DIGITAL INDUSTRY

Digital systems

- Digital Twins: design of virtual models of production lines and plants; simulation and optimization of new production processes; process monitoring through integration with sensor networks, simulation models based on Artificial Intelligence.

- Blockchain: design and implementation of solutions for traceability in the supply chain, integration with IoT devices and development of decentralized applications.

- Artificial Vision: artificial vision applications for process monitoring, OCR systems, scene recognition, etc.

- Artificial Intelligence: design of advanced data analysis and machine learning algorithms. Implementation of code and integration in applications for image recognition, predictive systems, decision support systems, etc.

GIGAGREEN HEU

Design of a digital twin for industrial scaling of electrode and component manufacturing processes for electrochemical cells, aiming for the lowest environmental impact and energy consumption.

Consortium

Politecnico di Torino, Leclanché, CETIM, Arlanxeo, Solvionic, Sustainable Innovations, ABEE, Nanomakers, Manz, Universitá di Parma, INEGI, Universitat Politécnica de Valéncia, CIC Energi Gune, Sintef, Alpha Nov.

SMART CONSTRUCTION MANAGER

New intelligent and autonomous system for site control and management.

Consortium

BECSA Simetría, FCC Construcción, TPF Ingeniería, Placo Saint-Gobain, Cype, Signe.

0ACCIDENTES

Research into new technologies for health and safety in construction.

Consortium

FCC Construcción, Becsa, Fractalia, Metálicas Plásticas Jar, Alisys, IDP, LIS Data Solutions, Signe.

Internet of Things

- Smart Sensors: photonic sensors, infraredspectroscopy, multispectral image analysis, etc.

- Sensor networks: design and implementation of wireless sensor and actuator networks (WSAN), firmware development and multi-platform software. Study of communications and integration in existing applications.
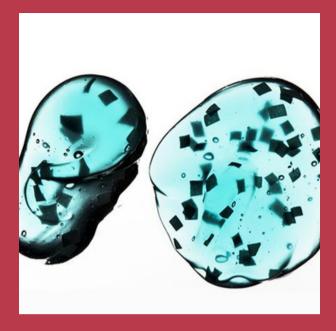

FIBERSENS

Development of fibre optic sensors embedded in concrete for monitoring structures.

Consortium

Puentes y Calzadas Infraestructuras, CETIM.

ESENCE

Implementation of photonic techniques for the continuous detection and monitoring of drugs, pesticides and narcotics in WWTP wastewater.

Consortium

Depuración de Aguas del Mediterráneo, CETIM, Instituto IMDEA Energía.

FIBERCLEAN

Detection of microfibres in water through image recognition techniques, based on AI algorithms, image recognition and artificial vision systems.

Consortium

Textil Santanderina, Polysistec, ANTEX, Depuración de Aguas del Mediterráneo, SPB, Magtel.

CETIM