

# BIENVENUE WELKOM

**Interreg**

France-Wallonie-Vlaanderen



UNION EUROPÉENNE  
EUROPESE UNIE

## LA DIGITALISATION DANS NOS PROJETS DIGITALISERING BINNEN ONZE PROJECTEN

19.11.2019

AVEC LE SOUTIEN DU FONDS EUROPÉEN DE DÉVELOPPEMENT RÉGIONAL  
MET STEUN VAN HET EUROPEES FONDS VOOR REGIONALE ONTWIKKELING



#DigiFWVL19  
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# ORDRE DU JOUR

## AGENDA

Mot de bienvenue	<b>11.00</b>	Welkomstwoord
Bruno Schröder Microsoft	<b>11.15</b>	Bruno Schröder Microsoft
Dr. Max Lemke Commission européenne	<b>12.00</b>	Dr. Max Lemke Europese Commissie
Lunch	<b>12.30</b>	Lunch
Transformation numérique	<b>13.30</b>	Digitale transformatie
e-santé	<b>13.45</b>	e-health
Pause-café	<b>14.30</b>	Koffiepauze
Cartographie en ligne	<b>15.00</b>	Online mapping
La digitalisation dans l'industrie alimentaire	<b>15.15</b>	Digitalisering in de voedingsindustrie
Conclusion	<b>16.00</b>	Conclusie
Drink de clôture	<b>16.30</b>	Afsluitende drink



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# MOT DE BIENVENUE WELKOMSTWOORD

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Administrateur général  
Agentschap voor Innoveren en Ondernemen  
Administrateur-generaal  
Agentschap voor Innoveren en Ondernemen

# Mark ANDRIES

# MOT DE BIENVENUE

## WELKOMSTWOORD

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Wallonie - Bruxelles  
International.be

Inspecteur général

Wallonie-Bruxelles International (Autorité de Gestion)

Inspecteur-generaal

Wallonie-Bruxelles International (Beheersautoriteit)

# Christian CARETTE



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National Technology Officer  
Microsoft

**Bruno SCHRÖDER**

Hoe lossen we op problemen?

Comment résolvons-nous un problème?





Concept	Description	Enabler
1st paradigm	Empirism	Human perception
2nd paradigm	Scientific reasoning	Newtonian revolution
3rd paradigm	Simulation	Computers
4th paradigm	Data driven	Ubiquitous cloud computing

Résoudre un  
problème sans le  
comprendre, en le  
mesurant

Een oplossing  
zonder het  
probleem te  
begrijpen, door  
het meten van wat  
er gebeurt

Data  
Science  
is  
different



Probability, sampling based,  
learned from data



## DeepMood: Modeling Mobile Phone Typing Dynamics for Mood Detection

Bokai Cao, Lei Zheng, Chenwei Zhang, Philip S. Yu, Andrea Piscitello, John Zulueta, Olu Ajilore, Kelly Ryan, Alex D. Leow

(Submitted on 23 Mar 2018)

The increasing use of electronic forms of communication presents new opportunities in the study of mental health, including the ability to investigate the manifestations of psychiatric diseases unobtrusively and in the setting of patients' daily lives. A pilot study to explore the possible connections between bipolar affective disorder and mobile phone usage was conducted. In this study, participants were provided a mobile phone to use as their primary phone. This phone was loaded with a custom keyboard that collected metadata consisting of keypress entry time and accelerometer movement. Individual character data with the exceptions of the backspace key and space bar were not collected due to privacy concerns. We propose an end-to-end deep architecture based on late fusion, named DeepMood, to model the multi-view metadata for the prediction of mood scores. Experimental results show that 90.31% prediction accuracy on the depression score can be achieved based on session-level mobile phone typing dynamics which is typically less than one minute. It demonstrates the feasibility of using mobile phone metadata to infer mood disturbance and severity.

Comments: KDD 2017

Subjects: **Human-Computer Interaction (cs.HC)**; Artificial Intelligence (cs.AI)

DOI: [10.1145/3097983.3098086](https://doi.org/10.1145/3097983.3098086)

Cite as: [arXiv:1803.08986 \[cs.HC\]](https://arxiv.org/abs/1803.08986)

(or [arXiv:1803.08986v1 \[cs.HC\]](https://arxiv.org/abs/1803.08986v1) for this version)

## Instagram photos reveal predictive markers of depression

Andrew G. Reece<sup>a</sup>, Christopher M. Danforth<sup>b,c</sup>

**Abstract:** Using Instagram data from 166 individuals, we applied machine learning tools to successfully identify markers of depression. Statistical features were computationally extracted from 43,950 participant Instagram photos, using color analysis, metadata components, and algorithmic face detection. Resulting models outperformed general practitioners' average


# Journal of oncology practice

The Authoritative Resource for Practicing Oncology

This Journal

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## Screening for Pancreatic Adenocarcinoma Using Signals From Web Search Logs: Feasibility Study and Results

John Paparrizos, MSc, Ryen W. White, PhD , Eric Horvitz, MDPhD  
Columbia University, New York, NY; and Microsoft Research, Redmond, WA

Abstract Full Text Supplemental Material PDF

Abstract

Choose

Introduction:

People's online activities can yield clues about their emerging health conditions. We performed an intensive study to explore the feasibility of using anonymized Web query logs to screen for the emergence of pancreatic adenocarcinoma. The methods used statistical analyses of large-scale anonymized search logs considering the symptom queries from millions of people, with the potential application of warning individual searchers about the value of seeking attention from health care professionals.

Résoudre de nouvelles classes de  
problèmes par les données:  
échantillonnage et séries  
temporelles

