



Open Call 2

TECHNICAL OFFER

Expertise

Advanced
Technology

Funding

Networking

Innovative
Solutions

Competencies

Part 1

**Omar VELEDAR - Jure TRILAR –
Antonio LIONETTO - Marcello COPPOLA**

01/10/2020



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864266.

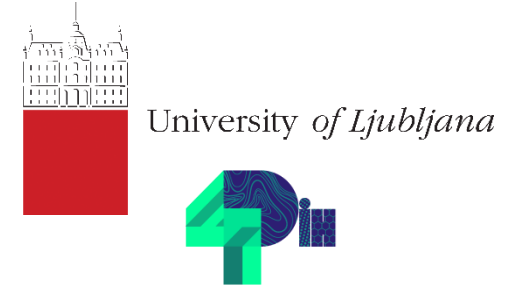
Welcome



Alice PEREZ-MORILLAS



Omar VELEDAR



Jure TRILAR



Marcello COPPOLA

Antonio LIONETTO

Before we start



The poster features a dark blue background with green and white geometric shapes. At the top left is the DigiFed logo. On the right is a green hexagon with a calendar icon and the text 'Webinar Series'. The central text lists the programme events. On the bottom left, an illustration shows two people at a table. On the bottom right, an illustration shows a person presenting at a screen.

DigiFed

Webinar Series

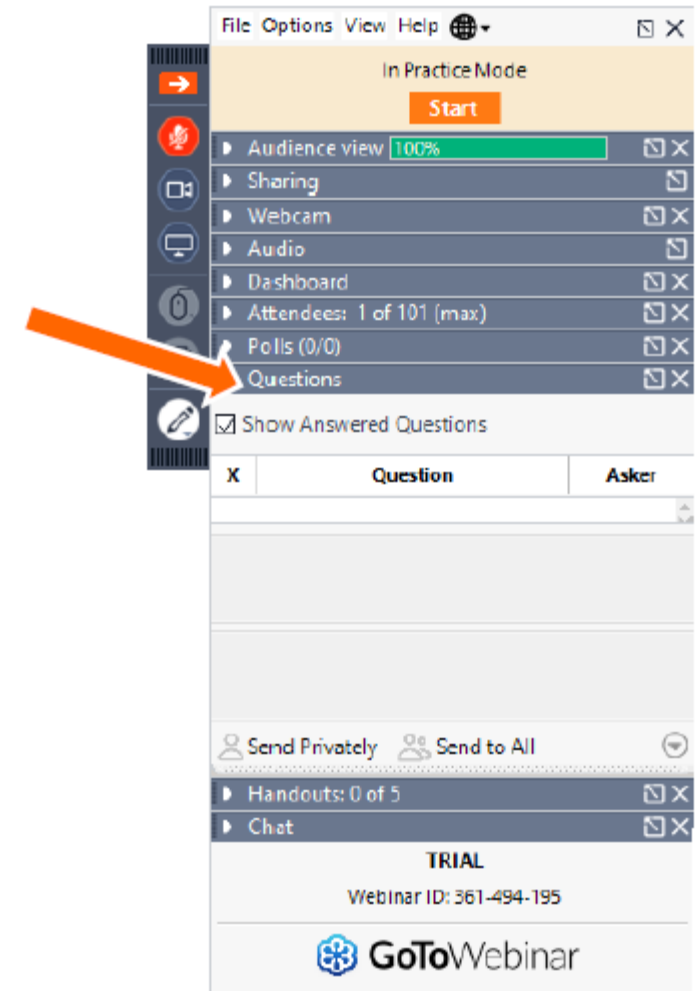
Programme:

- DigiFed: Digitising Europe's Industry together**
22 September 2020
10am CEST
- The Digital Challenge**
1 October 2020
10am CEST
- Meet DigiFed technical partners**
 - Part 1**
7 October 2020,
10am CEST
 - Part 2**
14 October 2020,
10am CEST

Before we start

- This webinar will be recorded & published
- During the webinar you can use the question box to ask all your questions, we will answer them during the Q&A session at the end
- After the webinar, the slides will be available for download on the Digifed website :

<https://digifed.org/>



DigiFed : Digitising Europe's Industry Together

DigiFed is a H2020 funded project dedicated to support **European cross-border** partnerships to foster industry to digitalize their product/service and reach get into new markets enabled by **Cyber Physical Systems (CPS)** & **embedded Systems**

- **12 Partners from 9 European Countries**
- **Duration:** 3 years, 01/01/20 to 31/12/22,
- **Budget:** 8 M€
- **Cascade Funding:** 3.9 M€ to SMEs, start-ups & MidCaps



DigiFed is part of the European Commission “Digitising European Industry - DEI- strategy”
<https://smartanythingeverywhere.eu/>



Reminder

SINGLE AE: one company (55k€)

- The applicant Company :

- Want to develop a Cyber Physical System innovation, has a clear market vision,
- Need technical support from a DigiFed Technology partner (cross border)

TWIN AE: 2 companies from 2 different countries (2x 55k€ max)

- Company #1 :

- want to develop a Cyber Physical System innovation, has a clear market vision,
- need complementary expertise to validate the concept,

- Company #2 :

- bring the complementary expertise to realize the prototype or access the market
- **NO** DigiFed Technology partner involved




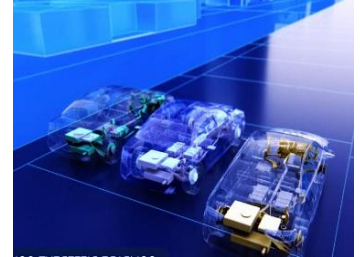


AVL

Omar VELEDAR

Integrated and Open Development Platform (AVL)

