

Artificial Intelligence solutions

We help companies evolve with applied mathematics

About us



Ammagamma is a company which offers **Artificial Intelligence solutions** to help companies **evolve** their potential.

We devise, develop, test and refine algorithms to respond to our **customers' needs**.

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Awards

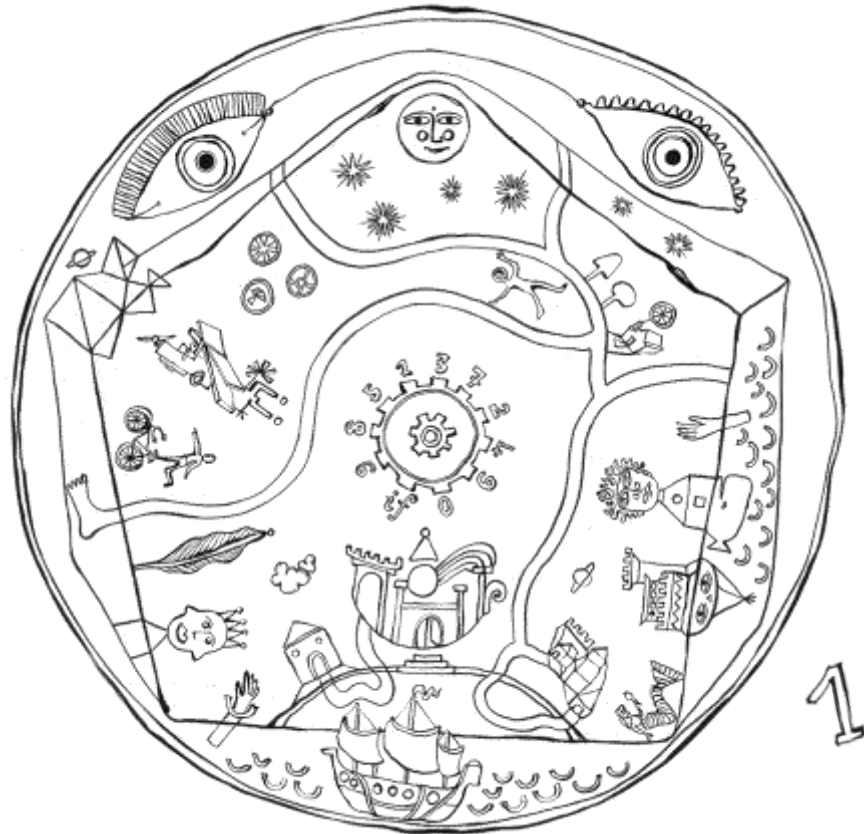


MANIFESTO FOR EXPERIENTIAL RATIONALITY



www.razionalitasensibile.it/en/

Knowledge generates responsibility



We optimize available assets, favoring the safeguarding of resources.

We transform data into value, to make the progress tangible and achievable.

We orient customers towards productive and social sustainable solutions.



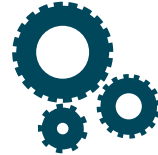
Working methodology



Understanding

Data understanding

- Data visualization
- Exploration of the business context
- Follow-up and objectives alignment



Modeling

Data modeling

- Data preparation and clean-up
- Target definition
- Model development
- Model training



