EuroCPS
Cyber-Physical Systems

THALES · cea · CATAPULT Connected Digital Economy · Luleå Tekniska Universitet · intel · Fraunhofer · Infineon technologies · ST life.augmented · High Tech NL · Schneider Electric · fine power · AVL

https://www.eurocps.org/

Innovative embedded ICT users across regions: Industrial experiments

Needs

IE definition
IE selection

IE Services
IE coaching
IE dev plan

Provide access and support to techno

Final innovative product

EuroCPS — Full Value chain suppliers

Objective 1: Bring innovative CPS to businesses from any sectors

Objective 2: linking user-supplier across value-chains and regions

Outcome: Innovative EU CPS products + Sustained demand for EU manufacturing
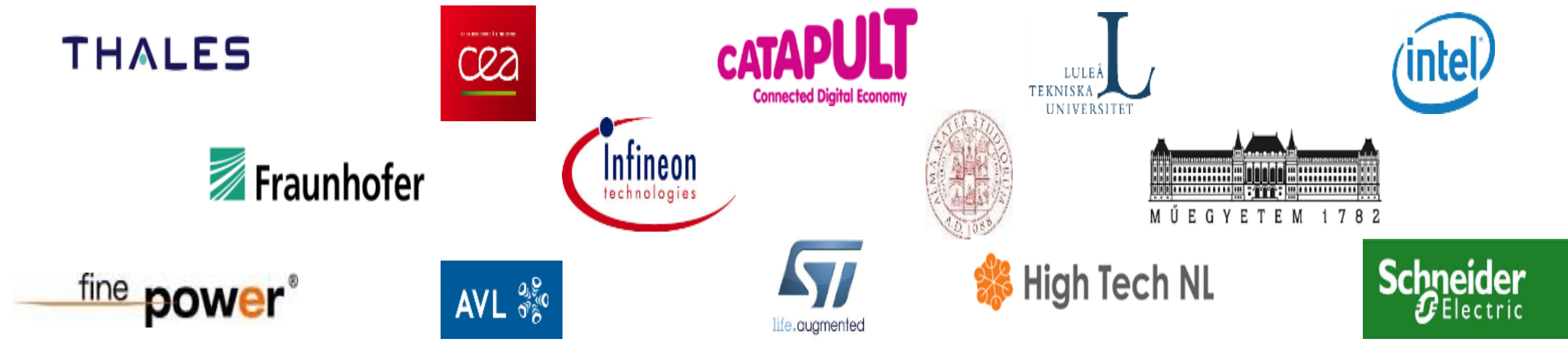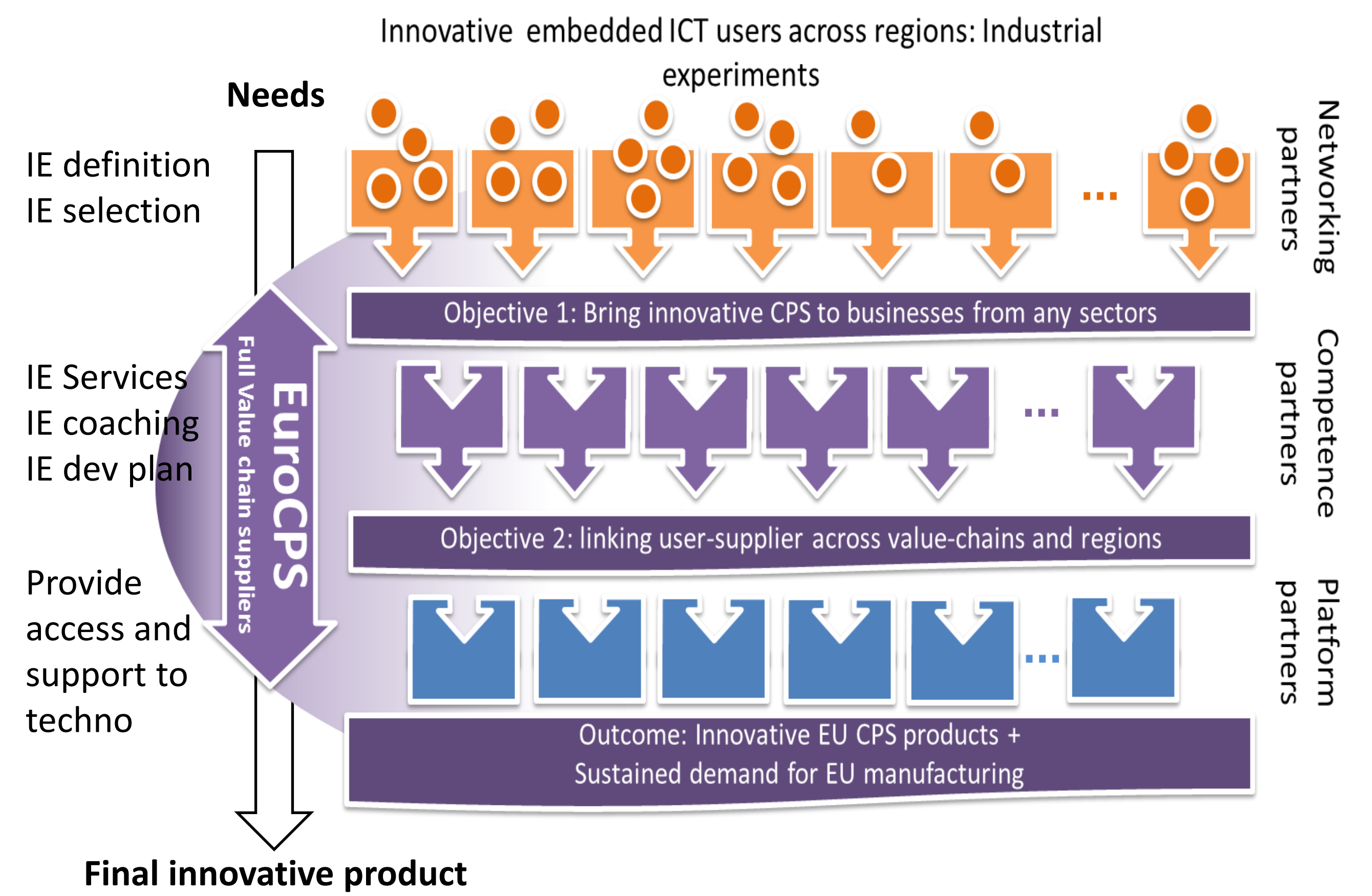
Networking partners
Competence partners
Platform partners

