



ENABLING SUSTAINABLE INNOVATION

COMPANY PROFILE

May 2024

GROUP PROFILE & GLOBAL FOOTPRINT

aizoOn is a global technology consulting company focused on innovation

We support our customers in all continents:
Africa, America, Asia, Europa, Oceania

VISION / MISSION

Our Vision: is about using the scientific method and focus on data-driven decisions to enable a more responsible and sustainable society

Our Mission: is to support our customers in their journey through the digital era, bringing strong know-how in technology and innovation

APPROACH

The digital economy requires new visions, technologies and organizational models

We have embraced the **ecosystem** approach: innovation is created by a process of co-creation involving government agencies, individuals, public and private entities



8 Markets
+50 Industries



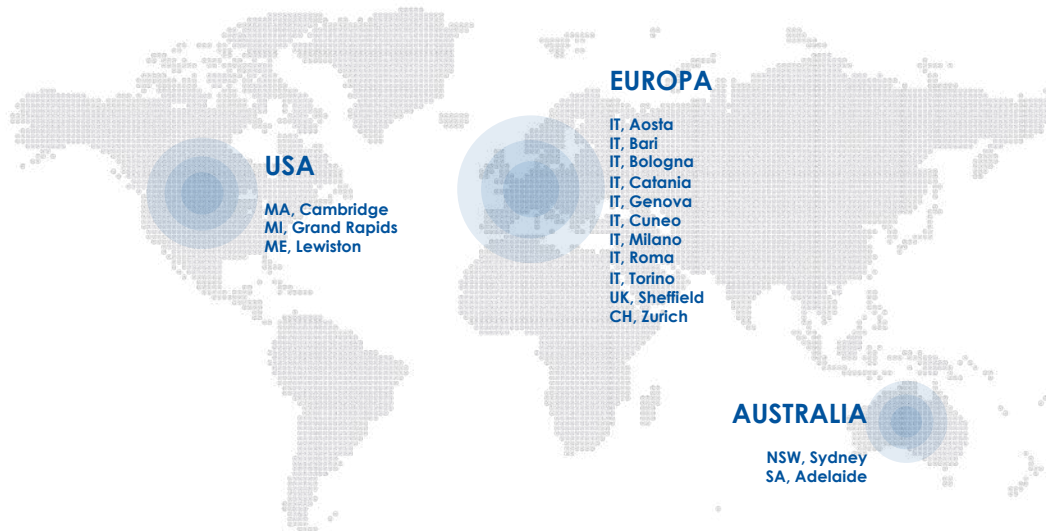
+670 Professionals



+130 Clients



2 Technology Divisions
Digital Engineering and Innovation | Cyber Security

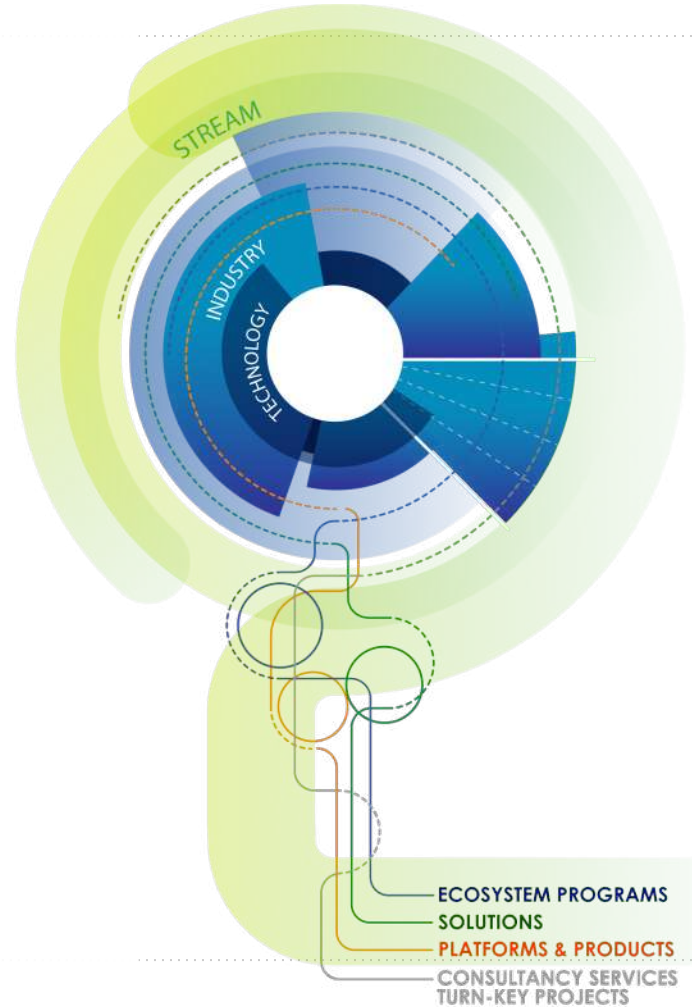


ISO 9001 | ISO/IEC 27001 | ISO 14064-1 | EN 9100 | UNI/PdR 125:2022

ORGANIZATION

aizoOn is committed to providing its customers with a unique capability for end-to-end intervention based on three pillars:

- **ABILITY TO CREATE INNOVATION**
- **BUSINESS PROXIMITY**
- **EXCELLENT TECHNOLOGY COMPETENCE**



LEVELS OF ACTIVITY

aizoOn supports its customers in the transition to the digital age, where the boundaries between traditional sectors and companies are blurring and business models are changing at an increasingly faster pace.



ECOSYSTEM PROGRAMS

aizoOn is part of an active network of excellence: Universities, Research Centers and Technology Leaders. It accompanies the transformative innovation of its customers through a digital and sustainable ecosystem approach.

In this framework aizoOn has a distinctive capability for:

- Proposal and leadership of funded research projects at international and national levels;
- Design and management of *Test before Invest* processes: Feasibility - Proof of Concept - Prototyping.



SOLUTIONS

Our solutions are based on the integration of skills, processes, information and technologies to support a set of technical issues, that solve one or more business problems and to improve the sustainability of some processes and products. Our solutions speed up the development and delivery of highly innovative tailored applications.



PLATFORMS & PRODUCTS

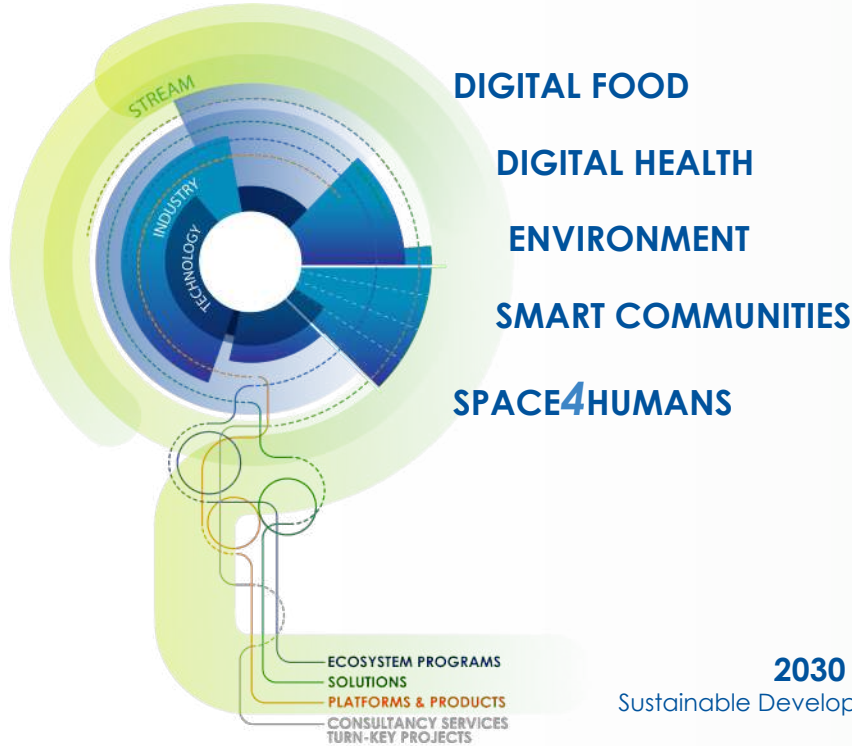
aizoOn develops and owns leading edge technologies and proprietary products built upon our Cybersecurity competences and data-driven approach.



CONSULTANCY SERVICES TURN-KEY PROJECTS

We deliver consultancy services integrating our experts directly into the customer's teams. We commit to turn-key deliverables to fulfill customer requirements. Our responsiveness is based on the aggregation of appropriate technological and methodological skills and our efficient governance and implementation abilities. We can act as a system integrator of different platforms and applications when needed.

INNOVATION STREAMS



Streams are **cross-sectorial** areas of interest where a **variety of actors share common objectives** that can be pursued through **digital ecosystems**: an ensemble of multiple skills and technologies unified by the digital back-bone.

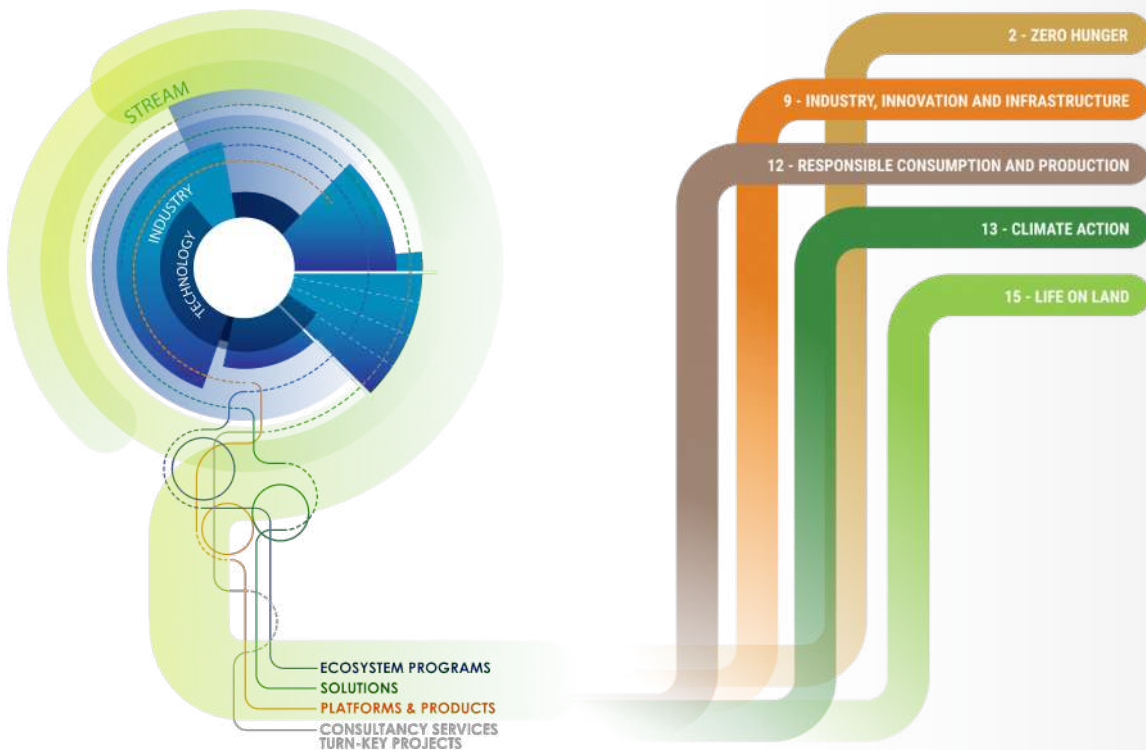
Streams address some of the main universal issues as stated by the UN **2030 Agenda**.

