EUREKA CLUSTERS

Driving industry-led innovation and collaboration
EUREKA is a pan-European network for market-oriented, industrial R&D&I. EUREKA Clusters are active in 38 countries.
EUREKA
innovation across borders

European innovation landscape

- European Innovation Programmes following European Strategy
- National Develop & Maintain Critical Mass & Differentiation
- EUREKA Trans-National Programmes following National Priorities

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Clusters

Micro and nano electronics
(Last Call in 2015 but projects will continue until 2018)

ICT and telecommunications

Smart electronic systems

Low carbon energy technologies

Software innovation

Advanced materials and manufacturing

Micro & nanoelectronics enabled systems and applications

Advanced manufacturing
Cluster projects are...

- Industry-driven supported by Public Authorities
- Covering the full value chain to create innovative solutions
- Helping SMEs to scale up in consortia with large industry
- Open to global cooperation
- Bottom-up
- Market-oriented
By the end of 2017:
- 92 running projects
  with a total project cost of 962 M Euro

In 2017:
- 46 labelled projects
  with a total project cost of 416 M Euro
- 240.8 M Euro in public-private investment
Cluster board members
Challenge
Smart health

- Platforms for wearables & implants
- Connecting healthcare systems and people
- Energy-efficient health technologies
- Software solutions supporting healthcare cycles
- Non-magnetic lightweight materials
- Chip-based solutions for intelligent healthcare
- Zero defects manufacturing of complex parts

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Example
Medical center

- Cost efficient medical imaging solutions
- Remote diagnosis by enhanced imaging
- Networked & digital operating room
- MRI for patients with implants
- 3D printing of customised prothesis
- Smart energy use between idle & active modes
- Smart materials in the operating room
- Networked & digital operating room
Challenge
Smart energy

- Sustainable power generation and energy conversion
- Communication systems for energy management
- Demand & supply management and energy storage
- Platforms & big data management for smart grids
- Lightweight materials for energy systems
- Energy efficiency along the electronics value chain
- Energy-efficient manufacturing systems
Example
Distribution network

Smart grids enabling demand management
Integration of controls & communication
Power savings due to networking
End-to-end monitor & control platform
New highly conductive materials
Low cost energy harvesting
Mass production of energy storage systems

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Example
Production line

- Energy-efficient production lines
- Framework for physics-based 3D simulation
- Low friction and low wear materials
- Intelligent drive units for manufacturing
- Smart processes for collaborative manufacturing
- IoT chips for connectivity in manufacturing
- Connectivity solutions to control product lifecycles
- Smart Connected World
Challenge
Smart mobility

- Smart solutions for interaction between humans and vehicles
- Connected mobility for smart transportation
- Energy-efficient smart charging hubs
- Software platforms for connected and automated mobility
- Advanced high strength and low density materials
- Sustainable mobility solutions for transportation
- Machines & processes for dissimilar materials
Example

Car

- Highly integrated ADAS sensors
- Low latency communication for autonomous driving
- Smart & stable charging services
- Standards for safe automotive applications
- Nanomaterials in car coatings
- Secure testing for safety critical systems
- Mass production of lightweight parts

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EUREKA Clusters offer

Opportunities for funding **trans-national** R&D&I consortia
  In a **fast and efficient** way within a global network

Projects **initiated by industry in line with national priorities**
  Agile and flexible project support

A **community** of the **best companies and knowledge institutes**
  Aiming at economic impact via research and innovation

Options to integrate along the **whole value chain**
  Involving **end-users, labs, startups, SMEs and large companies**

Support of **experts with an industrial viewpoint**
  To ensure project **relevance** and **quality**
Clusters create impact

Societal impact
Through employment, education and addressing societal challenges

Economic impact
Through creating new products, new processes, new materials and new services in Global markets

Innovation impact
Through new IP, standards and pushing the State-of-the-Art

Ecosystem impact
Through the development of new partnerships, supply chains and opportunities for growth

Increase speed and decrease risk
On innovation and new products
CLUSTERS

Basic info
Focus area

Celtic-Plus focuses on an end-to-end system approach in the development of future communications-related solutions. It continues its bottom-up, industry-driven approach; includes flagship projects with significant impacts; and intensifies the promotion of activities for the new societal challenges.