The EuroCPS platforms

Software

Avionics Platform
Processing board & real time SW solutions provided by Thales

Integrated and Open Development Platform
Simulation methods and tools for development provided by AVL

Integration systems

Connectivity Platform
Solution for digitalization application provided by Schneider

STM32 Microcontroller Platform
32-bit product range provided by STMicroelectronics

iNEMO Inertial Platform
A sensor platform provided by STMicroelectronics

Quark System on Chip Platform
Low-power platform provided by Intel

Hardware

Power management Platform
Component platform provided by Infineon

Silicon Process and Package Technology
Leading-edge silicon processes and package technologies provided by STMicroelectronics

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Avionics platform

Avionics application models (eg Flight management system)

Different task triggering modes (periodic, aperiodic, etc)
Specific inter-task communication properties
Requirements on space & time isolation

Types of supported platforms (Freescale)

QorIQ Processing Platforms: 64-bit Multicore
◆ QorIQ Communications Processors High/Mid-Performance Tier
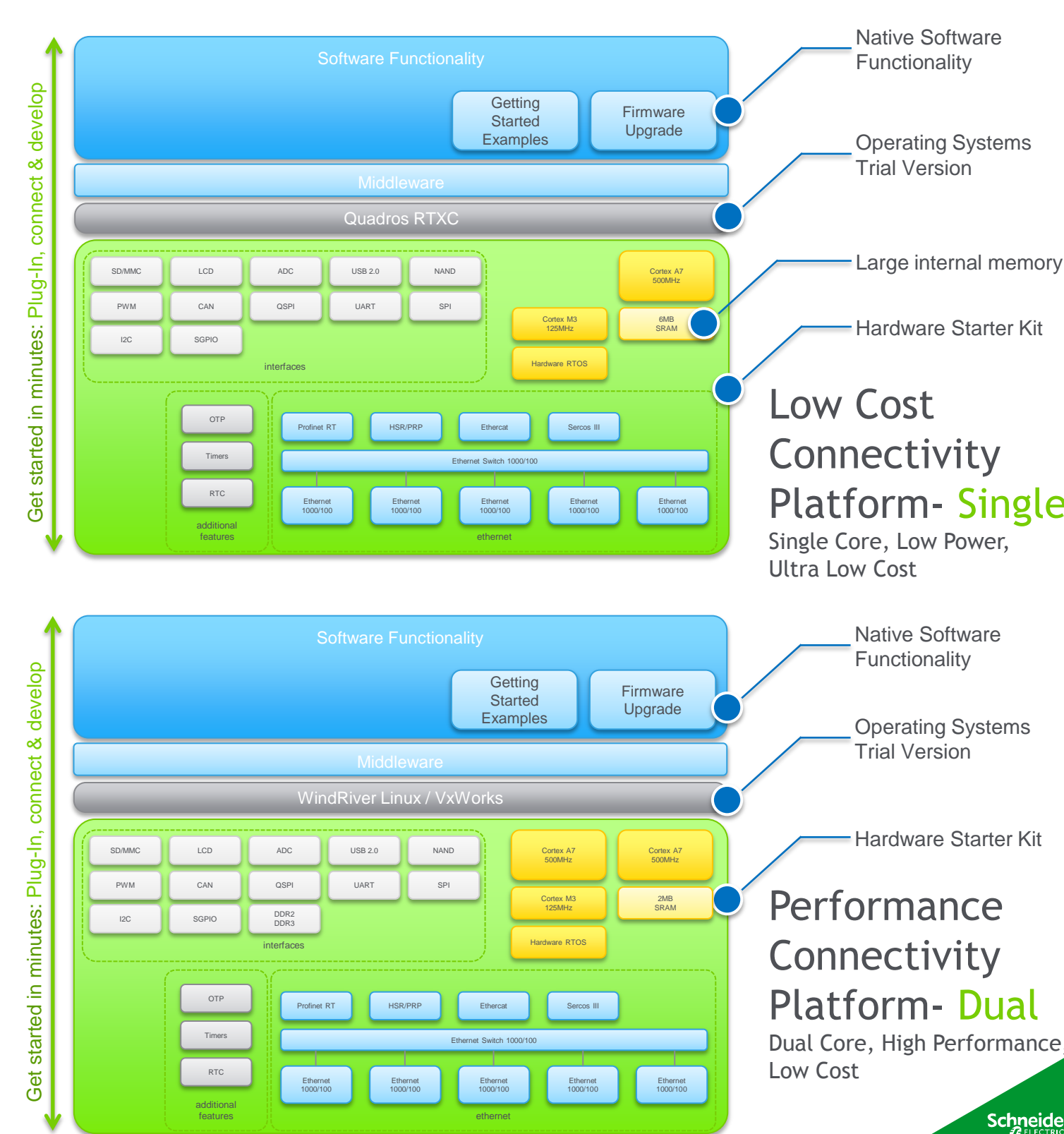○ T4240, P4080, P5020, P5040, T2080

i.MX Applications Processors based on ARM Cores
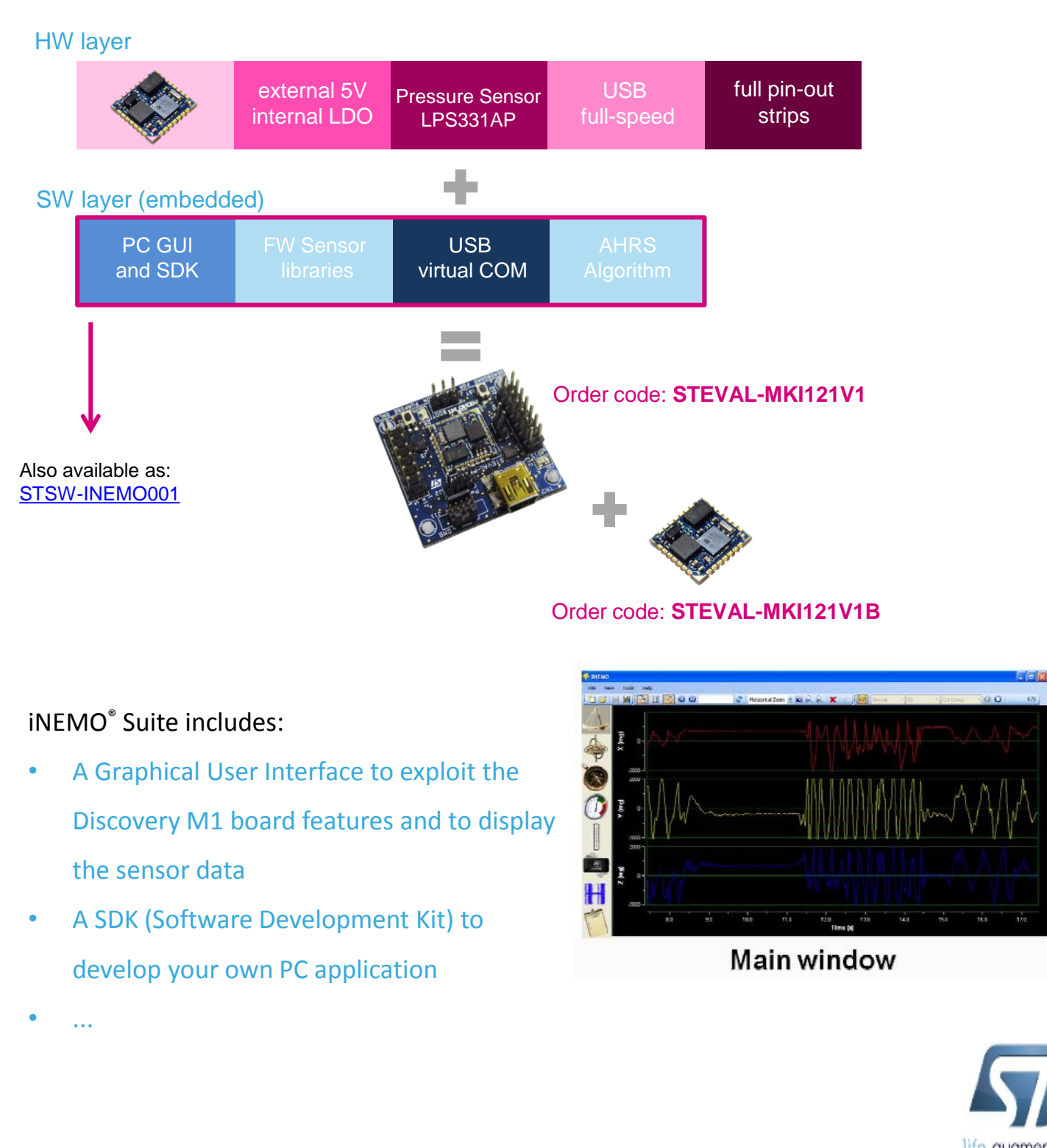○ i.MX 6SoloX Processors - Heterogeneous Processing

