



# ***CEF Automated Translation***

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***Connecting public services across Europe: ambition and results so far***

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Directorate-General for Communications Networks, Content and Technology  
European Commission



- **Legal Framework: The Connecting Europe Facility**
- CEF Automated Translation as a building block
- CEF Automated Translation uptake
- Multilingualism in the next Multiannual Financial Framework
- Beyond CEF Automated Translation and eTranslation

# The Connecting Europe Facility 2014 -2020 (CEF)



**TRANSPORT**  
€26.25bn

**ENERGY**  
€5.85bn

**TELECOM**

**Digital Service Infrastructures**  
€970 M \*

**Broadband**  
€170 M

## 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.

# What is a CEF Digital Service Infrastructure?

## DIGITAL SERVICE INFRASTRUCTURES (DSIs)

'Core Service Platforms' (CSP) ensure central coordination at EU level (100 % funding)

'Generic Services' allow national infrastructures/entities to connect to the CSP (Up to 75 % funding)

### Sector-specific DSIs funded by CEF

- Europeana
- Safer Internet
- Open Data
- ODR
- eHealth
- eProcurement
- EESSI
- eJustice Portal
- BRIS
- eCard
- eArchiving

must reuse

### Building Block DSIs funded by CEF

- eID
- eSignature
- eDelivery
- CEF Automated Translation
- eInvoicing
- CyberSecurity

### CEF PRINCIPLES

- # cross-border use
- # digital delivery
- # have sufficient maturity
- # contribute to EU policies
- # plan to become sustainable
- # be based on market-driven open standards and technical specifications
- # be reusable in different domains/sectors
- # be reusable by other DSIs

**A Building Block** is a package of technical specifications, services or sample software that can be reused in different policy domains/ by different DSIs

## What is CEF Automated Translation?

Lowers language barriers in the Digital Single Market by:

- ⑩ offering multilingual solutions for pan-European digital public services and public administrations
- ⑩ enabling citizens and businesses to benefit from services in their own language

*Machine-translation engines and specialised language resources including the necessary tools and programming interfaces needed to operate pan-European digital services in a multilingual environment*



# CEF Automated Translation: A multilingualism enabler for public online services



CEF Automated Translation  
eTranslation  
ELRC share



BRIS

Citizens and business partners need legal certainty when doing business cross-border



ODR

Citizens need to solve disputes online across borders



eHealth

Citizens need to have online access to their patient summary when abroad



EESSI

Citizens need to get to enjoy their social security seamlessly and online when abroad



It also includes

e-Justice

Open Data

eProcurement.....

# Open Data reuses eTranslation

CORE SERVICE  
PLATFORM



EUROPEAN  
DATA PORTAL



CEF Automated  
Translation

Language  
Resources

eTranslation

GENERIC  
SERVICES



CITY

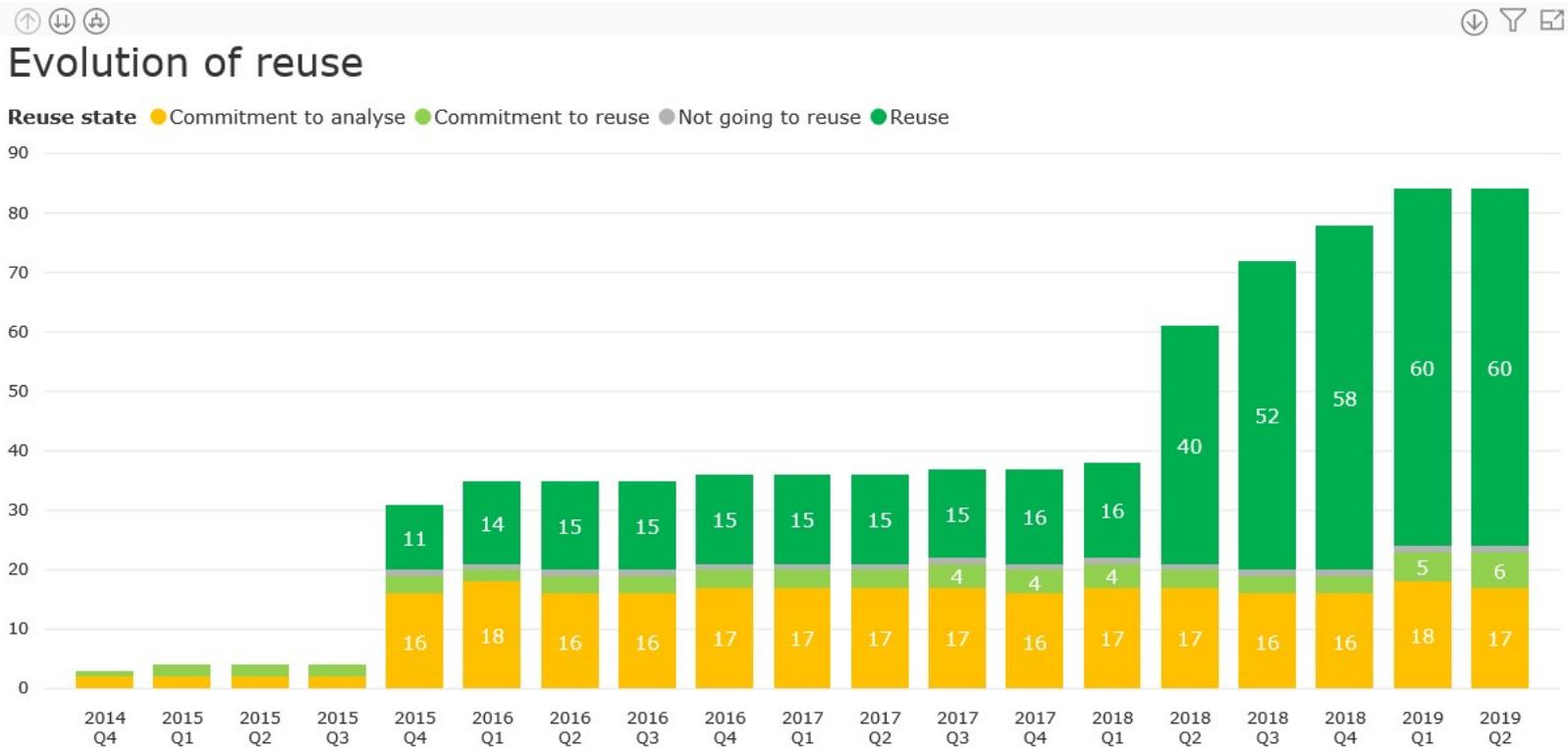
REGION

MEMBER STATE

# Reuse of CEF AT Building Block – overview of evolution

This dashboard takes into account all projects (not only CEF projects) which reuse the CEF Building Blocks.

source: CEF Dashboard <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Reuse>



