



# DECARBONIZATION OF ENERGY AND MOBILITY, CONTROL & SECURITY SYSTEMS

Don't grow up fast... grow well. And to cultivate the art of unprecedented encounters between partners that nothing seems to bring together.

Because new ideas emerge where they are least expected, the doors of the CONTRIBUTE Strategic Innovation Initiative (SII) are always open to new partners to pool their efforts and build a sustainable and inclusive economy of the future.



## Why an initiative on decarbonization and system security?

Our society is facing a series of technical, economic and societal challenges. A major challenge is the **decarbonisation** of a series of sectors of activity such as **transport** (improvement of engines, energy storage, aerodynamic performance, recycling) and **energy** (production, storage, conversion of electrical power, etc.).

Another challenge is the **security of intelligent systems**. Because if the intelligence of systems is a factor of progress, their integrity and security must be ensured.

In addressing these challenges, the objective of the IIS CONTRIBUTE is to ensure the sustainability and excellence of the Walloon transport and energy industry by helping the players involved to be part of the ecological transition, whether they are large companies, SMEs or associated startups.

## The main areas of work

- > **Decarbonising transport:** reducing the carbon footprint of transport (by improving engines, energy storage, improving aerodynamic qualities, recycling, etc.).
- > **Decarbonizing energy:** production and storage of green energy, conversion of electrical power...
- > **Ensuring the security of intelligent systems.**



## CONTRIBUTE in concrete terms

Today, with its 35 partners, the ecosystem has already reached a substantial critical mass (it represents 8,500 full-time equivalents) and displays an atypical multidisciplinary in Walloon industry. The players collaborate to develop services and products by seeking the expertise of each on the value chain. The result: a competitive Wallonia in Europe.

The CONTRIBUTE consortium brings together industrial partners, research centres and academic players, thus creating value through synergies and promoting the emergence of innovative solutions.



HABITAT  
ET ÉNERGIE

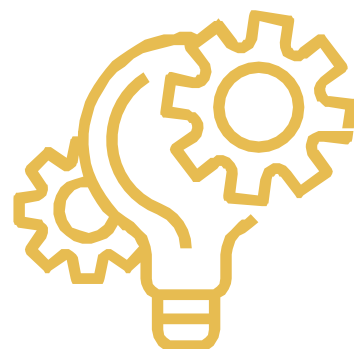


## SOME FLAGSHIP PROJECTS

- > **Viaduct:** new multimodal, adaptive and centered human-machine interface for driving semi-autonomous cars, with a focus on the specificities of older drivers.
- > **Morse code 1 and 2:** embedded systems - which tackle software modernization, by developing methods and tools for incremental evolution.
- > **Cyrus:** Embedded Systems - Creation of a test infrastructure for the cybersecurity resilience of cyber-physical systems.
- > **Wings:** decarbonization in the aeronautics sector (aerodynamics, new materials, simulation, de-icing, etc.).
- > **M&SSCot\_Network:** New control electronics concept for power electronics equipment.
- > **ELECTRON:** new Digitally Controlled and Optimized Linear Actuator.
- > **DIDEAROT:** a central digital approach to integrating the transition to more digital designs in the aerospace industry.
- > **LHP4EBOX:** New thermal management technology for electronic enclosures.

In addition to setting up these projects, the IIS is also working on the **training** component. Two university chairs have been created on common themes with a shortage of talent:

- > Critical embedded systems (UCL).
- > Power electronics (UMons) - technologies related to conversion, the control and management of electrical energy.



## THE MAIN ACTORS OF THE IIS CONTRIBUTE:

**Leader:** Alstom

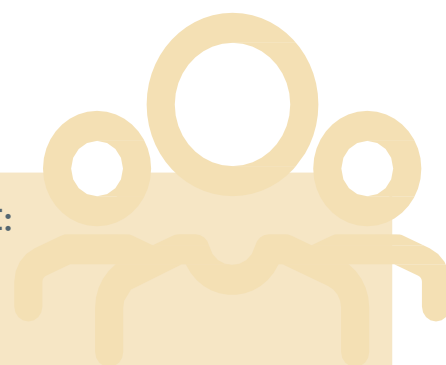
**Annual rotating chairmanship** by a Corporate Core Member

**Coordination:** CETIC

**Multidisciplinary key players:**

- > Alstom (rail)
- > AISIN Group (automotive and mobility)
- > Seafar (river)
- > Sonaca, SABCA, and Safran Aero Boosters (aeronautics, space and drones)
- > **John Cockerill** (Energy, Clean Hydrogen Production, Systems Control and Security)
- > CETIC, CENAERO, MULTITEL research centers

See next pages for complete list of the actors !



**Learn more**

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CONTACTEZ-NOUS  
S3.economie  
@spw.wallonie.be

**Contacts**

**Leader: Michel ROUSSEAU**

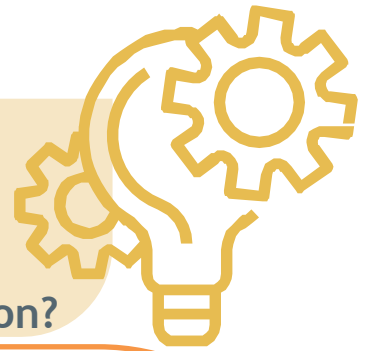
michel.rousseau@alstomgroup.com

**Coordination: Lucrezia DIBATTISTA**

lucrezia.dibattista@cetic.be

# CONTRIBUTE

## ACTION PLAN 2025 : What are we focusing on?



### Strategic Focus Areas for 2025

#### 1. Decarbonizing Transport

Objective: Reduce the carbon footprint of transportation through technological advancements and sustainable practices. Area of investigations:

- **Lightweight Structures:** Develop and implement advanced lightweight materials to improve energy efficiency.