Purpose

Strengthen the competitiveness of the European industry and the well-being of the society by stimulating and facilitating innovative, industry-driven, pre-competitive R&D projects in the area of telecommunications, new media, future Internet, and related flexible applications and services.
EUREKA Cluster
CELTIC-PLUS

Board members

ATOS Research, British Telecom, Deutsche Telekom, Ericsson, Eurescom, Orange-Labs, Gemalto, INDRA, imec, Italtel, NETAS, Nokia, RAD Data Communications, Siemens Convergence Creators, Telefónica I+D, Telenor, Thales, Turkcell, Türk Telekom

Examples of Cluster projects

SIGMONA: First SDN (Software Defined Network) solutions for 4 and 5G mobile networks
SASER: Secure Communications for Europe
CoMoSeF: Co-operative Mobility Services of the Future
4GBB-Gold-G.fast: by the end of 2020, 10 million premises will be connected

Project Call process

Two Calls per year
One-stage Call process

Call information
Call calendar

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EUREKA Cluster EURIPIDES²
www.euripides-eureka.eu

Focus area
Smart electronic systems and smart systems integration; industrialisation and manufacturability of systems in application areas like vehicle of the future, transport & mobility; health & well-being; manufacturing; smart interconnection system; energy; aerospace; IoT; integration of hardware and software; safety & security.

Purpose
Improve technological expertise and European sovereignty in electronics components and systems for the implementation of Industry 4.0, the industrial Internet of Things and Mobility of the future in the new Smart World.

Total number of projects
80

Total project costs
€ 471 M
EUREKA Cluster

EURIPIDES²

Board members

ACAMP, RISE-ACREO, AIRBUS Defense and Space,
AT&S, BIC Ostrava, C2MI, CEA-LETI, CSEM,
EOLANE, EPoSS, ETRI, Fraunhofer IZM, IMEC,
INFINEON, KENTKART, MURATA Oy, NOVAPACK,
RADIALL, SAFRAN Electrical & Power, SAVRONIK,
SOMFY, STMicroelectronics, THALES Airborne
Systems, VERMON, VOLVO AB, VTT

Example of Cluster projects

- **ADORAS**: Advanced Onboard Data Recording and Analysis System
- **ADVANTEX**: ADVANced functional blocks & technologies for smart TEXtile products
- **EDDEMA**: Embedded Die Design Environment & Methodology for Automotive Applications
- **SAM3**: Smart Analysis Methods for 3D Integration in Advanced Microsystems and Corresponding Materials (Colabel CATRENE-EURIPIDES²)

Project Call process

Two Calls per year
Two-stage Call process with PO and FPP

Call information
Call calendar
EUREKA Cluster
EUROGIA2020

Purpose
Reduce the carbon footprint of energy production and use. Develop new technologies for energy such as solar, wind, biomass, geothermal, energy efficiency, etc.

Focus area
EUROGIA2020 is the EUREKA Cluster for low carbon energy technologies. It supports and promotes innovative energy technology projects with the aim of mitigating climate change.
EUREKA Cluster
EUROGIA 2020

Board members

Acciona Energy, Air Liquide, Bureau Veritas, Cardtek (2017-2018 Chair), DCNS, ENGIE, ENERJISA, GE Oil and Gas, Green Power Labs, Leading Enterprise, MERIC, SAFT

Example of Cluster projects

- **Windfarm vessels**: Offshore installation of wind turbines with attractive costs
- **RENERSTA**: Electricity at isolated places
- **CO2FieldLab**: Increasing carbon capture and storage safety
- **ILIS**: Innovative energy storage and management system
- **HYWINDESS**: Incorporation of energy storage systems for wind farms

Project Call process

- Four project cut-off dates per year
- Two-stage Call process with PO and FPP

Call calendar
EUREKA Cluster
ITEA 3
www.itea3.org

Focus area
• Software innovation
• Digital transformation

Purpose
ITEA stimulates transnational and industry-driven R&D&I in the domain of software innovation. ITEA enables a global and knowledgeable community to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.

Total number of projects
254
Total project costs
€ 3332 M
EUREKA Cluster
ITEA 3

Board members
Airbus, ATOS/Bull, Barco, Bosch, Ericsson, Indra, KocSistem, Nokia, Philips, Siemens, Technicolor, Telefonica, Thales, Turkcell

Example of Cluster projects
- **SEAS**: Smart Energy Aware Systems
- **AVANTI**: Test methodology for virtual commissioning of production systems
- **ADAX**: Cyber Attack Detection And Countermeasures Simulation
- **SORTS**: Productivity and effectiveness in cancer treatment

Project Call process
One Call per year
Two-stage Call process with PO and FPP

Call information
Call calendar

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Focus area
New innovative applications with an industrial focus in the area of Advanced Materials and Manufacturing.