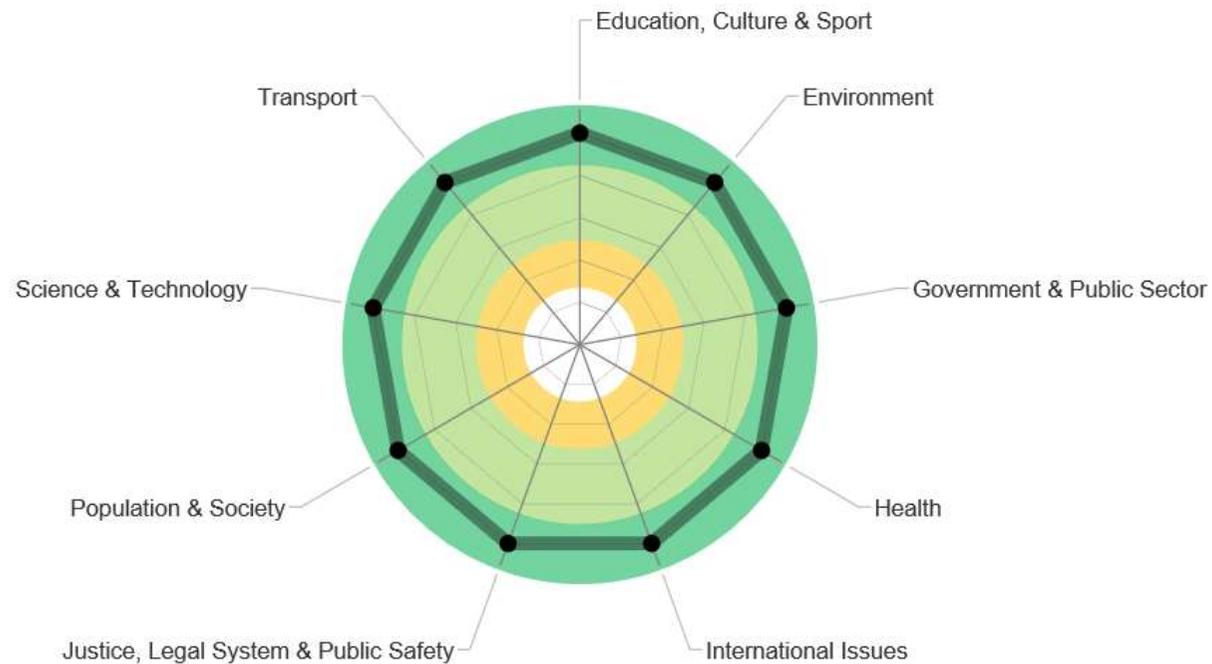
# Reuse of CEF AT Building Block – overview of evolution

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## Sectors of reuse

**Reuse state** ● Highest reuse state per sector   ● Commitment to analyse   ● Commitment to reuse   ● Reuse



# Where can I find more information about CEF DSIs?

## DIGITAL SERVICE INFRASTRUCTURES (DSIs)

Services provided by the  
EUROPEAN COMMISSION

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



Latest | [Read the Connecting Europe Success Stories!](#)

### CEF Building Blocks

Build your digital service faster and cheaper and create a European digital single market.

#### eDelivery

Supporting electronic registered delivery of data and documents.

#### eID

Extending the use of online services to citizens of other EU Member States.

#### eInvoicing

Helping public entities adopt the European standard on electronic invoicing.

#### eSignature

Creating and verifying electronic signatures.

#### eTranslation

Exchanging information across language barriers in the EU Member States.

#### About the building blocks

Learn more about the CEF building blocks.

Funding available to the  
MEMBER STATES

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

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European Commission  
INNOVATION AND NETWORKS EXECUTIVE AGENCY  
INEA

European Commission > Connecting Europe Facility > CEF Telecom > Calls > 2017 CEF Telecom Call - eTranslation (CEF-TC-2017-3)

HOME CONNECTING EUROPE FACILITY HORIZON 2020 TEN-T MARCO POLO NEWS & EVENTS ABOUT US

2017 CEF Telecom Call - eTranslation (CEF-TC-2017-3)

The 2017-3 CEF Telecom eTranslation makes an indicative €6 million of funding available for proposals in this area. For any specific questions concerning the call, please check the call FAQ or contact the call Helpdesk until 14 November. The CEF Telecom 2017-3 call virtual Info Day will take place on 12 September 2017.

2017 CEF Telecom Calls

Indicative Call Timeline	
Call opening	28 June 2017
Deadline for submission	28 November 2017
Evaluation of proposals	December 2017 - February 2018
Consultation of the CEF Committee	March 2018
Information to the European Parliament	March 2018
Adoption of the Selection Decisions	April 2018
Adoption of individual grant agreements	by end of August 2018

**Work Programme**

2017 CEF Telecom Work Programme	Available here
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CONNECTING EUROPE FACILITY

- CEF ENERGY
- CEF TELECOM
  - CALLS
  - HOW TO APPLY
  - BENEFICIARIES' INFO POINT
  - CEF TELECOM PROJECTS
- CEF TRANSPORT



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# CEF Automated Translation vs. eTranslation

One machine translation service - Two complementary purposes

## DGT eTranslation

- Translators of the EU Institutions
- Digital services of the EU Institutions



## CEF Automated Translation

Uses eTranslation, offering it to

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



# CEF eTranslation – the offer

Available in all 24 official EU languages, Icelandic and Norwegian.

## Document Translation formats

- Microsoft Office \*.doc, \*.docx, \*.xls, \*.xlsx, \*.ppt, \*.pptx
- Acrobat: \*.pdf
- Open Office: \*.odt, \*.ods, \*.opg, \*.opd, \*.ott, \*.ots, \*.otg, \*.otd
- Text: \*.rtf, \*.txt, \*.xml, \*.xliff, \*.sdlxliff, \*.tmx
- Web: \*.html, \*.htm, \*.xhtml

## Response time

- Document  $\geq$  95% returned within one hour
- Snippet  $\leq$  4000 characters,  $\geq$  95% returned within one minute.

## A Web interface for users

- Cut & Copy text for translation
- Upload Document for translation + email service
- Typical usage:
  - Pre-translated material for review by translators
  - Rough translations for non-translators to give an idea of the content

## A Machine to Machine service

- integration in workflows
- Examples later

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# The CEF Automated Translation building block today

## eTranslation service

[https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranlation\\_en](https://ec.europa.eu/info/resources-partners/machine-translation-public-administrations-etranlation_en)

- a central **machine translation service** run by Directorate-General for Translation (DGT)
- machine translation between 24 official EU languages, Icelandic and Norwegian (Bokmål)
- a machine translation service for public administrations and public online services in various domains/sectors
- available via a **web-user interface** and an **API**
- So far available to the following types of users:
  - **online service providers** in European and national public administrations
  - **translators** in EU institutions and in national public administrations
  - **non-translating staff** in EU institutions and in national public administrations

## ELRC-SHARE repository

<https://elrc-share.eu/>:

- repository of language resources needed to develop multilingual systems and services
- language resource sharing infrastructure
- part of the broad Europe-wide effort on **European Language Resource Coordination**

[www.lr-coordination.eu](http://www.lr-coordination.eu)

# Language resources: the key to success

- More data for all languages
- Better lexical coverage for all languages
- Machine translation adapted to your domain/subject matter