- **Function:** integration of all elements of the vehicle development process independent of tools
- **Principle:**
 - Utilising platform to integrate real (HW) and virtual (simulation models) development methods into a single framework
 - Bridge the gap between individual results to provide reliable, holistic decisions
 - Bringing transparent contributions into an overall context
- **Key Performances:**
 - Model.CONNECT™ enables communication between simulation models of different components and systems
 - Testbed.CONNECT™ merges simulation models and testbeds into a complete system
 - Data.CONNECT™ connects data from different sources
 - Device.CONNECT™ is a highly secure data transmission pipeline
- **Uniqueness:**
 - Collaboration through step-by-step integration
 - 100% focus on functioning structures
 - Smooth interaction of teams, processes and tools
- **Maturity/TRL:**
 - 
- **Applications:**
 - Optimal vehicle design with exchangeable models and creation of design variants
 - Step-by-step integration of virtual/real network of the hybrid powertrain
 - Linking model libraries of different powertrain components and synchronizing them to design processing
 - Determine the optimum time for updates and maintenance work on the basis of data analysis





UNIVERSITY OF LJUBLJANA

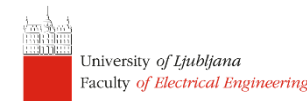
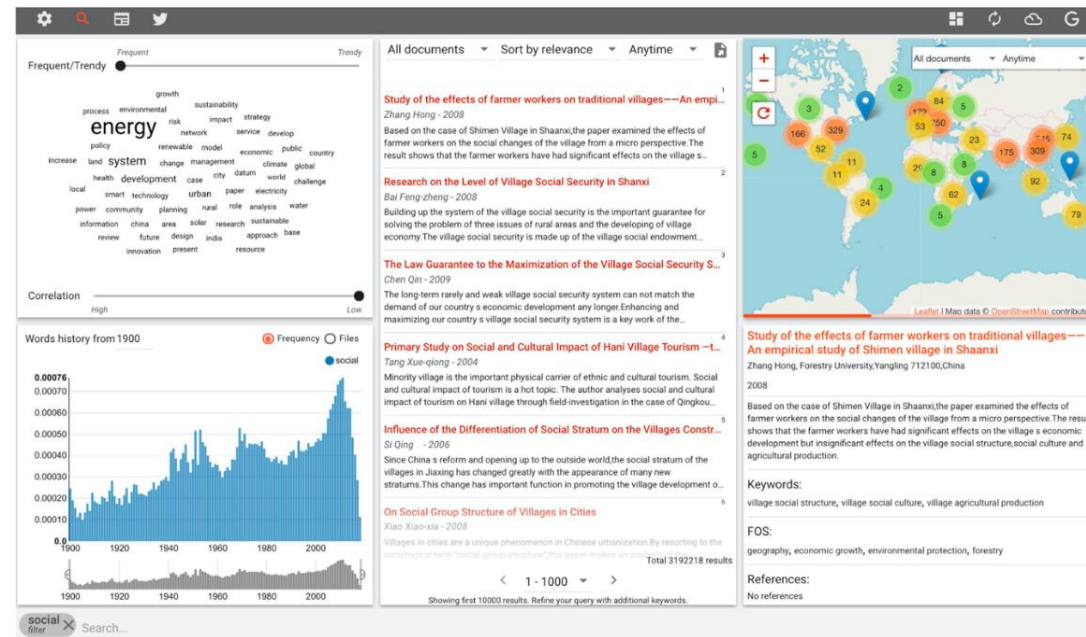
Jure TRILAR

percipio<BigData> analytics tool

- **Function:** Big Data Analytics Tool: „Find the (un)known unknowns and discover new insights!“
- **Principle:**
 - Context selection
 - Correlation and trends dashboard
- **Key Performances:**
 - Sources
 - 250M tech and sci articles
 - Patents
 - Web and social media

Maturity/TRL:

- Technology Readiness Level



percipio<BigData>

SWETHER - Electrical switch with Ethereum support

- **Function:** IoT-Blockchain Prototyping kit

- **Principle:**

- End-to-end prototype kit
- Control electrical switch via blockchain transactions

- **Application cases:**

- charging of electric vehicles,
- arbitrary control of IoT devices,
- device-to-device transactions and interactions.

- **Maturity/TRL:**

- Technology Readiness Level

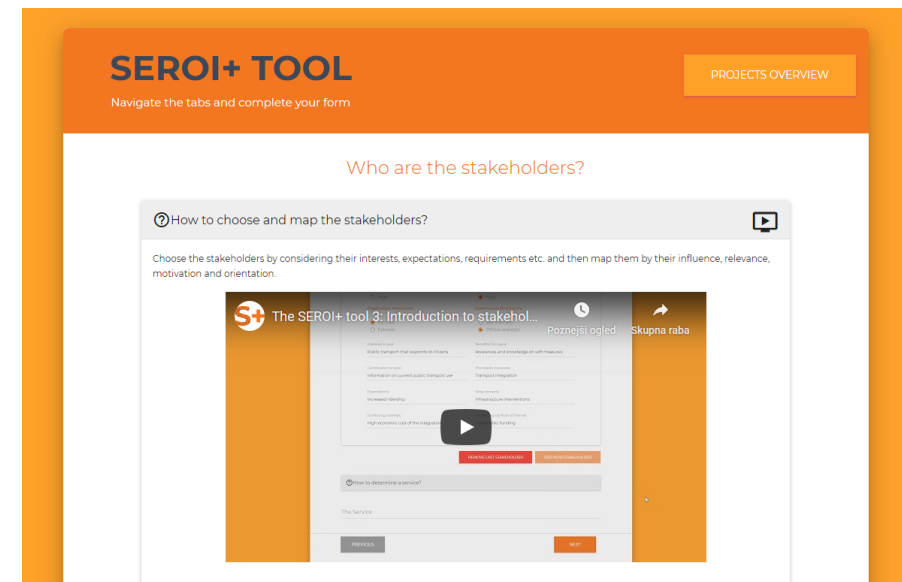


Designing effective digital solutions with stakeholders

- **Function:** Methodology and tool, co-creating service
- **Principle:**
 - SEROI+ methodology combines socio-economic and environmental return on investment (SEROI) assessment with open innovation (OI):
 - Planning
 - Stakeholder engagement
 - Co-creation
 - Assessment