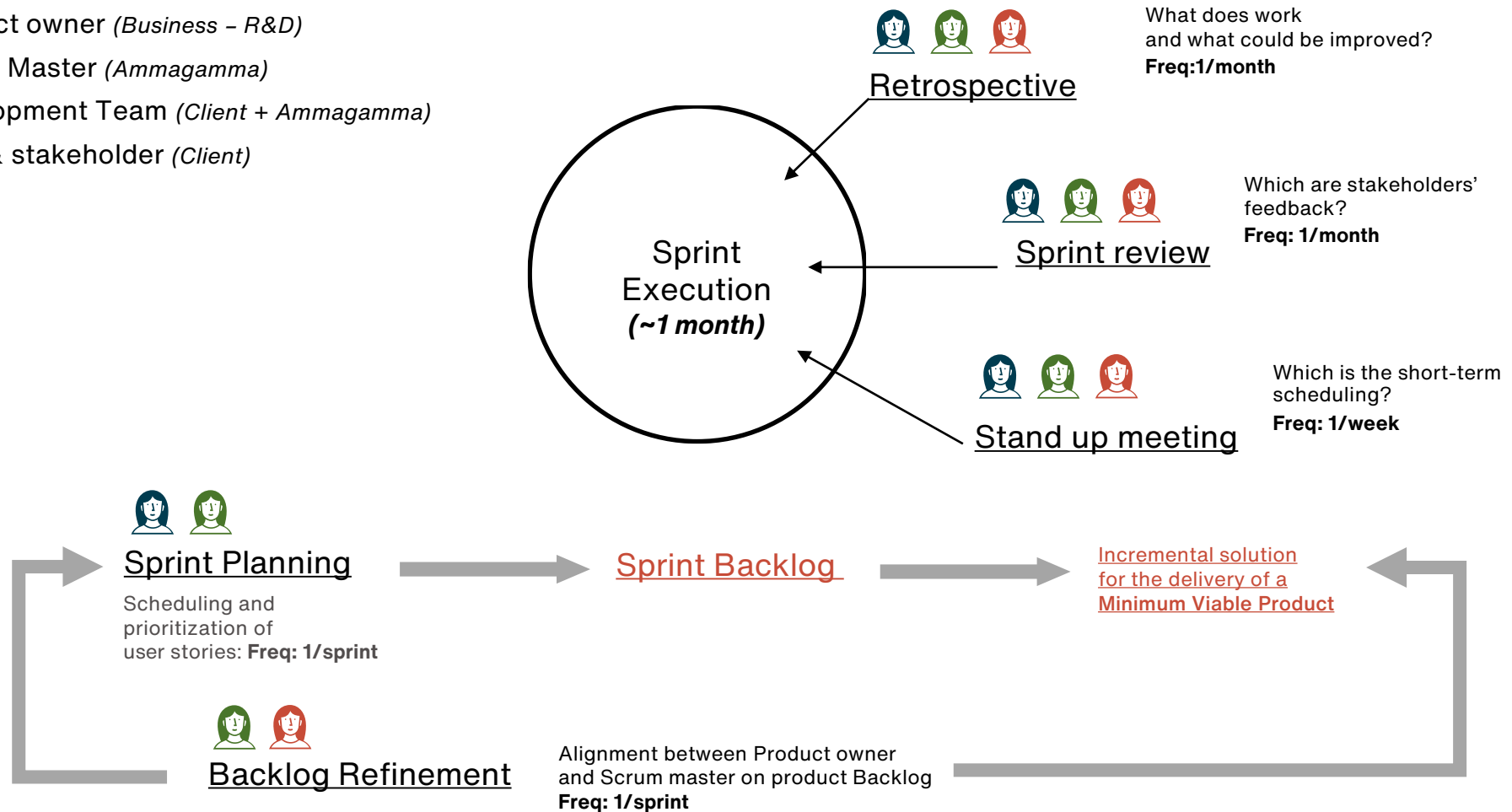
Evaluating

Use case validation

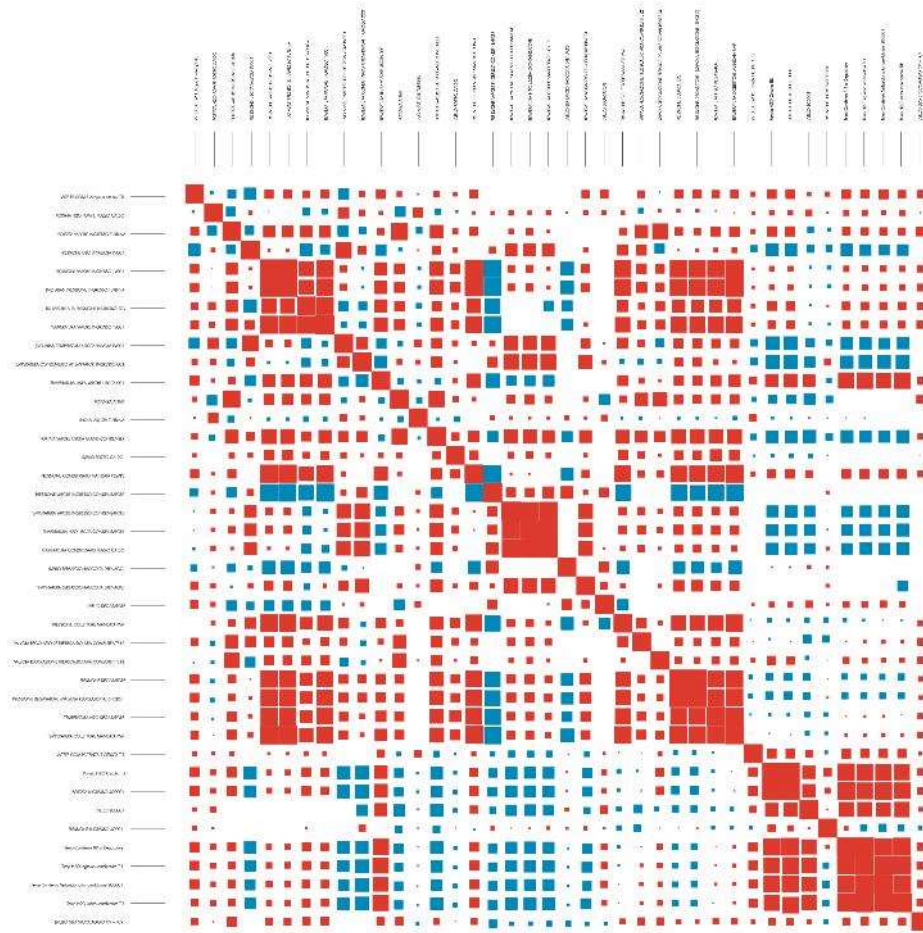
- Model evaluation metrics
- Report on «experiments»
- Results shared with all business owners
- Model validation

Agile development methodology

- Product owner (*Business - R&D*)
- Scrum Master (*Ammagamma*)
- Development Team (*Client + Ammagamma*)
- User & stakeholder (*Client*)

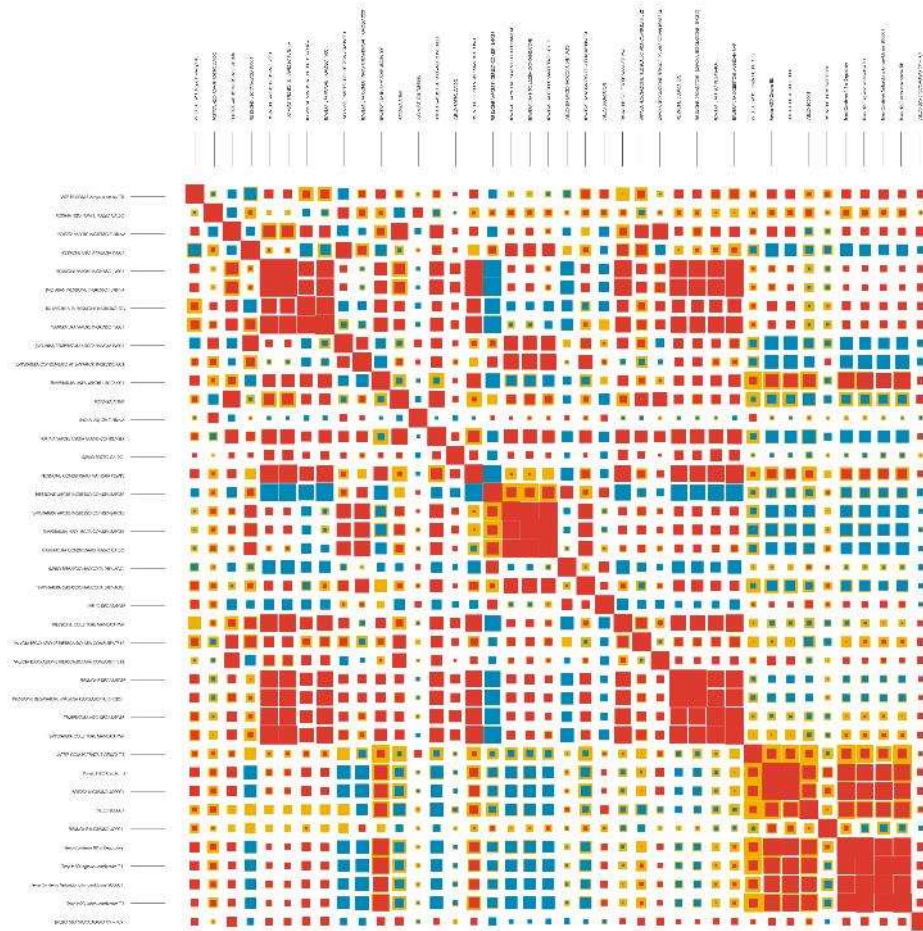


Weak correlations' impact



The map allows us to identify not only the **strong correlations** among variables (in RED the direct correlations and in BLUE the inverse ones), but also it guides us in understanding the **weak correlations**.

Weak correlations' impact



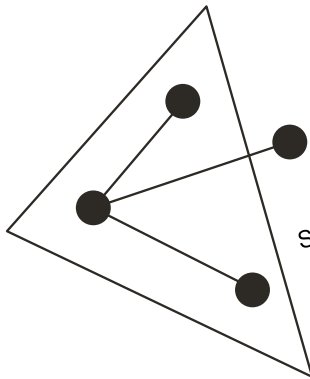
The **weak correlations** (not linear, in YELLOW), help us understanding the relationships' dynamics, controlling the complexity of the phenomenon and reaching **new levels of knowledge and efficiency.**

Team

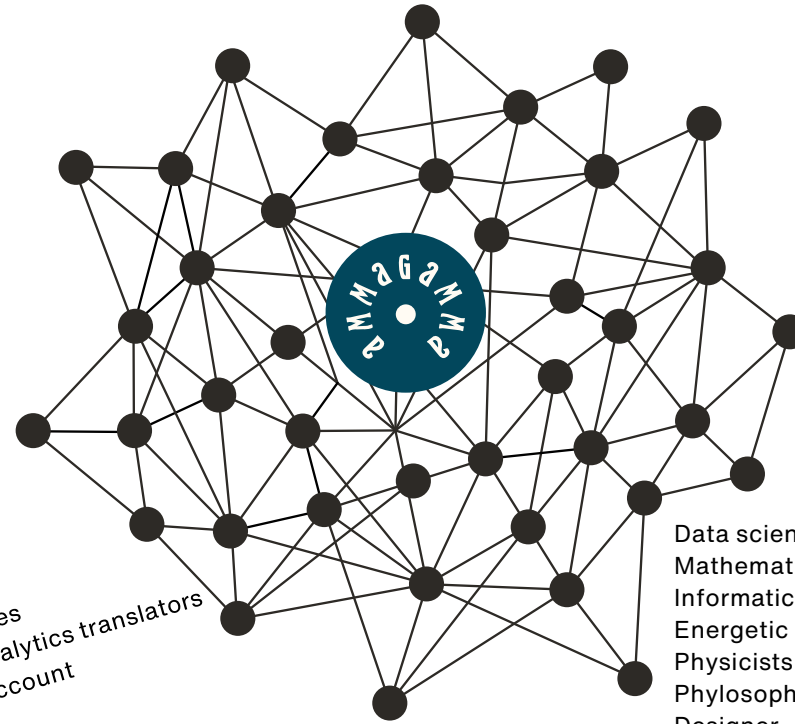
● **Fabio Ferrari**
President & Founder

● **David Bevilacqua**
CEO

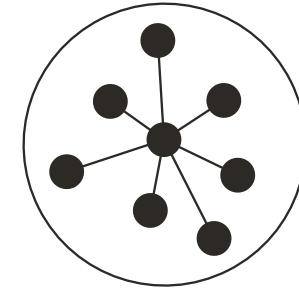
Customer



Sales
Analytics translators
Account



Result



Data scientists
Mathematicians
Informatic engineers
Energetic engineers
Physicists
Phylosophers
Designer

