

# Matinée d'information et de réseautage sur les appels du Cluster 4 – Numérique

12 Mai 2022

PCN Bruxelles, France, Luxembourg, Maroc, Tunisie et Wallonie



# Agenda

|                      |  |
|----------------------|--|
| <b>08H50 – 09H00</b> | Connexions   |
| <b>09H00 – 10H00</b> | Session d'informations sur les 10 topics du cluster numérique (inclus 15 min de Q&R) |
| <b>10H00 – 11H00</b> | Interventions des acteurs belges : Agoria et Digital Wallonia                        |
| <b>11H00 – 11H15</b> | Pause  |
| <b>11H15 – 13H00</b> | Réseautage   |

# Réseautage

- Les participants peuvent **rejoindre librement la ou les salle(s)** de réseautage qui contien(nen)t les **topics de leur intérêt**.
- Il est possible de **passer de salle en salle** pour les participants qui le souhaitent.
- Les **participants ayant envoyés leur pitch au préalable** seront invités à présenter leurs compétences/idées de **projets en priorité**, suivi des participants qui n'ont pas envoyé de pitchs.

| Salles de réseautage (11H15-13H00)  |  |
|---|--|
| Salle appels "AI, data and robotics" :  | <a href="#">Click here to join the meeting</a> |
| <ul style="list-style-type: none"><li>• HORIZON-CL4-2022-DIGITAL-EMERGING-02-05 : AI, Data and Robotics for Industry optimisation (including production and services) (AI, Data and Robotics Partnership) (IA)</li><li>• HORIZON-CL4-2022-DIGITAL-EMERGING-02-06 : Pushing the limit of physical intelligence and performance (RIA)</li><li>• HORIZON-CL4-2022-DIGITAL-EMERGING-02-07 : Increased robotics capabilities demonstrated in key sectors (AI, Data and Robotics Partnership) (IA)</li></ul>  | <a href="#">Click here to join the meeting</a> |
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| Salle appels "Matériaux 2D et Graphène" :   | <a href="#">Click here to join the meeting</a> |
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# Horizon Europe