Purpose
METALLURGY EUROPE undertakes initiatives to modernise the European Metallic Materials Technologies and industries through the innovation of new materials and technologies to stimulate a new forerunner position in the world economy for the European Metals Industry. METALLURGY EUROPE covers the spectrum from fundamental research, applied research and industrial innovation with focus on new smart-intelligent high quality structural and functional metals and composites.

Total number of projects
2

Total project costs
€ 9.6 M
EUREKA Cluster
METALLURGY EUROPE

Board members
ArcelorMittal, COMTES FHT, Coşkunöz Holding,
Culham Centre for Fusion Energy, ESI Group,
European Powder Metallurgy Association, Tata Steel

Examples of Cluster projects
17 project proposals in Call 1 worth ca. 200 Mio. Euro in
October 2015. Currently two projects:

- **Andromeda**: Additive manufacturing of very large AM metallic
  structures (1-5 m range)
- **Phoenix**: Multi-component alloys - Focus on metallic high entropy
  alloys (MHEA) for extreme industrial applications to generate
  knowledge on manufacturing, microstructure and properties

(Orion: Search for funding in Germany)

Project Call process
One Call per year
Two-stage Call process with PO and FPP
Call information
Call calendar

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EUREKA Cluster
PENTA

www.penta-eureka.eu

Focus area
Micro and nanoelectronics enabled systems and applications along the Electronic Components & Systems (ECS) value chain.

Purpose
PENTA is designed to encourage, enable and support collaborative RD&I in micro and nanoelectronics enabled systems and applications. In many, but not all, cases projects are integrated along the whole value chain, from core technology to applications.

Total number of projects
10

Total project costs
€ 145 M
EUREKA Cluster
PENTA

Board members
(AENEAS Supervisory Board)
ASML, Airbus, AlphaSiP, Audi, Bosch, CEA-LETI, Fraunhofer Institute, Gemalto, IBS, IMEC, Infineon, IU.NET, NXP, Philips, RECIF, Soitec, STMicroelectronics, LPE, Thales, Zeiss

Project Call process
One Call per year
Two-stage Call process with PO and FPP

Call information
Call calendar

Examples of Cluster projects

- **CosmoDU**: Direct integration of latest SiC power and IT electronics to produce unprecedented performance gains in smart drives
- **DISPERSE**: Electronic solutions for MRI scanning of patients with multiple implants
- **HADES**: Advanced test and monitoring infrastructure for dependability, security and performance enhancement of systems
- **Hyb-Man**: Integrating design and production into a single end-to-end process creating flexible manufacturing and a quicker response to market demands
- **MIRS**: Infrared-sensing platform will grow detection markets and drive smart applications in medical, lighting and automotive
- **SERENE IoT**: High quality connected care services and diagnosis tools based on advanced Smart Health-Care IoT devices
Focus area
SMART is focused on 6 Research and Innovation Domains: Advanced manufacturing processes, Intelligent and adaptive manufacturing systems, Digital, virtual and efficient industries, Person-machine collaboration, Sustainable manufacturing and Customer based production (value chain).

Purpose
Boost the leadership and growth of European discrete manufacturing industries through the development and implementation of Advanced Manufacturing Technologies.
EUREKA Cluster

SMART

Board members
Airbus Operations, GKN Aerospace, Grupo Antolín, IK4 Research Alliance, Irish Manufacturing Research (IMR), MONDRAGON Corporation, S.V.U.M, Royo Group, SWEREA

Examples of Cluster projects
- **NOVCOMP**: Advanced Production of Aerospace Composite
- **CAMBER**: Efficient Press-Tooling-Part system for controlled cambering in automotive stamping
- **AFMAC**: Advanced Framework for Distortion-Free Manufacturing of Aerospace Components
- **HANDLE-IT**: Robotic intralogistics for agile manufacturing
- **I-GRIND**: Grinding Operations for Dental Prosthesis through Modelling

Project Call process
- One Call per year
- Two-stage Call process with PO and FPP

Call information
Call calendar
Thank you for listening

www.eurekanetwork.org