● **Advisory board**

Pier Luigi Celli
HR & Management

Sabina Leonelli
Philosophy & Science

Chiara Montanari
Complexity Management

Francesco Caio
Development & Strategy

Alessandro Braga
Innovation Development

Development team



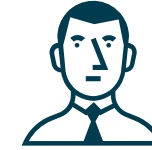
Data Scientist (DS)

- mathematician/statistician /engineer
- Deals with translating customer's needs and objectives into mathematical models



Data Architecture & Visualization (DAV)

- Expert in development and architecture of front-end and back-end softwares
- Enables the consumption of data and its modeling



Technical Leader (TL) /Project Manager

- Former developer
- DS or DAV background
- Large experience in project management in Data Science & AI fields

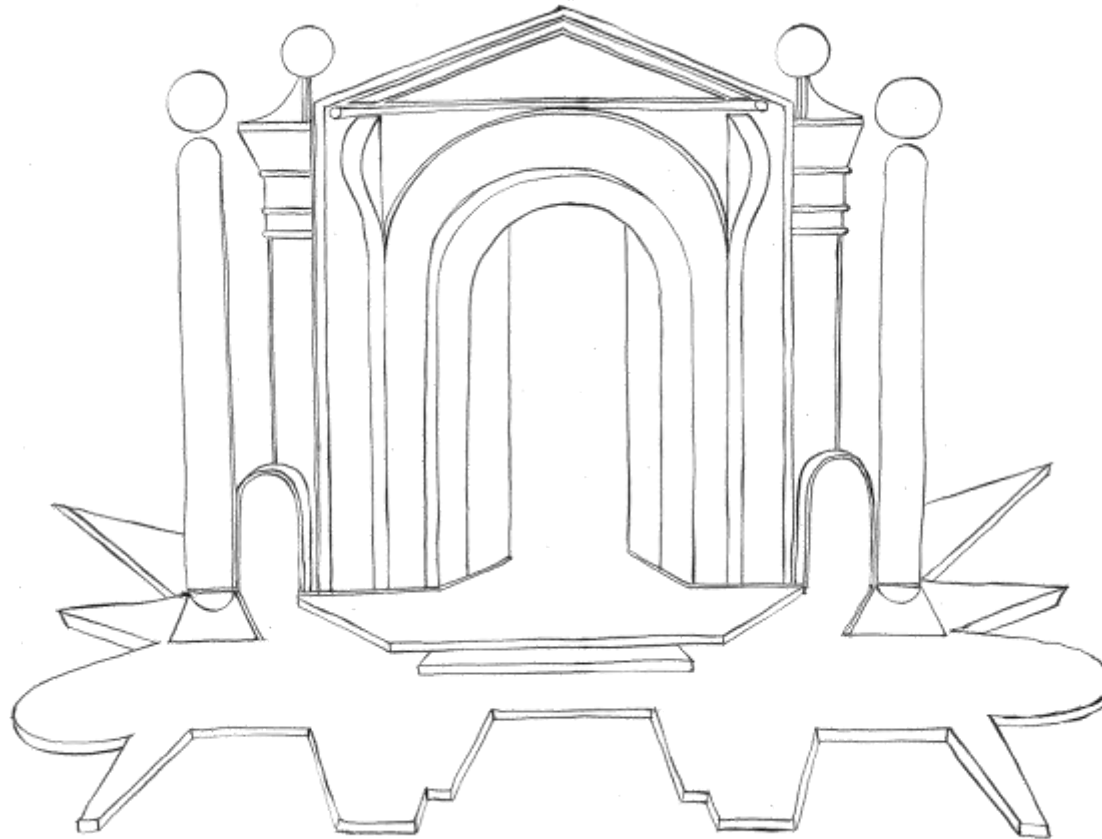
MINIMAL PROJECT UNIT: 1 DS, 1 DAV, 1 TL

The number of engaged resources changes on the basis of the single project

MOTS & Custom Projects

MOTS
Modified of the shelf

aware
anagram
vilfredo
avenue
ahead

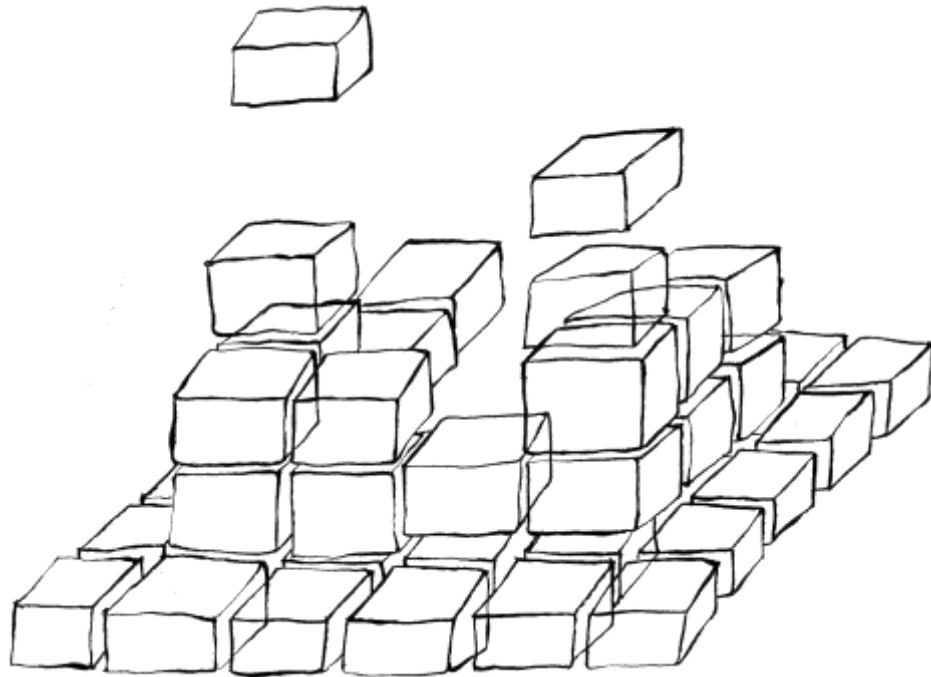


Custom Projects

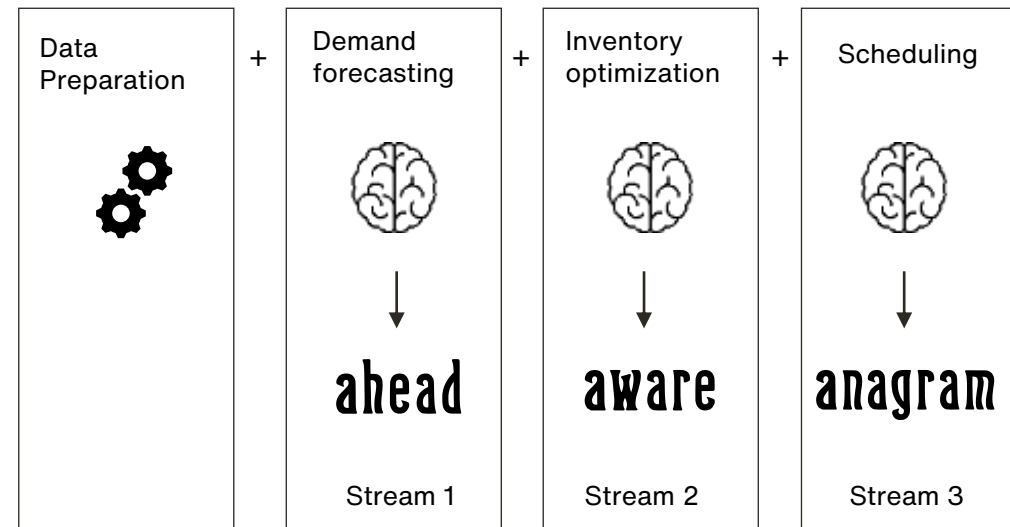
FORECASTING
MODEL PREDICTIVE CONTROL
OPTIMIZED PLANNING
IMAGE ANALYSIS
MARKETING RECOMMENDATION ENGINE
ROBOTIC PROCESS AUTOMATION
BUSINESS INTELLIGENCE
ENERGY MANAGEMENT

Partnership Solutions development with data science teams
Design of new data science strategies, methodologies and solutions

Building Blocks



Ammagamma's **building blocks modularity** allows to compose more modules by creating a unique solution based on perfectly integrated softwares and algorithms.