## HORIZON EUROPE

## EURATOM

### SPECIFIC PROGRAMME: EUROPEAN DEFENCE FUND

*Exclusive focus on defence research & development*

Research actions

Development actions

### SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT\*

*Exclusive focus on civil applications*



#### Pillar I EXCELLENT SCIENCE

European Research Council

Marie Skłodowska-Curie

Research Infrastructures



#### Pillar II GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

Clusters

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

Joint Research Centre



#### Pillar III INNOVATIVE EUROPE

European Innovation Council

European innovation ecosystems

European Institute of Innovation & Technology\*

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

Fusion

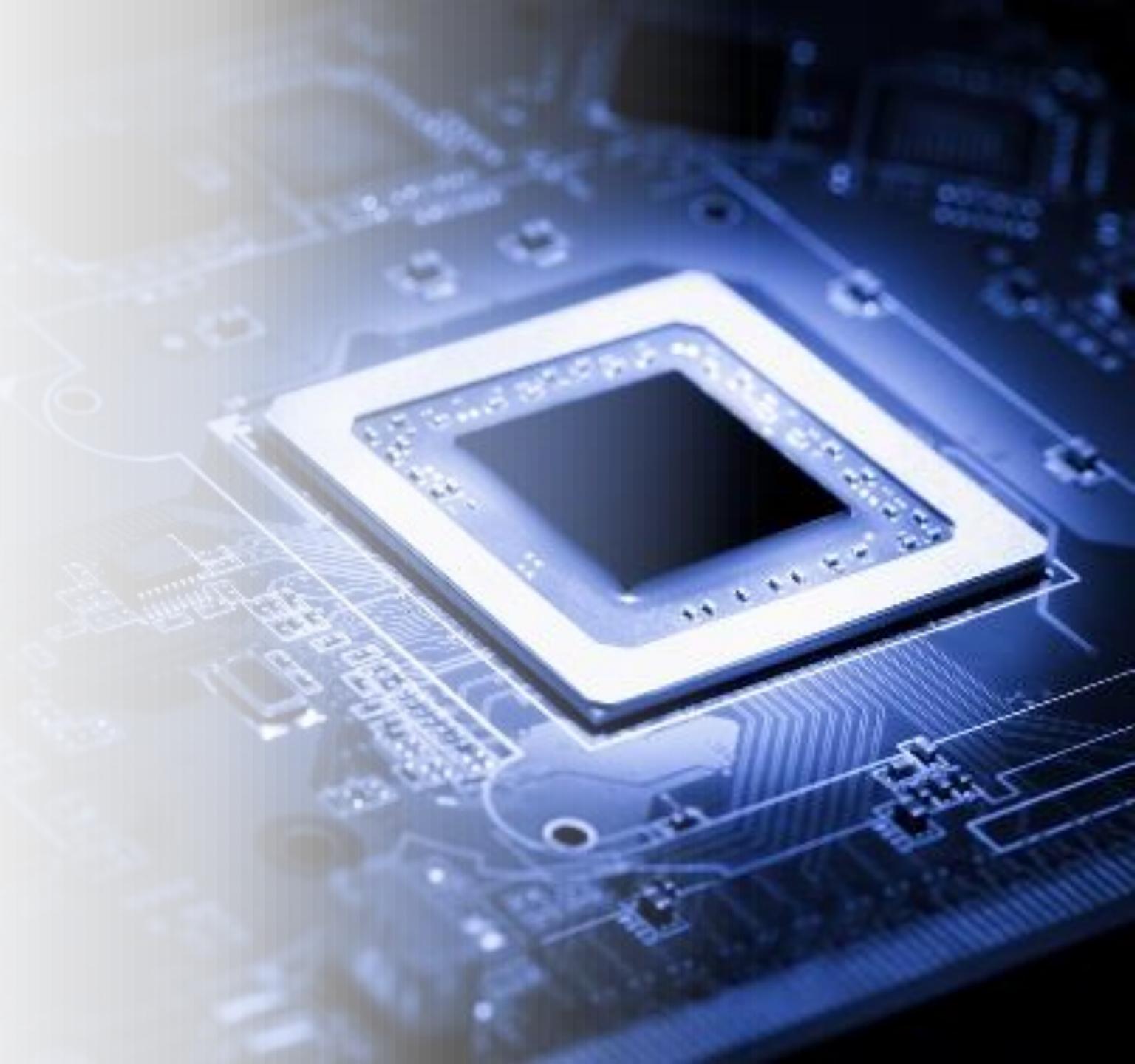
Fission

Joint Research Center

\* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

**Cluster 4**  
**DESTINATION 4 – DIGITAL  
AND EMERGING  
TECHNOLOGIES FOR  
COMPETITIVENESS AND  
FIT FOR THE GREEN DEAL**

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# HORIZON-CL4-DIGITAL-EMERGING-2022-02-05 : AI, Data and Robotics for Industry optimisation [including production and services] [AI, Data and Robotics Partnership] [IA]

IA



3-5 M€



16/11/22



5 PROJETS



3-5 → 6-7

## Scope:

- Demonstrate the added value of AI and/or Data and/or Robotics technologies to optimise value-chains, products, services to increase competitiveness, environmental sustainability, and where relevant, working conditions. Focus on specific **use-cases**. Cross-sector use-cases are encouraged.
- **2 types of projects: focused** (involving the user industry and technology providers) – 3M€ ; or **larger** (companies with common challenges organise competitive calls for AI, data and robotics solution providers to address such challenges) – 5M€

## Expected outcomes:

- Advancing AI, data and robotics, and automation for the optimisation of production and services value-chains, optimisation of products, services, processes.
- AI or learning systems adapting production or services workflows to changing environments, dynamic and unpredictable resource constraints and to the capabilities and restrictions of humans and transferring results from one domain to another.