Nieuwe klassen van problemen  
oplossen door gegevens:  
sampling en tijdreeksen

Un signal  
dans des données très  
différentes

Een signaal in volledig  
verschillende  
gegevens

# Waves of Innovation

## Cloud

Globally available, unlimited compute resources

## IoT

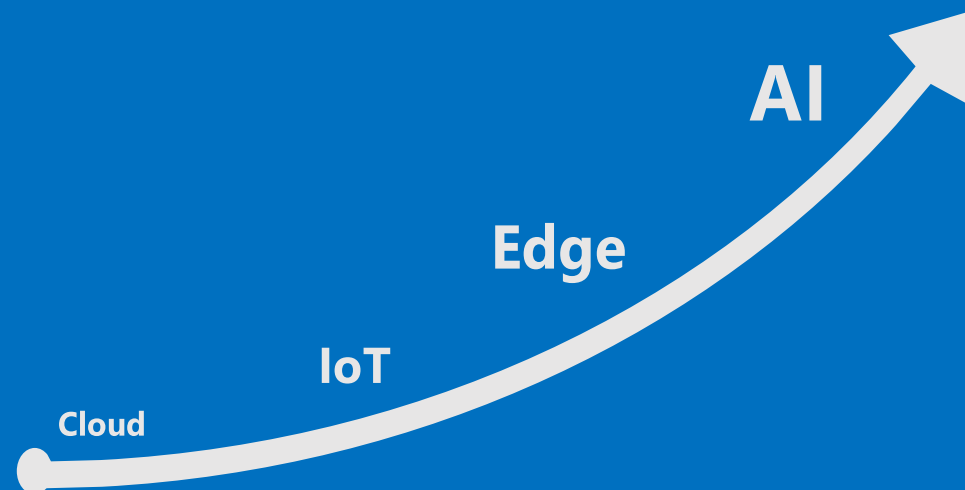
Harnessing signals from sensors and devices, managed centrally by the cloud

## Edge

Intelligence offloaded from the cloud to IoT devices

## AI

Breakthrough intelligence capabilities, in the cloud and at the edge





# Le jumeau numérique / Digitale tweeling

R&D & ENGINEERING

MANUFACTURING OPERATIONS, SERVICES

NEW SERVICES DRIVEN BUSINESS MODELS

## Information mirroring\* model

- Powerful modeling and analysis
- R&D and engineering focus

## Simulation and 3D printing

- Digital design, virtual assembly, and simulation
- 3D printing mainstream

## Connected IoT assets

- Unified physical and virtual data
- Rapid feedback across design, manufacturing, and operations

## Model any physical environment

- Humans and device collaboration
- Spatial awareness and intelligence
- Mixed Reality experience

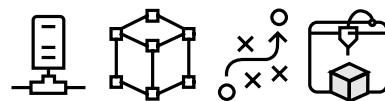
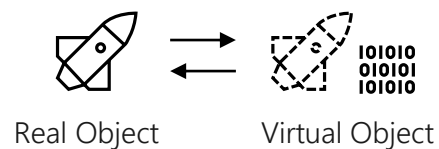
1985-2002  
(18 years)

2003-2014  
(12 years)

2015-2017  
(3 years)

2018 - ...  
(the future is now)