2030 AGENDA

Sustainable Development Goals

INNOVATION STREAMS

2030 AGENDA
Sustainable Development Goals



DIGITAL FOOD

Let's imagine the future of food: the development of digital and interdependent tools will completely change our true concept of food.

Digital technologies are teaching us to eat better and locally, getting us out of junk food and excessive consumption. Digital transition makes emerging ideas easy everywhere, whether for the production, distribution or consumption of our food, considering five pillars: Taste, Safety, Health, Sociability and Sustainability.

Through its partnership **Digital Food Ecosystem**, aizoOn brings together several know-hows in **Science Math** and **Technology** to provide a distinctive proposal for Industrial End- Users, Original Equipment Manufacturers, Retailers, Consumers and the Society as a whole.

Circular Food System, Digital Traceability, Process and Product Innovation, and Smart Agriculture are some of the great challenges selected by our method to address the major and broader issues in the agri-food field.



INNOVATION STREAMS



2030 AGENDA
Sustainable Development Goals

3 - GOOD HEALTH AND WELL BEING

DIGITAL HEALTH

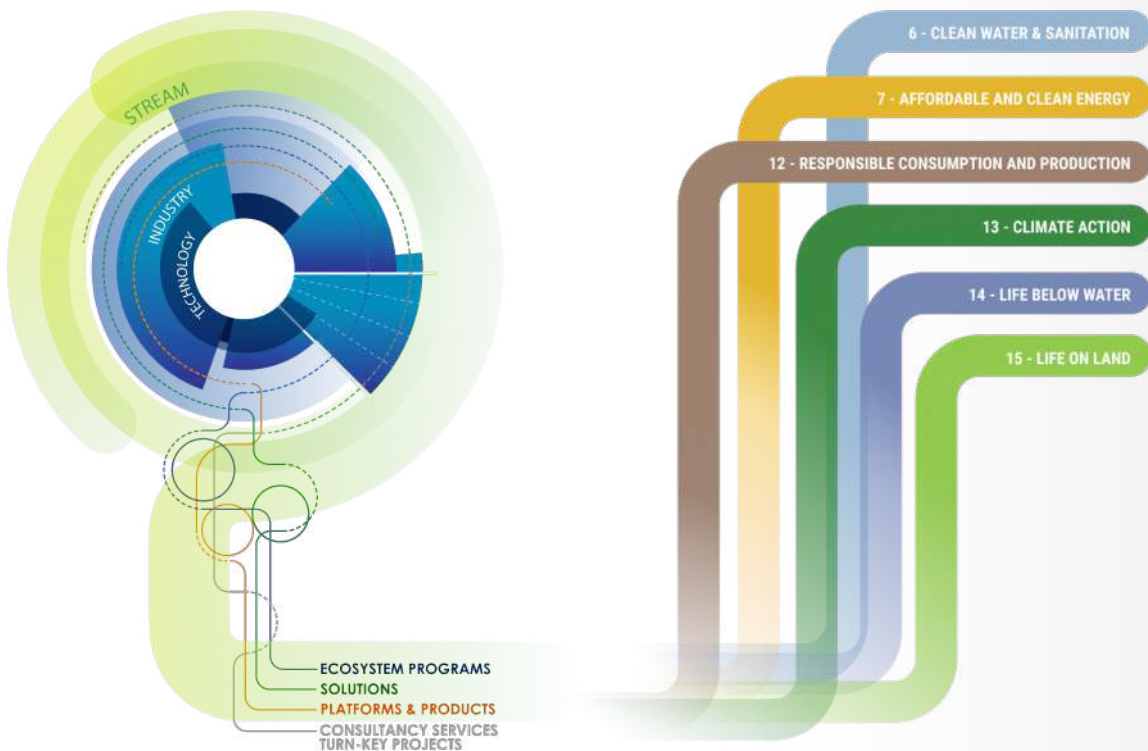
Improving the lives of people requires understanding, preventing, curing and caring for those affected by diseases, including their families.

Digital technologies have the potential to transform how we do this in a variety of ways. We can use **Artificial Intelligence** and **Digital Imaging** to understand the risks, early onset and progression of high-impacting diseases such as cancer or neurodegenerative disorders at the genetic and cellular level. We can improve support to fragile patients by providing **teleassistance** and **telemonitoring**. We can optimize the healthcare system as a whole by **digitizing, centralizing and sharing data** used by doctors and researchers.

Advancing in these areas, all of which require the specific digital, life sciences, and healthcare skills provided by **aizoOn**, will result in the possibility for everyone to live longer and better lives.

INNOVATION STREAM

2030 AGENDA
Sustainable Development Goals



ENVIRONMENT

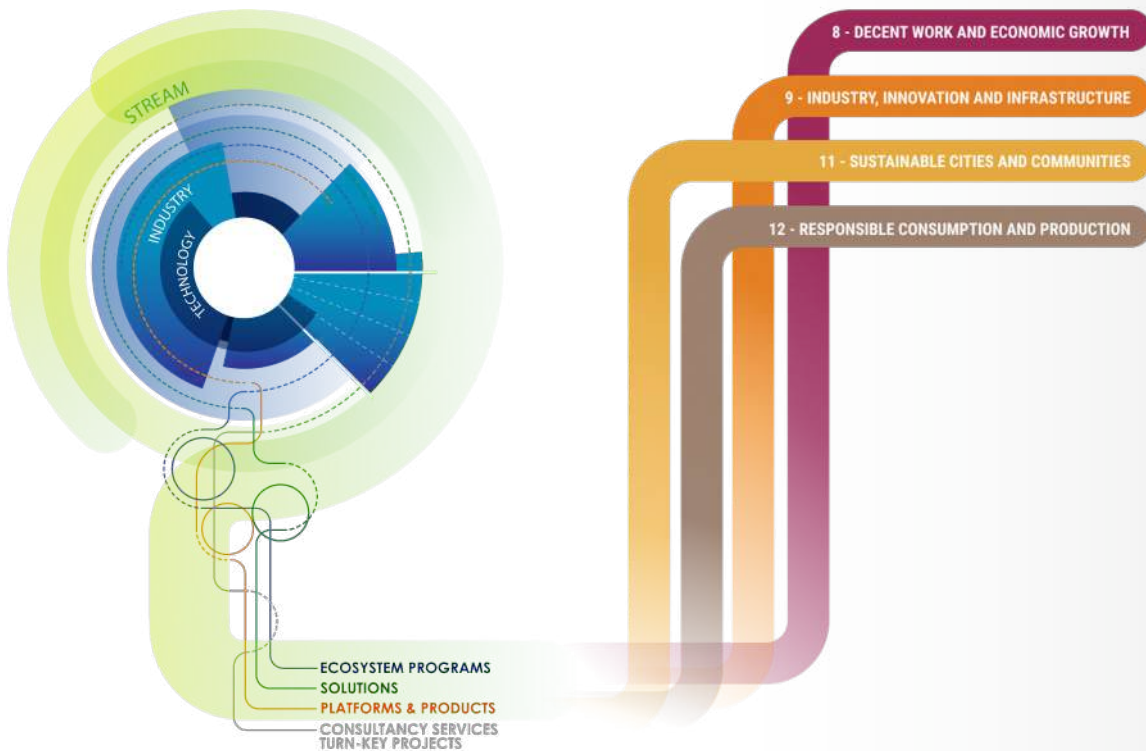
The environmental challenges ahead of us are global and structural: the core systems of our societies need to dramatically change. That is especially urgent for those systems related to energy, water and natural resources.

Digital Technologies – and their countless mobile applications, sensors, connected objects, meters and smart grids, environmental performance measurement models – **can provide many opportunities to respond to environmental challenges.** They can be used for better observation and real-time monitoring of the state of our planet, the air we breathe and our forests. They can also be a powerful and helpful tool for the optimization of critical infrastructures and industrial systems: for instance, they provide the means to locate **leaks in water distribution networks**, they contribute to a better energy network functioning (**Smart Grid**) and to a **greater penetration of renewable energy** and to **the optimization of resource consumption in production processes.**

aizoOn wants to take the responsibility that comes with being an enabler of the ecological transition and make an actual, profound and sustainable contribution in changing our systems of production and consumption of energy, water and natural resources.