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-06 : Pushing the limit of physical intelligence and performance [RIA]

RIA



16/11/22



7 PROJETS



2-3 ➔ 4-5

### **Scope:**

- Rethink robot bodies with improved physical and interaction capabilities (with the environment and with humans) to reach novel or advanced abilities, e.g. powerful, fast, precise, and intrinsically safe navigation, manipulation, sympathetic automated adaptation, etc.
- Can integrate the latest developments in key underlying technologies (audio, vision, AR/VR, haptics, etc.), improved safety mechanisms, physical collaboration, collaborative and swarm robotics.
- Can address energy efficiency/energy autonomy in robotics.

### **Expected outcomes:**

- Robots with advanced physical functionalities, capabilities and efficiency (faster, safer, more agile and precise, etc.), to achieve wider variety of tasks efficiently.
- Robots with greatly improved intrinsically safe and efficient human-centric human-robot and robot-environment/objects physical interaction capabilities, at natural human speed or more.
- Robots with improved abilities and robustness, allowing them to adapt to changes in the environment, and making them more energy efficient.

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-07 : Increased robotics capabilities demonstrated in key sectors [AI, Data and Robotics Partnership] [IA]

### **Scope:**

IA



6 M€



16/11/22



6 PROJETS



3-5 ➔ 6-7

- Integrate novel robotics technologies into solutions that are capable of autonomously taking over dangerous, dull and dirty jobs, or that are capable of achieving tasks beyond human capabilities, in a range of innovative applications in key sectors.
- Importance of the involvement of the user industry and the workers to identify the needs and the application scenarios and to be involved in the testing of the solutions.
- Financial support to third parties (FSTP): Proposals are requested to dedicate at least 20% of their requested amount for FSTP to support SMEs or Start-ups in the development or enhancement of demonstrators. The maximum amount to be granted is EUR 200 000.

### **Expected outcomes:**

- Demonstrators able to show the added value of robotics and their performances in addressing challenges in major application sectors, or in dangerous, dull, dirty tasks or those strenuous for humans or in extreme environments.
- Systems able to demonstrate beyond human performance in complex tasks / high levels of reactivity and responsiveness and intelligibility when performing human-robot and robot-robot interactions in major application sectors.

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-17: New generation of advanced electronic and photonic 2D materials-based devices and sensors [RIA]

RIA



16,5 M€



16/11/22



3-4 ➔ 5

### **Scope:**

- Development of 2DM-based devices and systems bringing 2DM technology one step further towards the integration in current technologies and to the development of radically new prototypes and/or solutions for industry for a wide range of application areas.
- The developed 2DM-based electronic and photonic devices should include ultrafast circuits, photodetector, and modulators, broadband detectors, switches, as well as sensors, advanced electronics, metamaterials, etc., serving applications such as 5G and 6G data communications, wireless connections, smart machine vision, autonomous robots and vehicles, internet of things, and neuromorphic circuitry and/or imaging applications.

### **Expected outcomes:**

- New technological solutions with improved performance and reduced energy consumption providing significant advances towards the integration of 2D materials (2DM) technology, and the emergence of competitive value chains in graphene in Europe.

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-18: 2D materials-based devices and systems for energy storage and harvesting [RIA]

RIA

€  
9 M€

⌚

16/11/22

📄

1 PROJET

🌡️

3-4 ➔ 5

### **Scope:**

- Development of solutions demonstrating the potential added value of 2DM-based energy storage like large energy storage technologies, beyond current Li-ion, for electric power grids/solar farms/wind farms with increased performances in terms of durability, safety, energy density and power density.
- Proposals should also work on structural batteries and structural supercapacitors and related production techniques, i.e. energy storage devices integrated in structural parts of e.g. airplanes or cars, to address the demand of distributed sensors and electronics, functional printed micro-flexible supercapacitors for e.g. IoT applications.