Potential Industrial Experiments on RTOS with new features, architecture models, timing analysis tools, etc

THALES — Together • Safer • Everywhere

Connectivity Platform

Native Software Functionality
Operating Systems Trial Version
Large internal memory
Hardware Starter Kit

Low Cost Connectivity Platform- Single
Single Core, Low Power, Ultra Low Cost

Native Software Functionality
Operating Systems Trial Version
Hardware Starter Kit

Performance Connectivity Platform- Dual
Dual Core, High Performance, Low Cost

Schneider

iNEMO inertial Platform

HW layer — external 5V internal LDO · Pressure Sensor LPS331AP · USB full-speed · full pin-out strips

SW layer (embedded) — PC GUI and SDK · PM Sensor libraries · USB virtual COM · AHRS Algorithm

Order code: STEVAL-MKI121V1
Also available as: STSW-INEMO001
Order code: STEVAL-MKI121V1B

iNEMO° Suite includes:
• A Graphical User Interface to exploit the Discovery M1 board features and to display the sensor data
• A SDK (Software Development Kit) to develop your own PC application
• ...

Main window

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Power management Platform

Power Management
Selection Guide 2015

http://www.infineon.com/cms/en/product/promopages/pm-selection-guide/

Infineon technologies

Integrated and Open Dvt Platform

Virtual World — OFFICE SIMULATION · XIL TEST · E-MOTOR TEST BED · BATTERY TEST BED · ENGINE TEST BED · POWERTRAIN TEST BED · CHASSIS DYNO · ROAD TEST — Real World
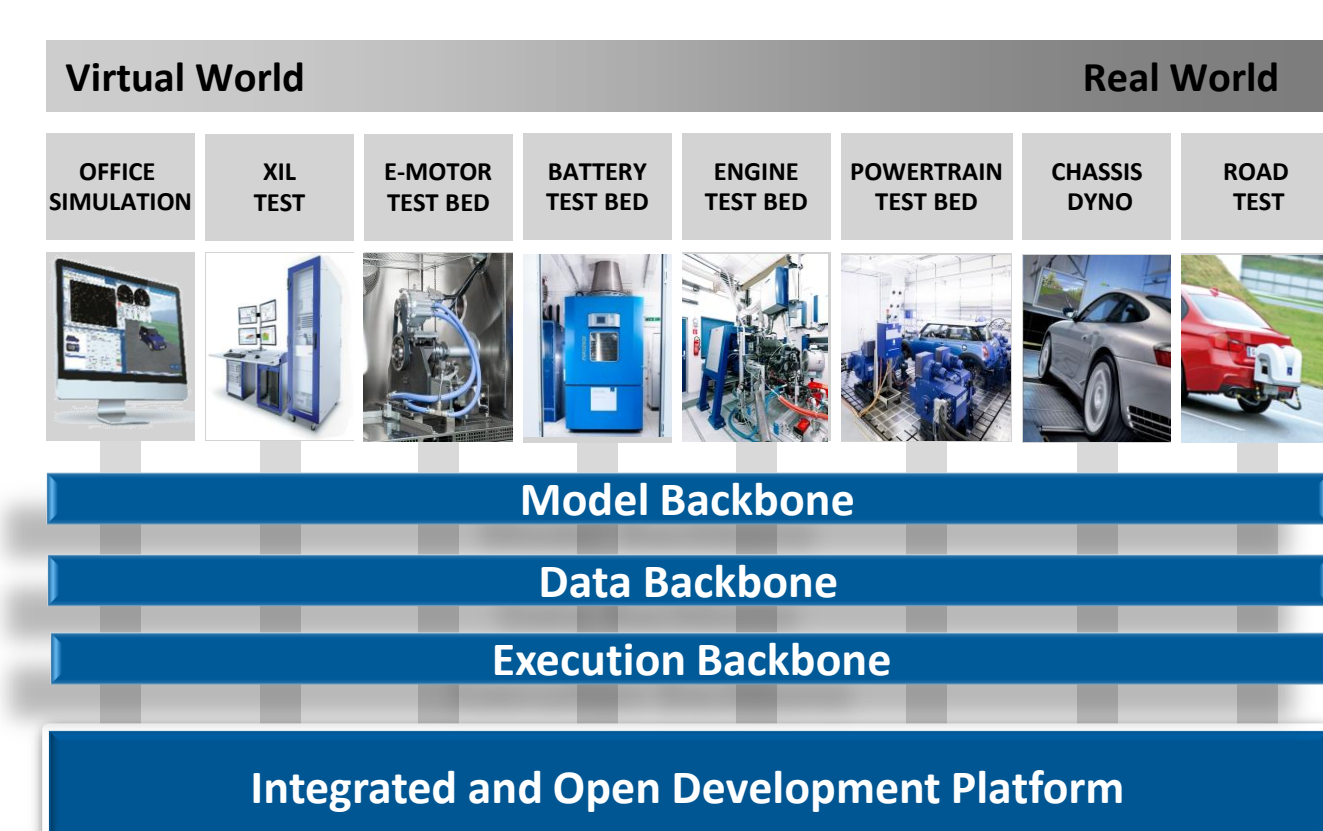
Model Backbone
Data Backbone
Execution Backbone
Integrated and Open Development Platform

➔ Opportunities for Industrial Experiences
Integration into AVL's seamless development and validation platform
Get access to comprehensive development data along the entire development cycle for creation of smart solutions

Virtual prototype