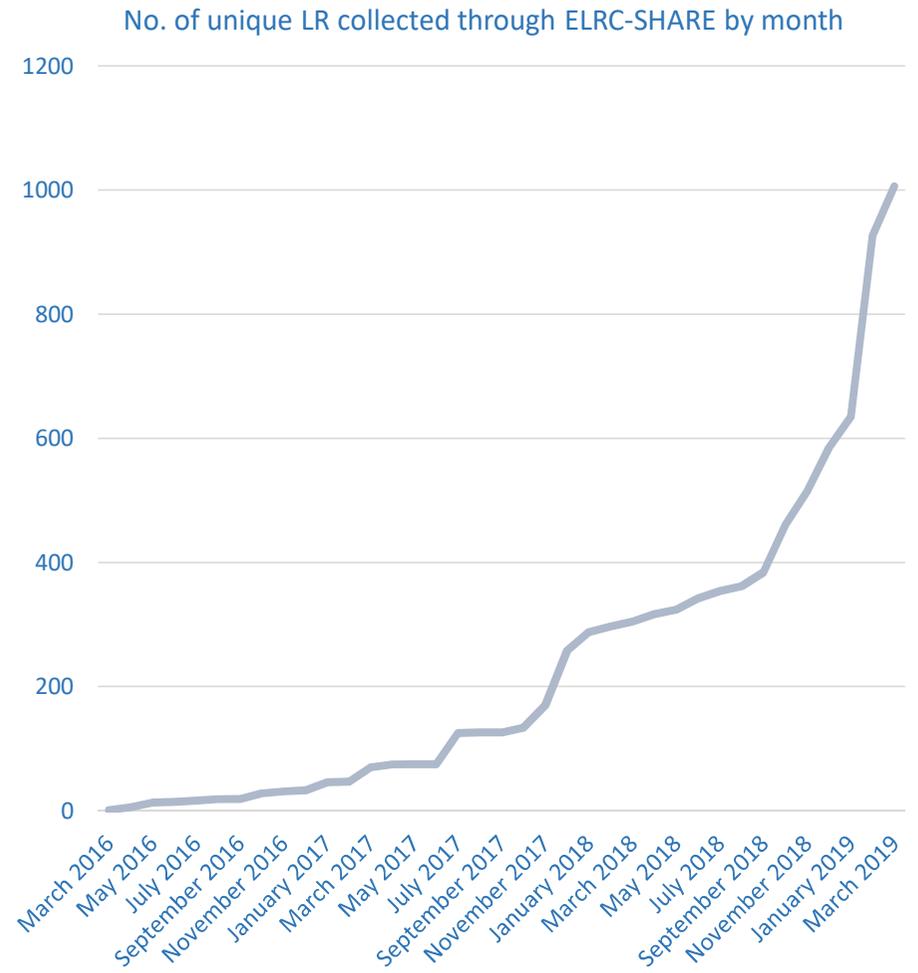
Through ELRC, the European Language Resource Coordination initiative, the Commission is looking for language resource holders who are willing and able to contribute data to improving the translation engines.

<http://www.lr-coordination.eu/>



# Language Resource Collection

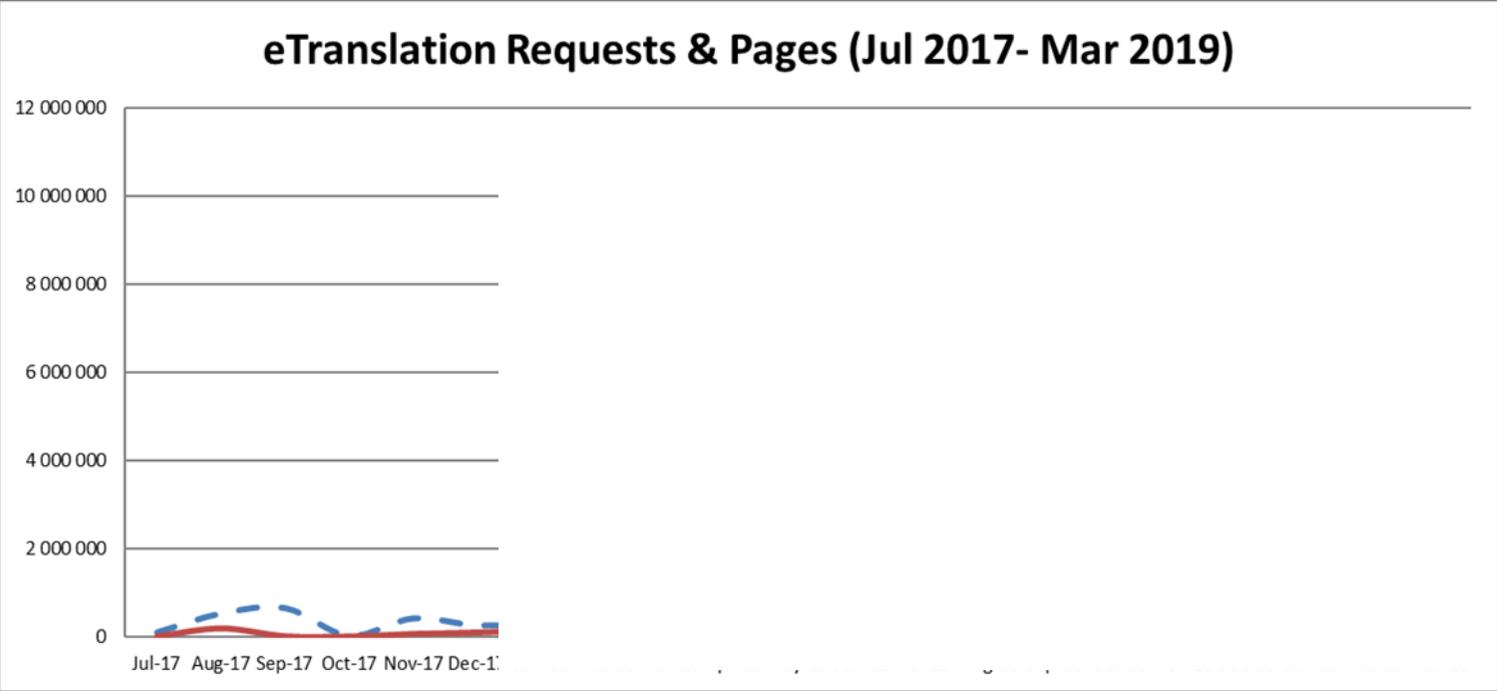
- 1000 language resources
- Instrumental in building EN<>IS and EN<>NB engines
- Contributed to the development of the EN<>GA engine
- Main source for some of the domain-adapted engines
- Will be used for building domain generic engines
  
- Will be used by various other Natural Language Processing tools (summarisation etc.)





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# eTranslation: State of play



