

IOT THINGS WEEK
IOT THINGS GOES DIGITAL 17-27 MAY 2021

HOW REAL-TIME OPERATING SYSTEMS ARE EVOLVING FOR IOT

INNOVATE > GROW > REPEAT



ABOUT CEFRIEL AND ME

A digital innovation centre that creates products, services and processes, participates in international research programs and develops digital culture and skills.

Multidisciplinary teams, more than 130 people with a mix of technical, business and design skills.

Founded in 1988 by Politecnico di Milano, Cefriel has delivered projects and solutions for Italian and multinational companies.

Totally autonomous from public or private funding.



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HOW IOT IS DISRUPTING INDUSTRIES

AUTOMOTIVE

MANUFACTURING

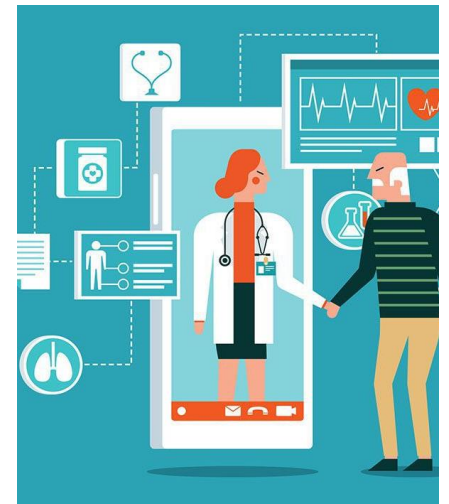
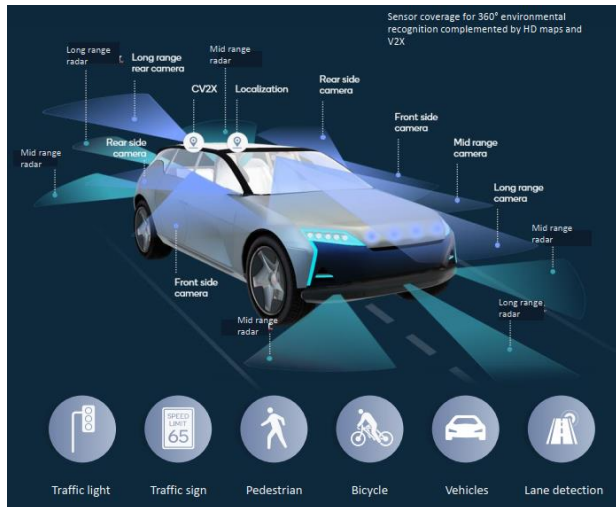
LOGISTIC