Digital Twin evolution

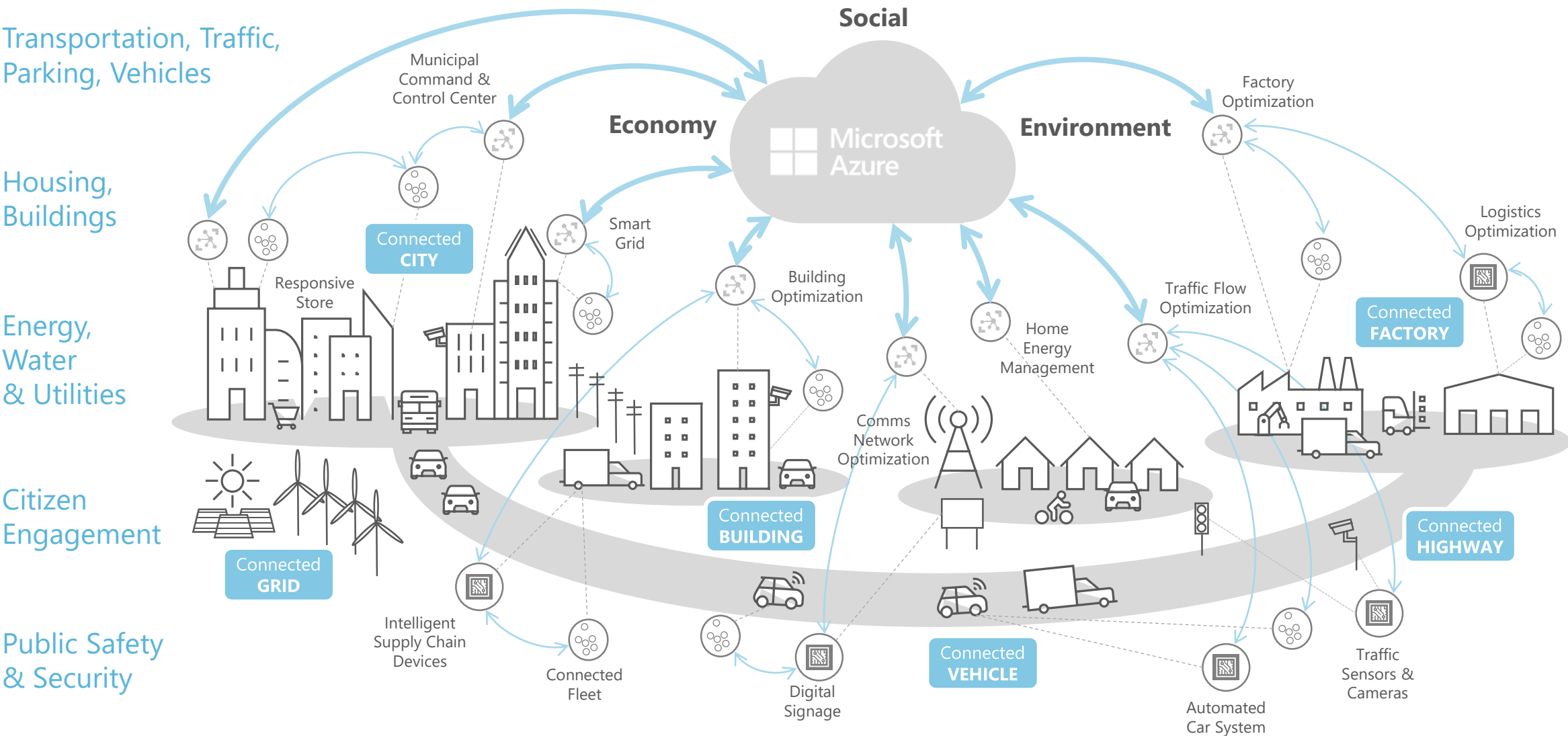


Remote Monitoring  
Predictive Maintenance



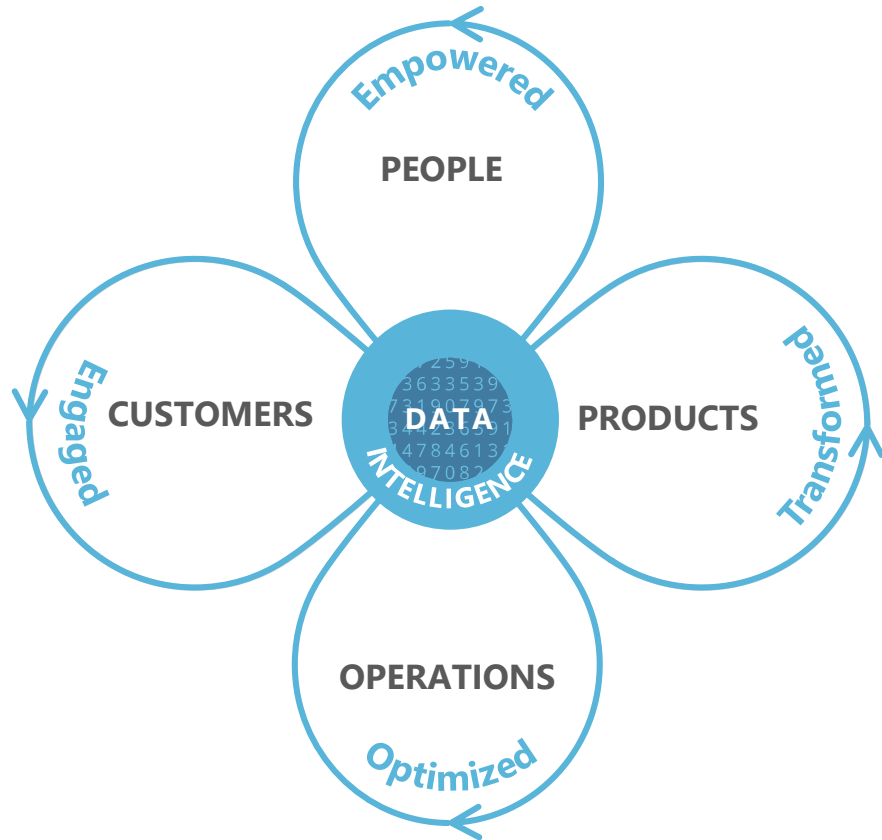
Enable any organization to create digital feedback loops for all aspects of their business

# BROAD APPLICABILITY



# THE DIGITAL FEEDBACK LOOPS

Our vision: to enable any organization to create digital feedback loops for all aspects of their business



A comprehensive digital model that includes products & operations

- Including people, places, things and processes
- The ability to track, optimize, simulate and predict the future



Een ander bedrijfsmodel :  
data gedreven competitiviteit

Un autre modèle business:  
compétitivité par les données



Tartes, bouteilles, encodage

Taarten, flessen, codering

Prayon, Procoplast, Rolls Royce

Future is the only way forward!



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DG CONNECT | Commission européenne  
DG CONNECT | Europese Commissie

Dr. Max LEMKE





# The Digital Transformation of European Industry

19 November 2019  
Kortrijk, BE

Dr. Max Lemke, Head of Unit  
DG CNECT A2 - Technologies and  
Systems for Digitising Industry  
[Max.lemke@ec.europa.eu](mailto:Max.lemke@ec.europa.eu)

**Disclaimer: The Digital Europe Programme and its proposed budget are under discussion with Council and European Parliament and subject to final modifications and approval.**

# European organisations are not making the most of all the opportunities digital has to offer

## Highly digitised companies across Europe

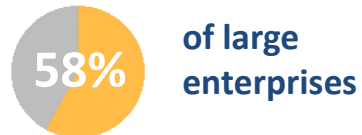
### Countries



### Sector



### Size



## Adoption of eGovernment\*



Above 75% in Sweden, Finland, Estonia, Denmark, Netherlands and UK

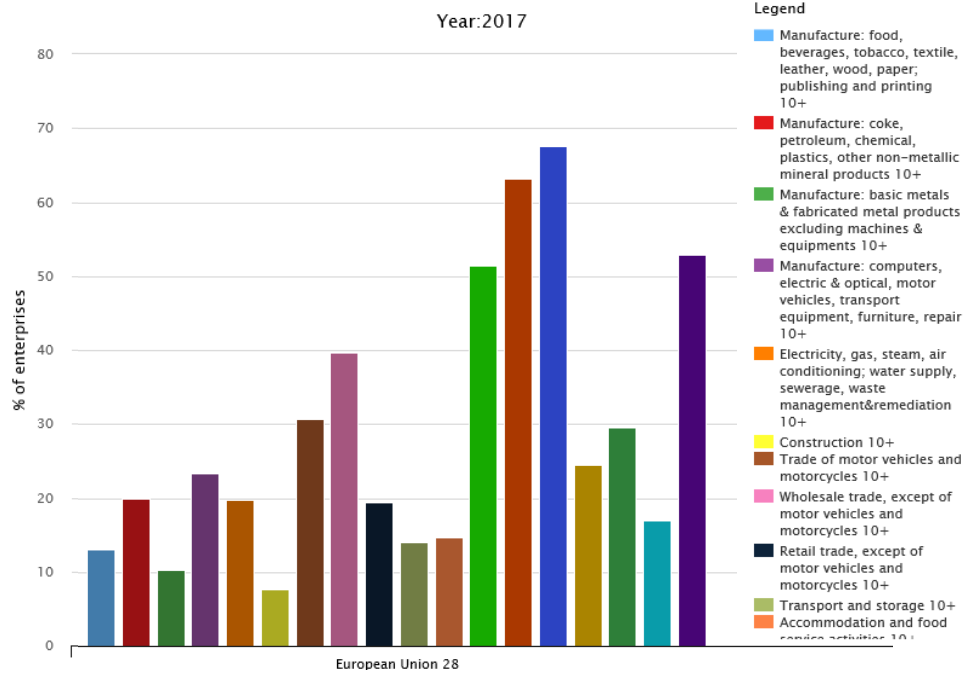


Below 30% in Italy, Greece and Czech Republic

\* Adoption captures the extent to which use of the online channel is widespread among users of government services