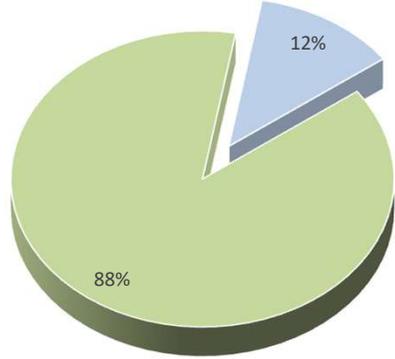
monthly usage

### Web Page use in Q1 2019

- 2.2 million / 18 million
- More than 500K from member states

### Current record day

- 7 May - 875 773 pp



■ Web Page ■ Machine-to-machine

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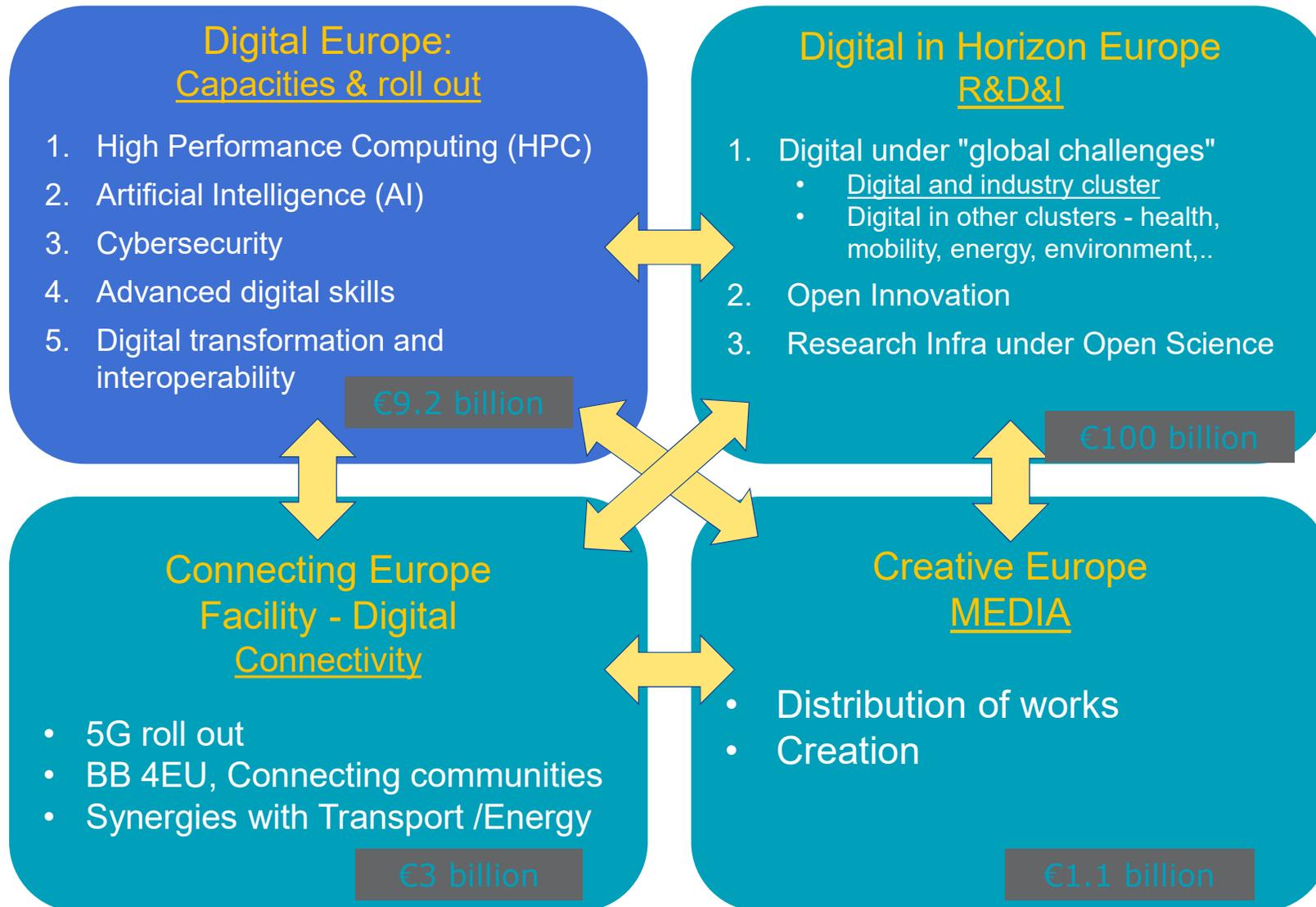
## CEF eTranslation - how can you get involved?

- Try using **eTranslation web interface!**
- **Integrate eTranslation API** in your online public service
- Share with us your requirements and needs!
  - contact: [CEF-AT@ec.europa.eu](mailto:CEF-AT@ec.europa.eu)
  - eTranslation Service Desk: [help@cefat-tools-services.eu](mailto:help@cefat-tools-services.eu)
- Help us improve the service by **providing data**: [www.lr-coordination.eu](http://www.lr-coordination.eu)!
  
- Engage in **collaborative projects** (co-funded by EC at 75% of eligible costs)
  - Information about work programmes and calls at CEF Digital and INEA calls pages



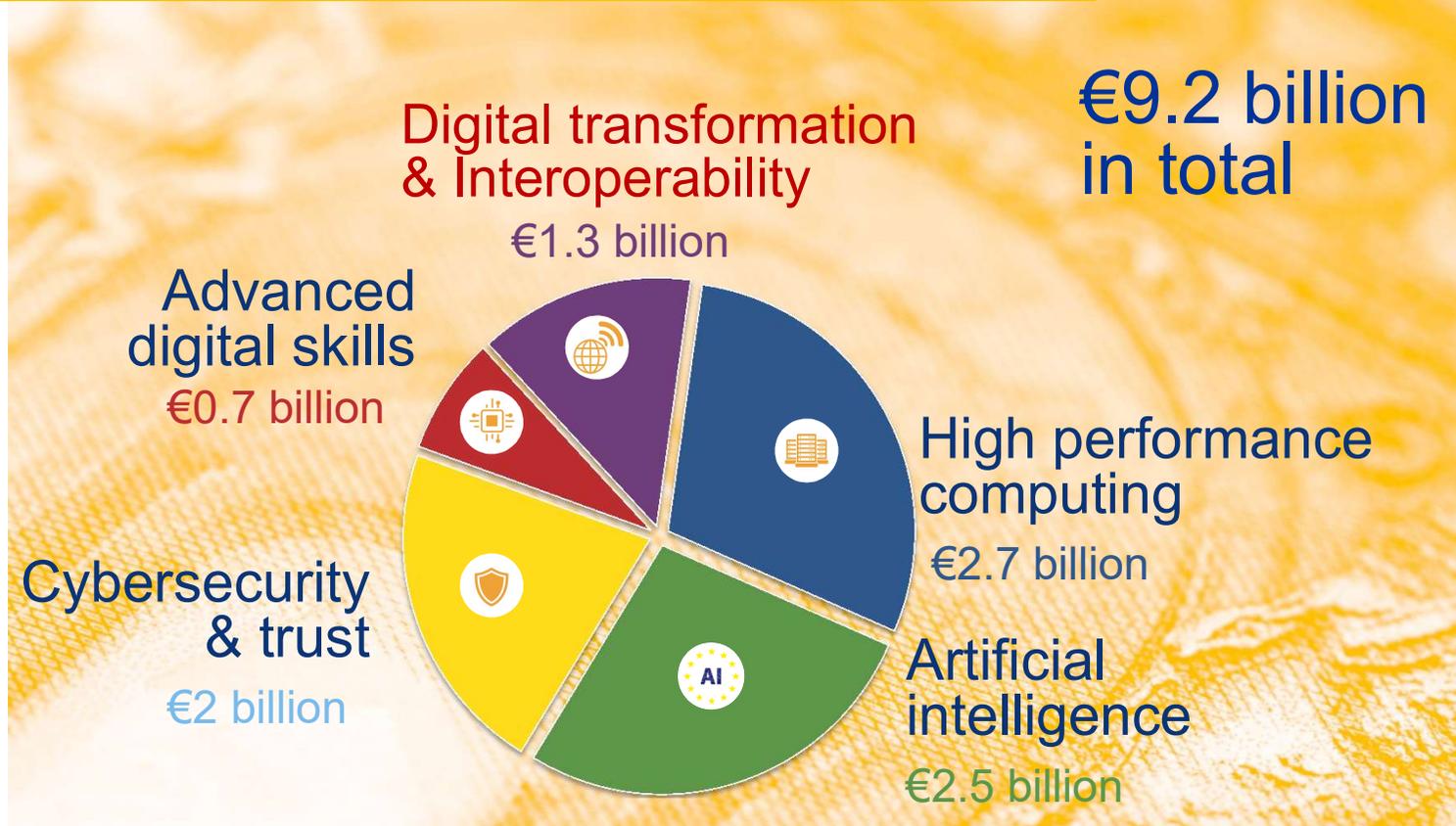
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# DIGITAL IN THE NEXT MFF: OVERVIEW



# Digital Europe programme

*Reinforcing digital capacities. Ensuring their best use.*



#EUBudget  
#DigitalEurope

# MULTILINGUALISM IN NEXT MFF



in Digital Europe Programme

*Support deployment of Language Technologies*

*Why: Increase EU competitiveness in a key technology, strengthen Europe sovereignty*

*How: Provide language data and tools to public and private sector; foster collaboration*

*Impact: Public and private sector, including SMEs*

*Where?*

*Artificial Intelligence*

*European data spaces, European libraries of algorithms*

# MULTILINGUALISM IN NEXT MFF



in Digital Europe Programme

*Support the modernisation of public administrations and areas of public interest*