HEALTHCARE

TRADITIONAL



SMART AND AUTONOMOUS

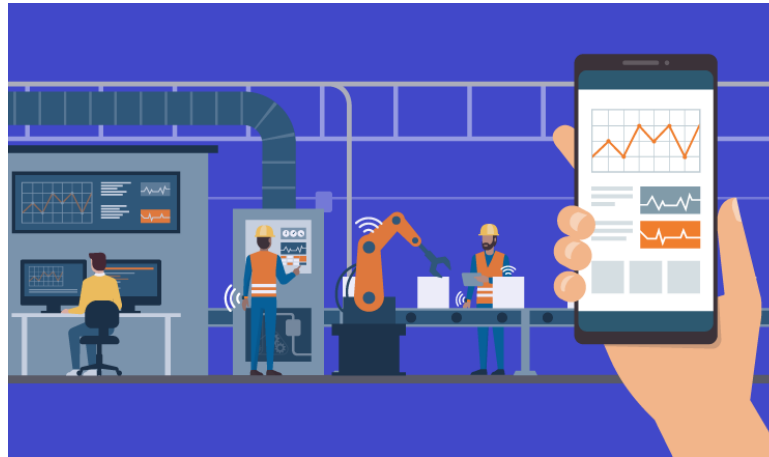


THREE KEY ELEMENTS FOR PRODUCTS

Samsung BotChef



INTERACTION WITH
THE PHYSICAL WORLD



TRANSFER DATA AND
ACTIONS EFFICIENTLY

Sophia is a social humanoid robot



UNDERSTAND
AND DECIDE

CHALLENGES INTRODUCED BY IOT



ADD INTELLIGENCE

Integrate into existing systems

Additional computational resources required



GUARANTEE SECURITY

Must be end-to-end

Must consider additional security perimeters



PROVIDE COMMUNICATION

Different scenarios: Device-to-Device, Device-to-Cloud, Device-to-Gateway

Over-the-air updates



INTEGRATE USER EXPERIENCE

Interact with a mobile app or through natural interfaces

Intuitive and frictionless

HOW IOT POSES NEW REQUIREMENTS

Reliability

Performance

Compactness

Predictability

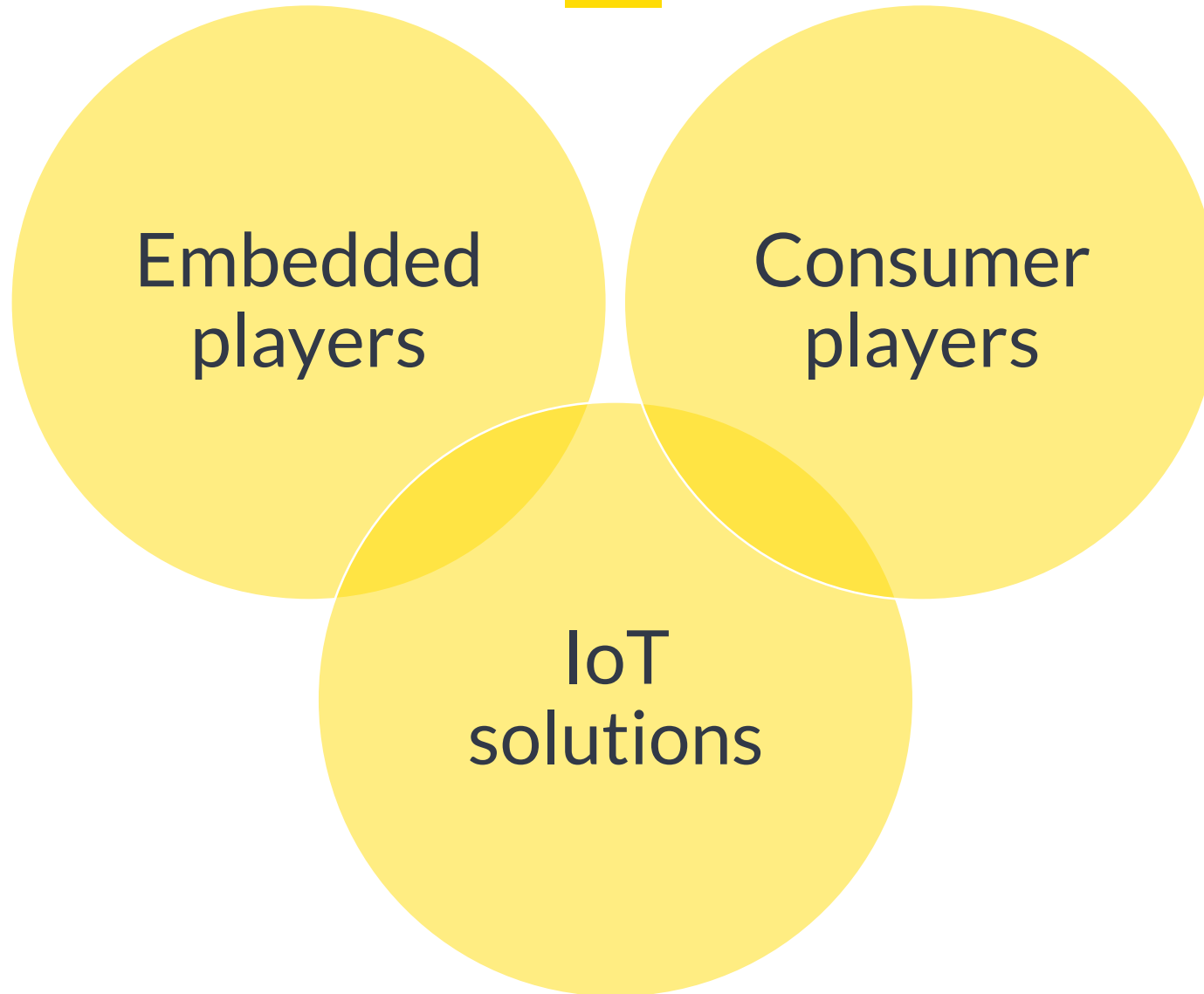
Scalability