INNOVATION STREAM

2030 AGENDA
Sustainable Development Goals



SMART COMMUNITIES

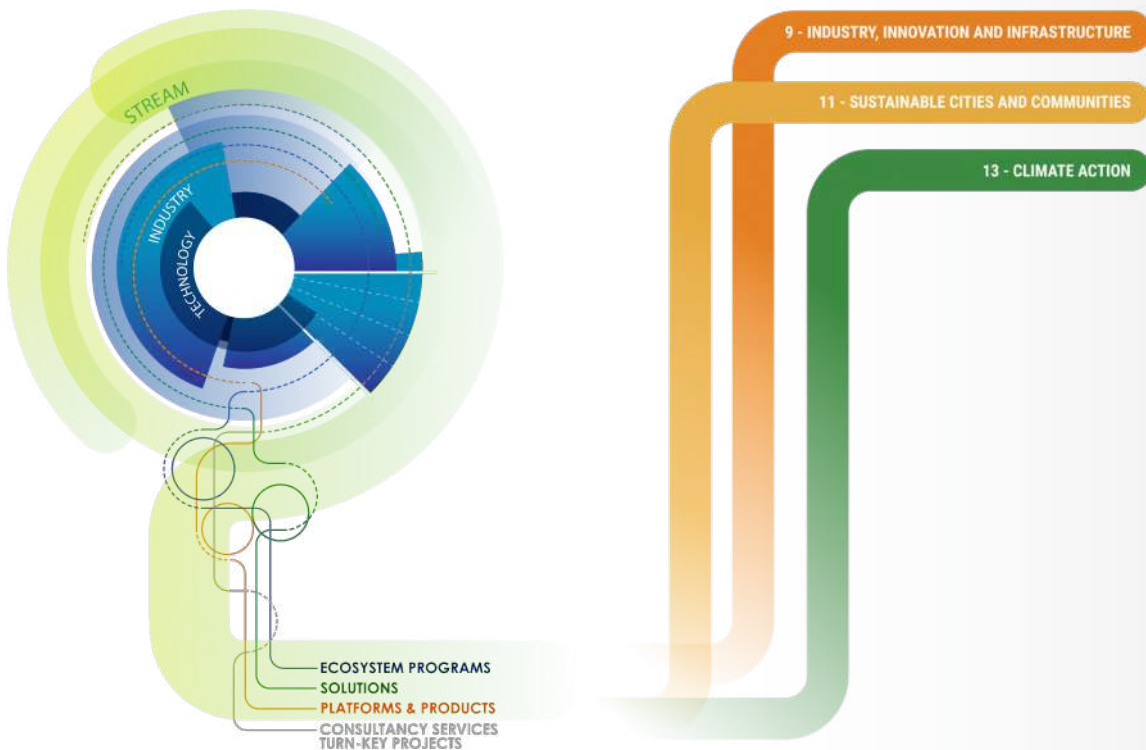
One of the most relevant implications in the Digital Revolution is the renewed centrality of each individual as a core actor of the Digital Transformation itself, according to the **Internet of Humans** paradigm. This decisively enables the possibility to contribute to common and shared scopes.

This people-centered approach provides an extraordinary opportunity for **Smart Communities**: pursuing new ways of collective well-being at different scales and rethinking conventional processes. The aim is to **involve collective intelligence** as an effective contribution to the development of prosperous, sustainable and livable communities.

aizoOn is an active part of this Digital transformation that enables both fast and direct communication among citizens and various collective participation techniques (**living lab, crowdsourcing, citizen science, gamification**). The latter techniques support public administrations in the transition to **Smart Communities** (e.g. cities and mobility), based on the needs of citizens, both as a single person and in aggregate form.

INNOVATION STREAM

2030 AGENDA
Sustainable Development Goals



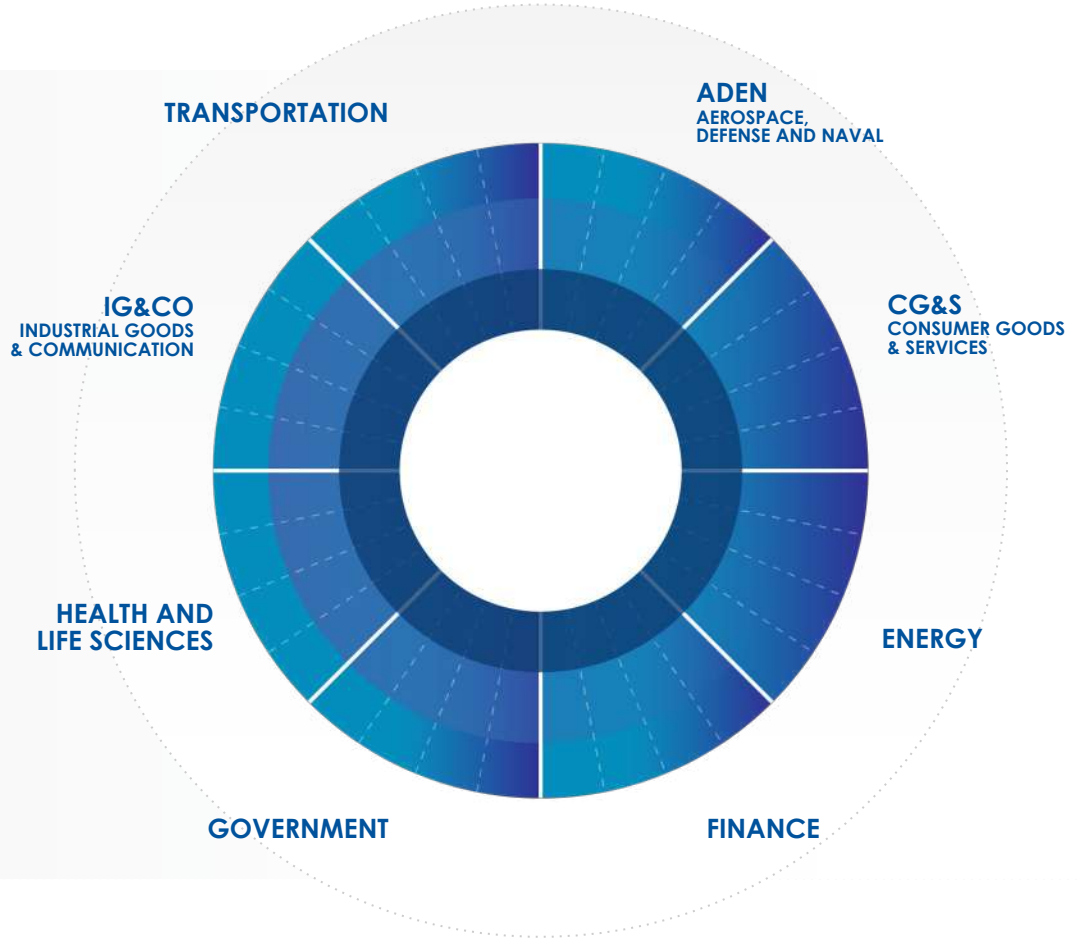
SPACE4HUMANS

Space is widely recognized as one of the most important enablers to build a better and more sustainable life on Earth. In fact, space is involved and essential in connecting people anywhere and anytime with **Telecommunication satellite constellations**, optimizing the use of natural resources and protecting at-risk populations with **Earth Observation Satellites**, in making traveling easier with **GNSS satellites**, and in exploring the universe to better understand Earth with **exploration missions**.

aizoOn aims to be an actual and impactful contributor to these fundamental goals, and it is already working, in partnership with other Industries and Research institutions, on the Galileo constellation (1st and 2nd generation), and on Earth Observation. The established goal is to bring knowledge of Digital Transformation processes, guided by data and Artificial Intelligence contributing to the so-called **New Space Economy**.

MARKET AREAS

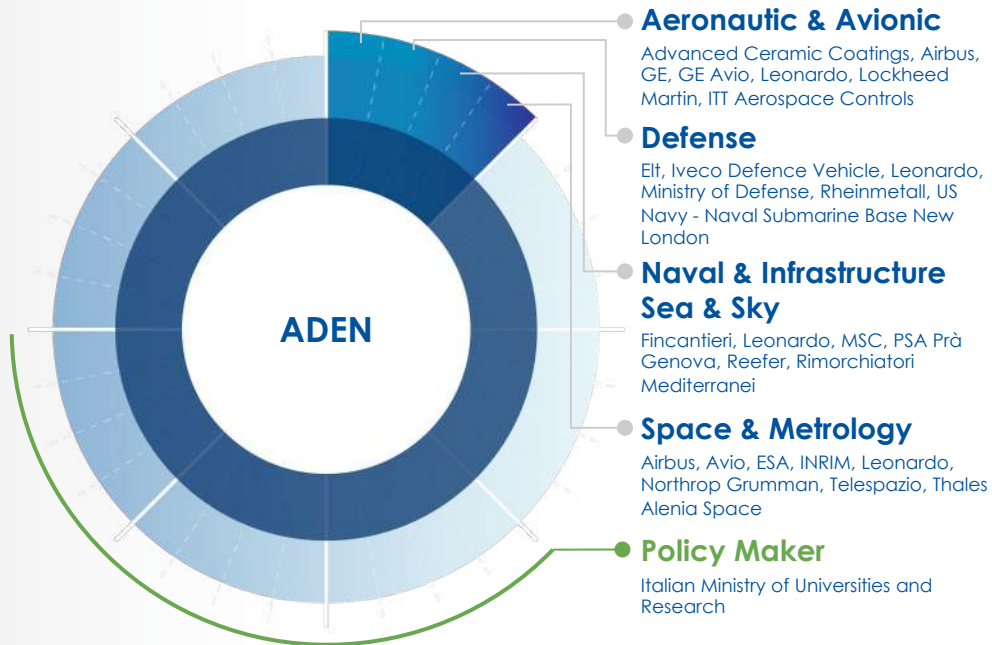
8 market Areas + 50 industries to ensure a thorough and attentive knowledge of the needs and transformations taking place in the involved areas.



AEROSPACE, DEFENSE AND NAVAL

Covered industries:

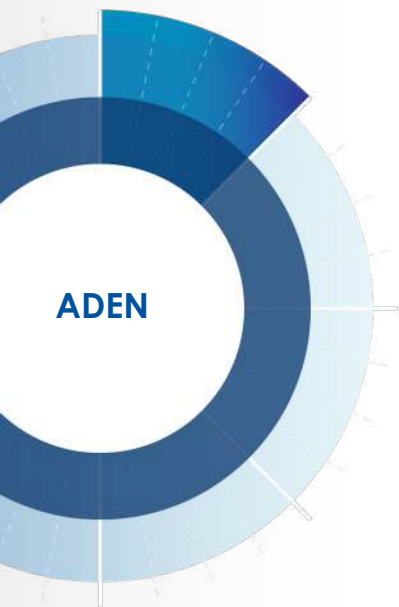
Aeronautic, Avionic, Defense, Naval, Metrology, Space, Infrastructure - Sea & Sky



MAIN & STRATEGIC CLIENTS



AEROSPACE, DEFENSE AND NAVAL



Aeronautic & Avionic

- Data acquisition real-time applications development for sensor calibration
- Data Exchange with Production Machines
- Manufacturing Execution System (MES)
- Model Based Design for UAV and aircrafts
- Project Management
- Propulsion engineering for UAV
- SW engineering for aircrafts
- System engineering for Inertial Navigation systems

Defense

- Cyber defence, threat intelligence, malware analysis, machine learning
- Electronic warfare
- Embedded SW, FW and HW Design (FPGA)
- Flight mechanics, System Engineer
- Safety critical SW Development (C, ADA)
- SW testing for radar applications
- Warehouse automation

Naval

- Automation & Control
- Naval Combat System
- Project Management
- Proposal Sales Eng. for international tenders; pre & post sales support
- Warehouse automation