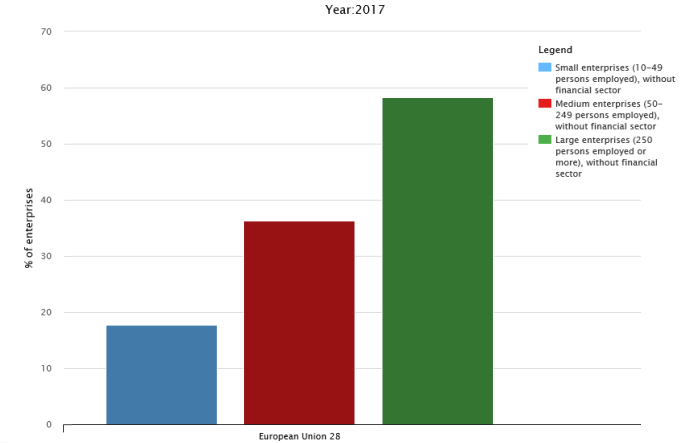
# Level of digitalisation vs size of company, sector, and country

Enterprises with High levels of Digital Intensity, by Economic sectors (17 Nace groups)



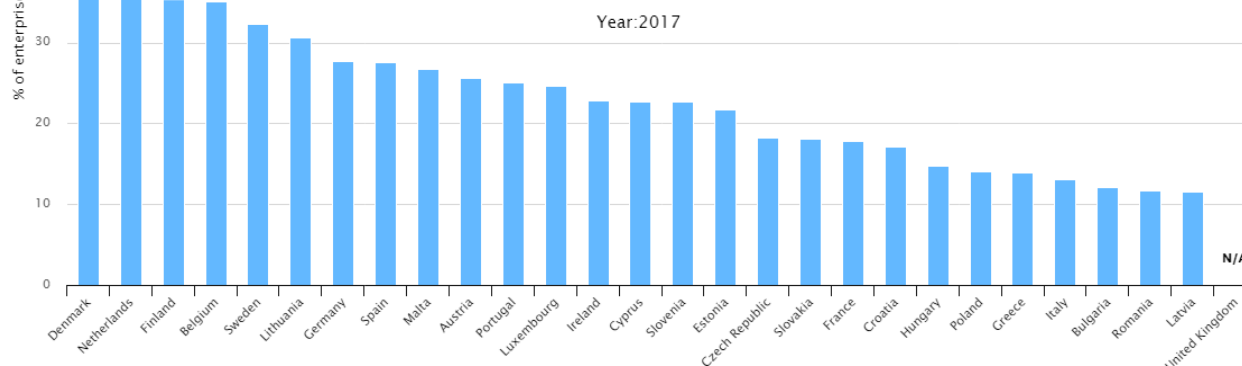
68% of companies in computer programming, consultancy and information services are highly digitised. Only around 8% of companies in construction are highly digitised.

Enterprises with High levels of Digital Intensity, by Enterprise size (Small, Medium, Large)



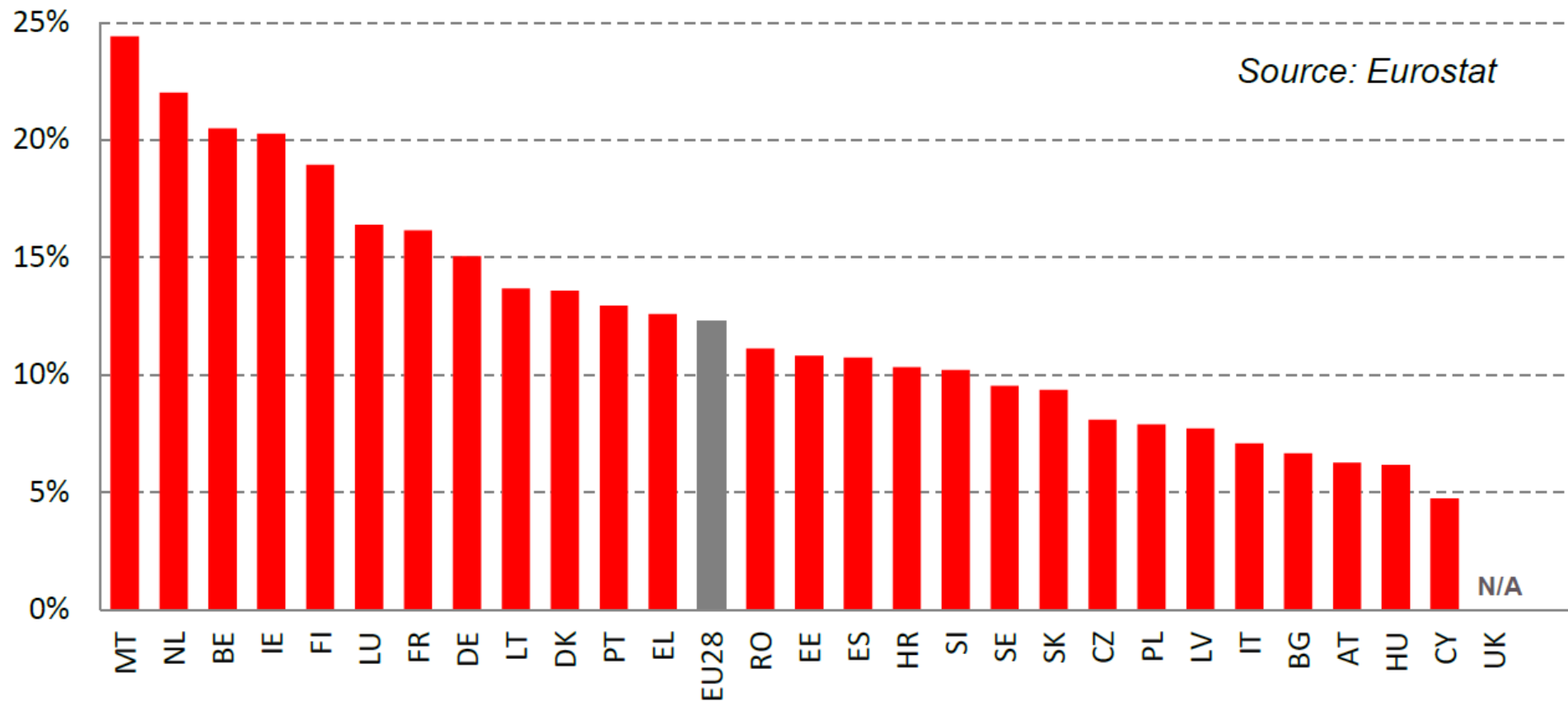
58% of large companies is highly digitised in EU vs 18% of SMEs