#### 2. Decarbonizing Energy

Objective: Support the transition to green energy through innovation in energy production, storage, and conversion. Area of investigations:

- **Energy Storage Solutions:** Enhance battery performance, including real-time health monitoring.

#### 3. Securing Intelligent Systems

Objective: Ensure the integrity, safety, and resilience of intelligent systems in transport and energy sectors. Area of investigations:

- **Embedded Critical Systems:** Enhance security and reliability of embedded systems for autonomous and intelligent transportation.
- **Digital Continuity & AI:** Develop robust digital infrastructures that integrate AI safely and securely.
- **Validation & Testing:** Implement rigorous validation processes to ensure system reliability in production environments.





# CONTRIBUTE

## LIST OF THE ACTORS OF THIS INITIATIVE



Name	Main category	Website
Acapela Group	Private	<a href="https://www.acapela-group.com/">https://www.acapela-group.com/</a>
AISIN Europe	Private	<a href="https://www.aisin-europe.com/">https://www.aisin-europe.com/</a>
Alpha Innovations	Private	<a href="https://www.alphainnovations.eu/">https://www.alphainnovations.eu/</a>
Alstom	Private	<a href="https://www.alstom.com/alstom-belgium">https://www.alstom.com/alstom-belgium</a>
AnyShape	Private	<a href="http://any-shape.com/">http://any-shape.com/</a>
BeBlue	Private	<a href="https://www.beblue-cryotech.eu/">https://www.beblue-cryotech.eu/</a>
Calyos	Private	<a href="http://www.calyos-tm.com/">http://www.calyos-tm.com/</a>
Centre de recherche en aéronautique	Research	<a href="https://www.cenaero.be/">https://www.cenaero.be/</a>
CETIC	Research	<a href="https://www.cetic.be/">https://www.cetic.be/</a>
Cluster TWEED	Economy/ territory	<a href="https://clusters.wallonie.be/tweed/fr">https://clusters.wallonie.be/tweed/fr</a>
CRM Group - Centre de Recherches Métallurgiques	Research	<a href="http://www.crmgroup.be/">http://www.crmgroup.be/</a>
Dekimo	Private	<a href="https://www.dekimo.com/">https://www.dekimo.com/</a>
DELTATEC	Private	<a href="http://www.deltatec.be/">http://www.deltatec.be/</a>
Euranova	Private	<a href="https://euranova.eu/">https://euranova.eu/</a>
GDTech engineering	Private	<a href="http://www.gdtech.eu/">http://www.gdtech.eu/</a>
Guardis	Private	<a href="http://www.guardis.com/">http://www.guardis.com/</a>
I-care	Private	<a href="http://www.icareweb.com/">http://www.icareweb.com/</a>
John Cockerill	Private	<a href="https://johncockerill.com/">https://johncockerill.com/</a>
Logistics in Wallonia	Economy/ territory	<a href="http://www.logisticsinwallonia.be/">http://www.logisticsinwallonia.be/</a>
M3 Systems Belgium	Private	<a href="https://m3systems.eu/">https://m3systems.eu/</a>
Materia Nova	Research	<a href="http://www.materianova.be/">http://www.materianova.be/</a>
MPP AERO & INDUSTRIAL SOLUTIONS	Private	<a href="https://mpp.be/">https://mpp.be/</a>
Multitel	Research	<a href="https://www.multitel.be/">https://www.multitel.be/</a>
Pôle MecaTech	Economy/ territory	<a href="https://www.polemecatech.be/">https://www.polemecatech.be/</a>
Réseau Liaison Entreprises-Universités	Research	<a href="http://www.reseaulieu.be/">http://www.reseaulieu.be/</a>
Respect-IT	Private	<a href="http://www.respect-it.com/">http://www.respect-it.com/</a>
SABCA	Private	<a href="https://www.sabca.be/">https://www.sabca.be/</a>
Safran Aero Boosters	Private	<a href="https://www.safran-group.com/fr/societes/safran-aero-boosters">https://www.safran-group.com/fr/societes/safran-aero-boosters</a>
Seafar	Private	<a href="https://seafar.eu/">https://seafar.eu/</a>
Skywin Wallonie	Economy/ territory	<a href="http://www.skywin.be/">http://www.skywin.be/</a>
Sonaca	Private	<a href="http://www.sonaca.com/">http://www.sonaca.com/</a>
Thales Alenia Space Belgium	Private	<a href="https://www.thalesaleniaspace.com/">https://www.thalesaleniaspace.com/</a>
Tobii	Private	<a href="https://www.tobii.com/">https://www.tobii.com/</a>
Université catholique de Louvain	Education	<a href="https://uclouvain.be/">https://uclouvain.be/</a>
Université de Mons	Education	<a href="https://web.umons.ac.be/fr/">https://web.umons.ac.be/fr/</a>
V2i	Private	<a href="http://www.v2i.be/">http://www.v2i.be/</a>