Space & Metrology

- AI & SAR for Earth Observation
- AIV & AIT
- Cyber defense, threat intelligence, malware analysis, machine learning
- FPGA Development
- Management of all Phases (A to E) of space program (standard ECSS-M-St-10)
- Mission analysis: GNC, AOCS, telecommand & telemetry
- Modelling, algorithms and simulation
- On board SW development, ECSS, image processing, Optical Spectroscopies, Lasers, microscopies

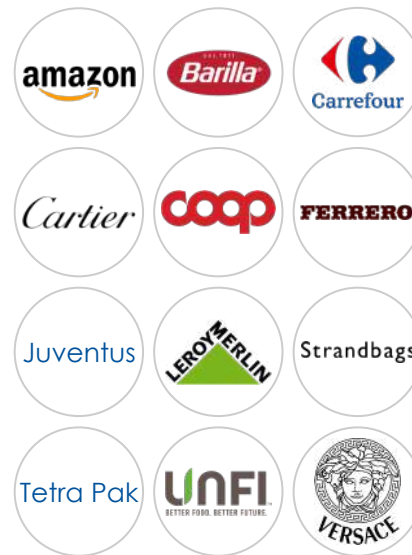
CONSUMER GOODS AND SERVICES

Covered industries:

Food and Beverage, Retail, Home and Personal Care, Fashion and Luxury, Sport and Entertainment



MAIN & STRATEGIC CLIENTS



CONSUMER GOODS AND SERVICES



Food & Beverage

- Cybersecurity training
- Digital transition advising (Industry 4.0)
- DSS - Decision Support Systems
- ERP Consulting
- I-SOC, Intelligent Cybersecurity Operation Center
- Life Cycle Assessment
- Predictive maintenance of machinery
- Process Data-Driven Digital Twin
- Smart Agriculture
- Sustainability Analysis
- Smart Quality Control
- Visual analytics, Machine learning, Artificial Intelligence
- Vulnerability Assessment and Penetration test
- Warehouse automation

Retail, Home and Personal Care

- Cybersecurity awareness development
- Data-Driven Risk Management
- I-SOC, Intelligent Cybersecurity Operation Center
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- Life Cycle Assessment
- Network security
- Sustainability Analysis
- Warehouse Automation

Fashion and Luxury

- Business Continuity planning
- Infrastructure management
- Life Cycle Assessment
- Product development
- Process engineering
- Purchasing support
- Sustainability Analysis
- Warehouse automation

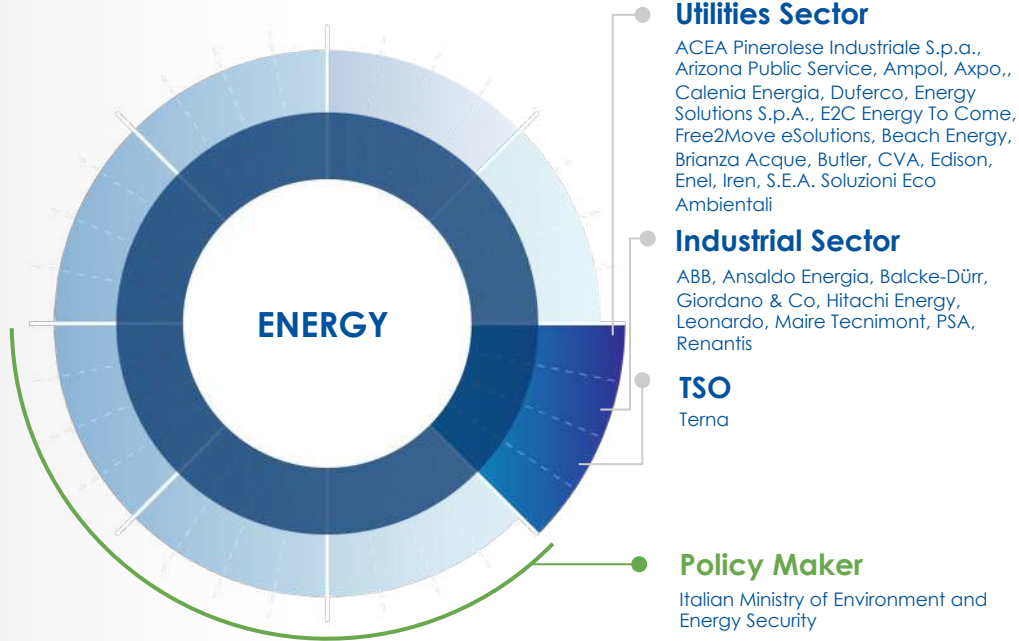
Sport and Entertainment

- Cybersecurity risk assessment
- Data-Driven Risk Management
- IT Project Management
- IT Service Management
- Sustainability Analysis

ENERGY

Covered industries:

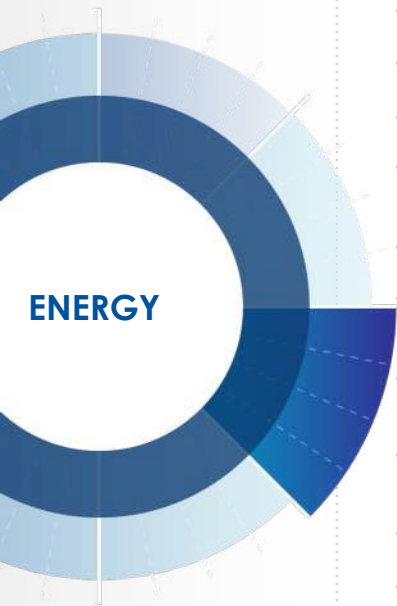
Industrial Sector, Transmission System Operator, Utilities Sector



MAIN & STRATEGIC CLIENTS



ENERGY



Digital Energy

- Automation
- Cybersecurity
- Efficient hydrogen storage
- Forecasting for Renewable energies
- IoT solution
- Monitoring real time and performance analysis
- Platform dedicated to the Energy Communities.
- Predictive maintenance and failure prevention
- Risk management
- Sustainability Analysis

Energy retail

- Business & data sharing management
- Cybersecurity
- Customer Management
- Low-code application platforms
- Management of sales and billing processes
- Risk management
- Settlement

Smart Water

- Cybersecurity
- Leakage reduction in water supply network
- Monitoring for energy efficiency
- "Smart sensors" and "smart meters"
- Sustainability Analysis

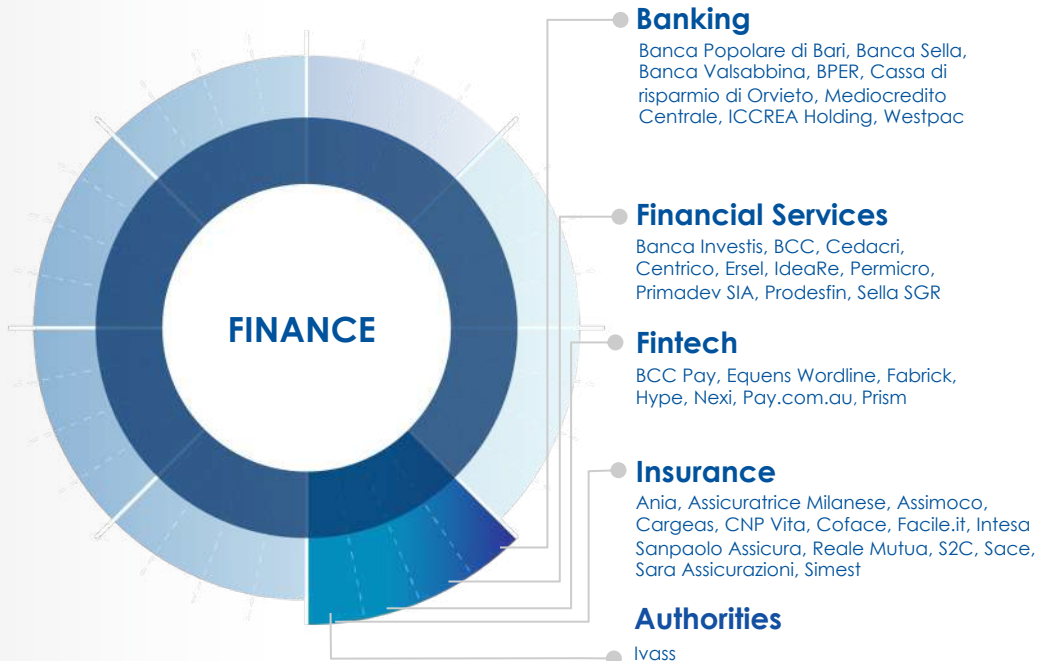
Waste Management

- Automation
- Digitalization and optimization of processing parameter
- Monitoring for energy efficiency
- Monitoring in real time and performance analysis
- Predictive maintenance and failure prevention
- Sustainability Analysis
- Waste traceability systems and digitalization

FINANCE

Covered industries:

Banking, Financial Services, Fintech, Insurance



MAIN & STRATEGIC CLIENTS



FINANCE



Banking

- Basilea 3 Rating
- CERVED: rating ECAI
- Clients onboarding portal
- Continuous Gross Settlement
- CRIF: EURISC
- Cybersecurity awareness
- Data-driven Risk Management
- EXPERIAN: C.A.I.S
- I-SOC, Intelligent Cybersecurity Operation Center
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- Information Security Strategy
- Instant Payment
- MyBank
- Pllick
- Request to Pay
- Sepa Credit Transfers
- Sepa Direct Debits
- STAT-PRO-Confluence

Financial Services

- Architecture
- Anti Money Laundering
- Business Process Reengineering
- Credits Management
- Cybersecurity awareness
- Data-driven Risk Management
- I-SOC, Intelligent Cybersecurity Operation Center
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- IT monitoring
- Non-Performing-Loans Management

Fintech/Insurtech

- Digital money
- I-SOC, Intelligent Cybersecurity Operation Center
- Mobile payments
- Open Banking
- Prepaid cards
- Policies IOT Integration
- Private Blockchain