Enterprises with High levels of Digital Intensity

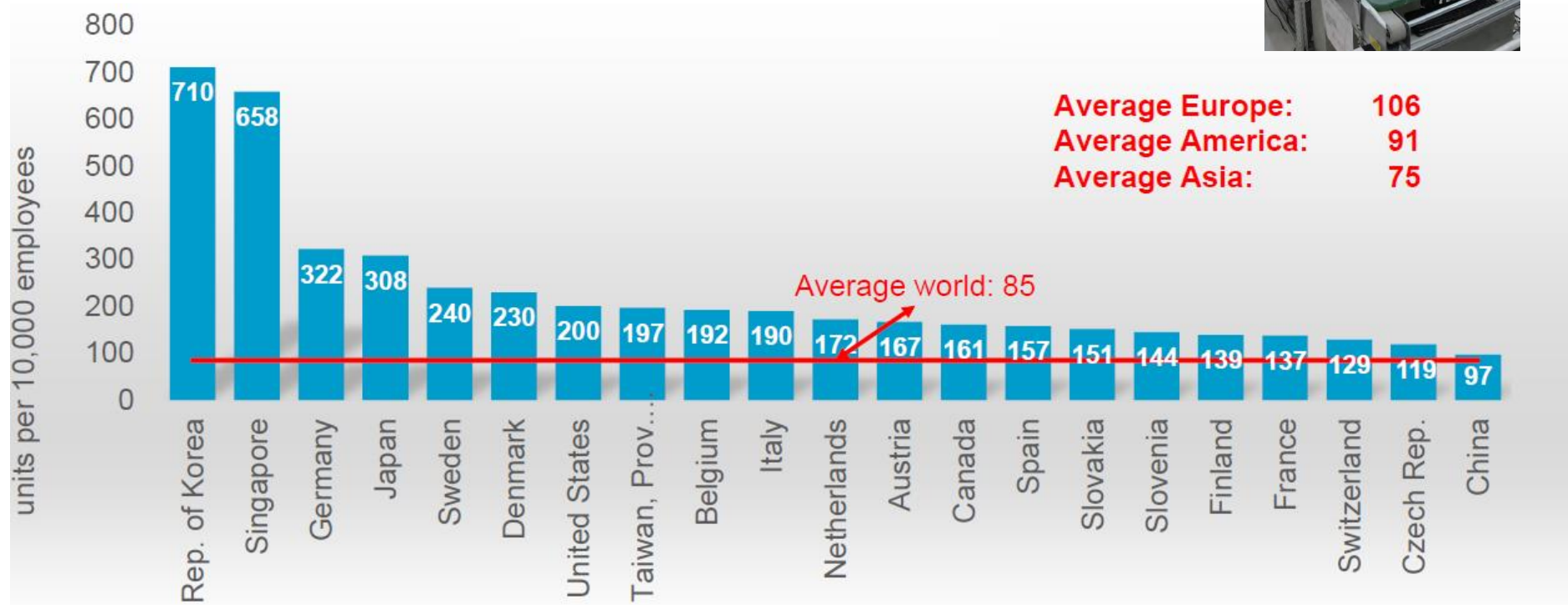


Only a fifth of companies in EU-28 are highly digitised, but 40% of companies in Denmark and the Netherlands and around 12% in Bulgaria, Romania and Latvia.

- Enterprises analysing big data from any data source, 2018 (% of enterprises)

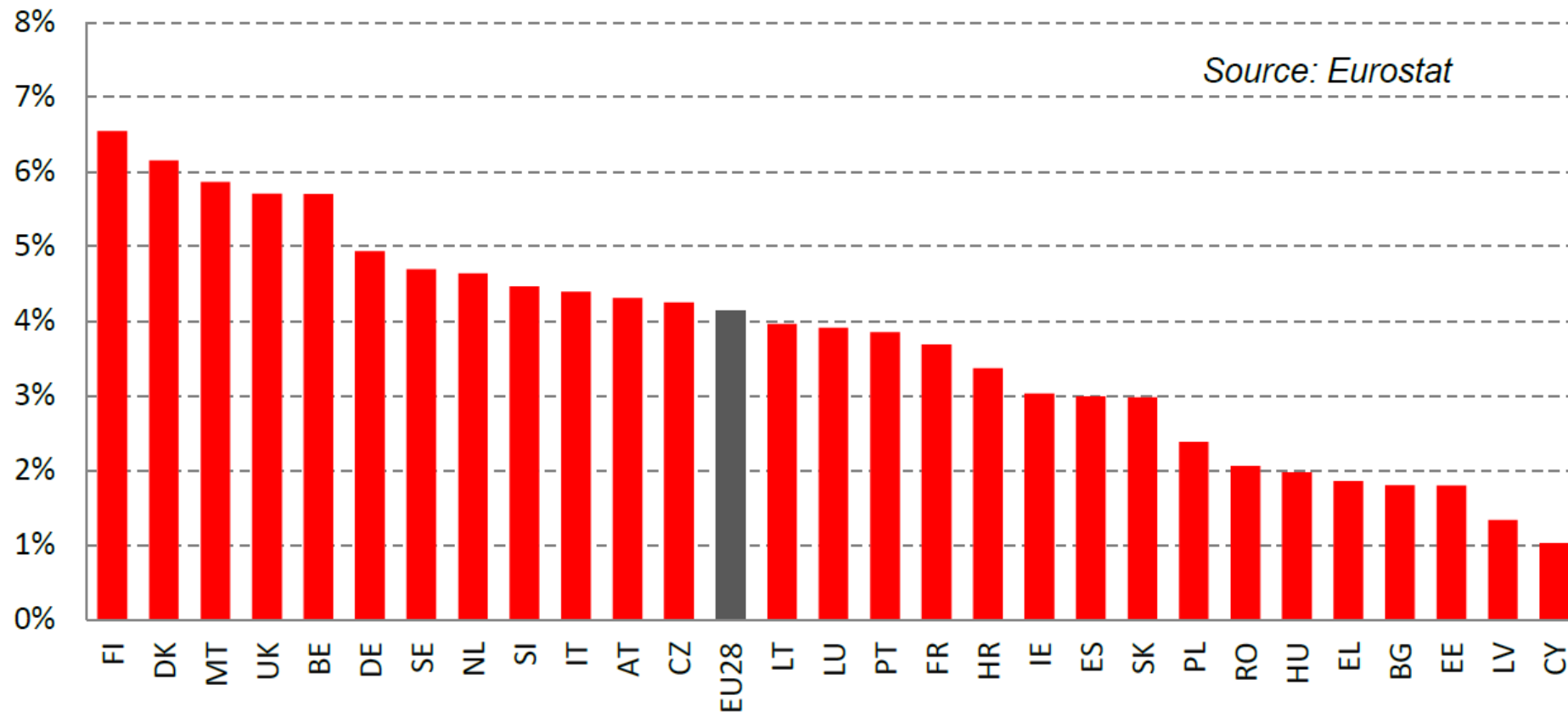


- Number of installed industrial robots per 10,000 employees in the manufacturing industry 2017

