€2 mln

To know more

CEF Building Blocks

All information about the services offered by the European Commission (focus on the building blocks).

<https://ec.europa.eu/cefdigital/>



The screenshot shows the 'eDelivery' services hub on the CEF Digital website. It features a navigation menu with 'Home', 'Discover', 'How it works', 'Services', and 'Collaboration'. The main content area is titled 'The eDelivery services hub' and includes a sidebar with 'TECHNICAL SPECIFICATIONS' (Access Point, Connector, PKI, SML, SMP), 'SOFTWARE' (Access Point, SML, SMP, Security Controls, Connector), 'MANAGED SERVICES' (PKI, SML), 'TESTING SERVICES' (Conformance, Connectivity), and 'SUPPORTING SERVICES' (Training, Service Desk). The main text provides information on re-using the CEF eDelivery building block and offers three options for implementation. A table lists eDelivery components and their associated standards.

Service offering	eDelivery Components				
	Access Point	SMP	SML	Connector	Trust Establishment
Technical Specifications	e-SENS AS4 profile	e-SENS SMP profile	e-SENS eBCore profile	ETSI REM profile	ETSI electronic signatures and infrastructures profile
	OpenPEPPOL		e-SENS B2CL		

GRANTS

All information about the grants: requirements, deadlines, how to apply, documentation, FAQs, etc.

<https://ec.europa.eu/inea/connecting-europe-facility/cef-telecom>



The screenshot shows the '2016 CEF Telecom calls for proposals' page on the INEA website. It includes a search bar, navigation menu, and a main heading '2016 CEF Telecom calls for proposals'. The text states that up to €71.1 million is foreseen for the 2016 CEF Telecom Work Programme. A sidebar on the right contains a 'Help us improve!' section, a 'Did you find what you were looking for?' section, and a 'What code is in the image?' section. The main content area lists 'CONNECTING EUROPE FACILITY' categories: CEF ENERGY, CEF TELECOM, CALLS, HOW TO APPLY, BENEFICIARIES, INFO POINT, CEF TELECOM PROJECTS, and CEF TRANSPORT. Below this is an 'Indicative Call Planning' table.

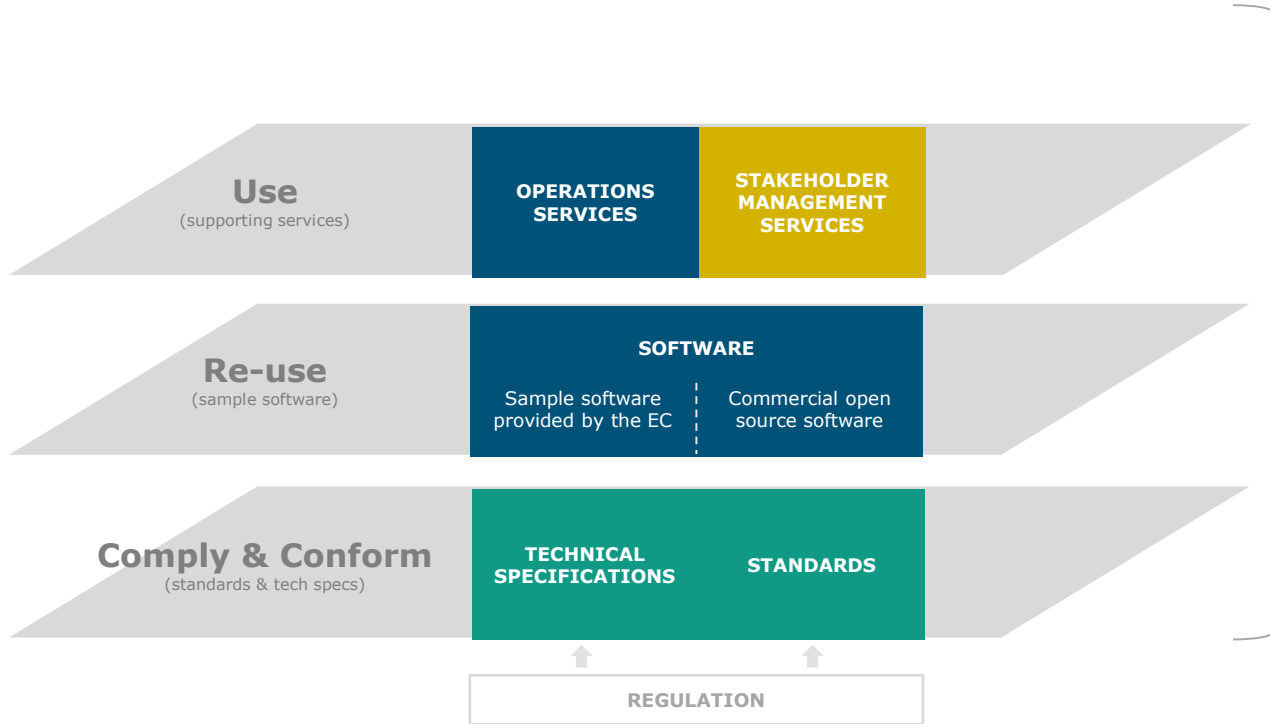
Call	Call open	Deadline for submissions
CEF-TC-2016-1 Business Registers Interconnection Systems (BRIS) (indicative budget: €3 million)	3 March 2016	Closed on 19 May 2016
CEF-TC-2016-1		