*Why: offer EU citizen access to information in any language*

*How: Provide languages technology enablers*

*Impact: Public administrations, areas of public interest, SMEs.*

*Where ?*

*Deployment, best use of digital capacities and Interoperability*

*Modernisation of administrations*



# Horizon Europe – Preliminary Structure

## Pillar I

Excellent Science

European Research Council

Marie Skłodowska-Curie Actions

Research Infrastructures

## Pillar II

Global Challenges and European Industrial Competitiveness

### CLUSTERS

- Health
- **Culture, Creativity and Inclusive Society**
- Civil Security for Society
- **Digital, Industry and Space**
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Join Research Centre

## Pillar III

Innovative Europe

European Innovation Council

European Innovation Ecosystems

European Institute of Innovation and Technology

## Widening Participation and Strengthening the European Research Area

Widening Participation and Spreading Excellence

Reforming and Enhancing the European R&I System

# MULTILINGUALISM IN NEXT MFF



  
in Horizon Europe  
Digital, Industry & Space

*Support research to achieve digital language transparency*

*Why: EU competitiveness and independence to external technology providers*

*How: Innovate in Language Technologies*

*Impact: keep EU Researchers Lower barriers in DSM*

*Where ?*

*Next Generation Internet  
Human-centric*



*Human-centric Internet applications*

# MULTILINGUALISM IN NEXT MFF



in Horizon Europe  
Inclusive & Secure Society

Support Language Preservation

*Why: Most European languages  
are at risk of digital extinction*

*How: Collect language resources*

*Impact: Digital Humanities and  
Language Technologies*

*Where ?*

*Cultural Heritage*

# MULTILINGUALISM IN NEXT MFF



## R&I

- *Support research to achieve digital language transparency*
- *Support Language Preservation*

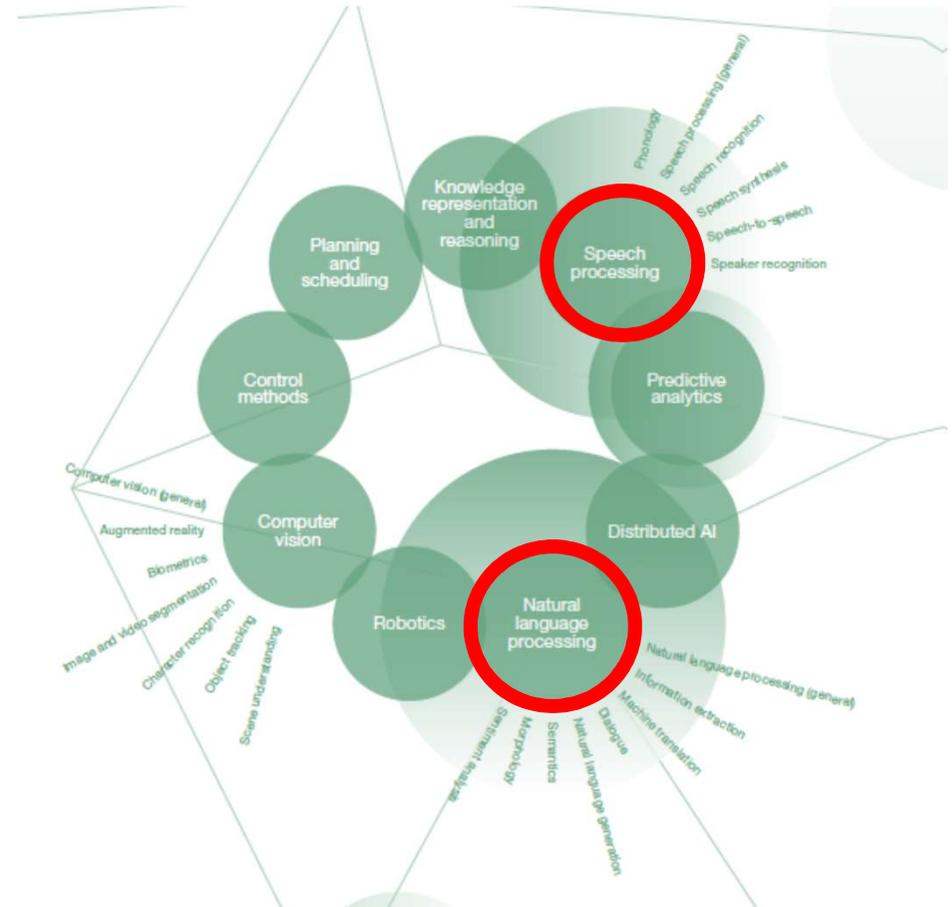
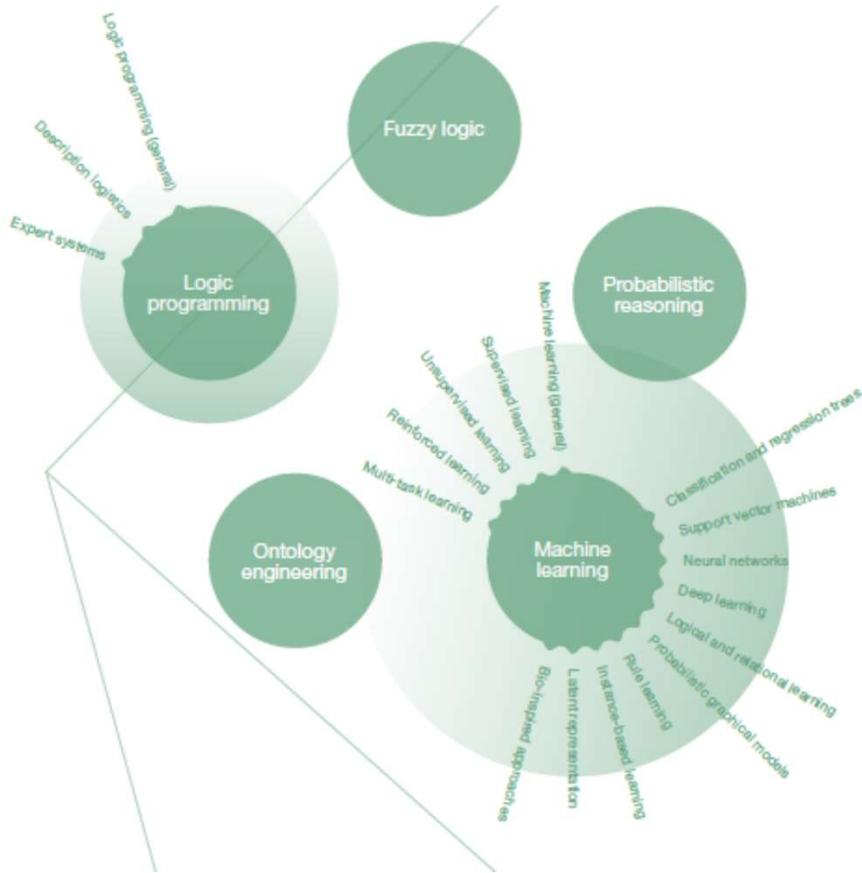
## CAPACITY & DEPLOYMENT

- *Support deployment of Language Technologies*
- *Modernise public administrations and areas of public interest*