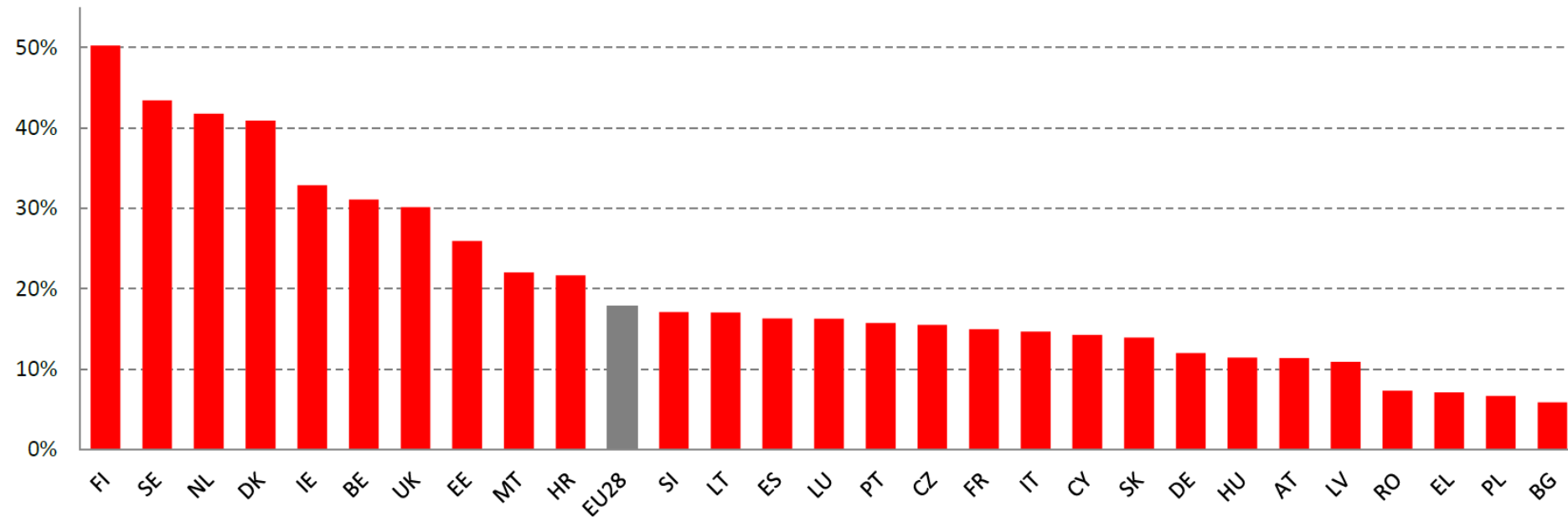




- Enterprises using 3D printing services, 2017  
(% of enterprises)



- Cloud computing services of medium-high sophistication, 2018  
(% of enterprises)



*“ensure that Europe fully grasps the potential of the digital age and strengthens its industry and innovation capacity”*



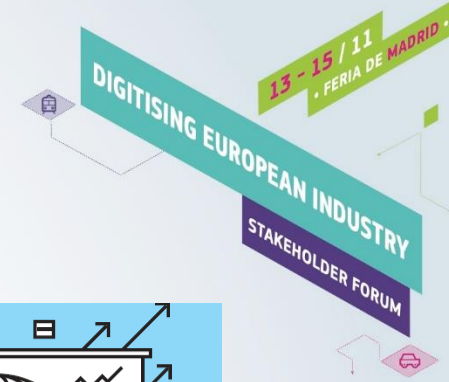
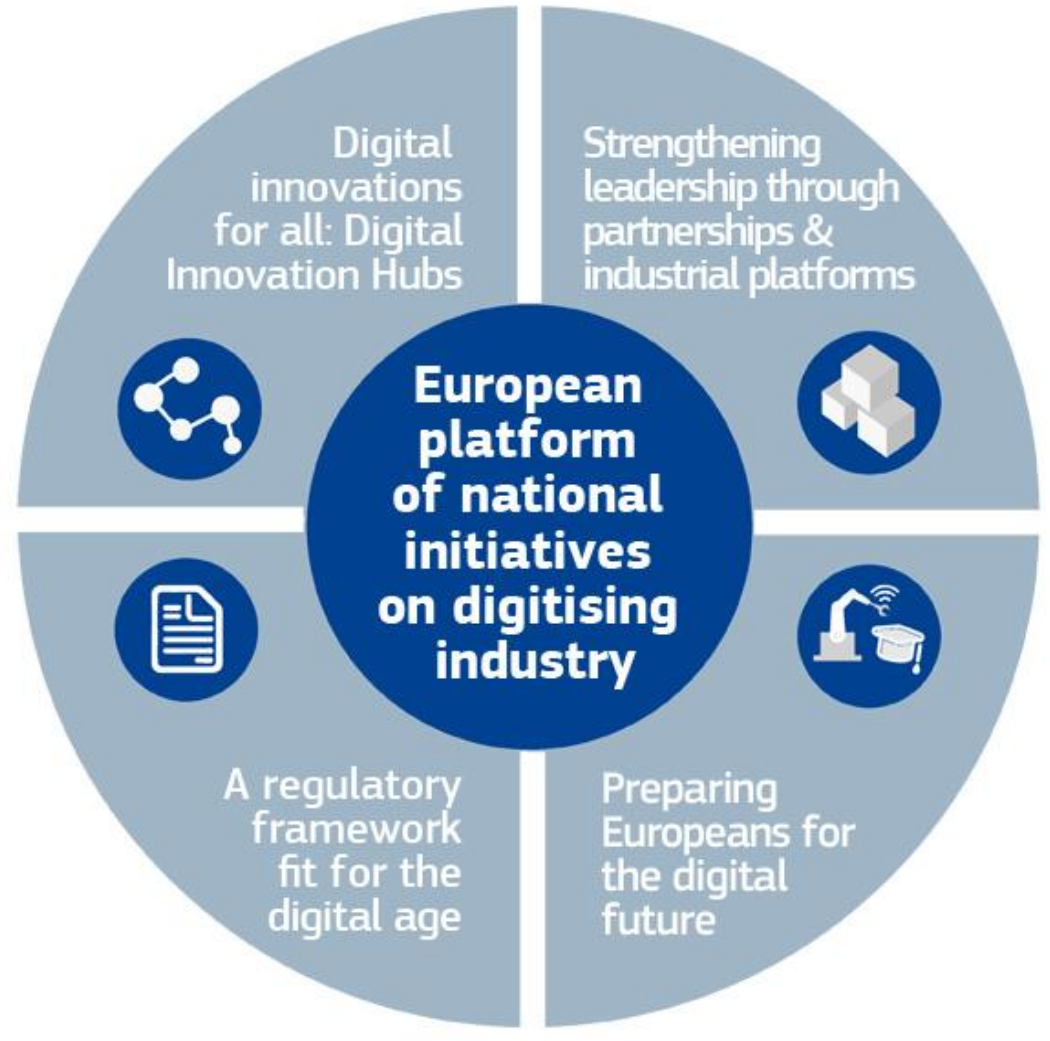
Political guidelines  
President-Elect Ursula von der Leyen