A decorative graphic consisting of three overlapping squares. The top square is white and contains the number '2'. The two squares below it are light blue and are slightly offset to the left and bottom, creating a layered effect.

2

How can the Commission help you adopt eDelivery

How can the Commission help you adopt a building block



CEF Building Block Service Offering

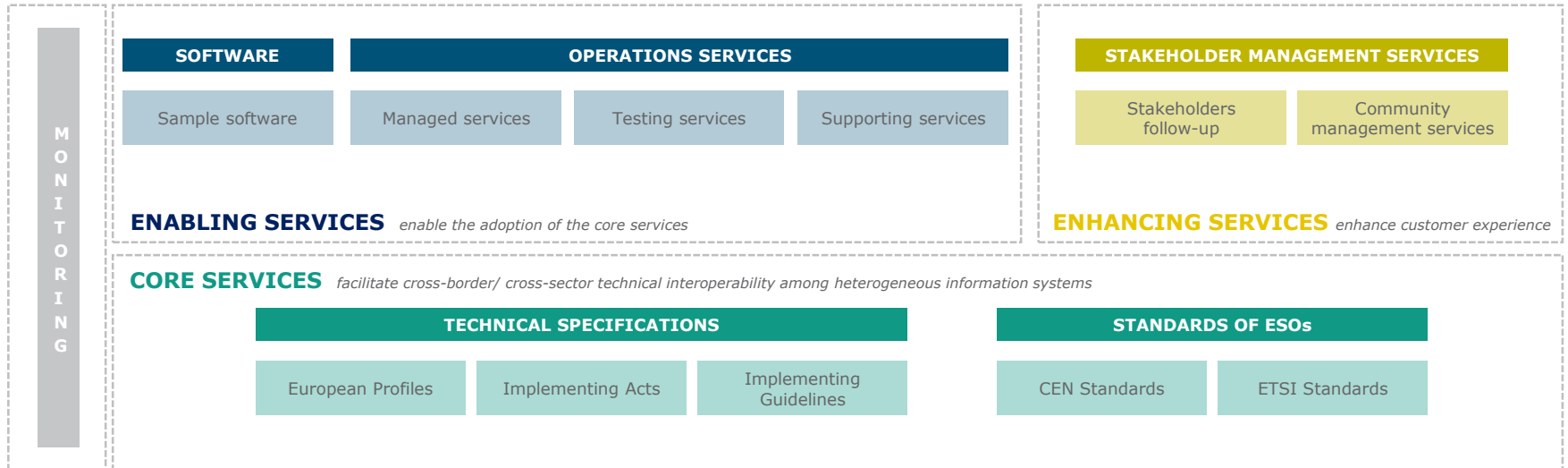
ENABLING SERVICES <small>enable the adoption of the core services</small>				ENHANCING SERVICES <small>enhance customer experience</small>	
SOFTWARE	OPERATIONS SERVICES			STAKEHOLDER MANAGEMENT SERVICES	CUSTOMER MANAGEMENT SERVICES
Sample software	Managed services	Training services	Supporting services	Stakeholder advisory	Customer management services
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