We use numbers to transform chaotic systems into organized, intuitive and verifiable models.



Descriptive Algorithms

Description of the variables that characterize a phenomenon to create its mathematical model.



Predictive Algorithms

Information analysis to predict and control future behaviors of the phenomena.

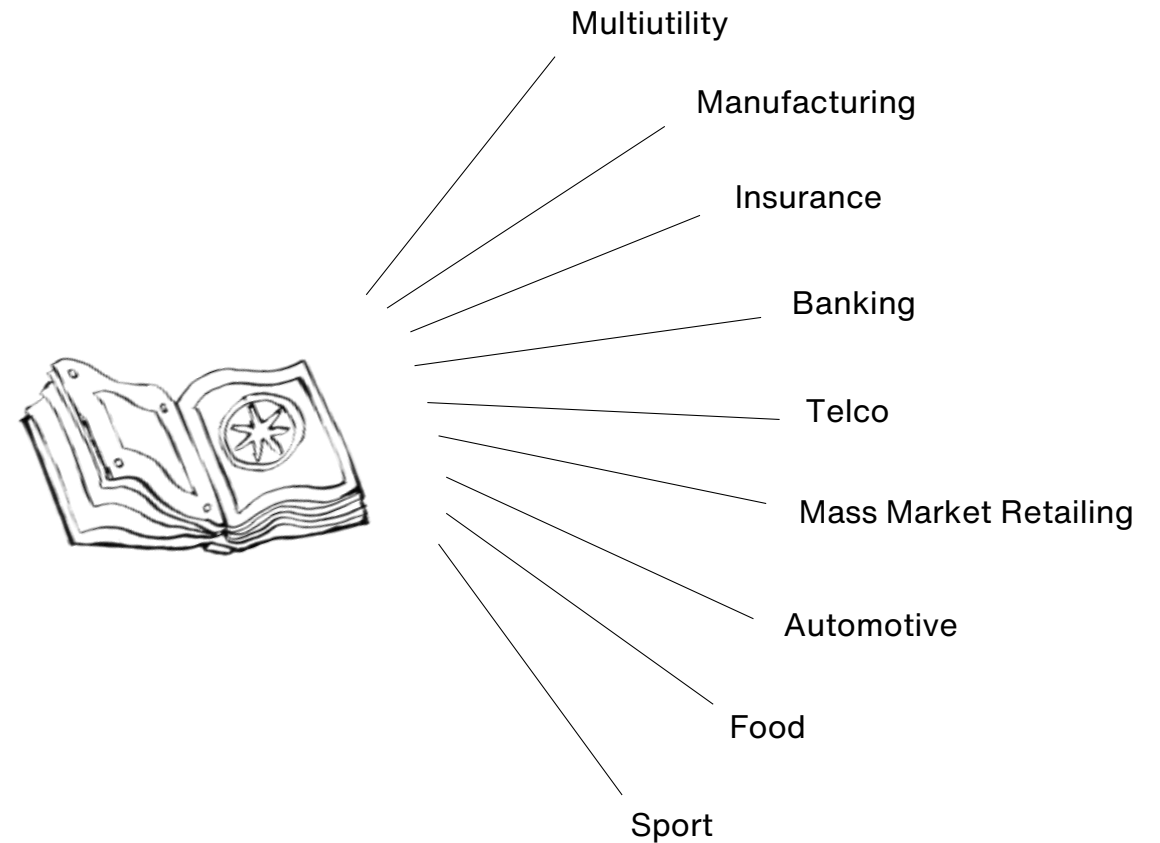


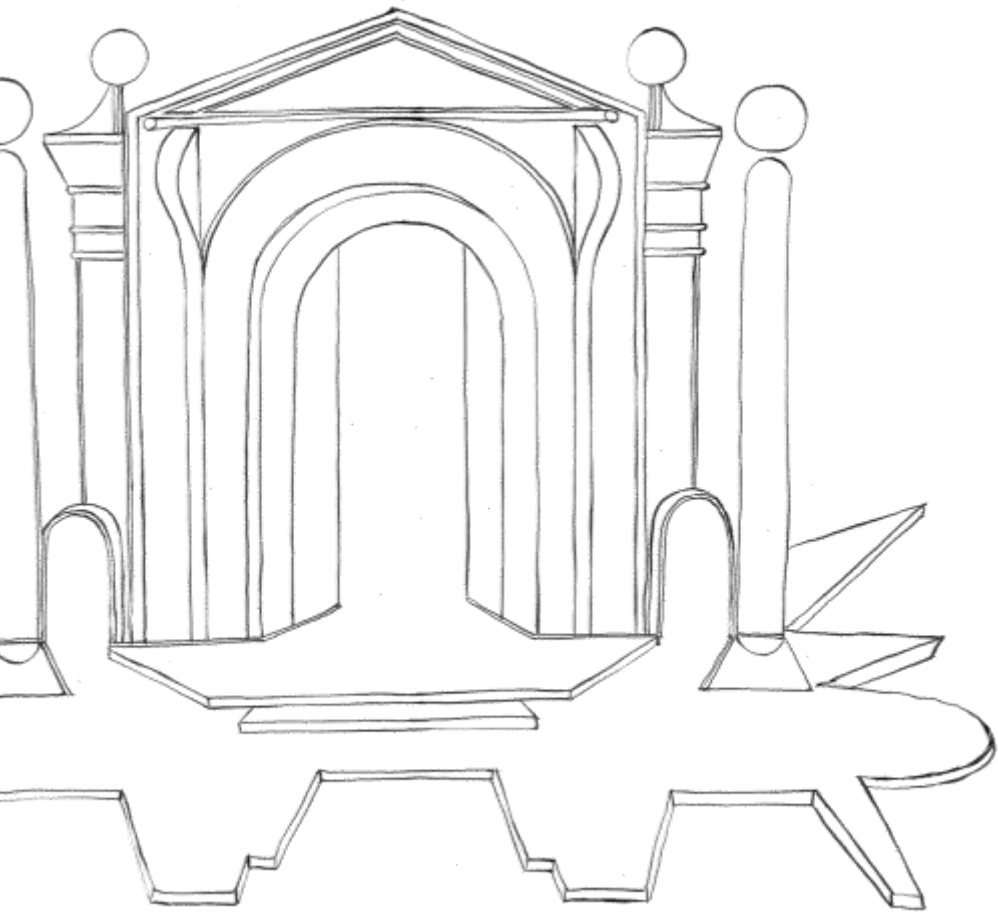
Prescriptive Algorithms

Development of prescriptive formulas to support and guide the process management.