- **Maturity/TRL:**

- Technology Readiness Level



Cloud DevOps Design & consultation service

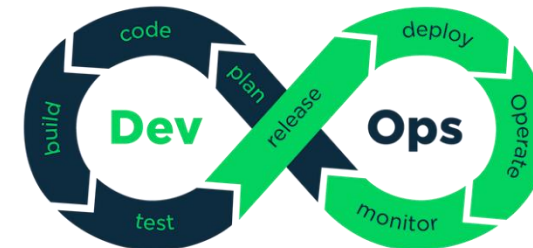
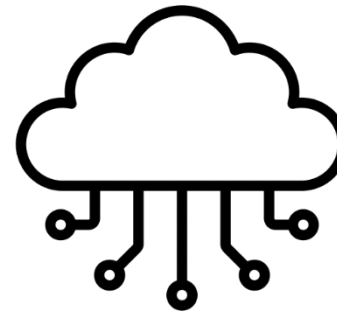
- **Function:** Cloud technology consulting

- **Principle:**

- Automation Design
- Custom implementation
 - business models:
 - SaaS
 - Massively scalable IoT platforms
 - Business intelligence automation
- software development contexts
 - Software Development Life-Cycles

- **Maturity/TRL:**

- Technology Readiness Level



University of Ljubljana
Faculty of Electrical Engineering

IoT solutions design & prototyping

- **Function:** IoT implementation consulting

- **Principle:**

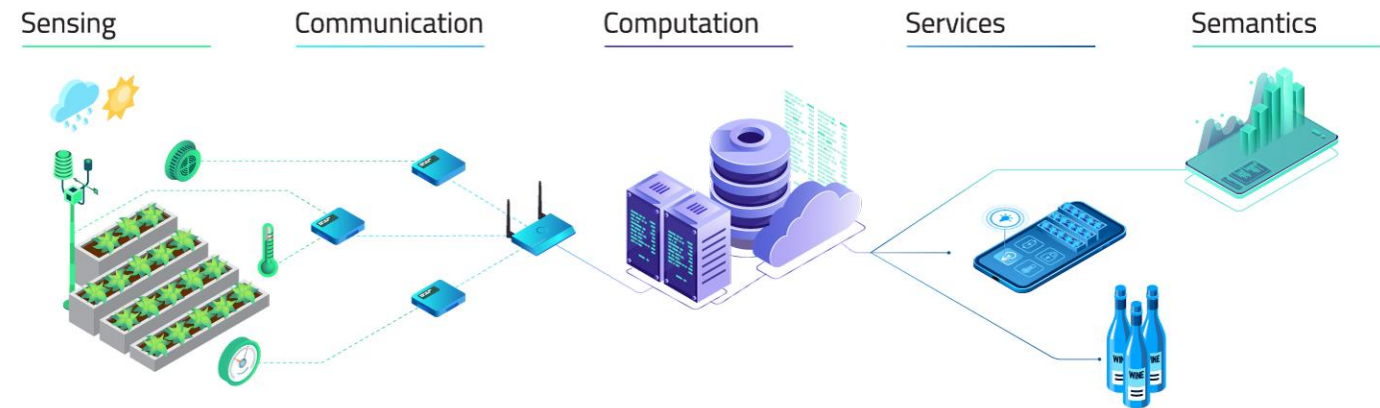
- Commercially available sensors
- Tailor-made
- Support Big Data & AI processing capabilities

- **Cases:**

- Smart City,
- Smart Agriculture,
- Smart Industry...

- **Maturity/TRL:**

- Technology Readiness Level





STMicroelectronics

DIGIFED Project

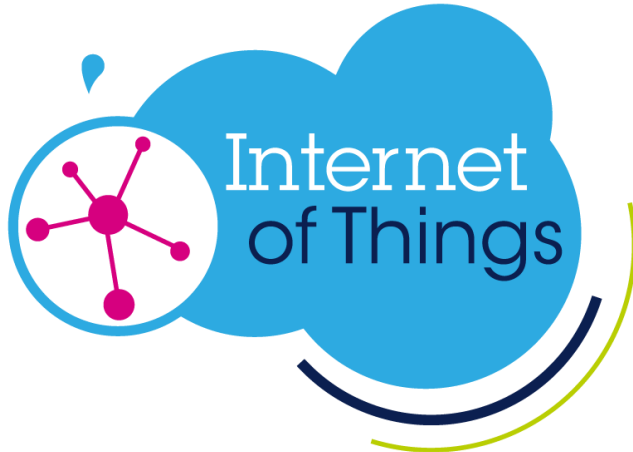
Marcello Coppola



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IoT Strategic Focus

IoT is a movement where any system is able to leverage the Internet and its eco-system