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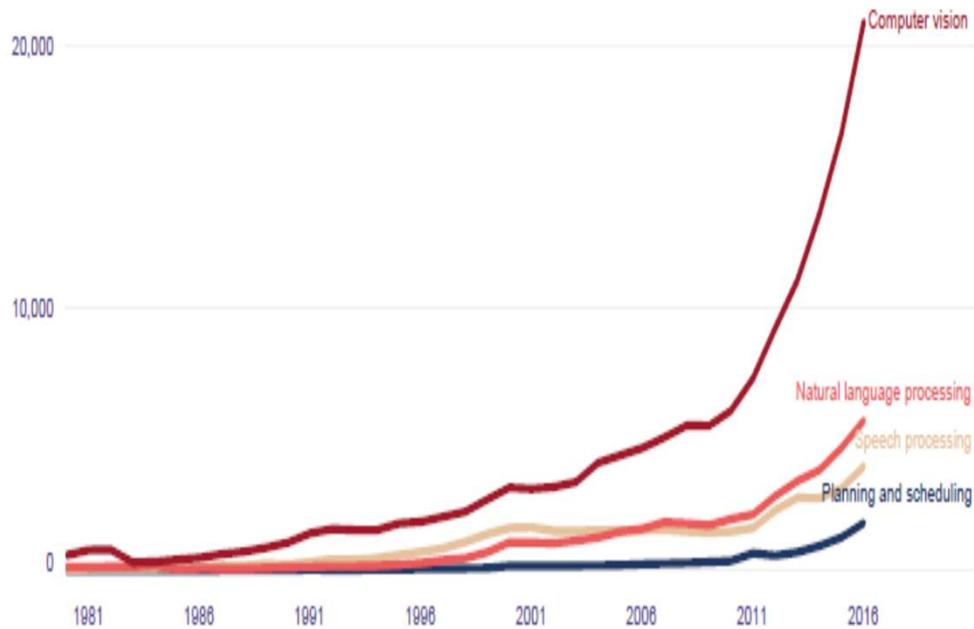
# AI Techniques & Fields of Applications



WIPO (2019). WIPO Technology Trends 2019: Artificial Intelligence.

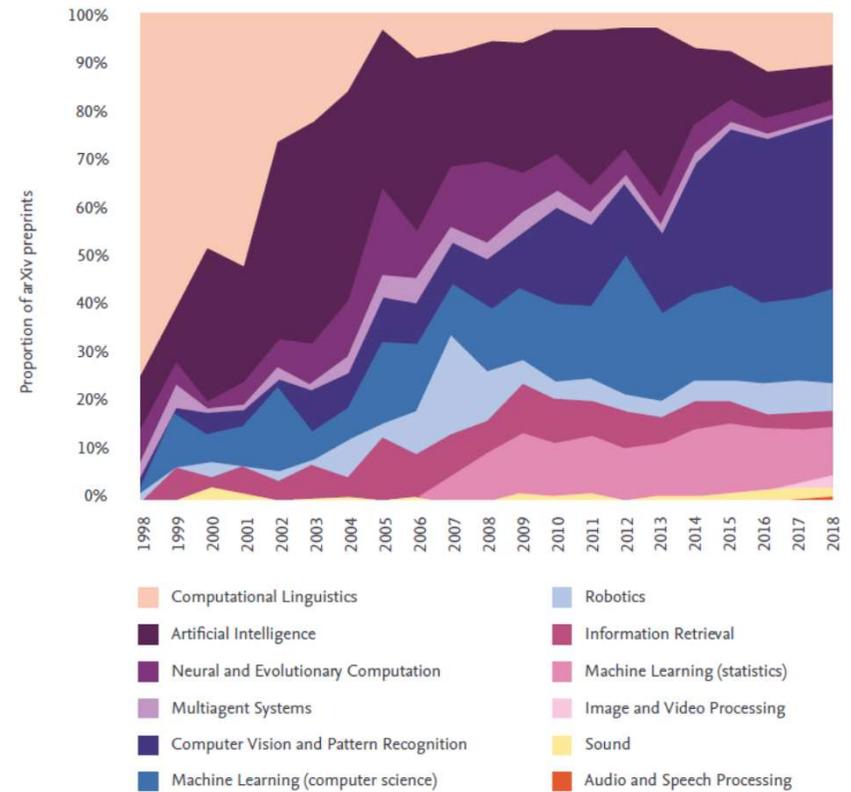
# AI & Language Technologies

Figure 3.11. Patent families for top functional applications by earliest priority year  
 Computer vision grew by an average of 23 percent annually between 2011 and 2016



Note: A patent may refer to more than one category

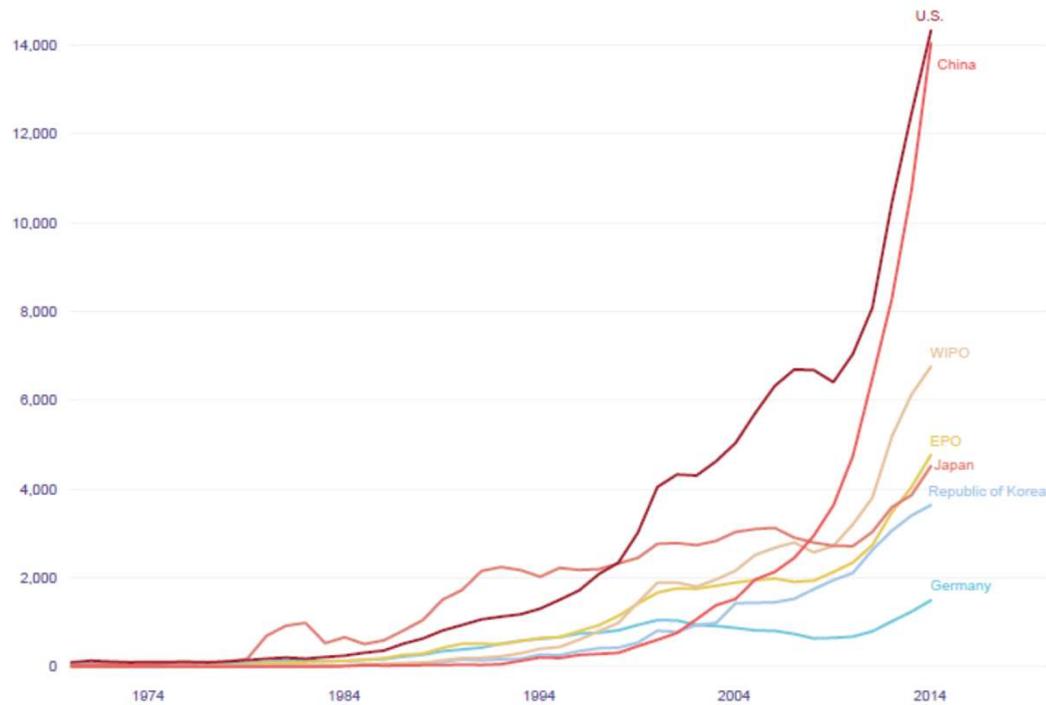
WIPO (2019). WIPO Technology Trends 2019: Artificial Intelligence.



Artificial Intelligence: How knowledge is created, transferred, and used  
 Trends in China, Europe, and the United States (Elsevier, Nov. 2018)

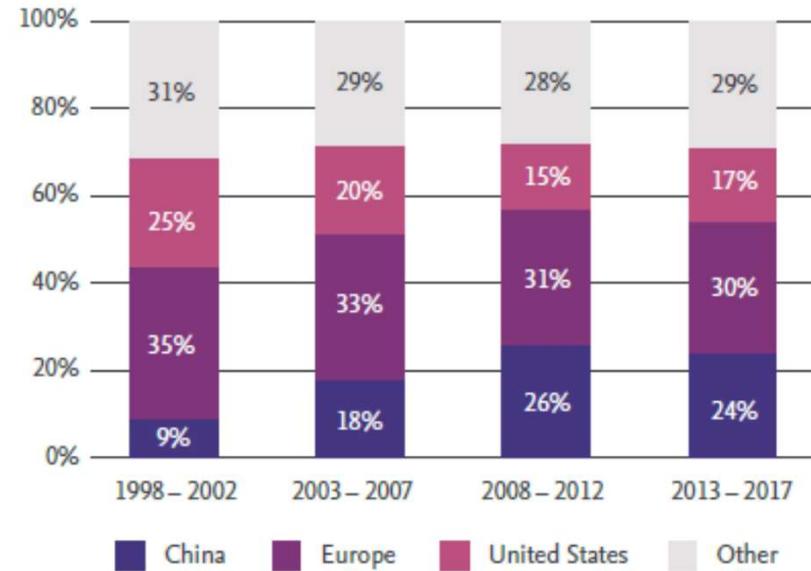
# AI Actors

**Figure 5.3. Number of patent applications for different offices by earliest priority date**  
*The number of patent applications filed in China grew by an average of 25 percent since 2009*



WIPO (2019). *WIPO Technology Trends 2019: Artificial Intelligence*.