### **Expected outcomes:**

- Demonstrated added value of 2D materials for energy storage devices and systems in applications where Europe can build competitive value chains.
- New technology solutions for portable energy sources outperforming alternative technologies e.g. in terms of energy and power density, operational safety, long-term stability, mechanical flexibility, light weight, thin thickness, and low cost that will enable the rapid development of power-demanding smart devices, Internet of Thing (IoT) sensors and wearable electronics

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-19: 2D materials-based devices and systems for biomedical applications [RIA]

RIA



6 M€



16/11/22



1 PROJET



3-4 → 5

### **Scope:**

- Build on the multi-functionality allowed by 2DMs and demonstrate the advantages of combining e.g. biocompatibility, chemical stability, (bio-)sensing and actuating, and integration with flexible electronic technologies, in addition to versatile surface chemistry (for interface with biology) to allow continuous health monitoring and built-in pharmacological interventions.
- Potential application areas include: engineering & bioengineering of biochemical or bioelectronic diagnostics or therapeutic devices and platforms; sensors for digital health; electronics for brain-computer interfaces, taking advantage of flexible devices; medical imaging in combination with implantable devices (e.g. MRI); graphene for drug delivery of therapeutics (e.g. for neurological disorders).

### **Expected outcomes:**

- New technology solutions exploiting the unique properties of 2D materials (2DM) that would reduce cost and increase the efficacy of diagnostics or therapies, or provide new diagnostics or therapies for which there is currently no solution. It would strengthen Europe's industrial position in, early diagnostics, disease prediction and prevention, disease monitoring and reducing hospitalization time.

# HORIZON-CL4-DIGITAL-EMERGING-2022-02-20: 2D materials-based composites, coatings and foams [IA]

IA



9 M€



16/11/22



1 PROJET



4-5 → 6-7

## **Scope:**

- Proposals should address 2D materials (2DM) composites, aero-gels and foams that can bring the full nanoscopic functionality of 2DM from nano- and microscale into the macroscopic world.
- Development of 2D materials and technologies mainly addressing environmental issues including e.g. energy consumption reduction in transport, oil spill removal from water, water purification with low energy consumption and improved water desalination.
- Development of next generation, lightweight, recyclable composites and coatings endowed with key functionalities like e.g., high temperature performance, structural health monitoring, and as enablers for, e.g., structural batteries or hydrogen storage.
- Proposals must implement from the very beginning life cycle assessment (LCA) and end-of-life (EOL) materials management to fully capture the advantage and develop greener materials and processes.

## **Expected outcomes:**

- New multifunctional recyclable materials enabling solutions to environmental challenges.

## HORIZON-CL4-DIGITAL-EMERGING-2022-02-22: Supporting the coordination of the Graphene Flagship projects [CSA]

CSA



3 M€



16/11/22



1 PROJET

### **Scope:**

- Proposals should address the need to guarantee a sustained European leadership in 2DM, capitalise upon the investments made so far in graphene, exploit synergistically the scientific, technological and innovation outcomes of these investments and deliver benefits to the European society.
- Proposals should address all the coordination and support functions necessary to build a strong Flagship initiative, including: governance, community engagement, dissemination, communication, outreach, dialogue with the public, etc.
- Expected activities: standardisation activities, creating new education and training curricula, promoting innovation, developing research and innovation roadmap activities, liaising with and supporting the coordination with relevant national and regional 2DM activities and establishing and supporting the dialogue with other international relevant programmes and initiatives in the field.

### **Expected outcomes:**

- A strong and coherent graphene and 2D materials (2DM) initiative by providing key support functions, enabling participating projects to find synergies in their work and share best practice, and favouring interactions and synergies with national and regional initiatives, projects and infrastructures in the domain.

