



# EuroCPS

Cyber-Physical Systems



European Network of competencies and platforms for  
Enabling SMEs from any sector building Innovative CPS  
products to sustain demand for European manufacturing

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**BME EET**



# What is CPS in EuroCPS?



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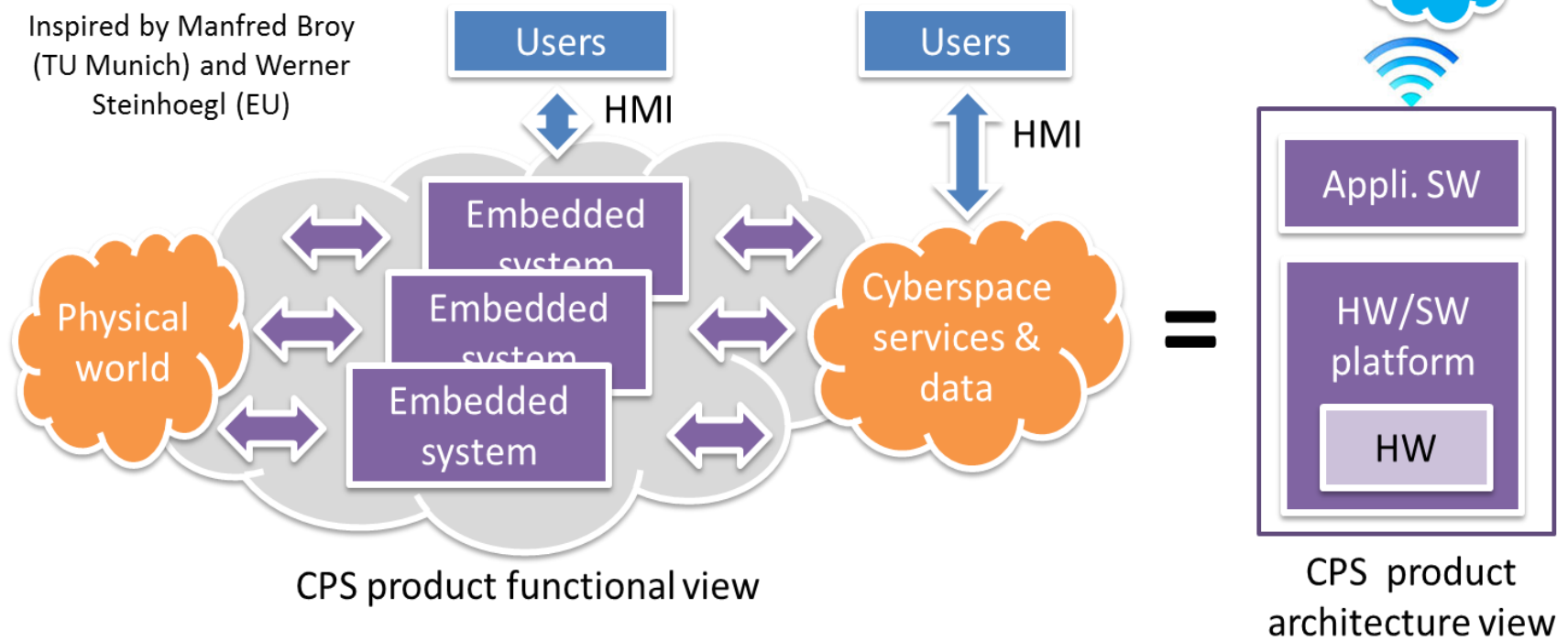
The EuroCPS project



20/02/2015

# CPS=Cyber Physical systems

Inspired by Manfred Broy  
(TU Munich) and Werner  
Steinhoegl (EU)





# The idea behind EuroCPS



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# The EuroCPS Project

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- Network of regional ecosystems along the full value chain to *service SMEs for innovative CPS (Cyber Physical systems) products*
- One of the contributions to the “Airbus of chips” Common European Interest Project launched by Neelie Kroes .



# The EuroCPS Project

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## Main objectives:

- Take innovative **embedded ICT** from any sectors to **SMEs**.
- Facilitate user-supplier partnerships across value-chains and regions.