Integration of simulation and hardware components

AVL

STM32 Microcontroller Platform

STM32 Nucleo Development Board

www.st.com/stm32nucleo

• Based on ST's 32-bit ARM Cortex-M based STM32 microprocessors
  • A Board with 1 MCU and hardware to program/debug
• Two connectors to connect to companion expansion boards
• For all STM32 families
• >60K Boards sold

FlexSdk board power supply through USB or external source
Integrated Debugging and programming probe
Arduino UNO extension connectors easy access to add-ons (*)
STM32 Microcontroller
Morpho extension headers: direct access to all STM32 IOs

complete product range from ultra-low power to high-performance

• STM32Cube™, a 100% free solution to ease your life, that combines:
  • A PC software configuration tool
  • STM32 embedded software bricks

STM32CubeMX
Configuration tool on PC

User code
STM32Cube Embedded software
Middleware RTOS, USB, TCP/IP, Graphics...
Hardware abstraction layer

C code generation for initialization, depending on user choices

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Quark System on Chip Platform

Intel Gateway Solutions for IoT
Development Kit DK50
Intel Studio SDK (Software Development Kit)

Based on Intel Galileo Hardware
Open Platform for Developing IoT Applications and Services

These may be Integrated with McAfee* and Wind River* Software to provide edge security and device manageability.

intel

Silicon Process & Package Techno.

Access to application-specific standard and custom devices and to their leading-edge silicon processes and package technologies for customer-designed products to give added performance and value to the end product.

Several technologies including advanced 65nm and 28nm CMOS available for SME.

Only architecture exploration and device definition are funded.

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