1

## Cluster 4

### **DESTINATION 6 – A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES**



# **HORIZON-CL4-HUMAN-02-01 : AI for human empowerment [AI, Data and Robotics Partnership] [RIA]**

RIA



4 M€



16/11/22



4 PROJETS



2-3 ➔ 4-5

## **Scope:**

- Build the next level of perception, visualisation, interaction and collaboration between humans and AI systems working together as partners to achieve common goals, sharing mutual understanding and learning of each other's abilities and respective roles.
- Innovative and promising approaches are encouraged, including human-in the loop approaches for truly mixed human-AI initiatives combining the best of human and machine knowledge and capabilities, tacit knowledge extraction (to design the next generation AI-driven co-creation and collaboration tools embodied e.g. in industrial/working spaces environments).
- As a pilot activity, proposals will dedicate part of their activities on investigating novel ways of engagement by citizens or citizen representatives with AI development.

## **Expected outcomes:**

- Truly mixed human-AI initiatives for human empowerment
- Trustworthy hybrid decision-support systems

## HORIZON-CL4-HUMAN-02-02 : European Network of AI Excellence Centres: Expanding the European AI lighthouse [RIA]

### **Scope:**

RIA



11,5 M€



16/11/22



3 PROJETS



2-3 ➔ 4-5

- Develop mechanisms to reinforce and network excellence centres in AI, bringing the best scientists from academia and industry to join forces in addressing the major AI challenges hampering its deployment, and to reinforce excellence in AI throughout Europe via a tight network of collaboration.
- This initiative contributes to other initiatives started in H2020 and Horizon Europe to develop a vibrant European network of AI excellence centres. To complement and extend this initiative the proposals should create a network of excellence for Next Generation AI – covering foundational research and emerging and novel approaches, with a view of improving the technical performances of AI-based systems, such as increased accuracy, robustness, verifiability, dependability, adaptability, versatility, graceful degradation, etc.

### **Expected outcomes:**

- Scientific progress in AI, addressing major challenges hampering its deployment.
- Establishing a new pillars of the European AI lighthouse
- Reinforcing the leading unified European AI community



# Agoria, improving quality of life

by bringing companies technology & people together

Embracing technology  
Embracing ambition

.AGORIA

## Le pont entre *votre entreprise* et les avancées technologiques

Notre credo : informer, inspirer et connecter les personnes et les entreprises

- Mettre en relation et faire naître les **collaborations** dans l'intérêt de chaque secteur et de la société.
- Offrir une **expertise** basée sur les besoins et les exigences spécifiques de chaque entreprise membre.
- Défendre les **intérêts sociaux et économiques** pour construire ensemble une Belgique innovante et tournée vers l'avenir.