**Share of world publications in AI**



**FIGURE 3-4**  
 Share of global publication output in AI (all document types) for periods 1998-2002, 2003-2007, 2008-2012, and 2013-2017, per region; source: Scopus.

*Artificial Intelligence: How knowledge is created, transferred, and used Trends in China, Europe, and the United States (Elsevier, Nov. 2018)*

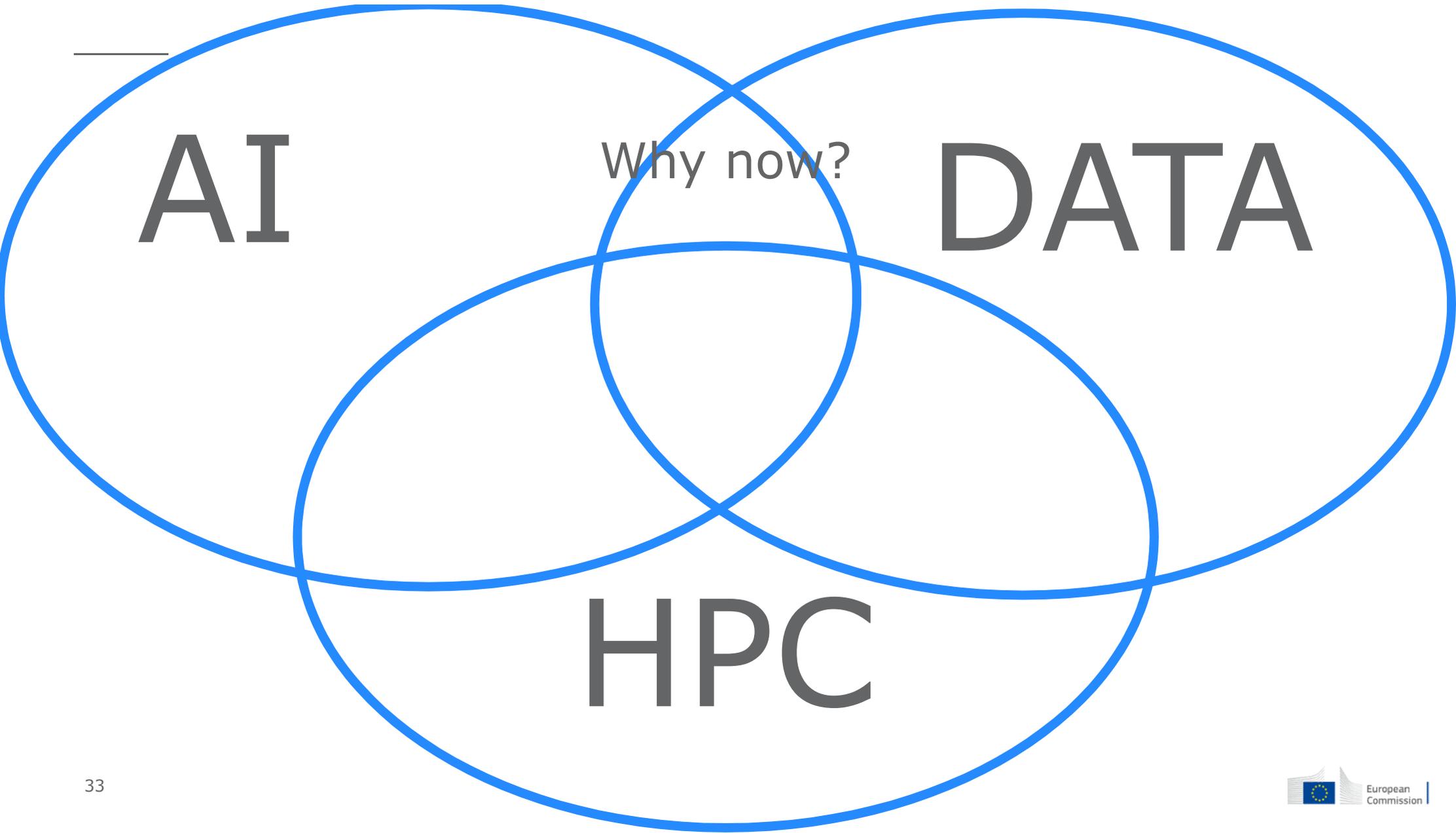
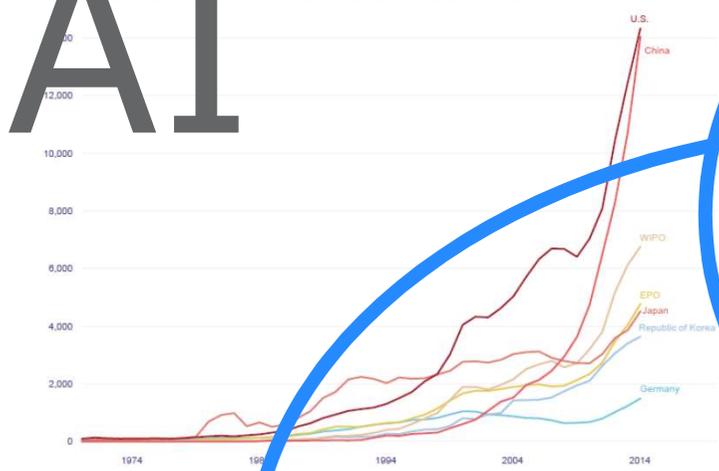


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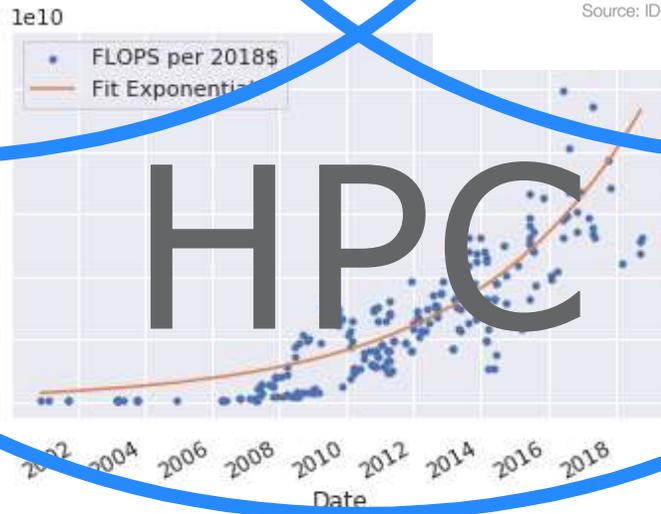
# AI