Smart
Industry



Smart
City



Smart
Home

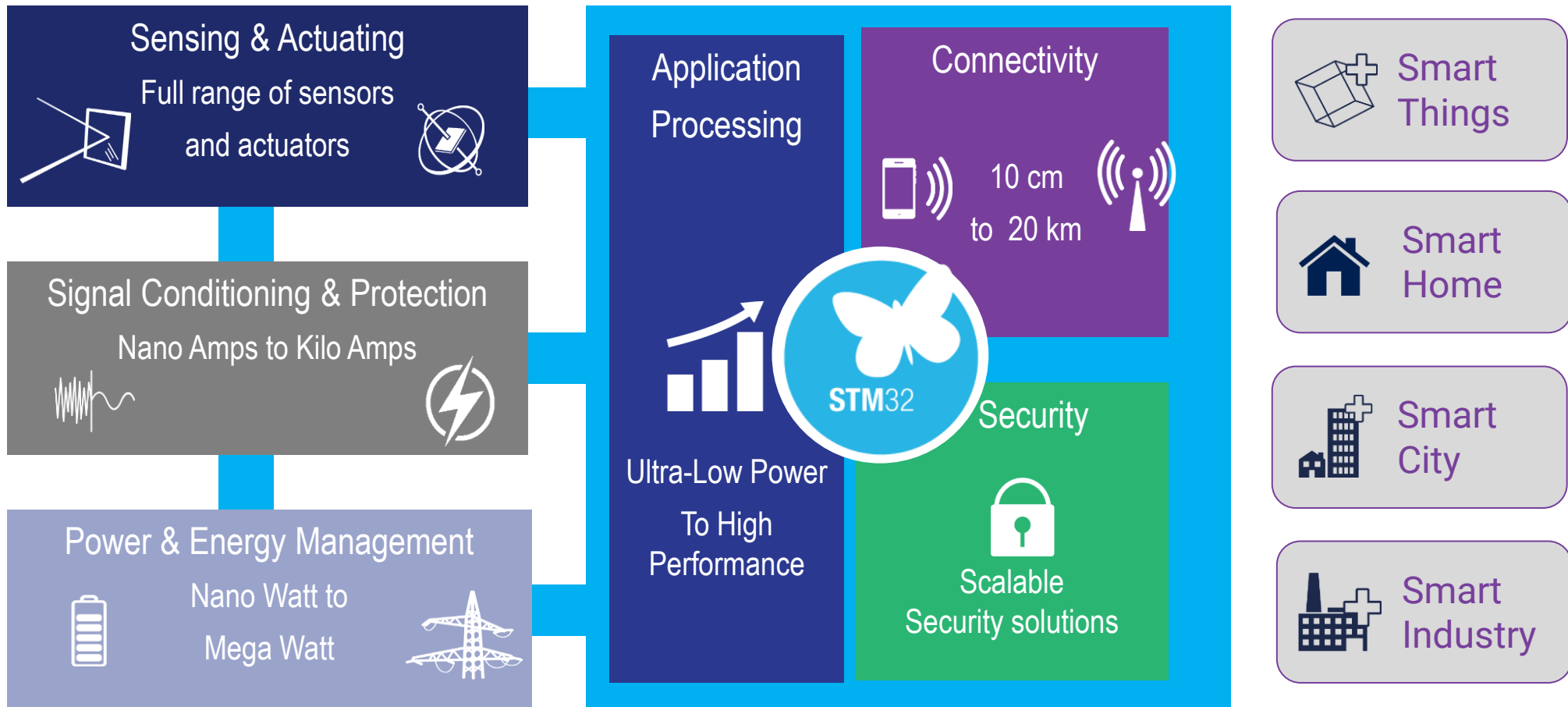


Smart
Things



The leading provider of products and solutions for the Internet of Things

Everything for the Internet of Things