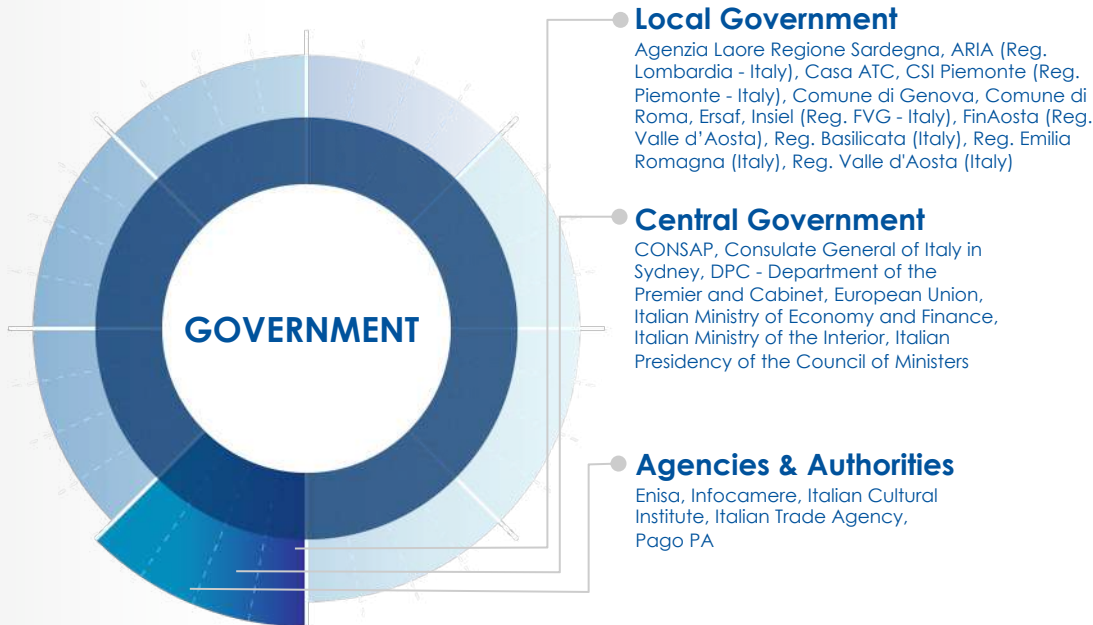
Insurance

- Business Analysis
- Core insurance processes development
- Cybersecurity awareness
- Data-driven Risk Management
- I-SOC, Intelligent Cybersecurity Operation Center
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- RCA Comparator
- Product Development
- Red Teaming

GOVERNMENT

Covered industries:

Local Government, Central Government, National Agencies & Authorities



MAIN & STRATEGIC CLIENTS



GOVERNMENT

Ecosystems

- Agriculture
- European and national funds
- Taxes and public finance
- Work and Professional Training

Enabling Platforms

- Electronic Identity Card
- Electronic Invoicing
- Electronic payment system for public administration
- Interoperability with API standards
- Public Digital Identity System

Functional Issues

- Content knowledge management
- Digital transformation of administrative processes
- Document management and protocol
- Personnel management systems
- Risk and compliance
- Sustainability Analysis

Technologies

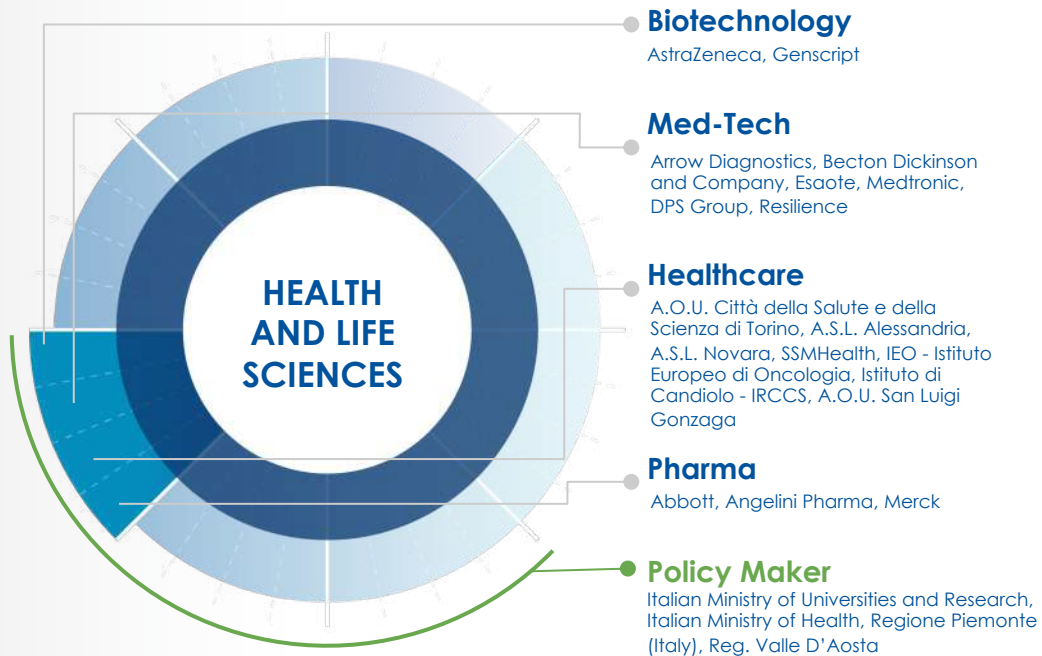
- Cybersecurity
- DevOps
- DWH / BI / Advanced Analytics
- Embedded Systems
- Life Cycle Assessment
- Infrastructures
- Networking
- Open Sources / Open Data
- Robotic Process Automation



HEALTH AND LIFE SCIENCES

Covered industries:

Biotechnology, Med-Tech, Healthcare, Pharma



MAIN & STRATEGIC CLIENTS



HEALTH AND LIFE SCIENCES



Biotechnology

- Artificial Intelligence applied to cancer subtyping, DFS prediction, risk modeling
- Bioinformatics (pipelines, downstream analysis)
- Data engineering for multiomic data
- Explainable AI: patent for XAI-based CDSS
- Project Management
- Warehouse automation

Med-Tech

- Cyber defence, threat intelligence, malware analysis, machine learning
- Embedded SW, FW and HW Design
- SW engineering

Healthcare

- HC IT Protocols (DICOM, HL7/FHIR)
- I-SOC, Intelligent Cybersecurity Operation Center
- Operational optimizations
- Project Management
- System integration

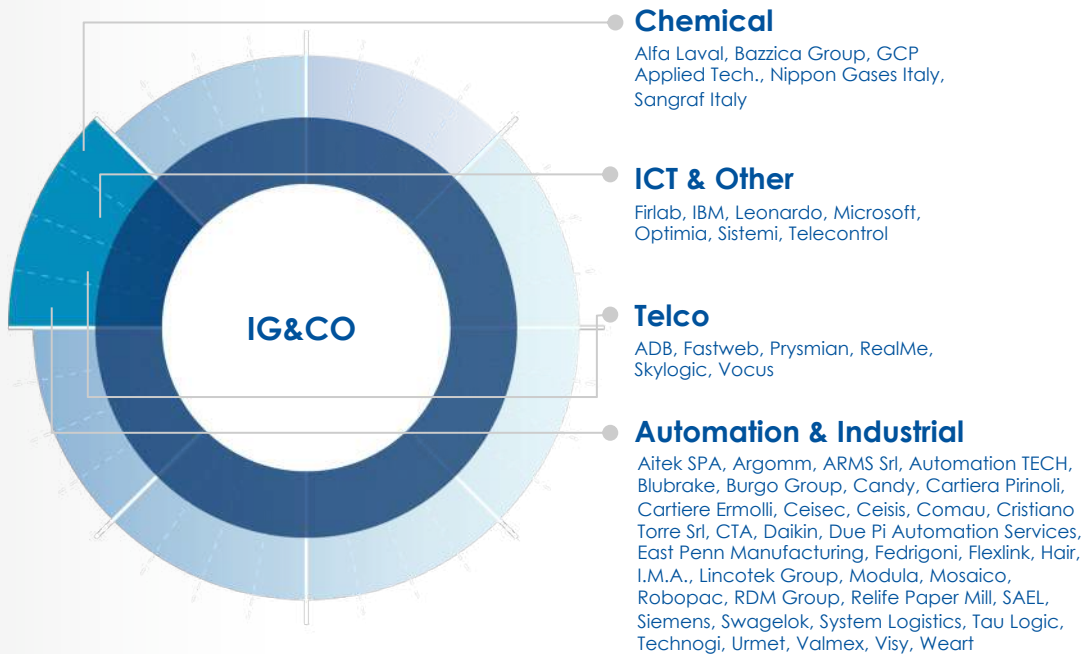
Pharma

- Identification of biomarkers
- Modelling, algorithms and simulation
- Process engineering
- Warehouse automation

INDUSTRIAL GOODS & COMMUNICATION

Covered industries:

Chemical, ICT & Other, Telco, Automation & Industrial



MAIN & STRATEGIC CLIENTS



INDUSTRIAL GOODS & COMMUNICATION



Chemical

- Application Management System
- CAD Design
- Innovative hydrogen storage technologies
- Maintenance contracts Management
- Process Management
- Project Management
- Sustainability Analysis

ICT & Other

- Application Security
- Cybersecurity
- Data protection
- Functional analysis
- Low-code application platforms
- Network Security
- Project Management
- Security architecture
- Technical support
- Transition & Transformation Management

Telco

- Architectures & Networking
- Data Analytics
- Microservices-Based Solutions
- Project Planning (Cable Maintenance Solution)
- Risk Management
- Salesforce Development

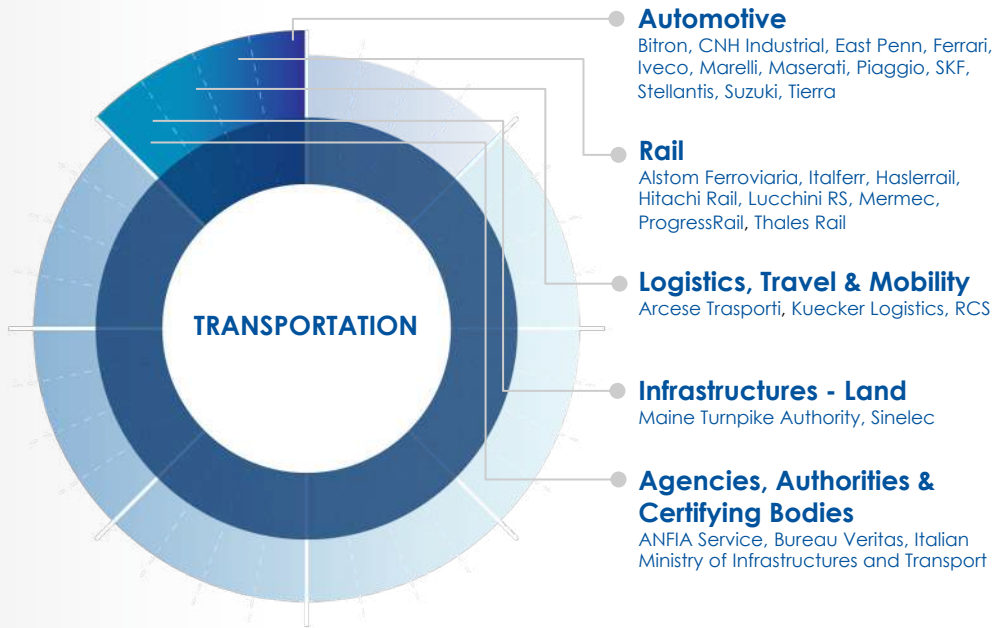
Automation & Industrial

- Baggage handling system
- CAD Design
- Electrical Design (Automation/Packaging)
- Industrial BI
- Logistic Support
- Low-code application platforms
- MES-MOM Development & Implementation
- Predictive Maintenance
- Process Optimization
- Robotics Software Development
- Test Automation
- Smart Control
- Sustainability Analysis