TECHNICAL SPECIFICATIONS			STANDARDS OF DOO	
Compass Profiles	Implementing Acts	Engineering Guidelines	CEC Standards	ETSI Standards
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

CORE SERVICES enable cross-border, cross-sector, technical interoperability among heterogeneous information systems

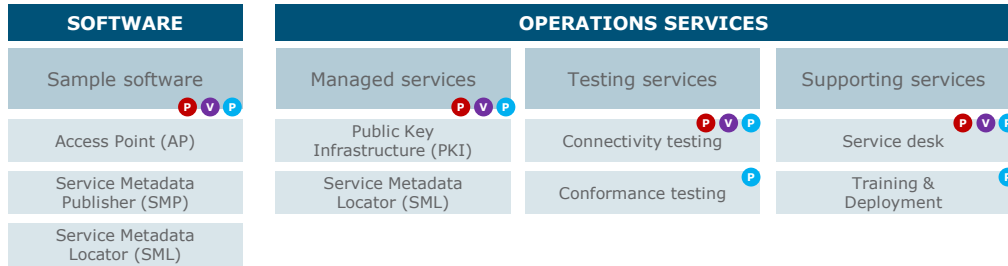
Legend:
● Target Audience A
● Target Audience B

The service offering canvas of the CEF Building Blocks

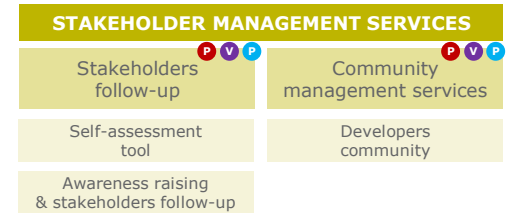


CEF eDelivery Service Offering

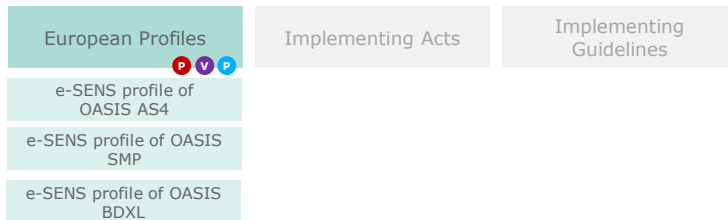
ENABLING SERVICES *enable the adoption of the core services*



ENHANCING SERVICES *enhance customer experience*



TECHNICAL SPECIFICATIONS



STANDARDS OF ESOs



AUDIENCE

- ^P Cross-border projects – Public sector entities
- ^P Cross-border projects – Private sector entities
- ^V Software vendors

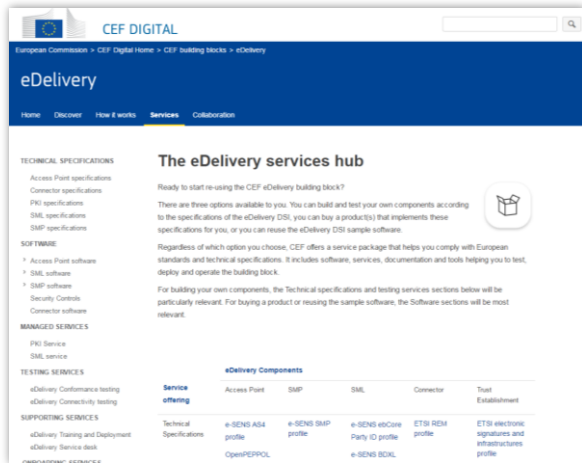
CORE SERVICES *facilitate cross-border/ cross-sector technical interoperability among heterogeneous information systems*

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All information about the services offered by the European Commission (focus on the building blocks).