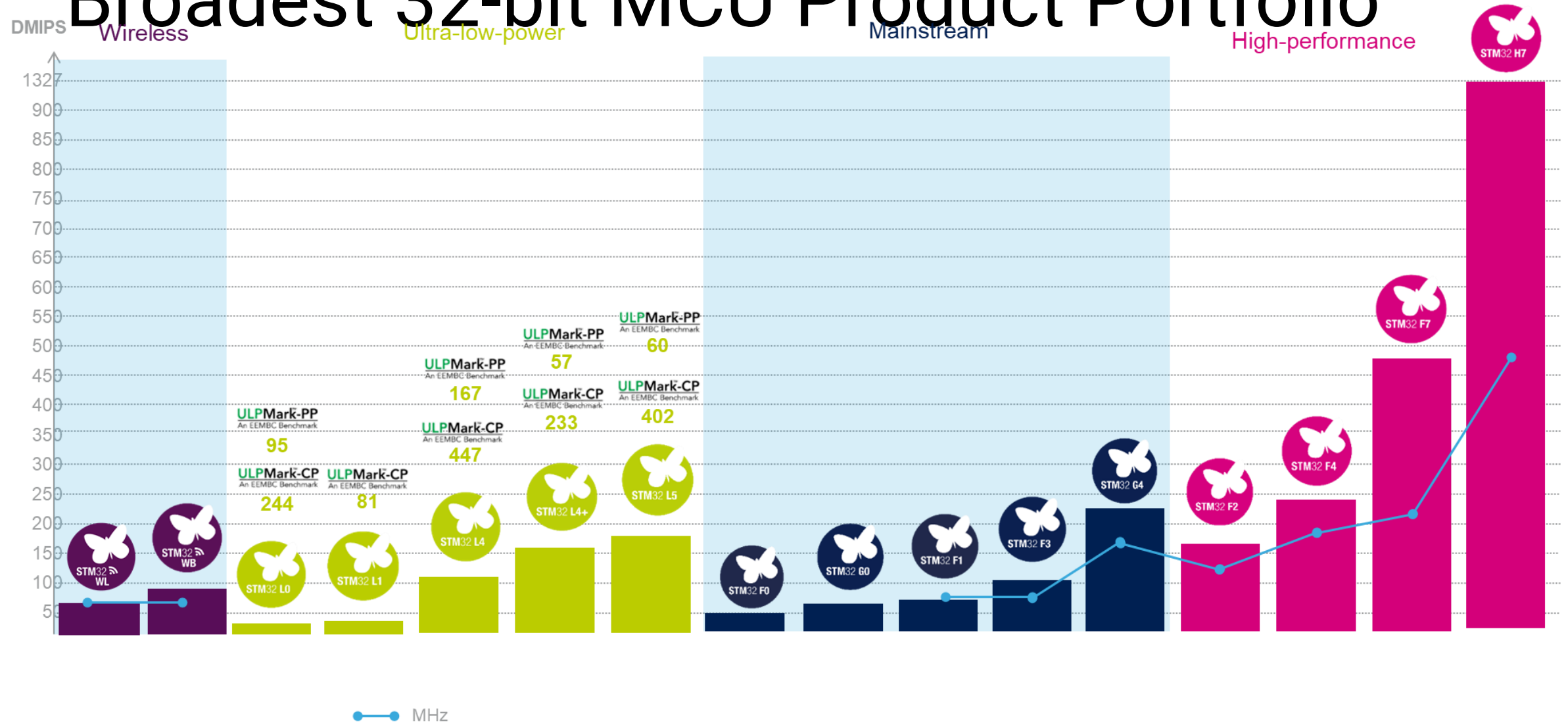


STM France: STM32 MCU & MPU



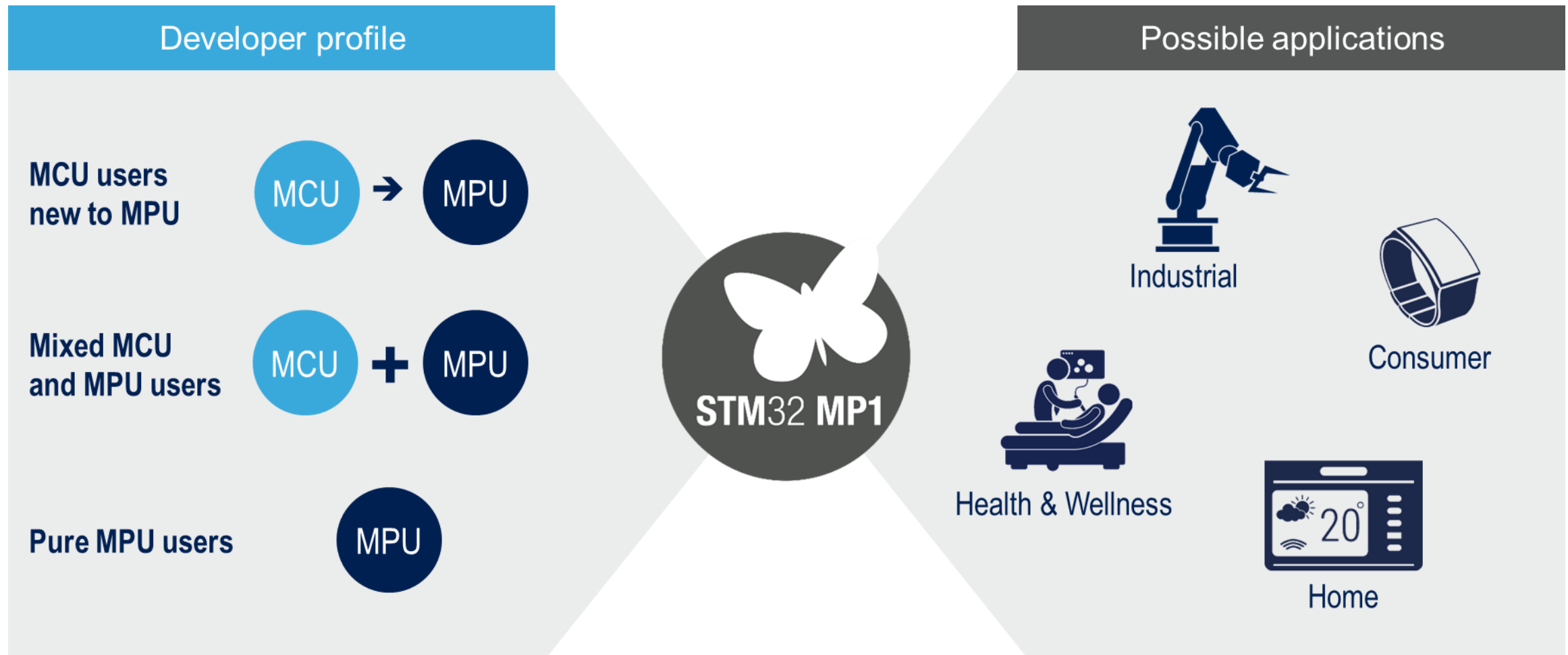
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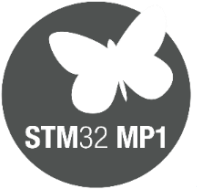
Broadest 32-bit MCU Product Portfolio