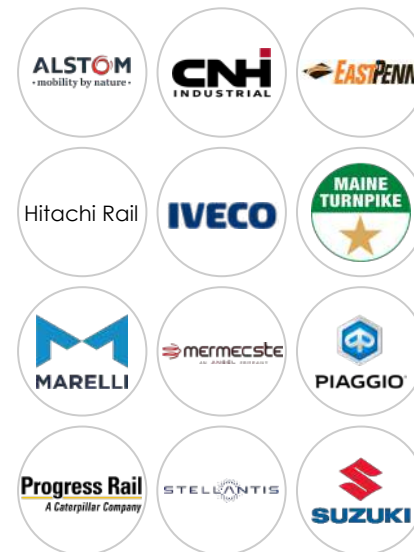
TRANSPORTATION

Covered industries:

Automotive, Rail, Land Infrastructures, Logistics, Travel and Mobility Solutions, National Agencies & Authorities



MAIN & STRATEGIC CLIENTS



TRANSPORTATION

Automotive

- Advanced Data Science Applications to vehicles telematic data and to Customer Journey
- Connected Services Design
- Data Management & Business Analytics
- Dealer Management Systems development
- Functional Safety & FMEA
- ICT e OT Cybersecurity
- ICT Project Management
- ICT War Room Management
- I-SOC, Intelligent Cybersecurity Operation Center
- Mobile Device Management
- Product development management
- Product Cybersecurity
- Risk analysis and management
- Support to compliance
- System Engineering
- Sustainability Analysis
- TLC Networking Design
- Warehouse automation

Rail

- Basic design
- Certification and Validation
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- Integration on Onboard System ETCS
- Mechanical Design
- Network security
- Project Planning, Planning of Product Development and of Workload
- Product Cybersecurity and hardening
- SIL-4 Development for Signalling Systems
- SCMT – ERTMS Design and Verification
- Software development for Onboard Systems and Trackside Systems
- Sustainability Analysis
- V&V

Infrastructures - Land

- Data Driven Risk Management
- Intelligent Transport Systems Applications
- Infrastructures Monitoring
- I-SOC, Intelligent Cybersecurity Operation Center
- Incident handling, Digital forensic, Threat intelligence, Malware analysis
- Network security
- Road Management Applications
- Sustainability Analysis

Logistics & Mobility

- Logistics applications development
- Network security
- Operations Management
- Process Optimization
- Sustainability Analysis
- Warehouse automation



TRANSPORTATION

ORGANIZATION / TECHNOLOGY DIVISIONS

2 Technological Divisions cover the entire spectrum of digital data acquisition and transformation, **security**, and strategic/operative risk management.

The **Cyber Security** division works to increase the resilience of organizations against cyber threats that undermine the digital ecosystem.

With proprietary Cybersecurity solutions, tailored to specific business needs, we defend our customers from cyber attacks with proactive approaches focused and specific to market areas.

With continuous technological innovation, we foster the conditions necessary to help business thrive in the digital economy.



The technology division **DigEI | Digital Engineering and Innovation** is a reference player in the creation of value through the transformation of data into knowledge and actionability.

Thanks to specific delivery methods, it is able to cover the entire development cycle of unconventional solutions and is a strategic partner in the path of digital innovation.

It enhances digital methods and technologies in an integrated and synergistic way in response to real business needs and as a lever of competitive advantage.

TECHNOLOGY DIVISIONS / DigEI

OUR APPROACH

We see **digital innovation** as a constitutive - persistent - pervasive element through a **bimodal** approach (continuous exploration in parallel with predictability of business as usual) and base it on 4 pillars:

- Create value through a data-driven approach
- Adopt a development process at several different TRLs
- Leverage an ecosystem approach
- Reaffirm the centrality of the business in its entirety

DigEI develops advanced data driven solutions, covering the entire digital data transformation chain, with a specific focus on Data Science excellence.

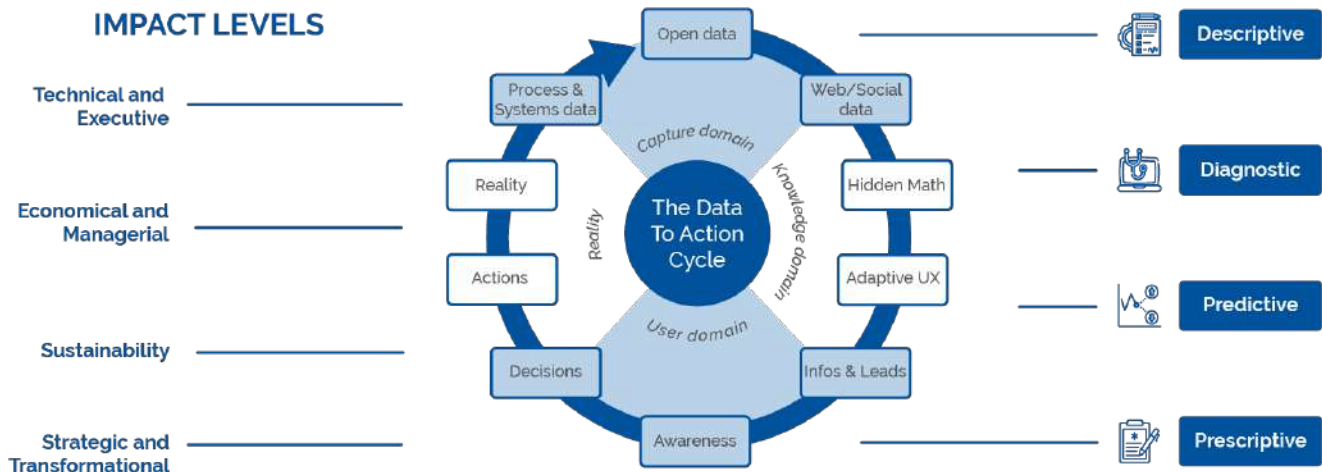
DigEI is a strategic partner for the digital transformation of our Clients on the various readiness levels (R&D, Proof of Concept and Prototypes, Integrated Solutions).



DigEI / DATA TO ACTION – OUR FOUNDATIONS

“If you can not measure it, you can not improve it” (Kelvin)

“Science is built up of facts, as a house is with stones. But a collection of facts is no more a science than a heap of stones is a house.” (Poincaré)



Our activities cross the different company dimensions and put them in relation with one another, data are the *reactants* and our methods and solutions are the *catalysts* of knowledge and of ability to act.

TECHNOLOGY DIVISIONS / CYBERSECURITY

The **Cyber Security** Technology Division, in line with aizoOn's activity levels, operates in four macro-areas.

OFFENSIVE

- Vulnerability Assessment & Penetration Testing (*web, mobile, IT infrastructures, IOT embedded, industrial systems*)
- Threat Intelligence & Analysis
- OSINT Risk Exposure
- Phishing simulation, training awareness

CYBER DEFENSE & INTELLIGENCE CENTER

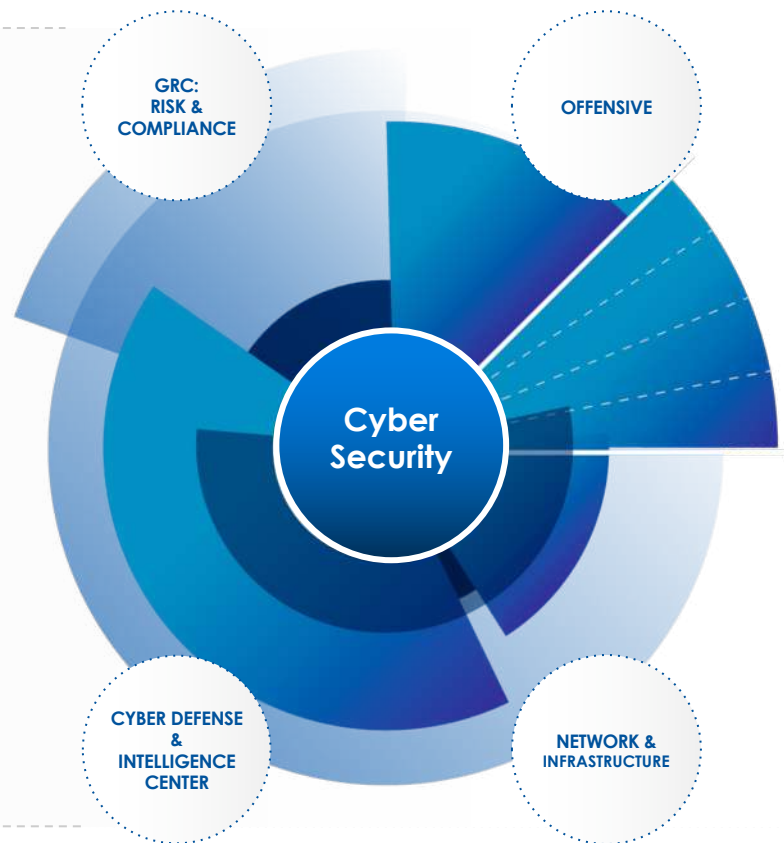
- 24/7 ISOC & CSIRT
- Incident Handling & Digital Forensic
- Incident Response
- Threat Hunting & Threat Intelligence
- Malware Lab Analysis

GRC, RISK AND COMPLIANCE

- Security Audit
- Security Governance
- Risk Analysis & Compliance
- Cybersecurity Roadmap
- BIA & BCP
- Policies

NETWORK & INFRASTRUCTURE

- Network Security
- Critical Infrastructure Security
- Cloud Security
- Security by Design



Cybersecurity | PLATFORMS & PRODUCTS

ARAMIS

A cognitive approach to the problem. The aramis platform combines **specific machine learning and data mining technologies, threat intelligence capabilities and advanced analysis algorithms** to help organizations to identify even unknown threats within their perimeter, facilitating human analysis.

