



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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What is CPS in EuroCPS?



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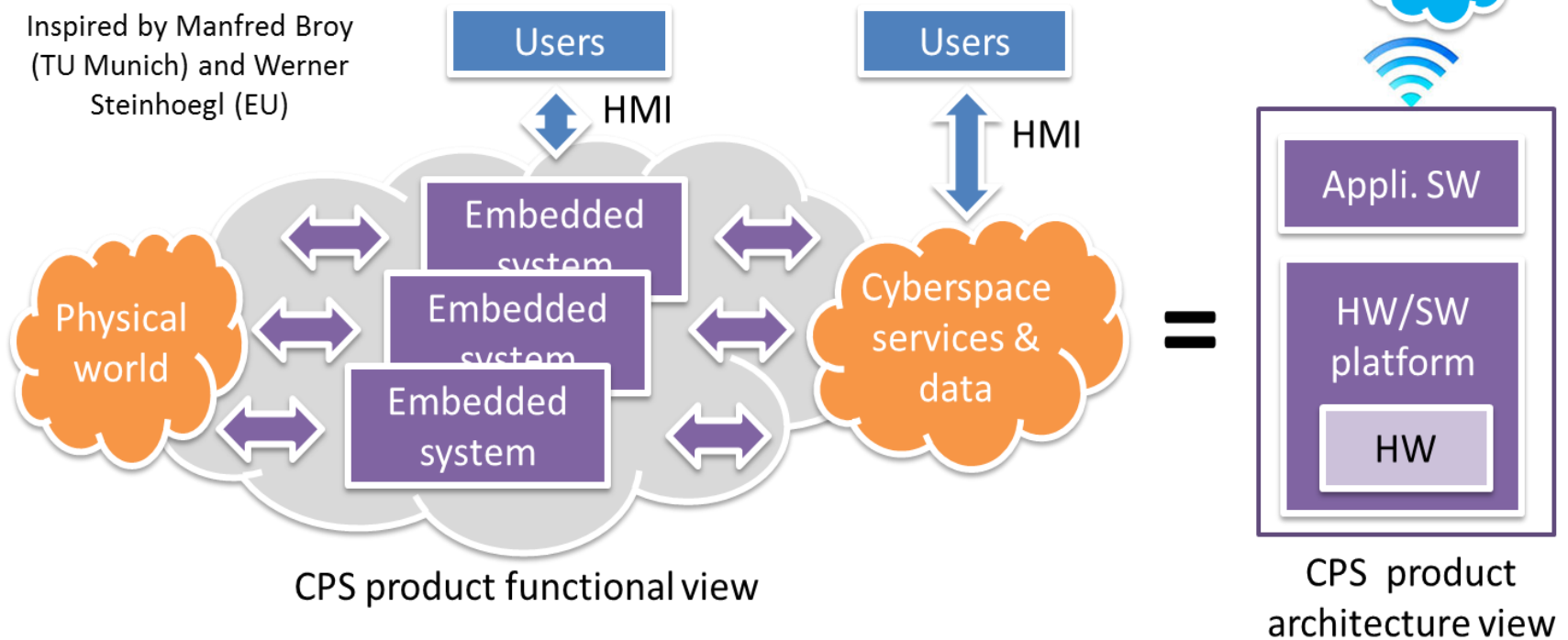
The EuroCPS project



20 / 02 / 2015

CPS= Cyber Physical systems

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



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The idea behind EuroCPS



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The EuroCPS Project

- 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

Main objectives:

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

Main outcome:

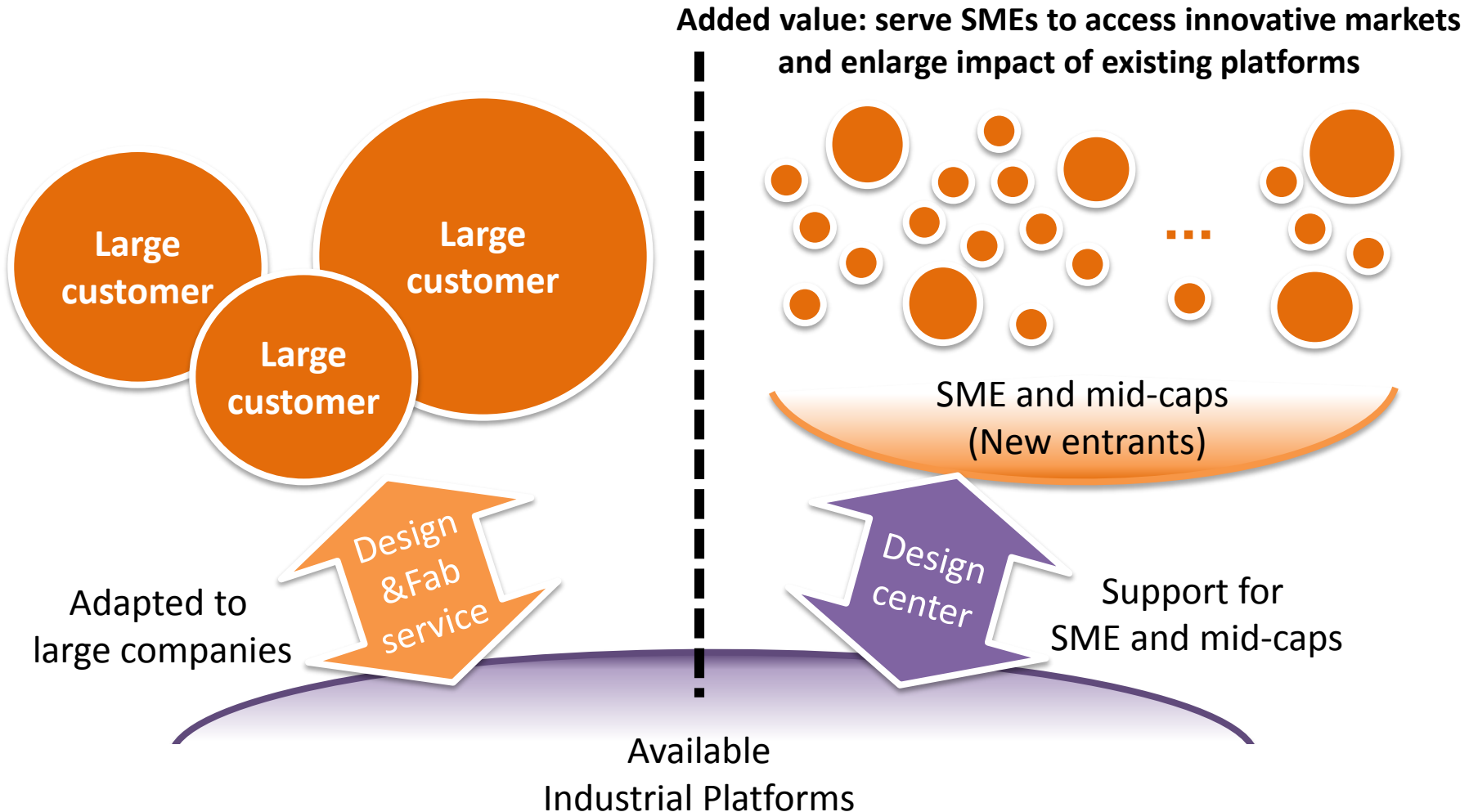
- **Enable the creation of innovative European CPS Products** that will generate **sustained demand for European manufacturing**.