Our applications adapt to all specific fields

Experience has led us
to outline solutions that
can be improved and
adapted to **many
specific sectors.**





Our offer

ROBOTIC PROCESS AUTOMATION

FORECASTING

MODEL PREDICTIVE CONTROL

OPTIMIZED PLANNING

IMAGE ANALYSIS

MARKETING RECOMMENDATION ENGINE

BUSINESS INTELLIGENCE

ENERGY MANAGEMENT

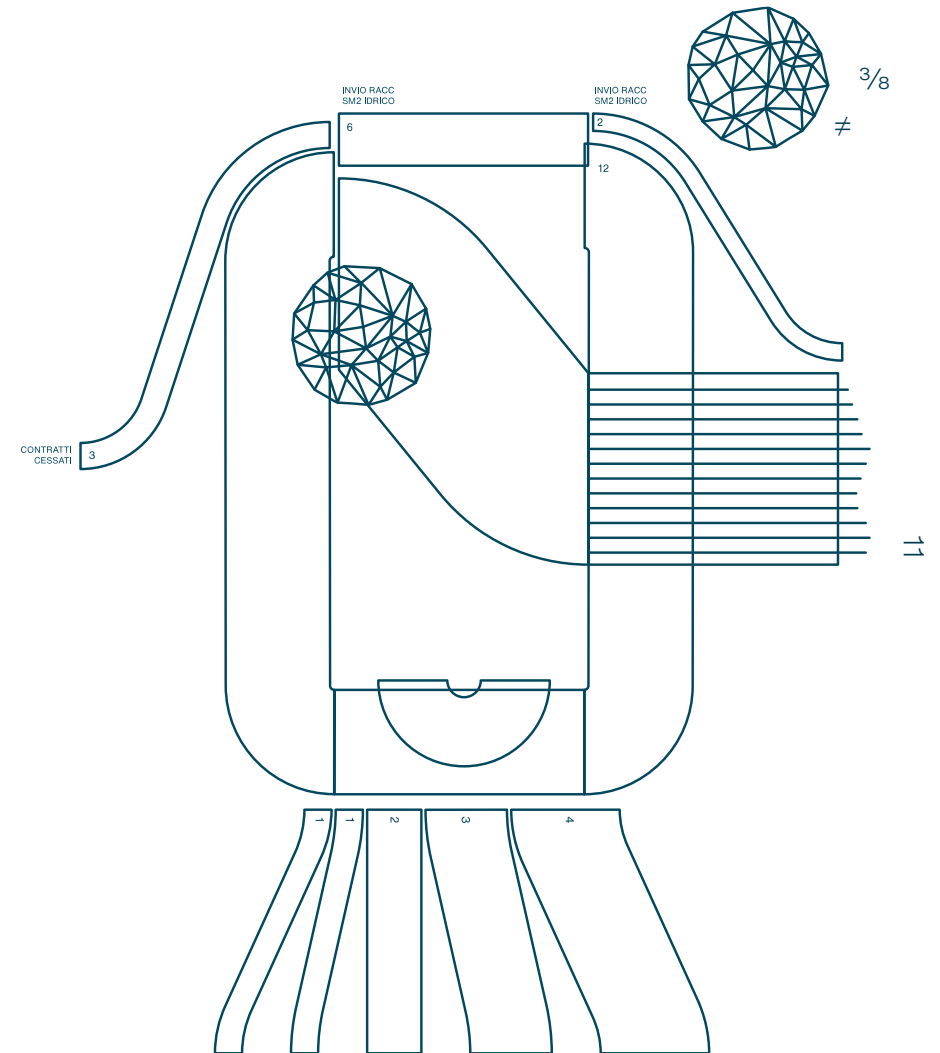
Solutions / usecase/ industries

	INDUSTRY							PROCESS
	UTILITY	MANUFACTURING	RETAIL/FOOD	FASHION	TELCO	BANKING/ INSURANCE	MEDIA	CREDITS
RECOMMENDATION ENGINE	Commodity dynamic pricing		Large-scale distribution promotions	Assortment planning, Customers' Clustering		Car accident frauds, Up/cross selling	Churn prediction	Dynamic reminders Assignment of impaired loans
OPTIMIZATION		Production Scheduling*	Inventory optimization		Inventory optimization*			
FORECASTING*	Electric consumptions		Market demand					
DOCUMENT INTELLIGENCE						Bank expertise		
RPA	Back/front office tasks					Mortgage process		Sorting of expired invoices
IMAGE ANALYSIS		Paints defects						
PREDICTIVE CONTROL	Water treatment*					Optimization of HVAC setpoint		

Robotic process automation

Thanks to RPA, repetitive processes, without added value, become **faster, better performing, more efficient.**

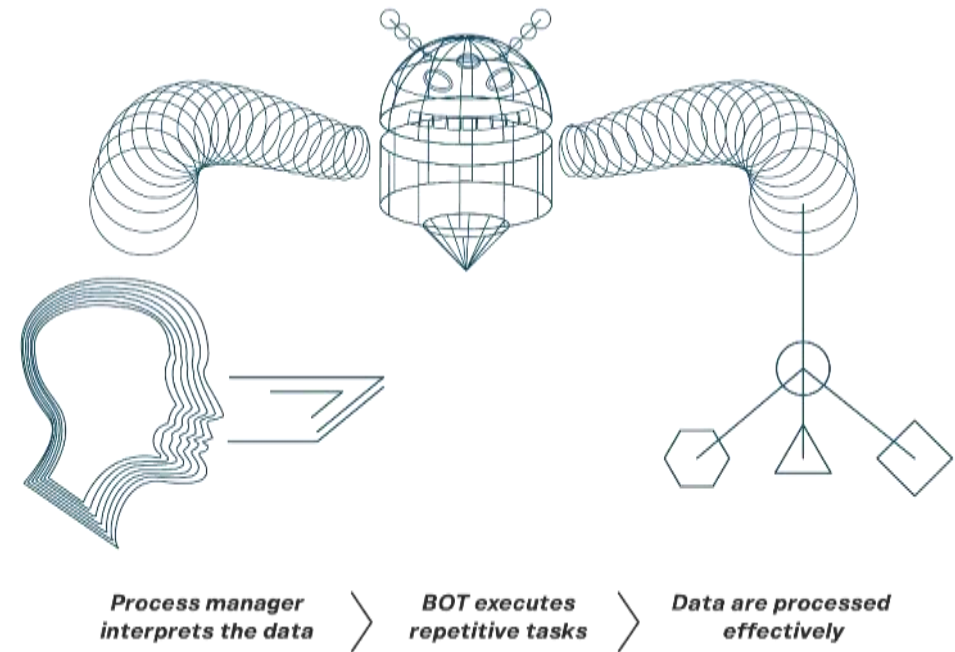
This technology consists in a **software workforce**, called “bots”, able to work 24/24, 7/7.



How it works

“Bots” execute **millions of tasks per day with no interruptions**, enabling the process operators to devote themselves to control and supervision.

RPA can be **integrated with SAP, browsers and the Office suite**.