ESRA

Enhanced Security Risk Analytics

ESRA implements and automates the **Security Risk Assessment process** linked to information security. It guides the analyst by organizing the data for the purposes of risk assessments, allowing the analysis effort to be limited to strictly relevant data and maintaining an overall observation point of the detected dynamics.

COSMO

Compliance System Monitoring

CoSMo is a software with the purpose of **managing company audits and compliance**. Furthermore, it manages company documents such as policies, standards and guidelines. Through Workflows it guarantees periodic assessments and automation and centralization of all IT governance processes. It can be installed on premise or provided in Software as a Service.

MITHRIL WAAP

Mithril Waap is aizoOn's **Web Application and API Protection** solution capable of **filtering, recording and blocking** HTTP / HTTPS traffic directed to a website or a web application. It can be easily managed directly by the customer or by our ISOC team.

CYBER RANGE

A virtual environment in which it is possible to **simulate different "theaters" where attack and defense scenarios alternate involving several teams**. It enables to recreate the typical components of real environments, such as industrial companies, service firms, energy production plants or military installations.

MULTIVERSE

Multi-source Threat Intelligence - Vulnerabilities And Events Recognition Supervision Environment

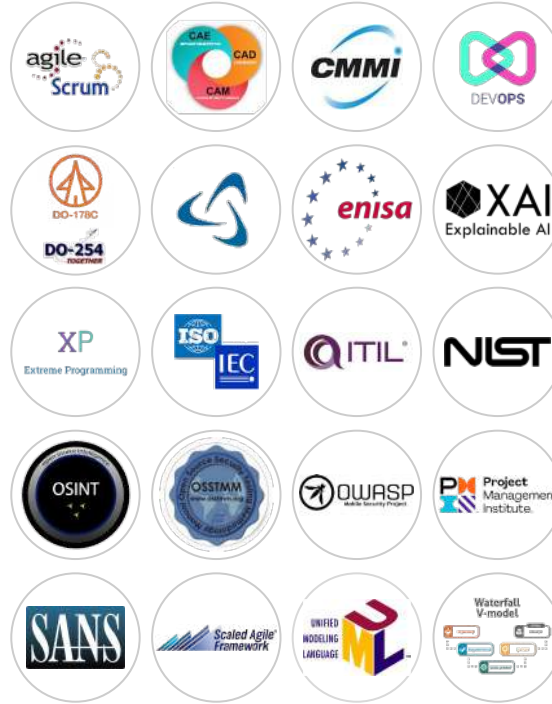
A platform designed to **fill the gap between IT and OT Cybersecurity management**, on the basis of 4 main pillars: convergence of IT and OT cyber risk management, ingestion of Cyber Threat intelligence sources, analytics monitoring and machine learning, gathering of inputs from third-party security solutions.

PARTNERS, METHODOLOGIES, CERTIFICATIONS

TECHNOLOGY PARTNERS



METHODOLOGIES & GUIDELINES



CERTIFICATIONS



UNIVERSITY & RESEARCH

aizoOn's focus on innovation and technological development is strengthened by the collaboration with universities and research institutes in several parts of the world.

aizoOn is developing a network of relations and collaborations with universities dedicated to talents: workshops, meetings and projects are moments designed to help talents develop their full potential.



PUBLIC-PRIVATE PARTNERSHIPS

COMPETENCE CENTERS, FOUNDATIONS

We are promoters and supporters of new ways of collaborating, where the generation of knowledge and innovation crosses and redraws the traditional perimeters.

Fondazioni



Competence Center



Intelligent Factory Cluster



ICT Innovation Cluster



European Cyber Security Organization



Australian Cyber Collaboration Centre



Society of Manufacturing Engineers



Polo Agrifood Piemonte



ABI Lab Consortium



Smart Communities Tech
Italian Technology Cluster
for Smart Communities



CLUSIT
Italian Society for IT Security



SOSLOGISTICA
Sustainable Logistic Association

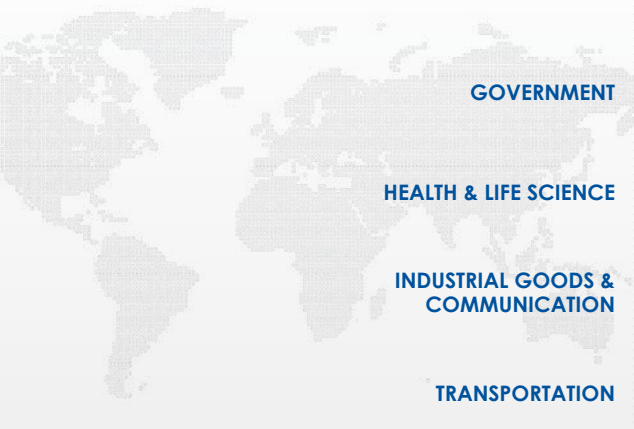


Manufacturers
Association of Maine



AISA
Australian Information
Security Association

OUR MAIN GLOBAL CUSTOMERS



AEROSPACE DEFENSE & NAVAL



CONSUMER GOODS & SERVICES



ENERGY



FINANCE



GOVERNMENT



HEALTH & LIFE SCIENCE



INDUSTRIAL GOODS & COMMUNICATION



TRANSPORTATION



CASE HISTORY / ECOSYSTEM PROGRAMS



FDM | Food Digital Monitoring

R&D PON-FESR funded project (8M€) led by aizoOn, involving Universities and 5 Food Companies. An Industry 4.0 inspired digital platform aimed at improving product safety and quality, process quality and origin guarantee. Advanced sensors for composition control & contaminants identification Simulation and predictive process models for adaptive real time feedbacks and active control of the process Raw materials and water-energy resources minimization.

AI

Food Quality

Industrial IOT

Shelf-life Prediction

Food Safety



DEFLeCT

Digital Technology For Lung Cancer Treatment is an R&D funded project (9 M€) with POR-FESR contribution led by aizoOn, involving 19 partners. Main areas of research are precision and predictive medicine. Developed an integrated digital platform where AI algorithms advanced Non-Small-Cell Lung Cancer (NSCLC) subtyping and risk prediction using NGS data collected from 300 patients and Open Data. Worked on new diagnostic technologies: organs-on-chip, labs-on-chip and 3D models for the testing of treatments.

Personalized medicine

Oncology

Genomics

AI



SETA

HORIZON 2020 R&D Project (11M€), led by Sheffield University, involving 24 partners. Citizens, private companies and public entities have been actively involved through the Living Labs approach. Main improvements refer to: hybrid traffic management solutions: network-based models integrated with data driven models, multi-objective routing optimization engines, AI based image recognition for traffic tracking and people counting, traffic based urban areas pollution estimate models.

Smart Cities

Internet of Humans

Living Labs

AI

CASE HISTORY / ECOSYSTEM PROGRAMS



D³-4-HEALTH

Digital Driven Diagnostics, Prognostics and Therapeutics is a PNRR R&D Project that will transform and advance current methodologies for the diagnosis, monitoring and therapy of 5 reference diseases (Metastatic colon, liver + bile duct, Central Nervous System cancers, type I Diabetes, Multiple Sclerosis), facilitating the application of precision medicine approaches by developing digital and biological twins, for the benefit of citizens and patients. D³-4-HEALTH will escalate and deploy innovative and non-invasive technologies and solutions, based on the analysis of digital and digitalized healthcare data.

Personalized medicine

AI

Digital Twins

Oncology

Neurodegenerative disorders



High Efficiency Hydrogen Storage

HEHS | High Efficiency Hydrogen Storage is a PNRR Project (4M€), led by aizoOn, involving 2 partners (University of Perugia and Nippon Gases). The aim of project is technical validation and industrial exploitation of a new technology for hydrogen storage and transportation. The proposed storage technique is remarkably less energy intensive and storage pressures much lower (if compared with current alternatives). aizoOn will develop data driven AI models for representing the underlying overall process (load, storage, decay, release) and for supporting the industrial implementation.

Hydrogen

Energy efficiency

AI

Security



Demetra

Demonstrator of EGNSS Services based on Time Reference Architecture is an EU Horizon 2020 project, coordinated by the National Institute of Metrological Research (INRIM). The project aimed at identifying and developing innovative applications of the European satellite navigation system Galileo. Accurate timing services have been designed for different types of users (telecommunication networks, banks, TV broadcasting networks, energy distribution networks...). A demonstrator for the dissemination of 9 new time services has been created, compliant with the architecture of European satellite navigation systems.

EU Galileo Satellites

Time Services

ESA SW Standards

Ground Facilities

CASE HISTORY / SOLUTIONS



DFE | Digital Food Ecosystem

The DFE solution **is an alliance with universities, research facilities and technology partner entrepreneurs aimed at the agri-food sector.** Its final purpose is about giving to each agri-food production chain the availability of a specific and distinctive digital innovation capacity, complete with approaches, methods, instruments, and technologies. Each project enables one or more benefits in terms of quality, process efficiency, food safety, brand reputation, competitiveness.

Industry 4.0

Ecosystem

Sustainability

Data Driven



aizoOn Data Lake Architecture

A research/PoC-oriented Modern Data Lake architecture. Scalable from small R&D projects to complete production solutions. Offers complete data engineering support (ingestion, exploration, AI development and staging). Supports secure 2FA-enabled authentication, self-documenting data dictionaries, heterogeneous databases (SQL, noSQL, filesystem...), collaboration and tracking of Python and R Data Science experiments, versioning and staging of AI models.

Modern Data Lake

Data Science



Explainability

Proprietary solutions for the development of prescription-oriented explainers. **An explainer is a second AI, trained to provide an explanation of an AI's predictions, and possibly provide an indication of actions that can change it. While an AI can answer the question »What will happen?» an explainer can answer the questions "Why is this going to happen?" and "How can I change what is going to happen?"**

xAI

Actionability

CASE HISTORY / PRODUCTS AND PLATFORMS



Mithril | Leroy Merlin_ADEO Group

The French retail giant Leroy Merlin has chosen **Mithril to protect its portals, WebApps, and APIs from cyber attacks.** Mithril provides advanced protection against major types of attacks, including SQL injection, RCE (Remote Command Executions), Cross-site scripting, and DoS/DDoS. With Mithril, Leroy Merlin was able to spot and block thousands of attacks before they could cause further damage. Additionally, Mithril also provided the company with detailed reports and information on how to prevent future attacks.