# The European approach to digitalisation

- Worldwide wave of digitalisation, increasingly critical for SMEs
- European approach to build critical mass is joining forces
- 2016 strategy for Digitising European Industry
- 2018 an Artificial Intelligence for Europe
- Unfolding implementation of the digitalisation of the economy
  - Ambitious mobilisation of at least 50 billion by 2020
- Artificial Intelligence: a balance of leadership and European values



# A Europe fit for the digital age





# With Artificial Intelligence *made in Europe*



AI High-level Expert Group

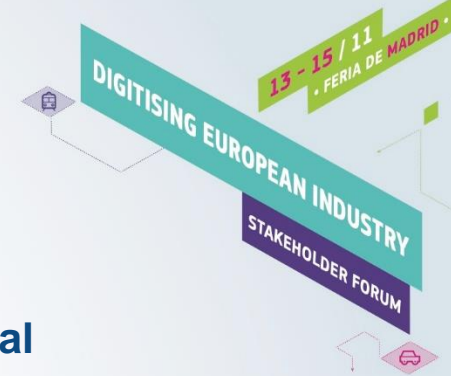


13 - 15 / 11  
FERIA DE MADRID  
DIGITISING EUROPEAN INDUSTRY  
STAKEHOLDER FORUM

# The network of Digital Innovation Hubs



- From a concept to a pan-European network of over 240 operational Digital Innovation Hubs
- 500 Start-ups, SMEs and mid-caps tested digital innovations in collaboration with more than 150 DIHs in 370 innovation experiments
- €500 million EU investments from Horizon 2020 (2016-2020)
- Dedicated coaching for 64 Digital Innovation Hubs in the EU13 and in regions with slower adoption of digital technologies
- A pilot risk-coverage scheme under COSME launched in October 2019 for loans to SME for their digital transformation.
- Proposed Digital Europe Programme: a systematic approach to building the strategic digital capacities of the EU and on facilitating the wide deployment of digital technologies



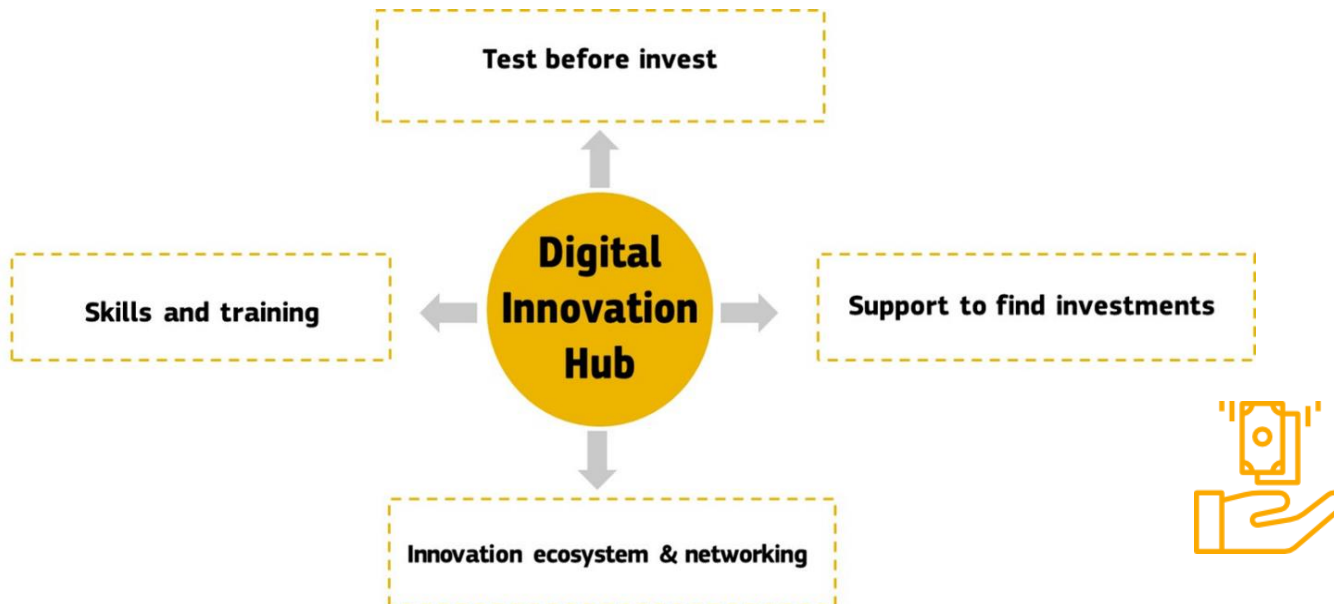
# 2021: further reinforcing EU capacities



