



CONNECTS

Heterogeneous Integration for
Connectivity and Sustainability

HiCONNECTS Introduction

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Collaborative Projects

Why are Collaborative EU projects important?

- **Advocate for Innovation**
- Secure **Europe's leadership** in the digital future.
- **Rapid Technological Advancement**
- **Future Prosperity and Security**
- Highlight that breakthroughs require **collective effort and shared vision.**



HiCONNECTS

Consortium Partners

- HiCONNECTS covers the **full semiconductors value chain** from design to manufacturing front and back end.
- The consortium consists of a well-balanced set of **large enterprises** (55%), **SMEs** (23%), **RTO** (14%) and **academic institutions** (8%).
- Partners from **15 countries**.



HICONNECTS

“Heterogeneous Integration (HI) for Connectivity and Sustainability”

Technology Challenges

- **IoT:** High latency and power consumption, low bandwidth limiting real-time IoT applications.
- **Connectivity:** Lack of resolution, classification, segmentation, localization, and mapping in radars not enough to achieve L4-5 Autonomous Driving.
- **More than Moore's Law:** need of alternative chips design, process and metrology which are cost-competitive, low power, and have high performance.
- **Digital Sovereignty:** Current EU semiconductors market share is only 10%.

Scope

To develop compelling and cost competitive **heterogeneous integration (HI) core technology solutions** for energy-efficient and high-performance Silicon based RF and photonics solutions enabling:

1- Fast transmission of IoT data over the network.

2- Sensing for L4-5 Autonomous Driving.

HICONNECTS will also aim to use novel RF solutions (5G/6G and radar) and IT cloud infrastructure for connected vehicles, industry 4.0 and smart health, smart cities.

Societal and Environmental Impacts

EU Sovereignty and Industrial Competitiveness

Digital Autonomy	Novel low power, cost- and performance- efficient, scalable HI products boosting EU market share in cloud, smart cities and automotive applications.
Digital Health Care	Smart drugs & vaccines development (Cryo-EM workflow) and delivery enabled by high-speed data transfer in data centers. In addition leverage on autonomous driving and public safety solution applied in digital healthcare.
Cities of the Future	Deployment of a reliable connectivity infrastructure (IoT, cloud), incl. A.I. solutions. Highly effective vehicular communications for traffic management.

EU Green Deal

Resource efficient and carbon neutral EU	Energy efficient communications, radar and cloud, which will pave the way to real-time response and resilience against hazards & related CO2 emissions (e.g. wildfires).
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Speakers



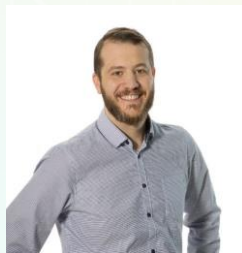
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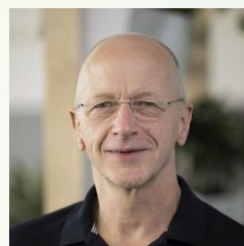
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