- Cybersecurity
- Web Application Firewall
- API Security
- SQL Injection
- Data protection

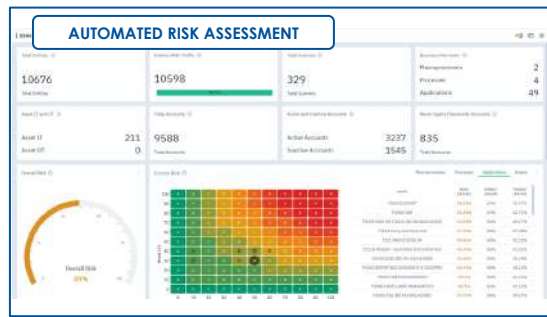


Aramis | Maine Turnpike Authority

In today's rapidly evolving threat landscape, it is essential to have a comprehensive view of your networks and systems. Aramis, a network monitoring and detection platform, allowed MTA to accurately monitor its network by using a machine learning engine and deterministic rules. **This enabled the organization to identify unknown threats within its perimeter, while also providing a comprehensible dashboard for human analysis.**

Aramis was also able to reduce the number of false positives, which are alerts that are triggered by normal network activity but are not actually threats. This helped the security team to focus on the most critical threats and respond quickly.

- Cybersecurity
- Perimeter security
- Threat detection
- ML
- Deterministic rules



Esra | Prism Australia

With ESRA, Prism was able to analyze all of its network traffic in real-time and automate the risk assessment process. The product's algorithms were able to detect patterns and anomalies in the network traffic. One of the key features of ESRA was its ability to correlate risks analysis with the specific asset that were responsible for them. This allowed the security team to quickly identify the source of the threat and take appropriate action to mitigate it. In addition, ESRA also provided the company with detailed reports on the risks and vulnerabilities in its network and processes. This helped the security team to prioritize and address the most critical risks.

- Cybersecurity
- Risk analysis
- Network monitoring
- Real Time
- Risk mitigation
- Vulnerabilities

CASE HISTORY / CONSULTANCY SERVICES & TURN-KEY PROJECTS



INDUSTRIAL SOLUTIONS

MES/MOM System Integration

The goals of these projects were to **improve, automate and monitor the production process and the materials used, while collecting statistical data, checking quality and scheduling process optimization.** The approach was to project activities and AMS for: Configuration and Customization of a third-party MES System, Integration with machines for real time process data collection, Interface with ERP (SAP/Navision/...). Historical data collection and analysis (OEE and other KPI)

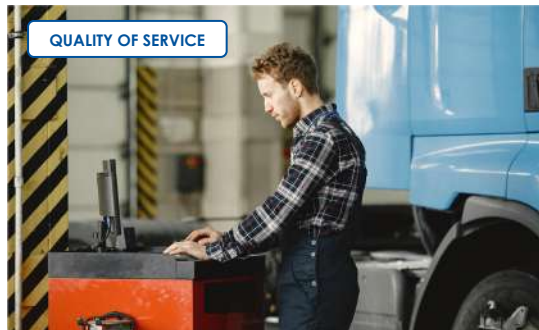
Automation

MES/MOM

Process optimization

Monitoring

Data collection and analysis



QUALITY OF SERVICE

Data Driven Control Room

The activity aims at developing **Advanced Data Driven Solutions in the context of the Control Room Service provided by a multinational industrial vehicle maker.** New value-added services to the customers (single drivers and fleet managers) and support to Quality and Product continuous improvement are the main goals achieved. The overall big data journey is managed: data capture, data architecture, data management and transformation by means of a wide portfolio of numerical methods and algorithms including Machine Learning and Deep Learning.

Industrial Vehicles

Control Room

Continuous Improvement

AI

Big Data



RENEWABLE ENERGY FORECAST

Energy Production Forecast

The goal of the project **is to forecast the energy production from renewable power sources (solar, wind, etc.) connected to medium and low power grids.** The solution estimates the production 15 minutes ahead for hundreds of thousand production sites all over Italy. A modular Machine Learning architecture based on Time Histories data has been integrated into an end to end web platform for data flow management, data monitoring, forecast computation, error minimization and User Interaction.

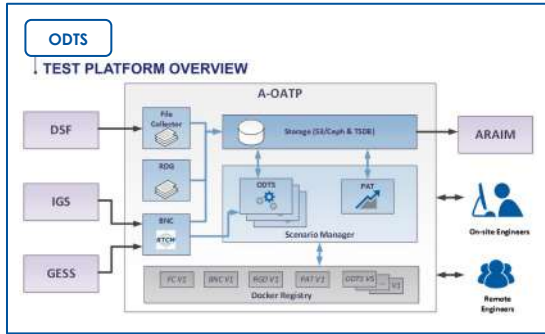
Energy Production

Renewables

Shor Term Forecast

Machine Learning

CASE HISTORY / CONSULTANCY SERVICES & TURN-KEY PROJECTS



A-OATP

Turn-key project. Design, development, test and validation of a performance analysis tools (PAT) within A-OATP platform. **A-OATP is a SW Platform for the experimentation of advanced algorithms for Orbit Determination and Time Synchronization (ODTS). Standard: Galileo SW Standard for Ground Segment (GSWS-G).** Main technologies: Python, InfluxDb, Grafana, Docker, Matlab.

GNSS

Algorithm Optimization



Regional Agricultures Information Systems

Management of the Single Registry of Piedmont of Agricultural and Agri-food Companies aimed at managing all administrative procedures in the context of requests for public contributions, loans, authorizations, concessions, etc. The goals were **the acquisition of all the information necessary for the administrative process, to check, verify and certify the acquired data and to facilitate companies in compiling data by speeding up the administrative process.**

Agriculture

European funds

Monitoring

Digital Administrative Workflow



PREVENTIVASS

PREVENTIVASS is the **institutional comparator** for the Car Liability rates of all Italian insurance companies. Compared to commercial comparators, the public estimator does not play any role of intermediation between consumers and insurance companies. The estimates generated with PREVENTIVASS have legal validity and the Companies are required to sign the policy that complies with the estimate itself.

Car Liability

IVASS

Public Comparator

CASE HISTORY / CONSULTANCY SERVICES & TURN-KEY PROJECTS



Ground SubSystem: Design, Verification, Integration

Turnkey projects. In about **15 years of experience**, we have followed the **Design, Verification and Integration (ground/onboard)** of many projects for all phases of the **Ground SubSystem** for various plants in Italy and abroad.

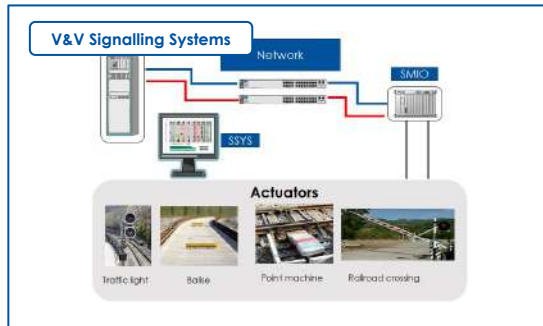
A non-exhaustive list: Turin-Padua line - Rome Tiburtina station - Milan Central station - Algerian line - Turkish line - Greek line - PILOT Lambrate-Treviglio line - Domodossola-Novara experimental line - Vicenza-Villa Opicina experimental line and more. IS, SCMT, ERTMS.

SCMT

ERTSM,L1,L2

Basic Design

Board-Ground Integration Test



Verification and validation-railway systems

The main context is the **railway signalling system**. The goal of the **V&V specific activities** are the following: the **baseline release for a system used for the Italian regional networks management**; the baseline release for audio frequency track circuits management for AV system; validation of the encrypted communication protocol PVS (Protocol Vital Standards); release of the Support System for the remote stations diagnostic management with external attacks protection (Cybersecurity).The activities involve: requirements analysis, tests definition, test environment setup, tests execution, anomaly detection and final report.

ACCM

ERTSM,L1,L2

Verification and Validation



Instant Payments

In 2017, the European Payments Council (EPC) launched the new SEPA (Single Euro Payments Area) SCT Inst scheme, which defined the pan-european rules for the exchange of instant payments. **The project implemented the integration of various front-end, API and backend components needed to allow bank customers to transfer funds from their own account to the Beneficiary account within a maximum time of 20 seconds through a service available 24/7/365.** In 2022, on its fifth anniversary, the system reached 85% of bank customers in Europe.

Payments Innovation

Open Banking

CASE HISTORY / CONSULTANCY SERVICES & TURN-KEY PROJECTS



Fresh food distributor | Unfi

With 20 large distribution centers and turnover exceeding \$18bln/year, UNFI | United Natural Foods, Inc. receives perishable fresh food from over 25,000 companies across the US and distributes it to the Wholefood retail chain.

Quality of service, speed and efficiency are paramount, leading to 10.000 order lines being processed every single hour.

aizoOn has supported UNFI throughout its growth over the years, demonstrating **performances in line with the best Amazon fulfillment centers** (Amazon now owns Wholefoods)

Distribution Center

Supply Chain

Robotics



Diabetes medicine production | Astrazeneca

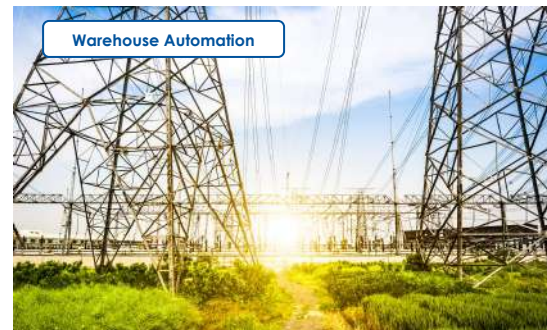
Astrazeneca's Ohio plant has long been the center of excellence to produce and distribute medicines to fight diabetes, all across the world. **This plant respects and exceeds the most stringent pharmaceutical standards**, and each step of the manufacturing and distribution process is monitored constantly for top notch performance.

aizoOn has supported Astrazeneca throughout its growth over the years, **improving supply chain performances** even in the presence of ever more stringent industry regulation and compliance checks.

Picking

Shipping

Inventory



Arizona nuclear powerplant | APS

Arizona Public Services is the vital nuclear plant feeding the grid of Arizona, perfect example of **eco-system where nuclear generated electricity supplies batteries which are also fed by solar during the day, thus ensuring the most resilient performance as well as optimal usage of renewable energy.**

aizoOn has supported APS over the years, ensuring **precise and safest performance** to manage maintenance, repair and operation parts required by this large nuclear plant.

Productivity

Software Engineering

Field Engineering

AUSTRALIA

Sydney NSW | Adelaide SA

EUROPE

Aosta ITA | Bari ITA | Bologna ITA | Catania ITA
Cuneo ITA | Genova ITA | Milano ITA
Roma ITA | Terni ITA | Torino ITA
Sheffield UK | Zurich CH

USA

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