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Service offering	eDelivery Components				
	Access Point	SMP	SML	Connector	Trust Establishment
Technical Specifications	e-SENS ASA profile	e-SENS SMP profile	e-SENS eBCore Party ID profile	ETSI REM profile	ETSI electronic signatures and infrastructures profile
	OpenPEPPOL		e-SENS B2CL		

GRANTS

All information about the grants: requirements, deadlines, how to apply, documentation, FAQs, etc.

<https://ec.europa.eu/inea/connecting-europe-facility/cef-telecom>



The screenshot shows the '2016 CEF Telecom calls for proposals' page on the INEA website. The page is titled '2016 CEF Telecom calls for proposals' and includes a navigation menu with 'HOME', 'CONNECTING EUROPE FACILITY', 'HORIZON 2020', 'TEN-T', 'MARCO POLO', 'NEWS & EVENTS', and 'ABOUT US'. The main content area is divided into several sections: 'CONNECTING EUROPE FACILITY' (CEF ENERGY, CEF TELECOM, CALLS, HOW TO APPLY, BENEFICIARIES, INFO POINT, CEF TELECOM PROJECTS, CEF TRANSPORT), 'Indicative Call Planning' (Call, Call open, Deadline for submissions), and '2016 CEF Telecom call 3 Virtual Info Day - 22 September'. The page also includes a search bar and a 'Help us improve!' button.

Call	Call open	Deadline for submissions
CEF-TC-2016-1 Business Registers Interconnection Systems (BRIS) (indicative budget: €3 million)	3 March 2016	Closed on 19 May 2016

Service Offering Descriptions on the CEF Digital Portal

Introduction about the service

Users and benefits of the service

Contact details

The screenshot shows the 'eDelivery' portal interface. The top navigation bar includes 'Home', 'Discover', 'How it works', 'Services', and 'Collaboration'. The main content area is titled 'Connectivity testing' and is divided into several sections:

- TECHNICAL SPECIFICATIONS**: Includes links for Access Point specifications, Connector specifications, PKI specifications, SML specifications, and BMP specifications.
- SOFTWARE**: Includes links for Access Point software, SML software, and BMP software.
- MANAGED SERVICES**: Includes links for PKI Service and SML service.
- TRAINING SERVICES**: Includes links for eDelivery Conformance testing and eDelivery Connectivity testing.
- SUPPORTING SERVICES**: Includes links for eDelivery Training and Deployment and eDelivery Service desk.
- ONBOARDING SERVICES**: Includes links for eDelivery self-assessment tool and eDelivery Onboarding of new projects.

The main content area features a 'Connectivity testing' heading, followed by an 'About the service' section. This section explains the goal of the CEF eDelivery Connectivity Testing service and mentions that the CEF Support Team facilitates the testing process. Below this, there is a yellow box with the text 'The service is available now. Download the service description.' and a 'Download (pdf) >' button.

Below the yellow box is a section titled 'Access the Connectivity testing eLearnings' with a grey box containing 'AS4 Connectivity Test Procedure 3.2' and a 'View eLearning >' button.

The 'Users of the service' section lists two types of providers: Software Providers and Service Providers, each with specific requirements for communication and configuration.

The 'Benefits for the users of the service' section lists several advantages, including confirmation of communication with a neutral organization, professional support, quick testing cycles, and domain-neutral tests.

The 'Useful documents' section includes a link to 'Download the AS4 Connectivity Test Guidelines (pdf)'. The 'Support' section includes a 'Get help now >' button.

ec.europa.eu/cefdigital

Link to download the full Service Offering Description document

Link to the eLearning

Additional documentation

e-SENS AS4 conformant solutions

The screenshot shows the CEF Digital website with the following structure:

- Header: CEF DIGITAL, European Commission > CEF Digital Home > CEF building blocks > eDelivery > eDelivery Services > eDelivery Software > Access Point software
- Navigation: Home, Discover, How it works, **Services**, Collaboration
- Left Sidebar (TECHNICAL SPECIFICATIONS):
 - Access Point specifications
 - Connector specifications
 - PKI specifications
 - SML specifications
 - SMP specifications
- Left Sidebar (SOFTWARE):
 - Access Point software
 - e-SENS AS4 conformant solutions**
 - SML software
 - SMP software
 - Security Controls
 - Connector software
- Left Sidebar (MANAGED SERVICES):
 - PKI Service
 - SML service
- Left Sidebar (TESTING SERVICES):
 - eDelivery Conformance testing
 - eDelivery Connectivity testing
- Left Sidebar (SUPPORTING SERVICES):
 - eDelivery Training and Deployment
 - eDelivery Service desk
- Main Content: **e-SENS AS4 conformant solutions**
 - Text: "This page lists the solutions that have passed or are in the process of passing the conformance testing according to the e-SENS AS4 profile:"
 - List:
 - Domibus (EC sample implementation)
 - Flame
 - Holodeck
 - IBM
 - Laurentius
 - Mendelson
 - RSSBus
 - Text: "A full list of other vendors supporting AS4 can be accessed at the bottom of this page."

More information on CEF Digital

[Conformant Solutions >](#)

DOMIBUS

FLAME

HOLODECK

IBM

LAURENTIUS

MENDELSON

RSSBus

EESSI AS4.NET

ADES

Integration Cloud

 **Conformant**

 **Ongoing**

Governance Model of the CEF Building Blocks

CEF POLICY

CEF Coordination Committee

CEF IT STRATEGY & COORDINATION

Architecture Management Board

CEF Telecom Expert Group

CEF DSIs IMPLEMENTATION

Operational Management Board(s)

- DSI Owner
- DSI Solution Providers
- Users: Commission Services
- Invited Stakeholders

Extended DSI Expert Group

- Policy Expert Group
- User Communities

CEF DSIs STAKEHOLDERS

Standardisation Bodies

Private Sector

Open Source Communities

Other Stakeholders

SCOPE OF DECISIONS

■ Policy implementation decisions

■ Strategic decisions

■ Tactical decisions

■ Operational & technical implementation decisions

KEY OUTPUTS

Work Programme

Common principles

Project Charter

Change Request

Getting started with eDelivery

FIWARE CLOUD

- What do you need to get started: only a keyboard!
- Start [Domibus in the cloud for free on Fiware](#)
 - Setup guide: <https://ec.europa.eu/cefdigital/wiki/x/CwFfAQ>

Local installation

- [Get the documentation, binaries and source code on CEF Digital](#)
- Install a local instance easily with the Quick Start guide
- [Connect it to the CEF connectivity Testing Service](#)



3

Looking ahead

Political support in the eGovernment Action Plan 2016 - 2020

DIGITAL PUBLIC SERVICES

Online • Transformative • Lean • Open

DIGITALISE AND ENABLE

Efficient and effective
public services

Make it simple

CONNECT

Deliver public services
across borders

Make it for all

ENGAGE

Get involved in designing
/ delivering new services

Make it together

Actions related to the (CEF) Building Blocks:

ACTION 3: Commission will ensure the sustainability of the building blocks by 2018

ACTION 6: Commission will use common building blocks such as CEF DSIs

Find out more on CEF Digital

ec.europa.eu/cefdigital

Login Support



CEF DIGITAL



European Commission

LATEST

Live Webinar - Tuesday 28th of July: "CEF eDelivery - What's In It For You?"

The CEF Building Blocks

Supported by the Connecting Europe Facility (CEF), the CEF Building Blocks offer basic capabilities that can be used in any European project to facilitate the delivery of digital public services across borders.

About the Building Blocks

eDelivery

eID

eInvoicing

eSignature

eTranslation

Learn More >



Collaborative spaces

Check them out

Grants

Apply Now

Visit INEA's website

Latest News

Find all the latest news, events and more at
Connecting Europe

DIGIT

Directorate-General for Informatics

DG CONNECT

Directorate-General for Communications
Networks, Content and Technology

Contact us



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