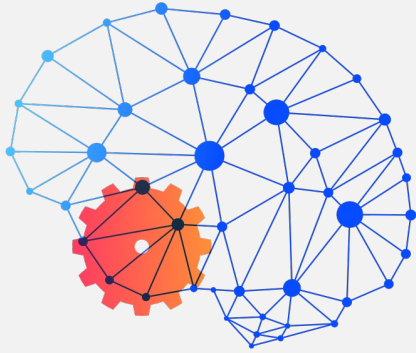


capri

**Cognitive Automation Platform
for European PProcess Industry
digital transformation**



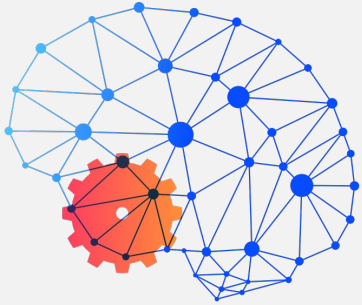
capri

Cognitive Automation Platform
for European PROcess Industry
digital transformation

**Where automation
and cognition meet
the process industry**



This project receives funding from the European Union's
Horizon 2020 Research and Innovation Programme under
Grant Agreement Number 870062.



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Cognitive Automation Platform
for European PProcess Industry
digital transformation

42 Months

April 2020 –
September 2023

12

Partners

7

Countries

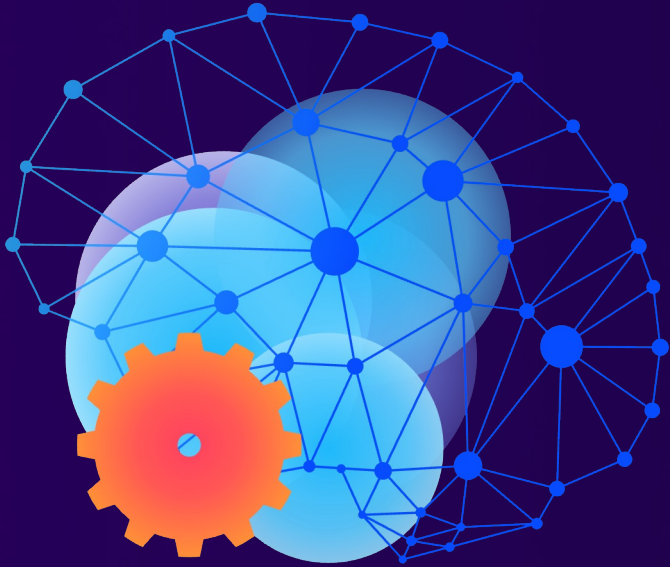
6.1M €

EU Funding



What's the challenge?

The process industry in EU is facing shortage in raw materials, increasing energy prices and environmental constraints that require an improvement in adaptability, flexibility and automation processes.



What's our vision?

CAPRI project works towards the digital transformation of the Process Industry by developing cognitive solutions.

Our Objective is

- ➔ to develop, test and experiment an innovative **Cognitive Automation Platform (CAP)**
- ➔ for the **digital transformation** of traditional process factories into cognitive plants, integrating cognitive tools for all **industrial automation levels**.