## Main outcome:

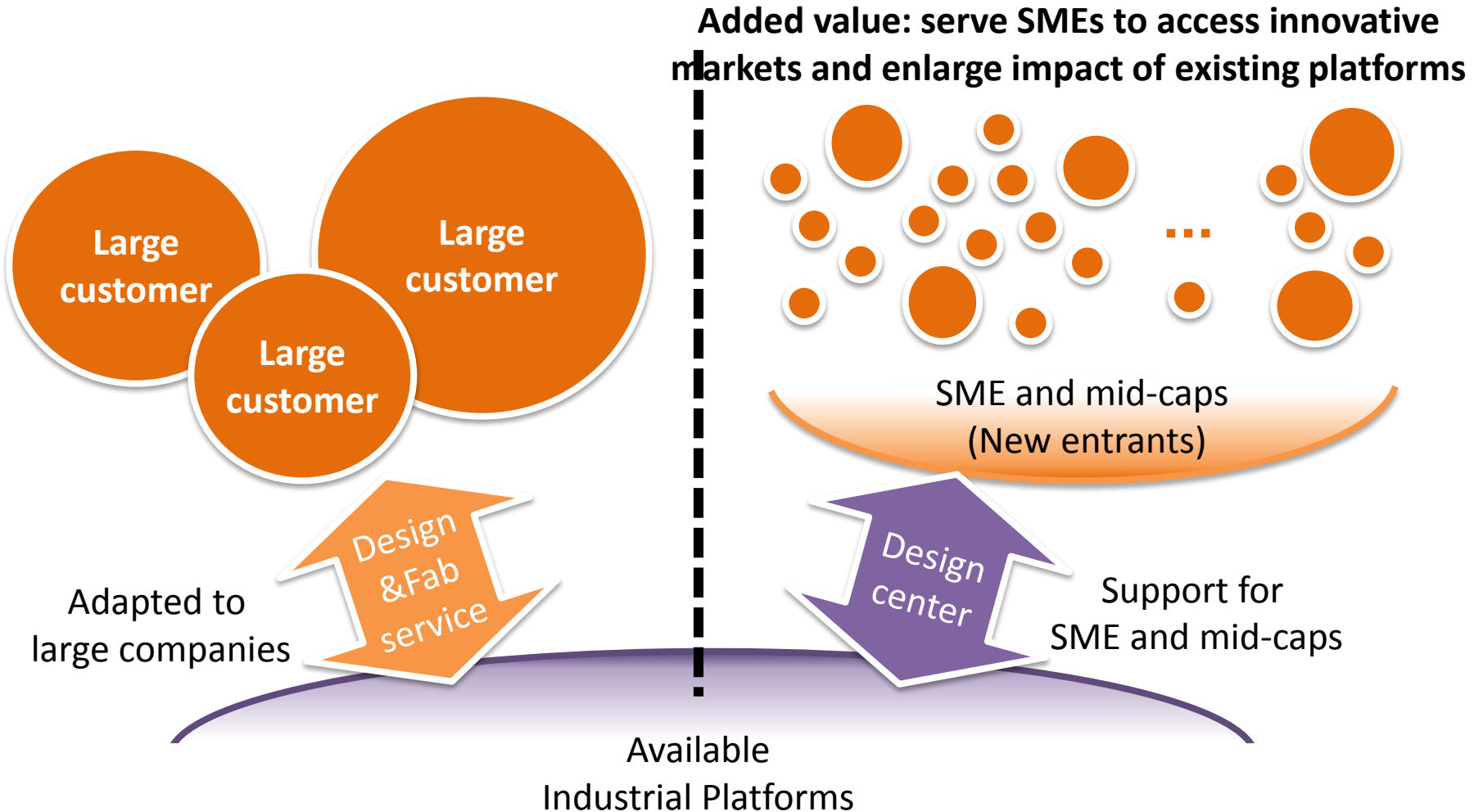
- **Enable the creation of innovative European CPS Products** that will generate **sustained demand for European manufacturing**.