# L'INDUSTRIE TECHNOLOGIQUE EN BELGIQUE

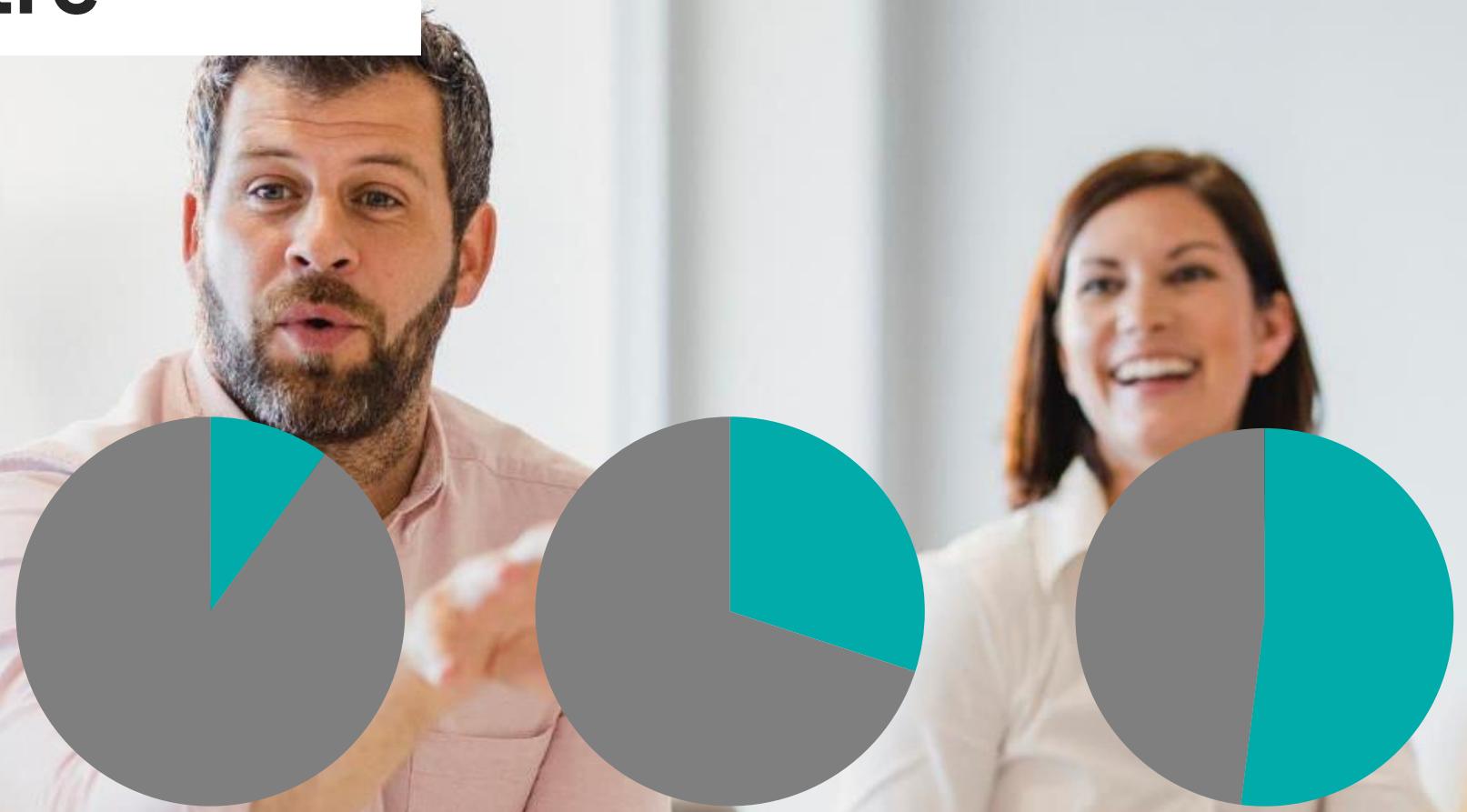
## Moteur de notre économie...

2019  
€ 132.5

milliards  
(chiffre  
d'affaires)

2020  
€ 128

milliards  
(chiffre d'affaires  
estimé)