**Let's have a
better look at
the project**

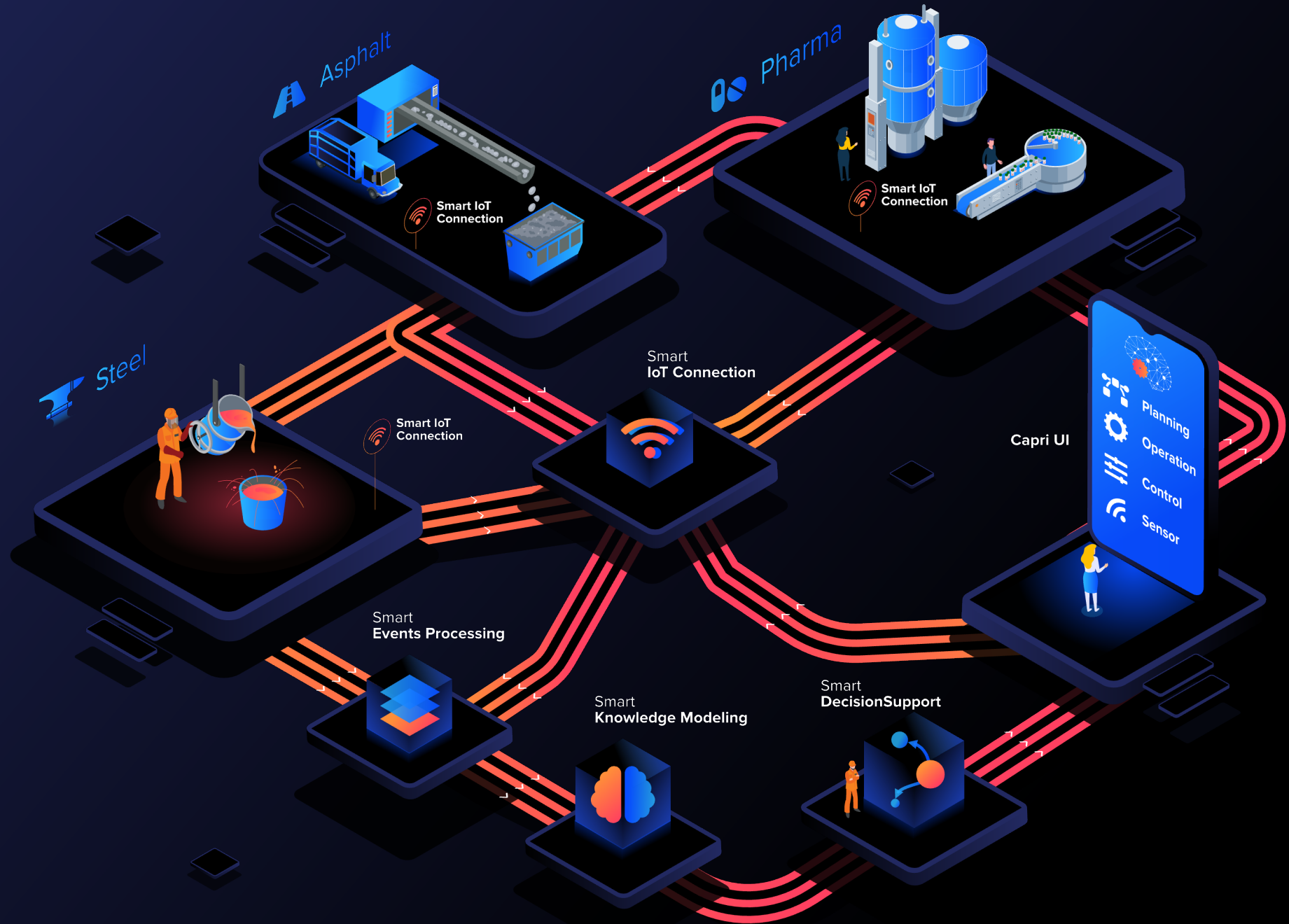


CAPRI develops and tests an innovative **Cognitive Automation Platform (CAP)** engaging a Reference Architecture,

modular and **scalable**, so that advanced applications could be developed and integrated on top of it, and **replicable** for all SPIRE sectors.

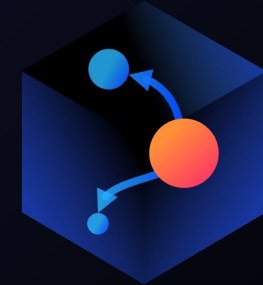


The **CAP** will be the glue that integrates business intelligence, operational dashboards, complex event processing, machine learning algorithms, managing the security of the data and systems and guaranteeing the sovereignty.



4 levels of cognitive human-machine interaction





Smart IoT connections

Industrial IoT concept that gives access to all relevant data in automation levels.

Smart events processing

Infer information from data, discover patterns, establish connections.