Fields and case studies

- MULTI-UTILITY
- BANKING
- INSURANCE
- FINANCE
- BACK-OFFICE



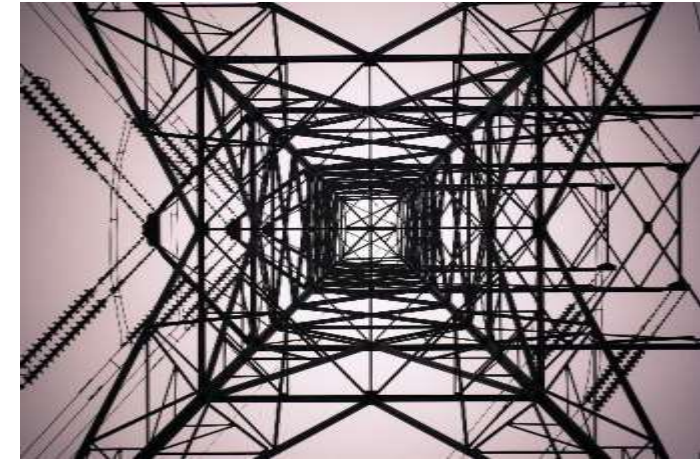
Credit recovery robotization in Multi-utility

- Less process elapsed time: from 7 days to 25 minutes
- More scheduled actions: from 50 manual to 270 automated
- 100% of the historical data relating to the flow of cases

Automation of back-office tasks in Banking field

- Recovered around 14 fte* in 6 months
- Enhanced the governance of mortgage management processes
- Reduced manual errors

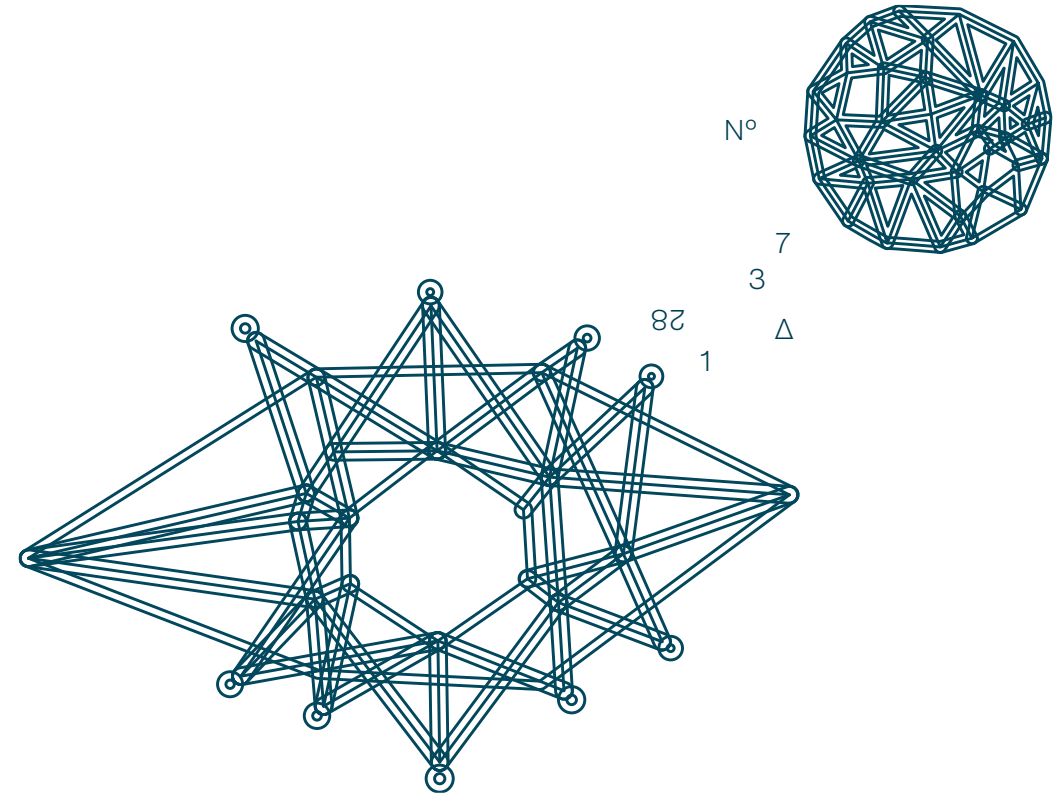
* fte (full time equivalent)



Forecasting

Assume **preventing measures and actions**, minimizing risks and maximising profits, with forecasting.

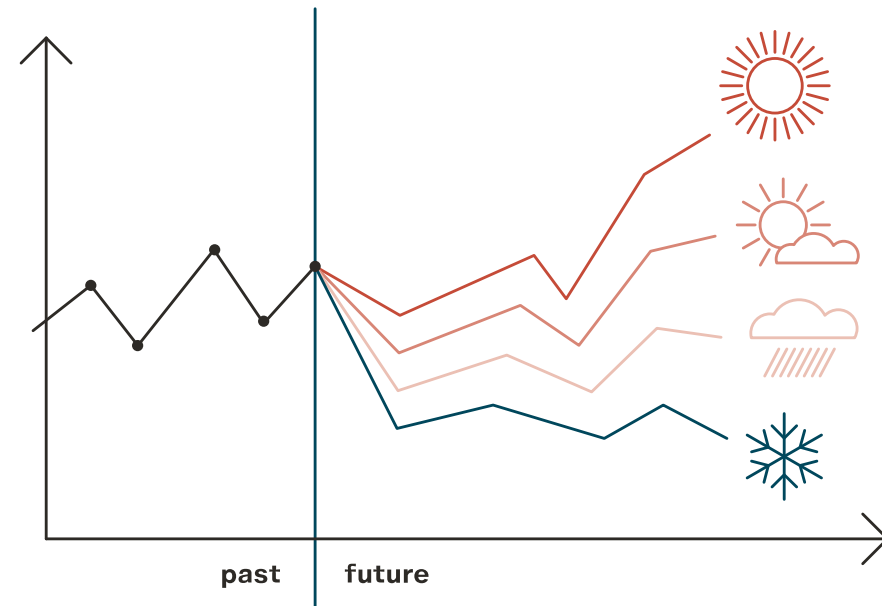
Through **AI predictive models** we automatize the forecasting process, making accurate forecast of phenomena's behaviour.



How it works

From the available data, the models compose **time series on the variables** representative of the phenomenon.

This data base becomes raw material for the training of models, which learn to recognize the fundamental components of the phenomenon and **predict the evolution of the process.**



Fields and case studies

- MULTI-UTILITY
- FOOD
- TELCO
- FINANCE
- PUBLISHING



Demand forecasting in the world of Food

- Demand forecasting and reordering optimization of all references
- +55% increase in effectiveness in forecasting demand
- -20% reduction in the value of immobilized warehouse stock

Churn risk forecast in Publishing

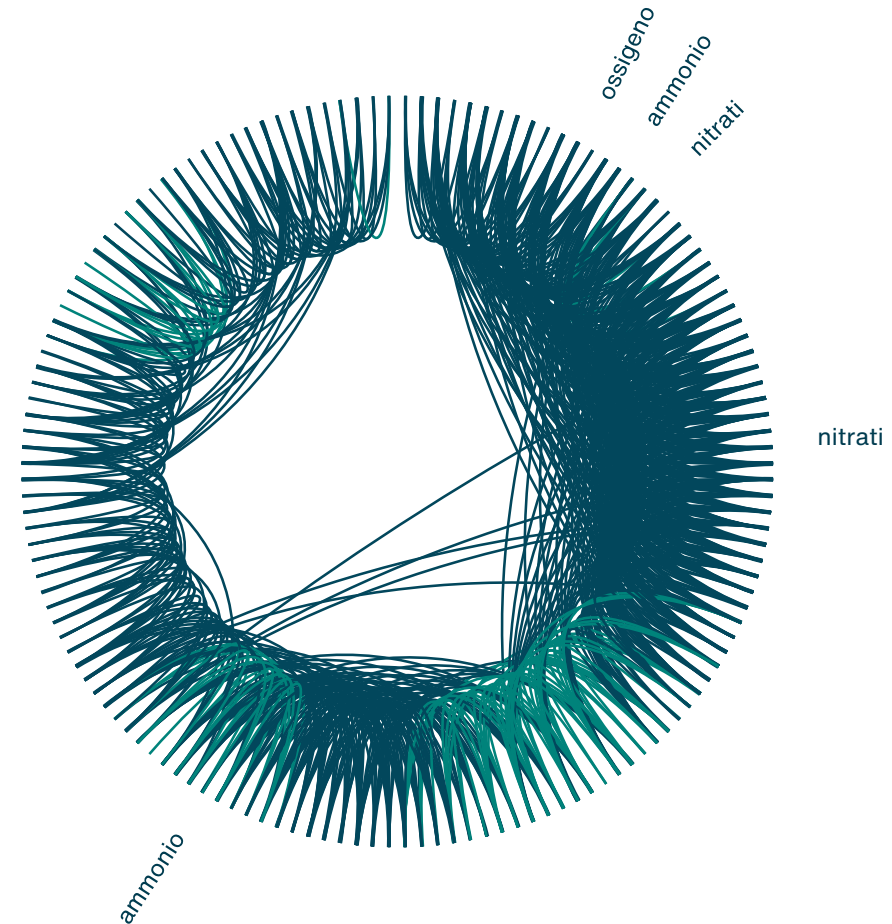
- Churn risk forecast seven months quicker
- 80-90% accuracy in predicting churn risk
- 200% total improvement over as-is methods



Model Predictive Control

Optimize **plants management through automated control** systems.

