# **ISPM**2017

## **DSP Valley**

Johan Lecocq **Project Coordinator** 

web spm.mesap.it **#spm2017** @mesapcluster

6<sup>th</sup>, 7<sup>th</sup> July 2017 *Team-up for innovation* 

Progetto co-finanziato sul bando I1b12\_cluster











### Cluster in Smart Electronics Systems Building Value Chains in a global world

### Johan Lecocq 6/07/2017

Founding member of





Founded in: 1996 Located in: Leuven (BE) – Eindhoven (NL) Our focus : Smart Electronic Systems Members: 110+ CLUSTER OF

MART

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### MISSION

Improving the competitiveness of the smart systems industry, enabled by digital technologies, by setting up activities and services that support the cluster members in:

- 1. Building value chains
- 2. Getting access to markets
- 3. Getting access to technology, competences or funding





OVER 110 MEMBERS:

Research & Academia





#### WHAT CAN WE DO FOR YOU?



Matchmaking, establishing partnerships & facilitating co-operation



Stimulating open innovation



Building technology roadmaps & market intelligence



Opening the road to international contacts & markets Supporting you in communications and human capital development



Representing the sector

### **Research Institutes in a Cluster: Knowledge & Start-up Source**





### CROSS-KET CLUSTER COOPERATION









## Digital Technologies are key enabler for smart systems



#### Digital Technologies

- Micro- en nano-electronics
- Embedded systems
- Photonics
- ICT



### Focus on four application areas













IoT as a Multi-Disciplinary Solution Concept





### Smart System













### **Smart System**





### SMART HOME / BUILDING







### Cochlear™

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### **SMART HEALTH**

WEARABLES & IMPLANTABLES



**Cluster Headache** 

**Obstructive Sleep Apnea** 

Epilepsy Vagus Nerve Stimulation

> Cardiac Defibrillators Pace Maker

> > **Insulin Pumps**



### **SMART CITIES**

### SMART STREET LIGHTING WHEN & WHERE NEEDED









### **Smart Power**







### Providing success-critical technologies in Ultra-Low Power Electronics





### Simulation, measurement, ..















### **World Class Solutions for Ultra-Low Power Wireless Communications**





### **Engineering & Manufacturing**





### **World Class Solutions for Image Processing**



IP Cores for Image Compression



TICO JPEG 2000U HD 4K & 8K JPEG 2000 Lossless JPEG 2000

Barco**Silex** 

JPEG JPEG 2000 J2K MPEG-2













Hyperspectral Imagers



![](_page_32_Picture_0.jpeg)

STATE-OF-THE-ART RESEARCH FACILITIES

### ເmec FULL ECOSYSTEM RESEARCH PROGRAMS

![](_page_33_Picture_1.jpeg)

![](_page_34_Figure_0.jpeg)

Sensor Systems Security Connectivity Cloud Computing Internet of Things Big data

![](_page_35_Picture_0.jpeg)

#### **TECHNOLOGY DOMAINS**

**APPLICATION AREAS** 

FT.

**FLANDERS** 

MANUFACTURING INNOVATION NETWORK

![](_page_35_Picture_3.jpeg)

**Power electronics and** energy storage **Mechatronics & design** methods

Manufacturing processes

**Human-centered systems** engineering

INDUSTRIAL **RESEARCH AND** VALORISATION PARTNERS

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![](_page_36_Picture_0.jpeg)

### VITO

![](_page_36_Picture_2.jpeg)

Energy

The demand for renewable energy increases every day. VITO and EnergyVille are performing research into two crucial technological breakthroughs: electricity storage and the optimisation of thermal energy systems.

![](_page_36_Picture_5.jpeg)

Materials

Natural raw materials are crucial for our economic system but are increasingly scarce. VITO responds to this with projects involving sustainable raw materials management, closed material cycles and new business concepts.

![](_page_36_Picture_8.jpeg)

Chemistry

VITO enhances industrial innovation regarding more efficient (bio)chemical processes, reuse of valuable components from process streams and industrial use of biomass and CO<sub>2</sub>.

![](_page_36_Picture_11.jpeg)

Health

From new monitoring technologies to bio-molecular research, VITO is at the forefront of diseaseprevention. Our innovations focus on enhancing our living environment and our health, together with aspects of safety.

![](_page_36_Picture_14.jpeg)

VITO observes, evaluates, visualises and predicts phenomena on land, in the air and on the surface of the water. We also make recommendations to companies and government bodies in relation to sustainable land-use.

![](_page_37_Picture_0.jpeg)

![](_page_37_Picture_1.jpeg)

![](_page_37_Picture_3.jpeg)

The Smart Systems Industry Summit is an international conference and exhibition on Smart Electronic Systems. The conference will offer a stage for the companies and organizations of the embedded eco-system to highlight their achievements and realizations in different application domains.

![](_page_38_Picture_0.jpeg)

Lier

Keerbergen

Antwerp

Duffel

Boortmeerbeek

**Eindhoven** 

Abdii van Par

Velter-BEISEN Vinksele Vinksel

Rotselaar

leverlee

www.dspvalley.com +32 16 241 440