9%  
de la valeur ajoutée de  
l'économie belge

28%  
des investissements des  
entreprises belges en R&D

52%  
du chiffre d'affaires est réalisé  
grâce aux exportations

# > 2000

entreprises membres actives dans

**l'industrie digitale  
et manufacturière**

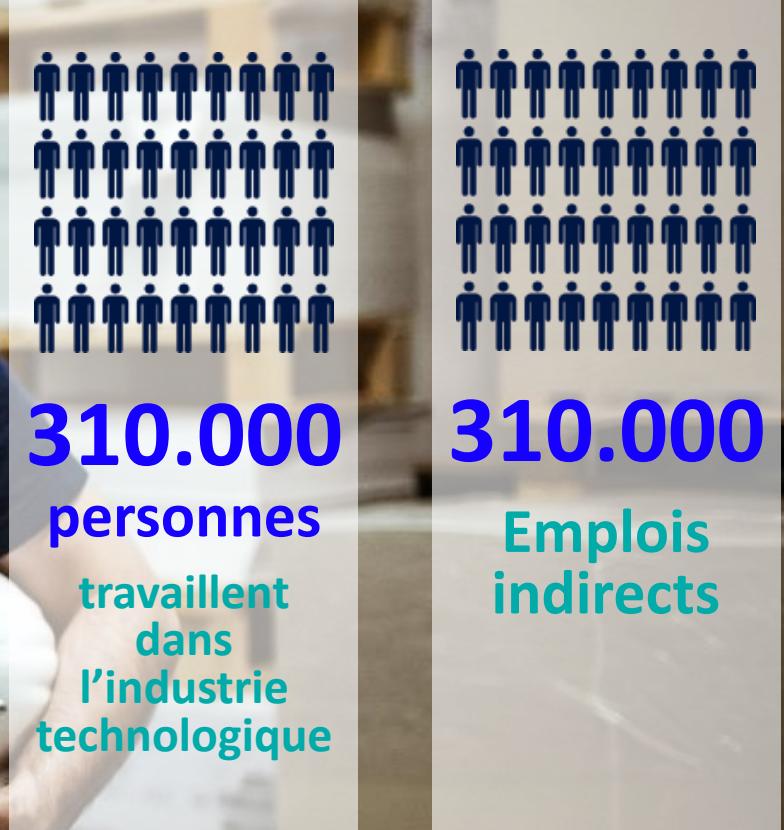
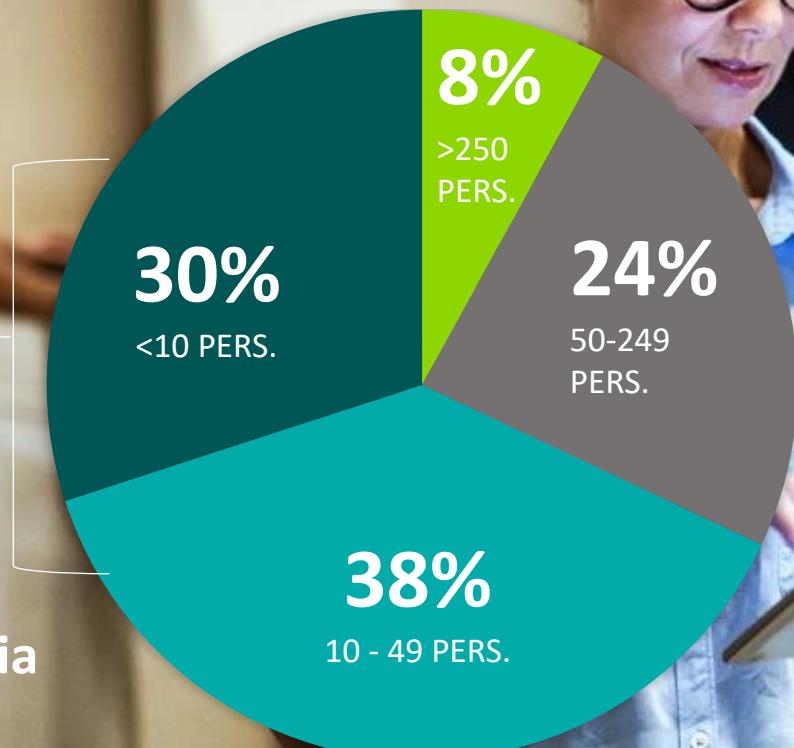


# ...représentées par

Agoria

**68%**  
de PME <50

Taille  
des entreprises  
membres d'Agoria



# Répartie en 59 business groups

## BUILDING TECHNOLOGIES

Office & warehouse equipment  
Fenêtres, portes & façades  
Ascenseurs  
Éclairage  
Home Automation  
Chauffage individuel (CIV)  
Chauffage, ventilation et refroidissement  
Smart Building

## ENERGY TECHNOLOGY

Multi-Energy

## MANUFACTURING & PROCESS TECHNOLOGY

Gears and Transmissions  
Compressors  
Machines textiles  
Machine Construction & Components  
Pumps & Valves  
Fours industriels  
Industrial Cooling  
Food Equipment  
Machines pour l'alimentaires, le packaging et le pharmaceutiques  
Automatisation industrielle  
Metal-Alliance.be

## SAFETY, SECURITY & DEFENCE

Defence technology  
Defence Equipment & Services  
Agoria Fire Technologies  
Agoria Security Technology & Solutions