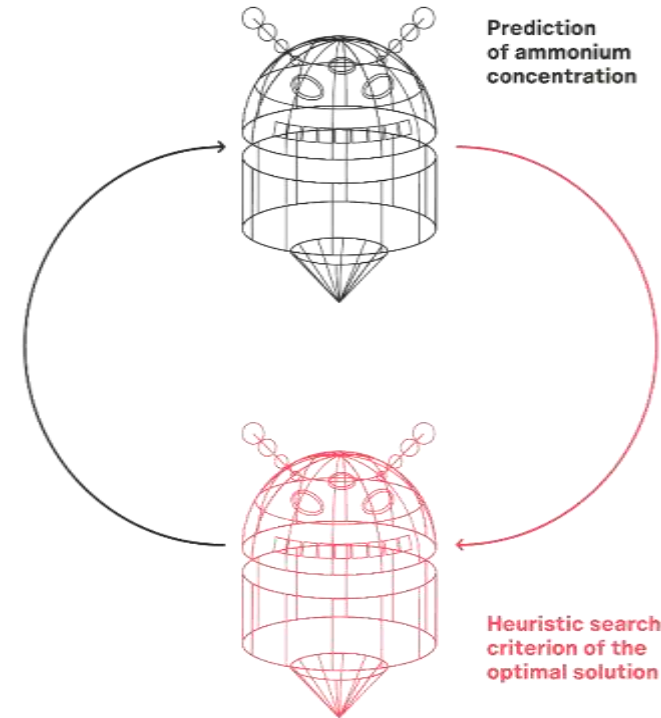
Algorithms forecast the effect that an input variation can have on the system, allowing to **stabilize control, enhance efficiency** and forecast the evolution of the process.



How it works

After the process of data preparation and analysis, different predictive models are tested, in order to **identify the model with the best forecasting performance** and the maximum capability to describe the phenomenon.

This technology integrates the **technical-engineering know-how with the physico-chemical logic** that governs it.



Fields and case studies

- MULTI-UTILITY
- BANKING
- MASS MARKET RETAILING
- MULTI-SITE



Optimized control of purification systems

- -8.1% of total nitrogen
- +16% energy savings

Automatic regulation of HVAC systems for buildings

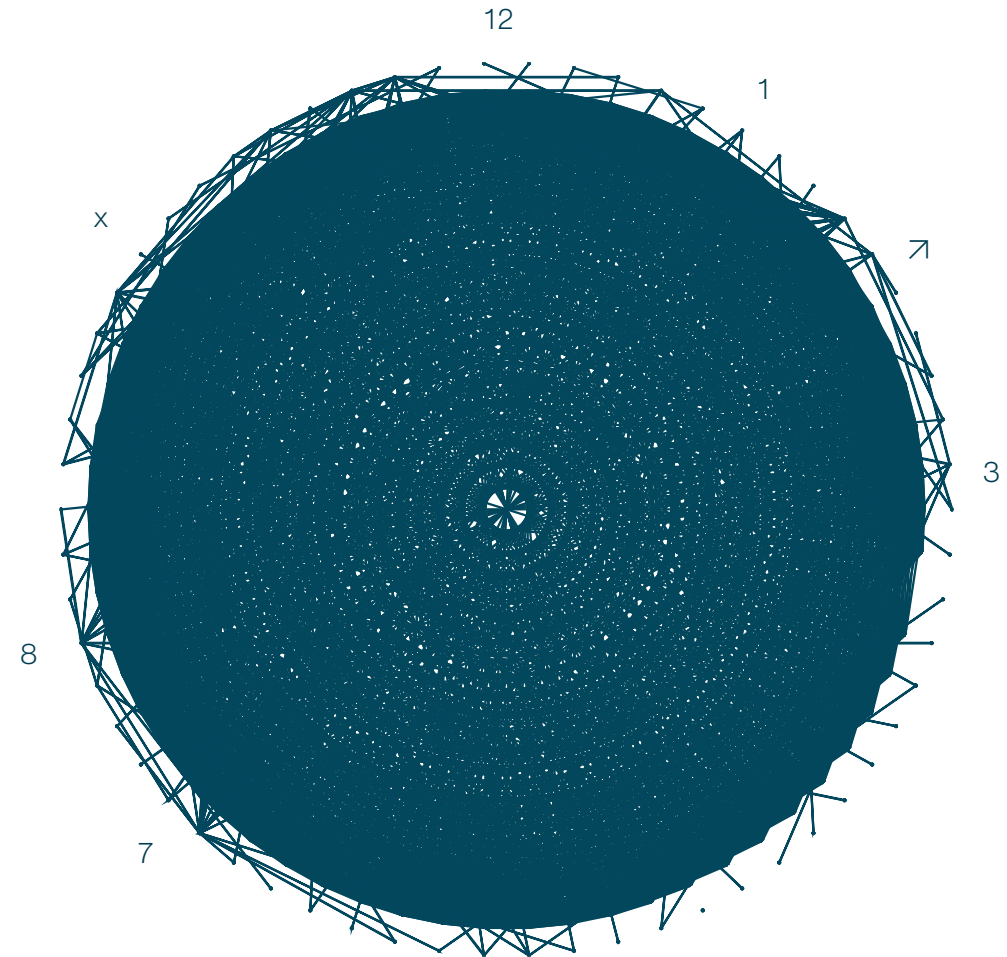
- Reduction of energy consumption between 16% and 30% thanks to BEMS optimization (building energy management systems)



Optimized planning

Take advantage of the potential of algorithms to **optimize the work program of production** processes.

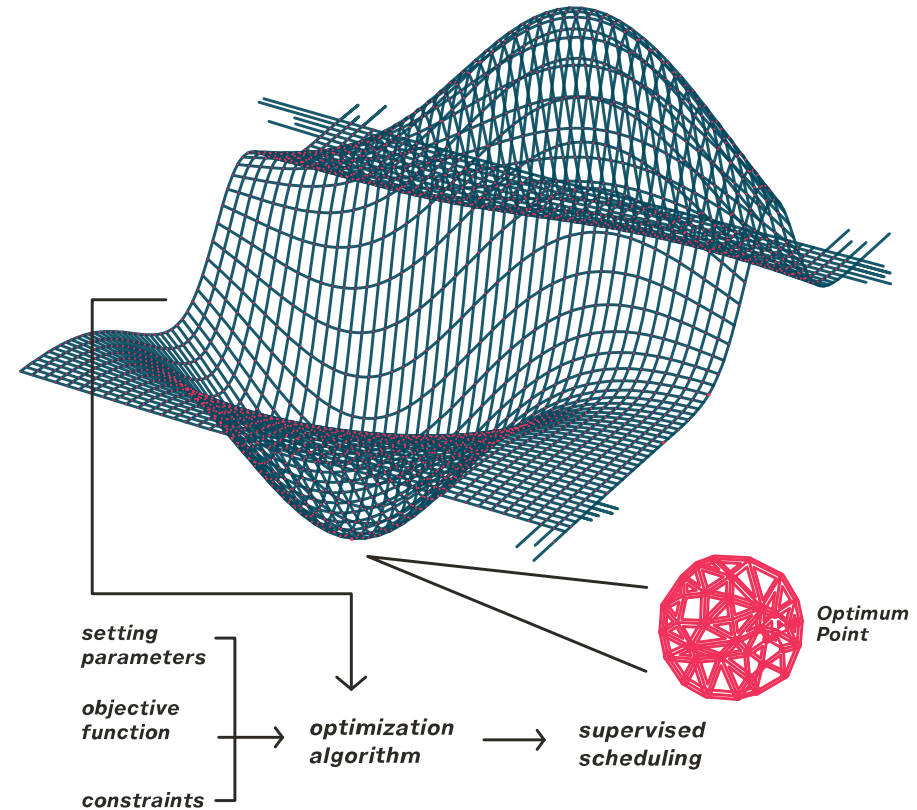
Through Optimized Planning you can **minimize production costs and waste**, taking into account the intrinsic parameters and constraints of the processes.