Annual Size of the Global Datasphere

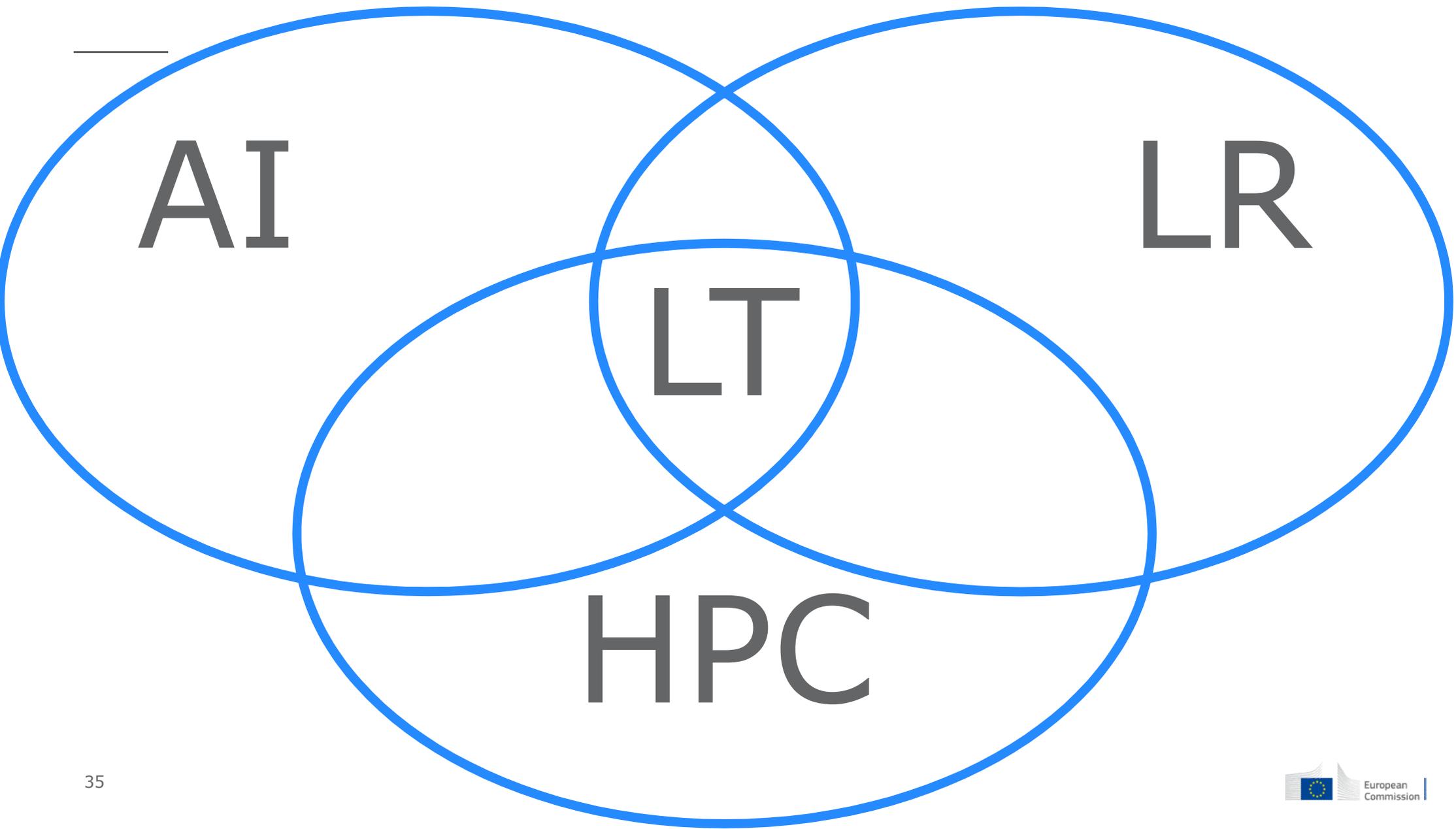


# DATA

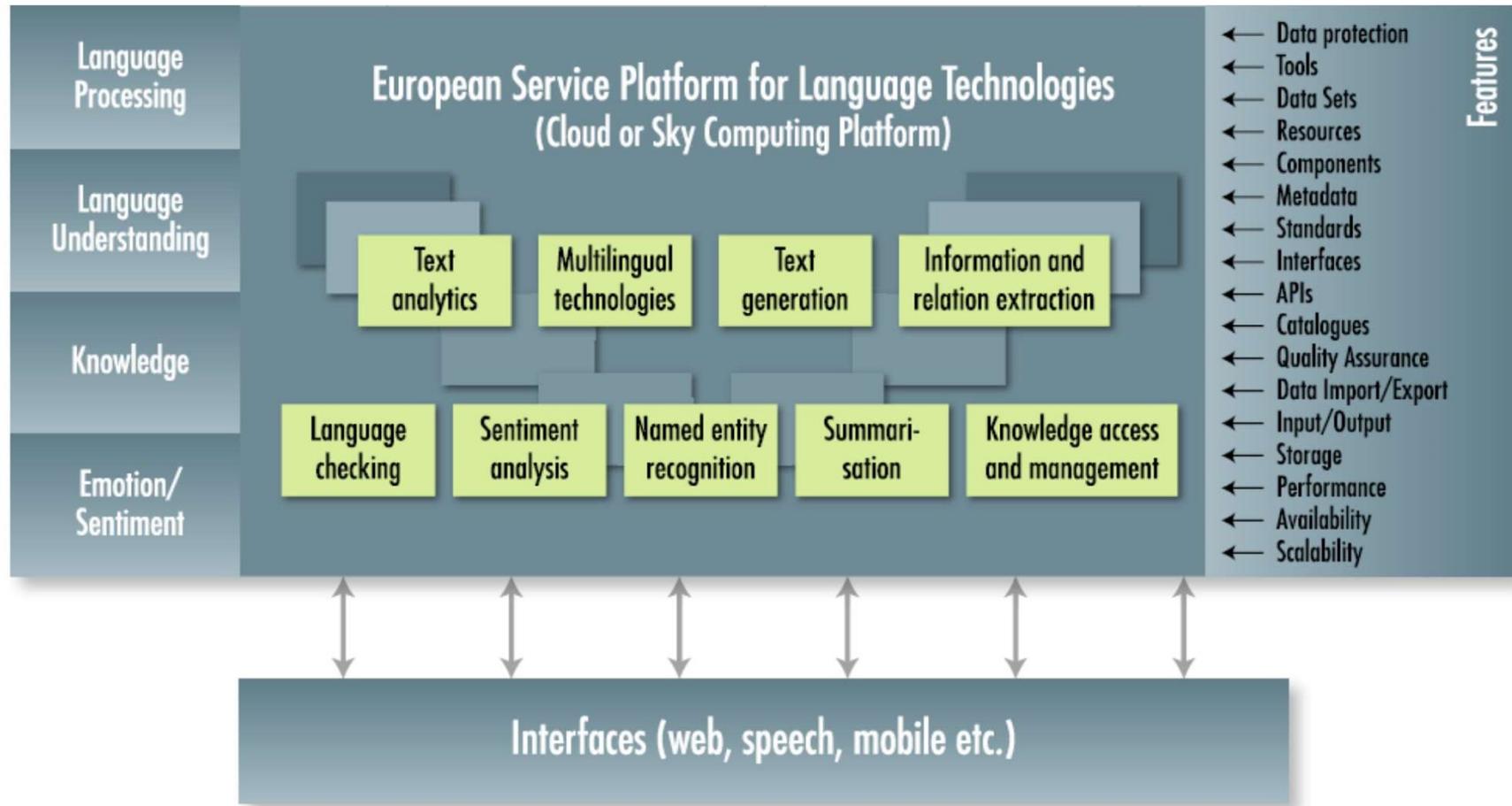
Source: IDC's Data Age 2025 study, sponsored by Seagate, April 2017



# HPC



# On its way : ELG – European Language Grid



From: META-NET  
SRA (2013)