Interaction

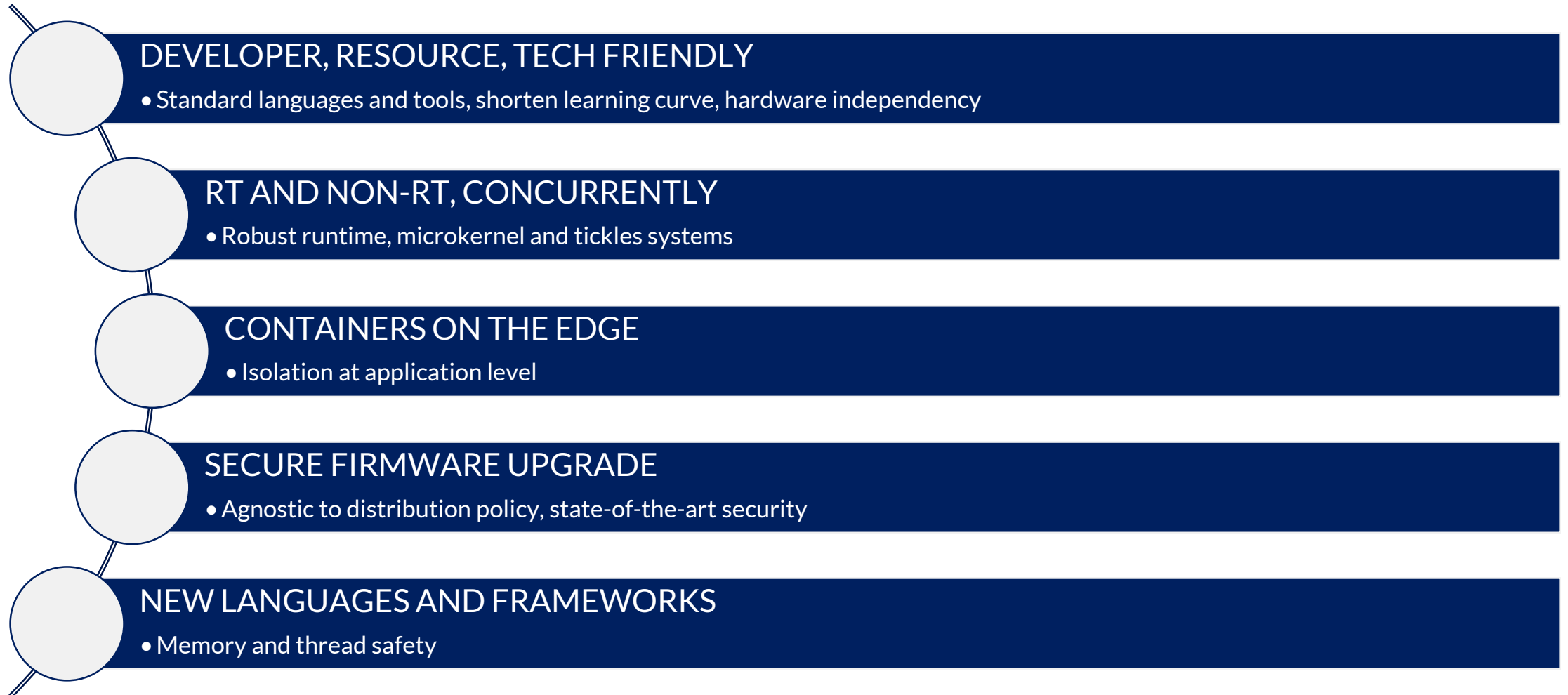
Connectivity

Intelligence

HOW THE MARKET IS EVOLVING



MAIN DRIVERS FOR EVOLUTION



FROM THE INDUSTRY

TOOLS TO MANAGE THE DISTRIBUTED COMPLEXITY

Fleet management, intelligent asset monitoring

AREAS CURRENTLY PARTIALLY OR UNADDRESSED

Agriculture, medical

STRONG FOCUS ON END-TO-END PLATFORMS

Provide customers security and connectivity



ON THE RESEARCH FRONTIER

MAKE DATA ACCESSIBLE AND ACTIONABLE

New secure methods, zero-trust architectures

NEW LEGAL AND ACCOUNTABILITY CHALLENGES

Moreover when the product has a mind on its own

ENERGY-EFFICIENCY AND GREEN IOT

Might contrast an always-on attitude

REACT IN REAL-TIME TO NEW ATTACK PERIMETERS

New reliable ways to maintain and upgrade features providing business continuity



THANKS



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