## Goal:

- Strengthen the position of European industry along the value chain :
  - Promote innovative CPS products using existing EU chips
  - **Promote the optimization of CPS products with new EU chips at SMEs**



# Design center concept: access to advanced industrial platforms for SMEs



**Do not forget : Today innovators are tomorrow's potential major players**



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# The operation



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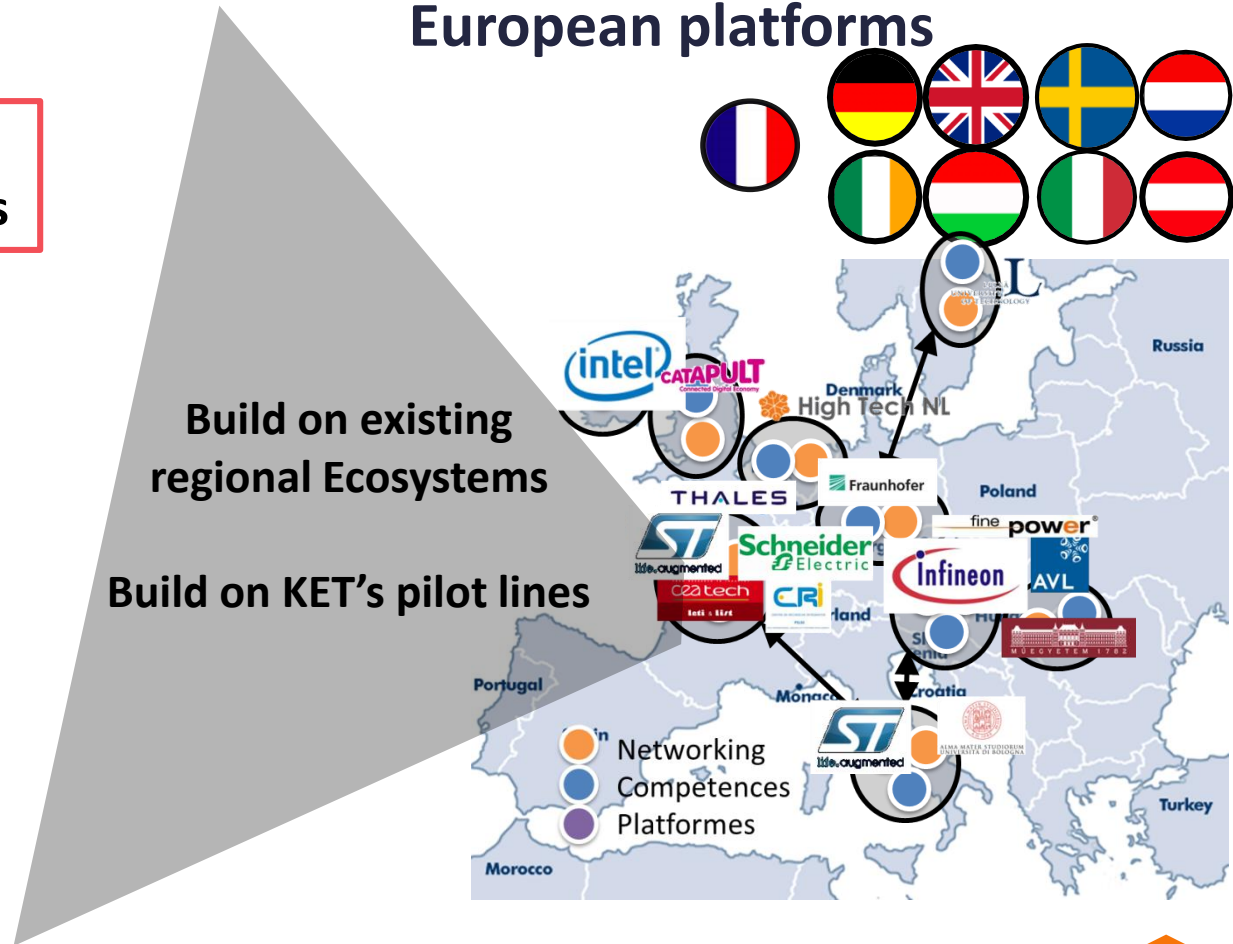
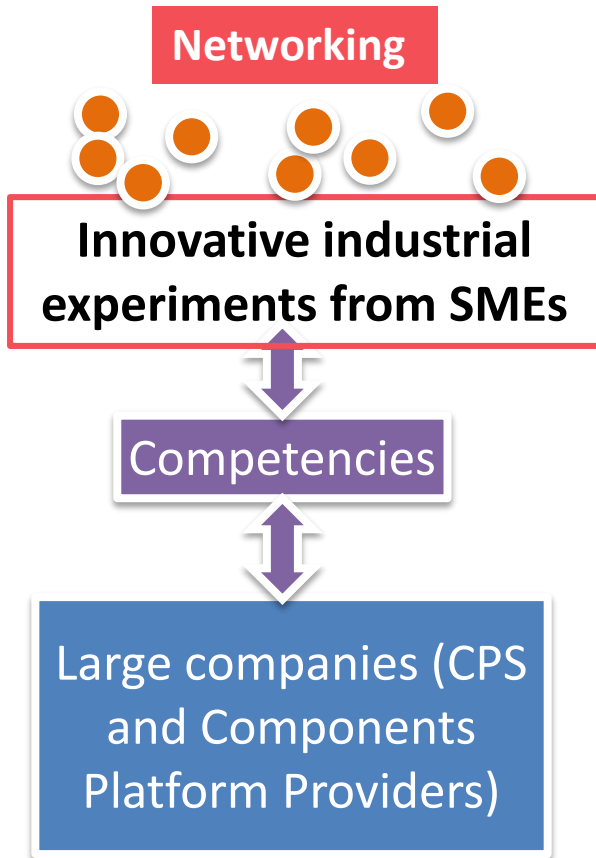