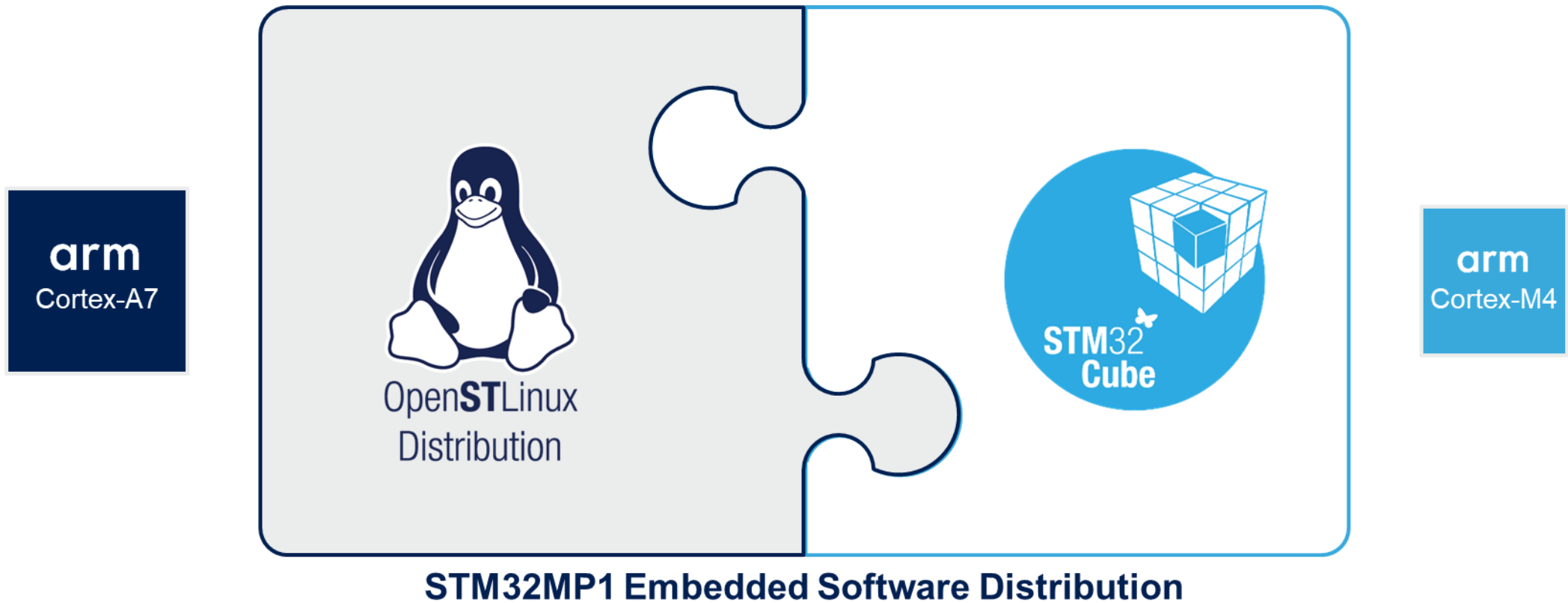
STM32MP1: a General Purpose MPU

Suitable for all Developer Types and Multiple Applications





A Fully Integrated Design Suite Leveraging the STM32Cube Environment



State-of-the-Art STM32 Ecosystem

Key Criteria for MCU/MPU Choice by OEMs

User Application

Software
Development
Tools



STM32
CubeMX

STM32
CubeIDE

STM32
CubeProgrammer

STM32
CubeMonitor-UCPD/PWR/RF

Configure

↓
Debug

↓
Program

↓
Monitor

Embedded
Software
Solutions

STM32
Cube.Expansion

STM32
Cube MCU Packages

Vertical application + AI

Graphics – Audio - Motor
Control – Cloud*

Communication**

HAL – File System- RTOS***

Hardware
Development
Tools



STLink

Flexible
Prototyping



EVAL
Dev Kit
NUCLEO



Wide
Portfolio

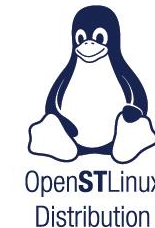


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Complete offer
Partner
Open Source
& Framework



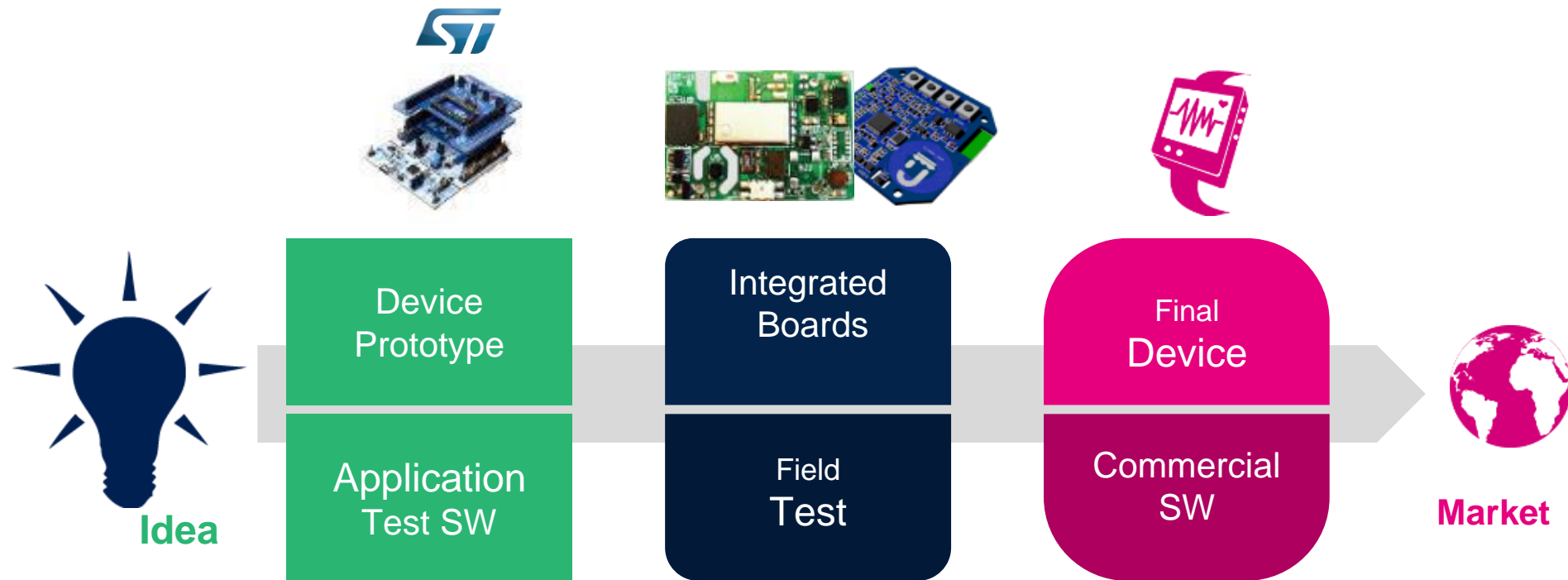
STM Italy: STM32 Open Development Environment & XNucleo