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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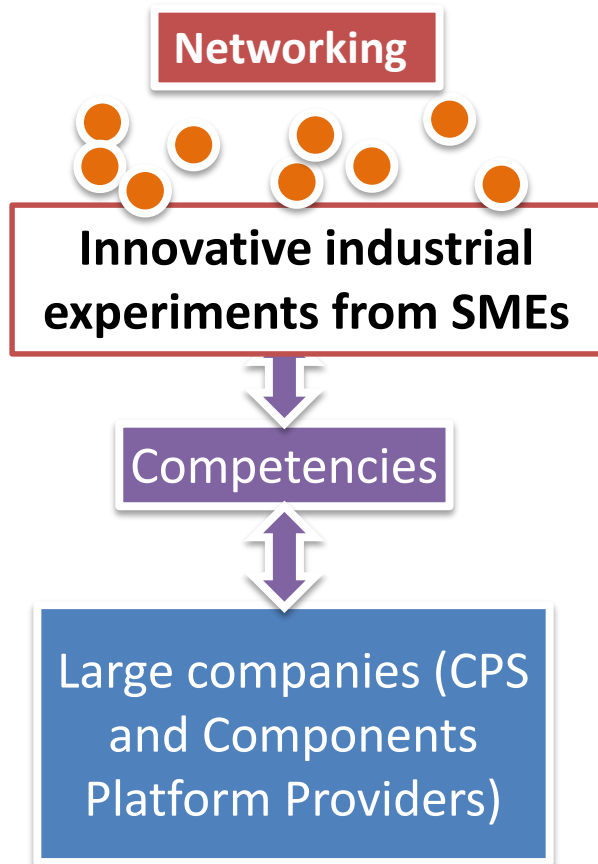
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SME experiments, building on EU strengths

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



Build on existing regional Ecosystems
Build on KET's pilot lines



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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

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

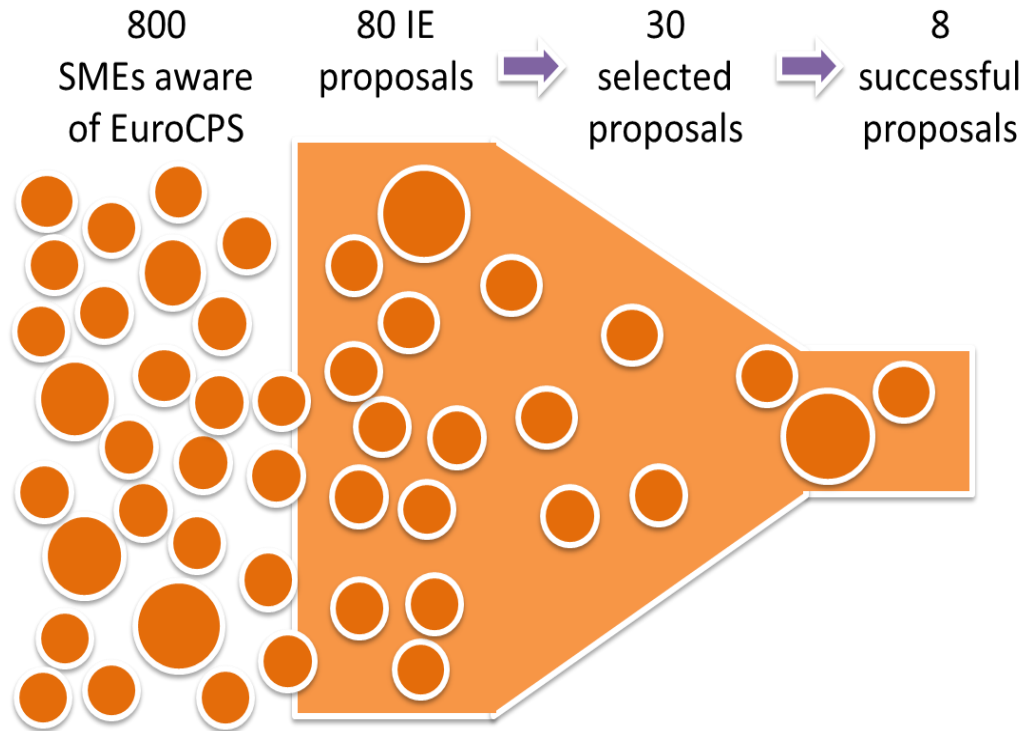


EuroCPS operations

- €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

- 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

- 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

- 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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