

In addition to the disruptive technologies in demand, the BIND Corporate Clients have prioritized 12 Use Cases that address current Intelligent Industry Challenges. We invite you to apply in case you have any of the technologies we seek, or solutions that address these Use Case challenges.

UC 01- Traceability and integral monitoring of plant processes

Technical applications enabling traceability and process monitoring, including:

- Physical Traceability of manufacturing routes and out-of-standard routes, linked with MES and ERP data. to optimize the implementation of new products and processes.
- Development of platforms for traceability and waste management with certification based on Mass Balance methodology.
- Service workflows to guarantee the traceability of special processes that require personnel or machinery approvals.
- Connectivity and integration of production or business processes.
- Sensorization of processes for data collection and optimization of additional uses.

UC 02- Integration of technologies for sustainability and energy efficiency

Technological solutions for the mitigation of the environmental and energetic impact of industrial activity:

- Implementation of intelligent management systems to optimize the use of natural resources, minimizing waste and reducing the environmental impact of industrial operations.
- Integration of eco-design principles in product development and industrial processes, considering the entire life cycle of the product, seeking to minimize its environmental impact.
- Implementation of smart sensors and IoT devices to monitor and control energy consumption in real time, enabling more efficient and optimized management of energy resources.
- Use of automation and active control systems to dynamically adjust energy consumption based on demand and environmental conditions.
- Implementation of CO2 capture technologies in stationary sources, such as power plants and industrial processes, using chemical, physical or biological methods to capture and separate CO2.

UC 03- Energy capture, storage, monitoring, and traceability

Technologies linked to the optimization of energy resources in a variety of cases, such as:

- Use of hydrogen as a fuel in transportation vehicles, including cars, buses and trucks, as well as in marine and railway applications, reducing greenhouse gas emissions.
- Use of thermal storage systems, such as molten salts and phase change materials, to store heat generated by solar energy or surplus electrical energy, and then use it for electricity generation or heating.

UC 04- Digital platforms for resource management and operations optimization

Operation and resource optimization in the manufacturing activity, including technologies for:

- Deployment of inventory and stock management systems through radio frequency identification (RFID), barcode and sensor technologies.
- Utilization of shift and workforce planning systems considering business demand, personnel skills and labor regulations.
- Performance tracking and analysis systems.
- Use of route optimization algorithms.
- Connecting fleet management systems with warehouse management systems (WMS) and enterprise resource planning (ERP) systems.

UC 05- Automation and robotics in warehouses and logistics

Technological solutions related to the integration of robotics in the logistics field:

- Integration of robots into production lines increasing efficiency and reducing physical workload.
- Use of cutting-edge robots to perform complex and high-precision tasks, such as welding, painting and assembly of electronic components, improving the quality and consistency of the final product.
- Implementation of automated storage and retrieval systems (AS/RS) to optimize the use of warehouse space, reduce access times and improve operational efficiency.
- Connecting warehouse automation solutions with warehouse management systems (WMS) for integrated, real-time management of logistics operations, including inventory tracking and management.

UC 06- Industrial maintenance and quality control

Increasing predictability and machine health through technological solutions that enable:

- Prediction of machinery failures and predictive maintenance through the sensorization of machinery and development of machine learning algorithms.
- Optimize machine performance and reduce friction and wear through automated control systems adjusting machine operating parameters according to specific production conditions.
- Implementation of sensors and machine vision systems for automatic inspection of products in real time ensuring that the production line quality specifications are met.
- Integrated platform development connecting quality control systems with ERP and MES, enabling comprehensive quality management throughout the entire product life cycle.

UC 07- Innovation in industrial processes, applied to the worker or to the end-user experience

Fostering process innovation in industry:

- Using new materials and methodologies in industrial processes and management processes (CRM).
- Additive manufacturing, including polishing technologies for 3D printing metal components with complex structures, and other unconventional or novel technologies.
- Digital innovation applied to the workforce (PRL solutions, immersive technologies, HMI interfaces).

UC 08- Improving the customer lifecycle and automating internal and business processes

Solutions to improve user experience and business processes, such as:

- Deployment of platforms to manage and improve the customer journey funnel, providing personalized and consistent experiences.
- Implementation of predictive analytics solutions to anticipate customer needs and adjust marketing and sales strategies accordingly.
- Deployment of BPM (Business Process Management) tools to map, model and automate critical workflows.
- Implementation of automated document management systems to efficiently digitize, organize and manage documents.

UC 09- Efficient mobility solution

Innovation in mobility efficiency:

- Autonomous mobility.
- Industrial electric mobility / Electrification of industrial fleets.
- Automation and robotization in warehouse and logistics (EGV).
- Methodological and operational innovation for fleet management or automation.
- Energy storage / components, modules and systems for electric mobility.

UC 10- Integrated Automated Preventive Diagnostic System (*Health*)

Technology-based proposals to improve preventive diagnostics in patients:

- Analysis of blood and other body fluids to measure specific biomarkers.
- Use of wearable devices such as smartwatches, physical activity monitors and sensors.
- Improved diagnosis accuracy through the analysis of large volumes of data and the use of AI in image interpretation.

UC 11- Advanced Therapies: Biocompatibility or innovative medicine delivery Systems (*Health*)

Disruptive medical therapies such as:

- Computer-aided design (CAD) and additive manufacturing, such as 3D printing, to create customized medical devices.
- Miniaturized sensors and telemetry technology in biocompatible devices.
- Application of bioengineering techniques for the development of customized artificial tissues and organs.
- Development of personalized drugs by integrating individual genomic and clinical data.

UC 12- Innovation in Care Models: New Products and Services (*Health*)

Technology for new medical assistance models based on:

- Integration of miniaturized sensors and telemetry technology in biocompatible devices.
- Implementation of specialized telemedicine services in specific areas.
- Data management systems and predictive analytics.
- Innovative medical devices and new technologies, such as 3D printing for personalized prostheses.