## CO-CREATION CONTACTING & MATERIALS

Material Solutions  
Métaux non-ferreux  
Fonderies  
Produits métalliques  
Transformation du plastique  
Composites  
Subcontracting  
Additive Manufacturing  
Contracting & maintenance  
Technical Project  
Management and Assistance  
Innovation, Design & Engineering Services  
Assemblage et grues

## TRANSPORT & MOBILITY TECHNOLOGIES & SOLUTIONS

Commercial Vehicles & automotive suppliers  
Smart Railway Solutions  
Shipping Technologies  
Smart & Sustainable Mobility  
Bicycles and accessories  
Machines agricoles et horticoles, et installations pour l'élevage  
Équipements de génie civil

## AEROSPACE TECHNOLOGIES & SOLUTIONS

Aerospace  
Agoria FLAG (Flemish Aerospace Group)  
Aeronautic platform technologies  
Space assemblies and technologies

DIGITAL  
MANUFACTURING

## DIGITAL INDUSTRIES

Data centers  
Digital Public Sector  
Analytics & Information Management  
Cloud & Datacenters  
Geo Business & Drones  
Mobile business  
Information Security  
Smart Cities  
Digital Value and Agility  
Digital Skills & HR  
Reprobel/Auvibel, POS-systems

## TELECOM INDUSTRIES

Investissements et infrastructures  
Telecom et consommateur  
Économie et société digitales

- **Be The Change** Comment s'adapter au nouveau marché du travail ?
- **DigiCoach** Une numérisation sur mesure pour votre entreprise.
  - Outil d'évaluation
  - DigiConnect
- **Intelligence Artificielle** Agoria vous aide à faire de vos idées une réalité.
  - Cours en ligne
  - Programme de sensibilisation
  - ....
- **#Manumatters** L'industrie manufacturière, pilier et moteur de notre économie.
  - Etude sectorielle
  - Programme Factory of the Future

# Equipe innovation



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# Ce qu'Agoria peut faire pour vous!



Faire entrer plus d'entreprises belges dans les projets européens

Vous aider à trouver les bons partenaires

Embracing technology  
Embracing ambition

# Thank you

For your attention

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Agence  
du Numérique



INFOPOLE  
CLUSTER TIC

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RÉSEAU IA  
LE RÉSEAU IA POUR LA WALLONIE

Avec le  
soutien de :

AI4Belgium



# Projets de Digital Wallonia



digital  
wallonia  
.be





**Mission:** Accélérer l'adoption de l'intelligence artificielle (IA) et renforcer le territoire wallon dans cet écosystème.

Plus de 15



## Les compétences IA en Wallonie

La Wallonie, territoire qualifié et d'avenir en IA.

Etablissements qui proposent des cours en IA:

**5** universités

**10** Hautes Écoles

**4** centres de recherche

**15** Formations à finalité IA, Masters et certificats

Les chercheurs de TRAIL

**+600**

chercheurs en IA rassemblés autour d'un projet de recherche

*En savoir plus +*

**+180**

TFE orientés IA remis en juin et septembre 2020



Avec le soutien de :

**AI4Belgium**



Agence du Numérique



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RÉSEAU IA  
LE RÉSEAU IA POUR LA WALLONIE



# Ecosystèmes

## PARTENAIRES



## POOL EXPERT Start IA





# Témoignage

**Vincent Boucher**

*Partner B12 Consulting*



# Témoignage

**Baptiste Fosséprez**

*CEO Pépite*



# Témoignage

**François Narbonneau**

*Coordinateur Trail Factory*

*Responsible Innovation & partenariat Multitel*



Tous les dispositifs sur  
[digitalwallonie.be/DW4AI](http://digitalwallonie.be/DW4AI)

[dw4ai@digitalwallonia.be](mailto:dw4ai@digitalwallonia.be)

# Questions?



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Merci de votre attention et participation !

N'hésitez pas à nous contacter si vous désirez recevoir la présentation et / ou avez des questions.



NATIONAL CONTACT POINT FOR  
RESPONSIBLE BUSINESS CONDUCT  
MOROCCO