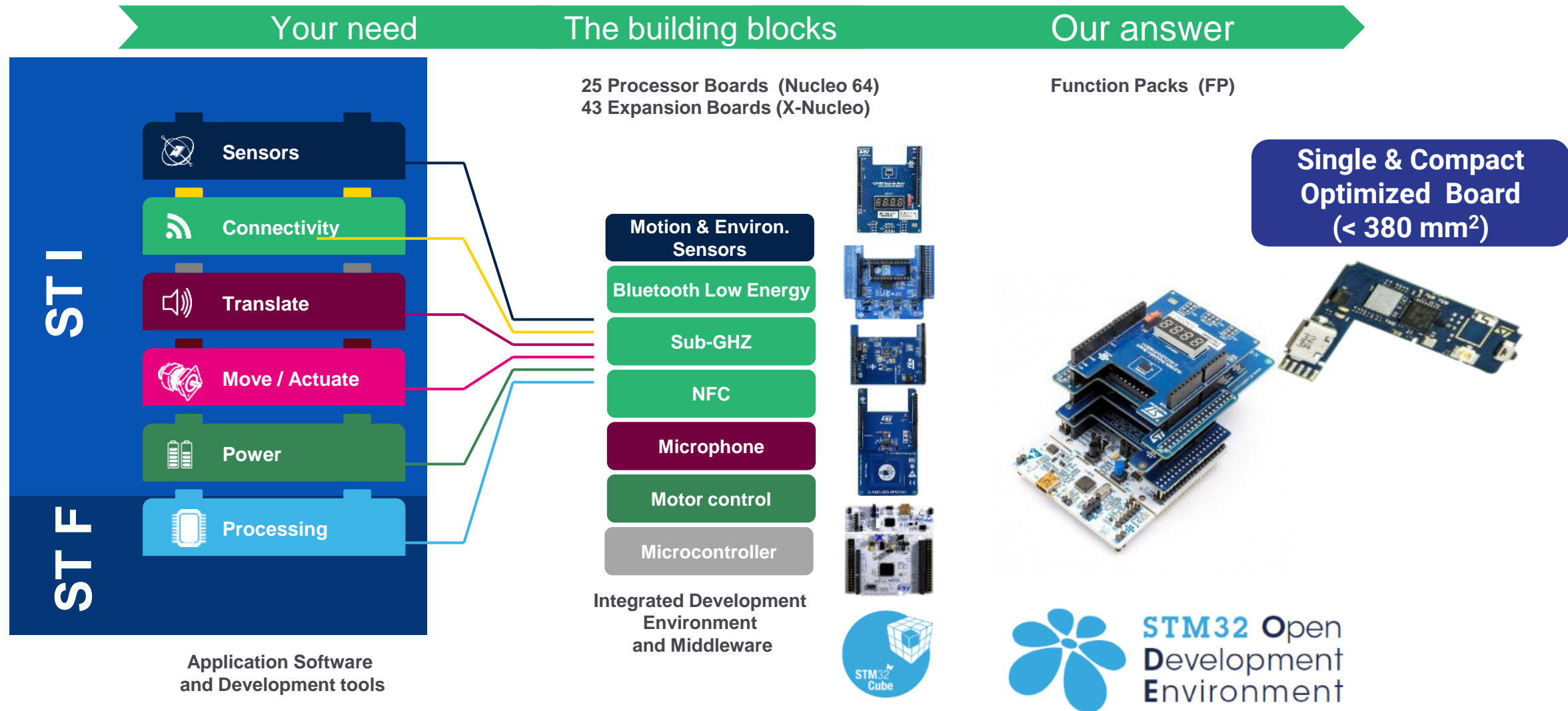
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STM32 Open Development Environment