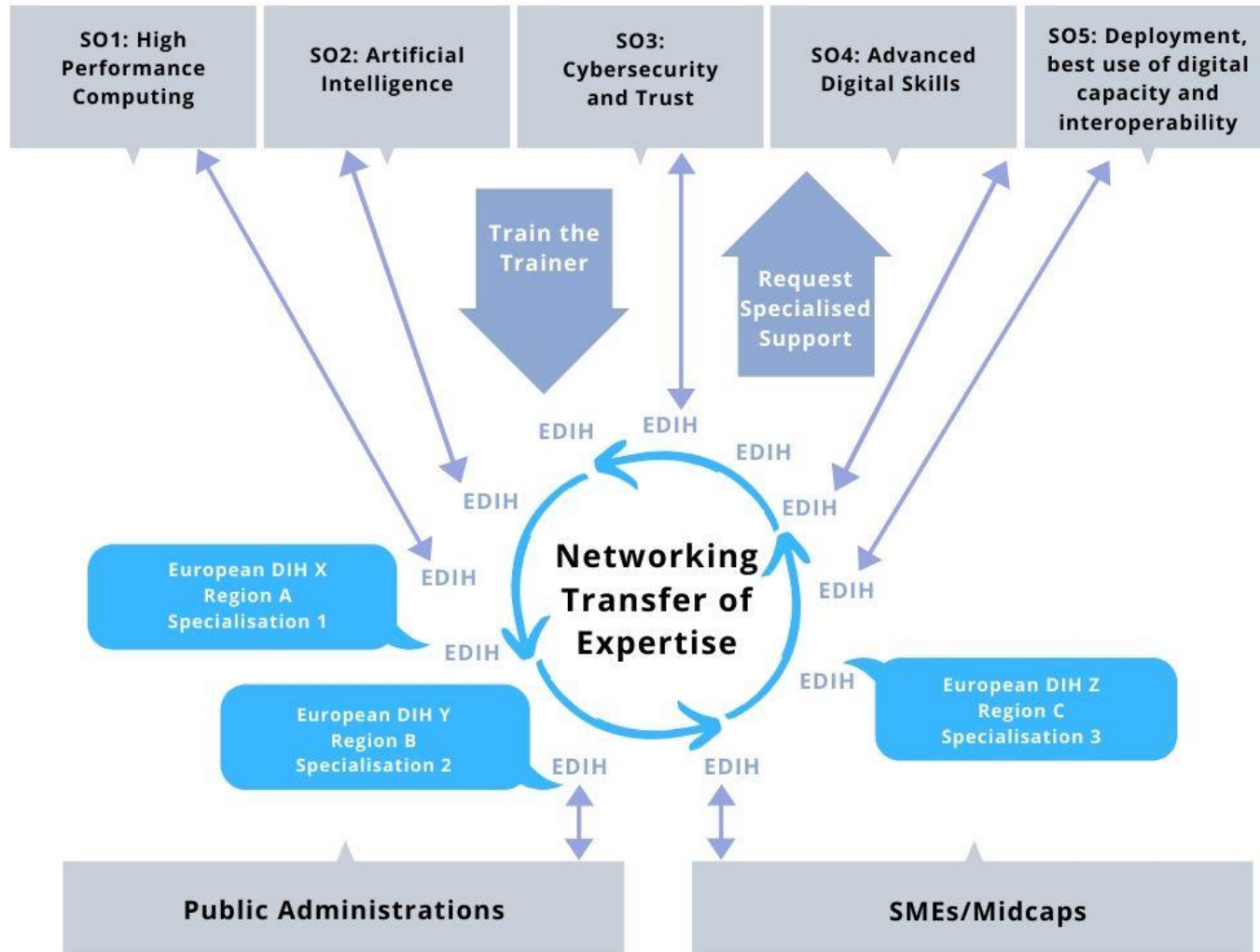
A 9.2 billion proposed *Digital Europe Programme* to:

- **Compete globally** and **achieve scale** through joint co-investments
- Regain **control over Europe's value chains** and ensure Europe's **strategic autonomy**
- Better address **Europe's economic and societal challenges**
- Ensure **broad take-up of digital technologies** across all regions of EU by reinforcing innovation capacities

## European Digital Innovation Hubs provide technological expertise and experimentation facilities to enable the digital transformation of the industry and the public sector



- **DIH bring together competences in targeted consortia, typical participants:**
  - RTOs, Technical Universities, ...
  - Competences from industry associations & clusters, innovation agencies, incubators, ...
  - DIH consortia can be x-border
  - DIH consortia must be efficient & effective
- **DIH are the local interface to EU-wide digital expertise and capacities**
- **DIH have minimum 50 % co-investment from Member States and/or Regions**
  - Structural Funds can be used for MS part
  - Contribution can be in-kind or in-cash



**Working and Investing together across the Digital Europe Programme**





Allocated at  
European level

**Horizon Europe: Support to SMEs and mid-caps to experiment with innovative digital technologies in a cross-border setting.**

**Digital Europe: Support to facilities and personnel - focus on broad roll-out of the latest digital innovations across SMEs and administrations.**

**InvestEU: Incentives and risk reduction programmes to help companies find follow-up investment to further complete their digital transformation**

Allocated at  
national level

**European Regional Development Fund:  
Investments to strengthen local operations of DIH  
– can be used for co-financing EDIH**



European Institute of  
Innovation & Technology

# Working and Investing together across EU programmes



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# BON APPÉTIT! SMAKELIJK!

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# LA TRANSFORMATION DIGITALE (VIDEO) DIGITALE TRANSFORMATIE (VIDEO)

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**CUBISM**



**PEPS**



**GoToS3**  
**Factory 4.0**



**Dig-e-Lab**



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## E-SANTÉ E-HEALTH

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**HIS2R**

**Isabelle POLLET**  
Fratem (Réseau Santé Wallon)

**MAT(T)ISSE**

**Laurent VOETS**  
SIRRIS

**PATHACOV**

**Hans HALLEZ**  
KU Leuven



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# LA CARTOGRAPHIE DIGITALE (VIDEO) DIGITALE CARTOGRAFIE (VIDEO)

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**New-C-Land**



**RE C<sup>2</sup>**



**Flandria Rhei**  
**ECOSYSTEM**



**GoToS3**  
**MDTex**



**ALARM FWV**



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# LA NUMÉRISATION DANS L'INDUSTRIE ALIMENTAIRE DE DIGITALE VOEDSELKETEN

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**TERAFOOD**

**Matthias VAN WOLLEGHEM**  
Université de Lille

GoToS3

**Codesign Aliment**

**Katelijne VANCLEEMPUT**  
POM West-Vlaanderen

Micro-projet | Microproject

**GEPOS**

**Marc GOEMINNE**  
Algemeen Boerensyndicaat

**SMART AQUAPONICS**

**Haissam JIJAKLI**  
Université de Liège

GoToS3

**VEG-i-TEC**

**Jurgen VAN RYCKEGHEM**  
HOWEST

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# MOT DE CLÔTURE

## SLOTWOORD

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Député de la Province de Flandre  
occidentale  
Gedeputeerde Provincie West-  
Vlaanderen

# Jean de BETHUNE



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**MERCI DE VOTRE ATTENTION !**  
**BEDANKT VOOR UW AANDACHT!**

[www.interreg-fwvl.eu](http://www.interreg-fwvl.eu)

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