Knowledge data models

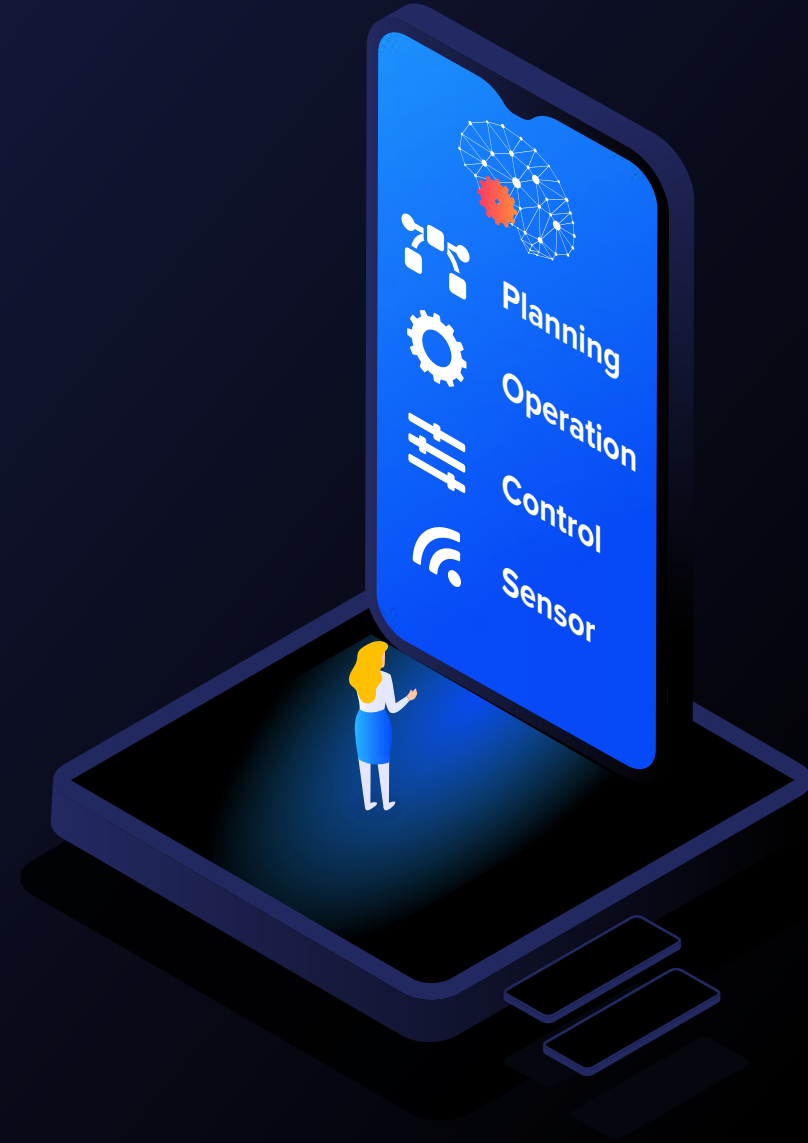
Creation of digital models (e.g. digital twins) of products, machinery and processes enhanced with knowledge from workers and real time information.

Smart decision support

Elaboration of AI-based advanced algorithms and applications for decision making.

The CAP Toolbox

The Cognitive Automation Platform (CAP) includes a toolbox of cognitive solutions for planning, operation, control and sensing.

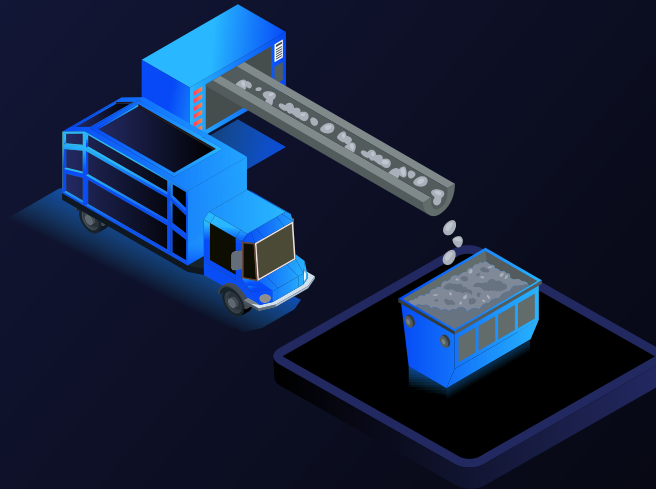


3 Use Cases

We will demonstrate the applicability of CAPRI technologies in 3 key process industries with 17 different cognitive solutions.