Fast, affordable prototyping with development continuity to final device

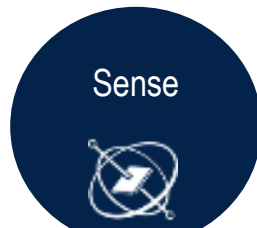


STM32 Open Development Environment



X-NUCLEO™ family overview

More than 40 expansion boards covering all the key functions

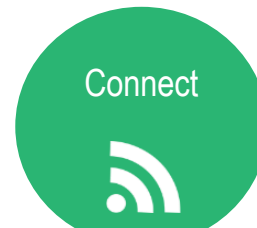


Sense

Motion &
environmental
sensors

Proximity sensor

Microphone



Connect

BLE

Wi-Fi

Sub-GHz

NFC



Power
Drive

Power
management

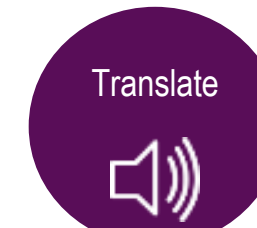
LED boost



Move
Actuate

Motor drive

Actuator



Translate

Audio amplifier

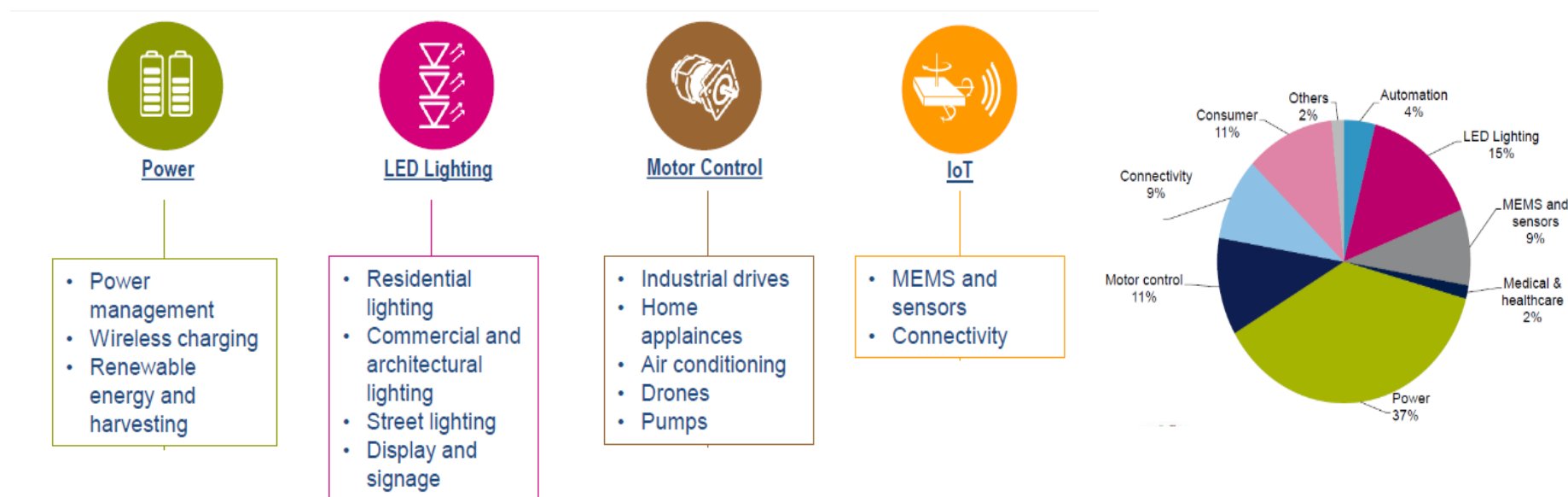
OpAmp



STEVAL Board: Solutions

The evaluation boards help to evaluate the features and performance of selected products, all of them have been published online fully tested schematics, BOMs, and Gerber files to facilitate the next hardware design and where appropriate, also firmware or demonstration software packages available as well.

STEVAL boards have been organized in four focus areas, Power, Led Lighting, Motor Control, IoT;



STEVAL Boards & X-Nucleo STM32 ODE

- **Function:** Fast, affordable prototyping with development and to facilitate the next hardware design.

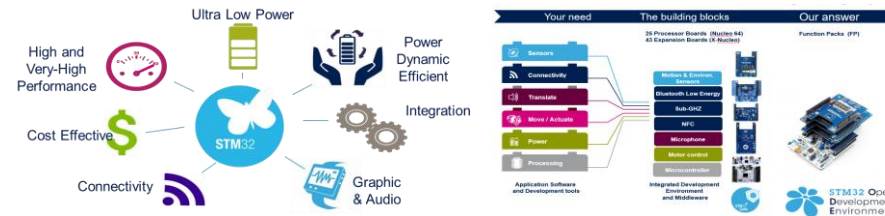
- **Principle:**

- STMicroelectronics Italy provides access to X-Nucleo to work in synergy with the STM32 environment to create advanced solution on smart industry, IoT, smart farm, motor control, Smart sensing
- expansion board functionality through high-level APIs and sample applications
- STEVAL boards to evaluate the features and performance of selected products and to facilitate the next hardware design

- **Key Performances:**

- X-Nucleo on five key functions:
Sense, Connect, Power Drive, Move& Actuate , Translate
- STEVAL board with focus in four areas
Power, Led Ligting, Motor Control, IoT

- **Uniqueness:**



- **Maturity/TRL:**

- Technology Readiness Level



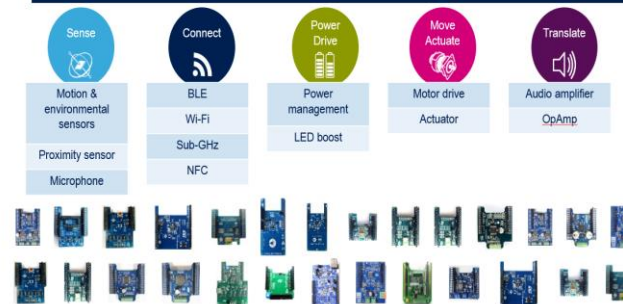
- **Applications:**

Smart Industry, Smart City, Smart Home, Smart Things, Smart Farm...



X-NUCLEO™ family overview

43 expansion boards covering all the key functions



Power

- Power management
- Wireless charging
- Renewable energy and harvesting



LED Lighting

- Residential lighting
- Commercial and architectural lighting
- Street lighting
- Display and signage



Motor Control

- Industrial drives
- Home appliances
- Air conditioning
- Drones
- Pumps



IoT

- MEMS and sensors
- Connectivity

Proposed on line information program

A program of Webinar and Bootcamp

- **22/09/20** 10am CEST : **DigiFed**: Open call topics presentation
- **01/10/20** 10am CEST : **Digital Challenge** Open calls presentation
- **07/10/20** 10 am : Meet DigiFed technology partners 1
- **14/10/20** 10 am : Meet DigiFed technology partners 2
- Coming soon : Video PITCH training preparation

Link to the *passed* events (Open Call 1)

- <https://digifed.org/explore/webinars/>
- <https://digifed.org/explore/online-bootcamps/>



Q&A SESSION

Time for you to ask your questions