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# SME experiments, building on EU strengths

Provide competencies for innovators to enable them using state of the arts European platforms



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# Each experiment services an SME using **competences and platforms from the project**

- **2 kind of platforms : CPS and Silicon components**
- **5 kinds of competencies**
  - *CPS design: solution exploration and product specification*
  - *Embedded SW design*
  - *HW architecture design & components reuse*
  - *HW/SW system integration*
  - *Access to HW component and CPS platforms*
- **3 Types of experiments**
  - *System integration project : System solution using existing SW and HW components.*
  - *SW intensive project system: Solution using existing programmable platforms.*
  - *CPS with Innovative components project : Integrated HW-SW prototype requiring specific HW-SW platform..*



# Platforms

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<b>Platforms</b>	<b>Typical industrial experiments</b>
<b>STM32 (ST)</b>	<ul style="list-style-type: none"><li>- SW applications for low-power embedded systems</li><li>- System using STM32 as a subsystem</li></ul>
<b>Quark (Intel)</b>	<ul style="list-style-type: none"><li>- IoT applications</li><li>- System using Quark as a subsystem</li></ul>
<b>CPSDA (Schneider)</b>	<ul style="list-style-type: none"><li>- SW application (home energy management...)</li><li>- Fog/cloud applications and energy services</li></ul>
<b>Power conversion for CPS (Infineon-AT)</b>	<ul style="list-style-type: none"><li>- Highly efficient networked systems for industrial applications (eg. lighting, machinery..)</li></ul>
<b>Large drive simulation (AVL)</b>	<ul style="list-style-type: none"><li>- Automated Test and Verification Systems for Tractors</li></ul>
<b>Silicon (ST)</b>	<ul style="list-style-type: none"><li>- Cyberphysical systems applications with new technologies and devices</li></ul>
<b>Avionics (Thales)</b>	<ul style="list-style-type: none"><li>- SW Applications and SW IP</li></ul>