Steel
billets & bars



Asphalt
minerals



Pharma industry
chemical

Steel

Cognitive Production Management
for Steel Bars by Digital Integration
of Product and Process Information

Cognitive solutions

- Cognitive steel tracking sensor
- Cognitive solidification sensor
- Cognitive temperature sensor
- Cognitive scale sensor
- Cognitive risk and anomalies sensor
- Digital twin



Asphalt

Global cognitive solution for
Asphalt concrete manufacturing

Cognitive solutions

- Cognitive solution of planning and control of production
- Cognitive control of cold aggregates dryer
- Predictive maintenance of baghouse
- Cognitive sensor for bitumen content in recycled asphalt
- Cognitive sensor of filler measure



Pharma

Pharmaceutical manufacturing process for tablets

Cognitive solutions

- Blend uniformity
- Granule quality and moisture
- Dissolution prediction
- Fault detection
- Cognitive planning, control and operations solution



Expected impacts on industry and environment



5%-20% Savings
in Raw Material



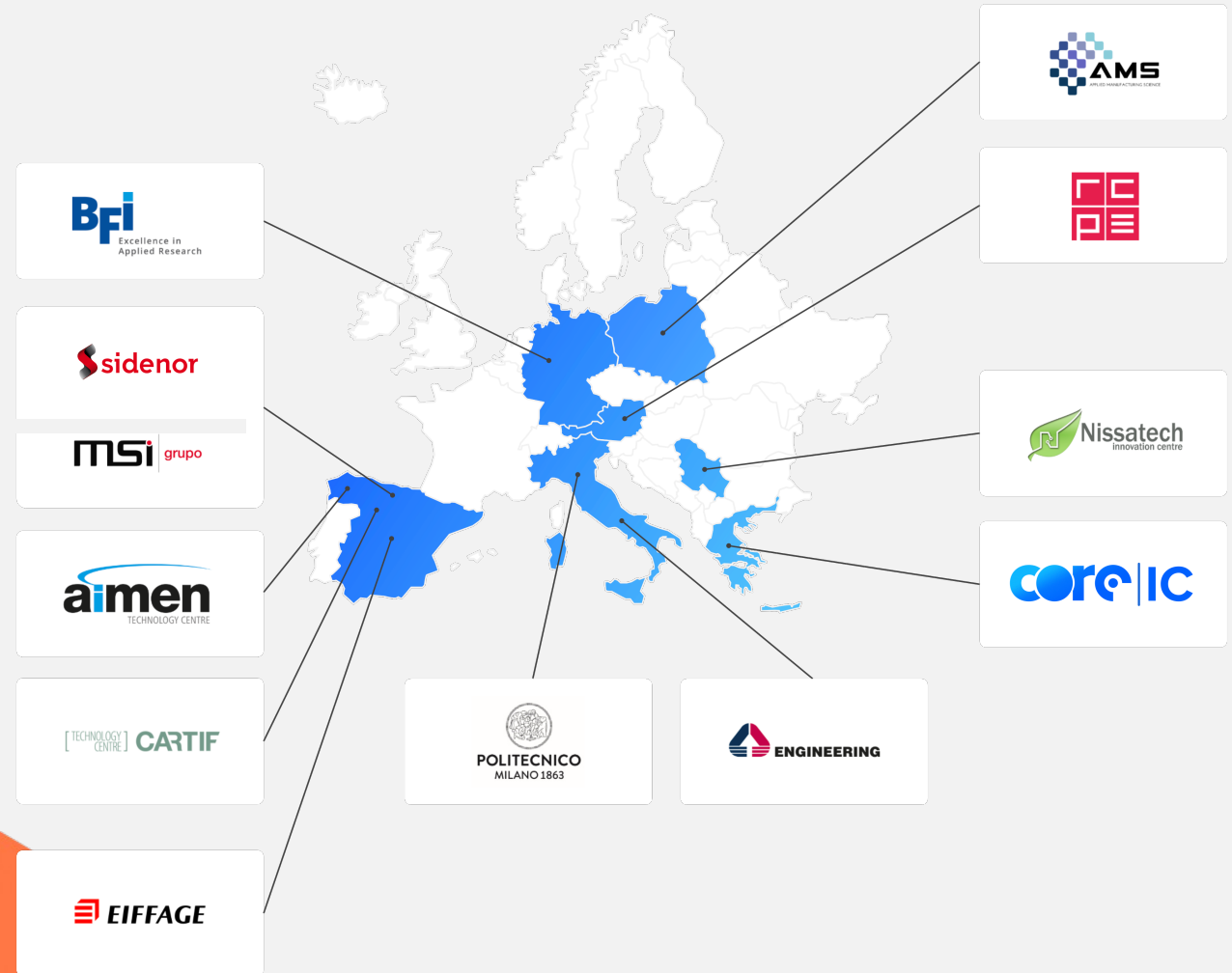
-5% overall reduction
in energy consumption



-5% reduction of
CO2 footprint

Who we are

We are a cluster of 12 partners across 7 European countries



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connected
with us**



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