# EuroCPS operations

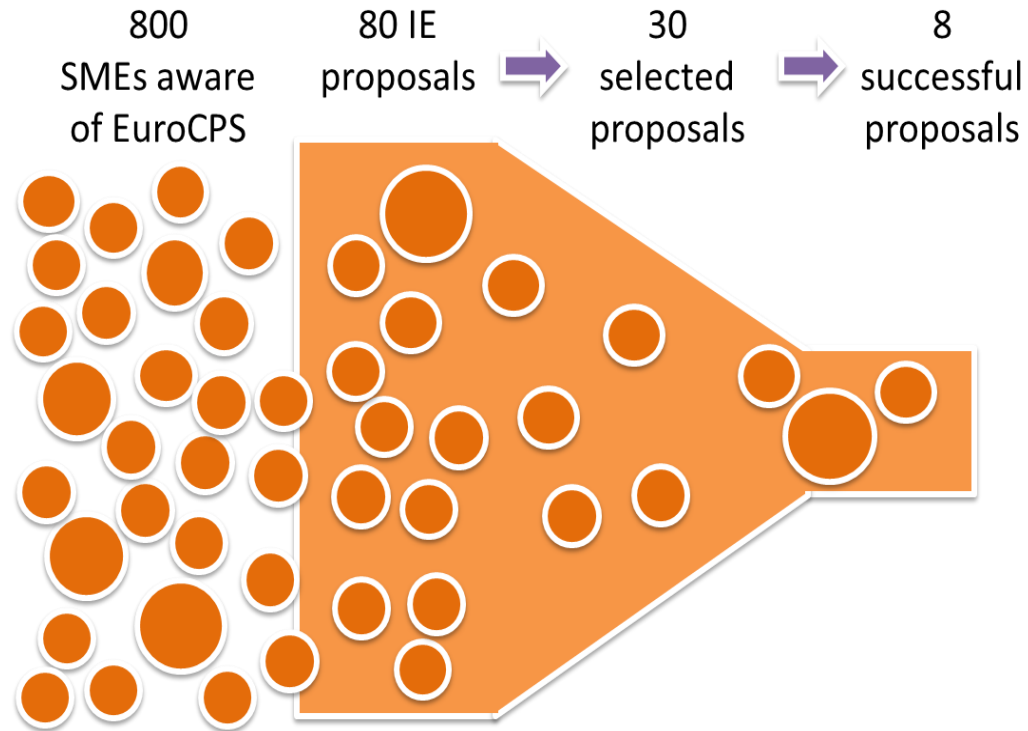
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- €10m cost, €8m EC funding, 15 partners , 36months
- 2/3 of Funding devoted to Industrial experiments
  - Up to €150k for an SME
  - Coaching and Enablement to use platforms executed by partners
- Plan to service 30 Industrial experiments from SMEs selected through 3 open calls
  - T0+6 (June 2015)
  - T0+10 (Oct 2015)
  - T0+14 (Feb 2016)
- Cascade funding scheme, easy process for SMEs



# Industrial experiment's target numbers

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# Cooperation within the Smart Anything Everywhere Initiative



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# Cooperation within the Smart Anything Everywhere Initiative

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- The project is part of the cluster **SmartAnythingEverywhere**
- Open meetings are planned with all the 4 projects
  - organised by EU and/or projects
- Exchange experiment and best practice
  - Working with SME and Monitoring industrial experiment
- Cross advertisement of offered services
  - Competencies: Enablement to use advanced Technologies, IP, Platforms
  - Technologies: Advanced methods and tools
  - IP: specific Reusable Advanced components and subsystems
  - Platforms: Infrastructure required for specific design/fabrication process
- Cross advertisement for open calls
- Promote the use of off the shelf IP and technologies from other projects in the EuroCPS experiments





# The role of BME in the Project



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# The role of BME in the Project

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- BME acts as a **networking partner**, contacting innovative SMEs in the region
- BME serves as a **Design House**, supporting design activities with most of the EuroCPS platforms
  - Major expertise in: ST, Intel, IFAT and SEI platforms
- BME serves as a **cascade funding partner** for the SMEs selected in the open calls
- BME is responsible for the **web page of EuroCPS** and of the **Smart Anything Everywhere** cluster



# Web pages

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- The web pages of EuroCPS and of the **Smart Anything Everywhere** cluster projects
- <https://www.eurocps.org>
- <http://www.SmartAnythingEverywhere.eu>





# Thank you for your attention



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