How it works

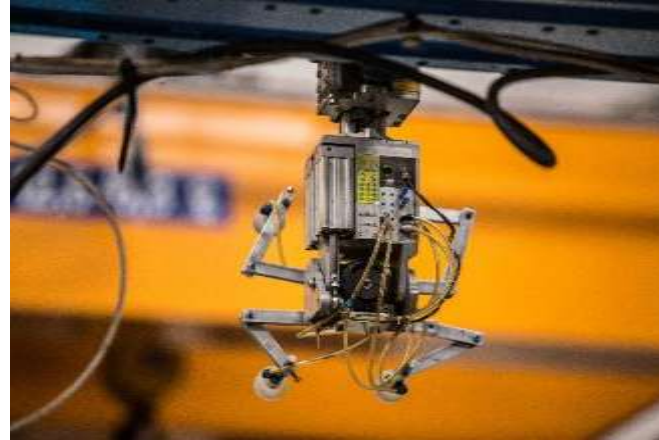
Production speed, shipping times, costs and process constraints: this solutions operates **taking into account all these parameters.**

By exploiting the potential of this application, it is possible to **optimize the production processes of any sector,** for any asset.



Fields and case studies

- MANUFACTURING
- MULTI-UTILITY
- FAIRS
- FOOD



Production planning in plastic injection molding

- + efficiency of the machine park
- energy consumption and wasting of resources
- overall environmental impact

Optimized planning for the maintenance teams of gas networks

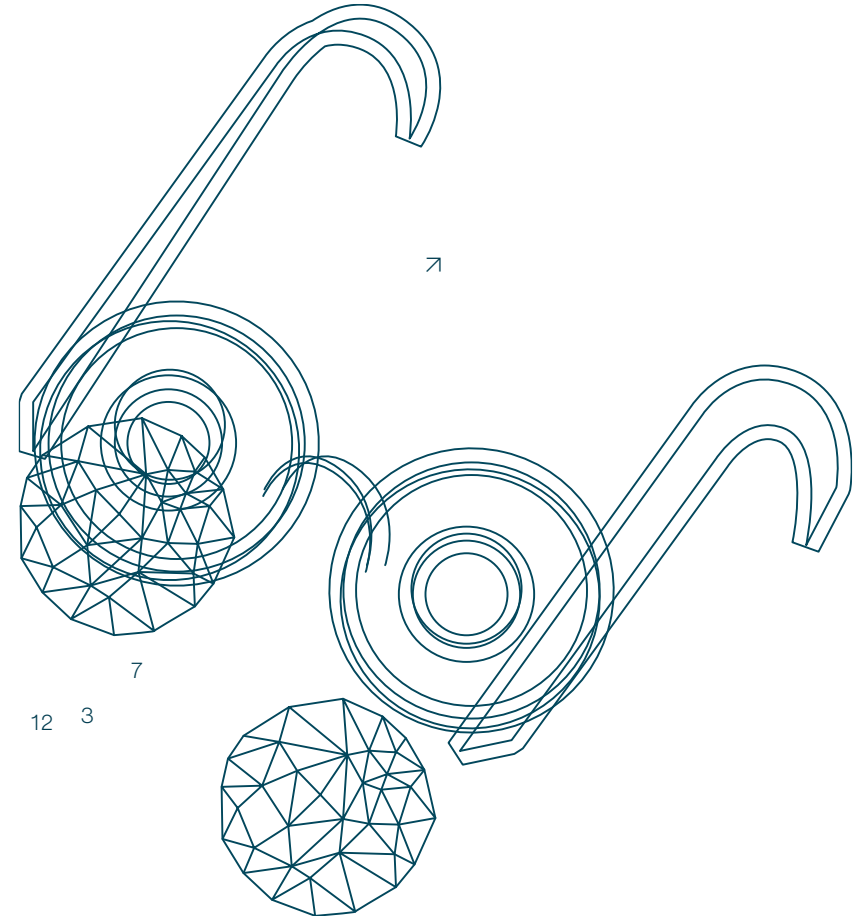
- + 30% accuracy of Fault Prediction
- - 30% losses reported by third parties
- + 20% of km monitored with the same teams



Image analysis

Extract useful information from the photos of processes and identify production wastes with Image Analysis.

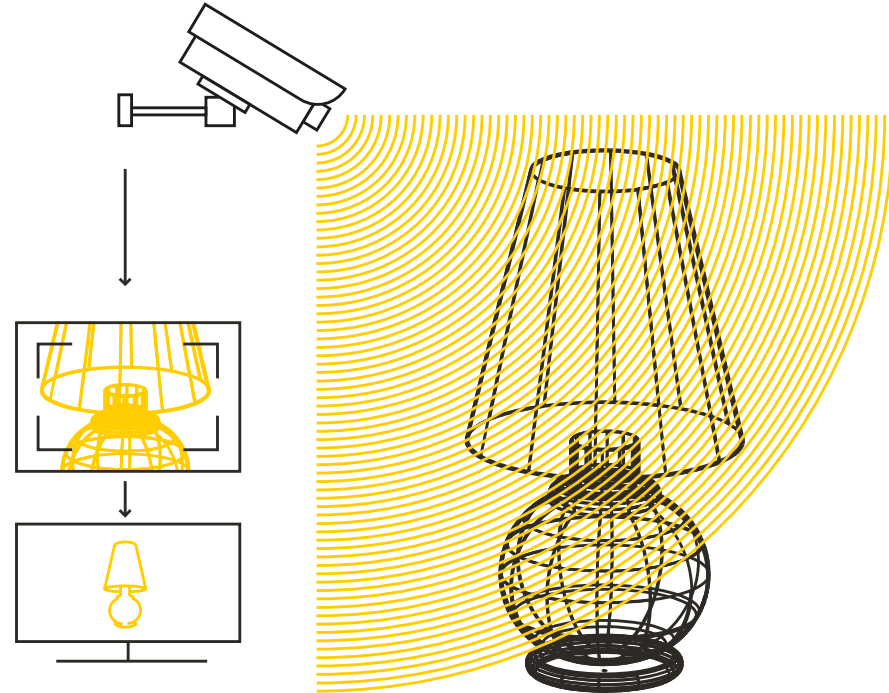
A similar system of classification or automatic information extraction can help you **maximize the effectiveness of quality control**.



How it works

Expert vision systems **monitor 24/24 the production line**, extracting information from photos or identify production wastes.

The Image Analysis algorithms **learn what to look for in images** and how to classify it, replicating what they have learned on a large scale.



Fields and case studies

- MANUFACTURING
- AUTOMOTIVE
- SPORT



Artificial vision for automotive quality control

- + 85% increase in the number of imperfections detected
- Reduction of the number of re-working hours by operators

Winning sponsorship strategies in the Sports field

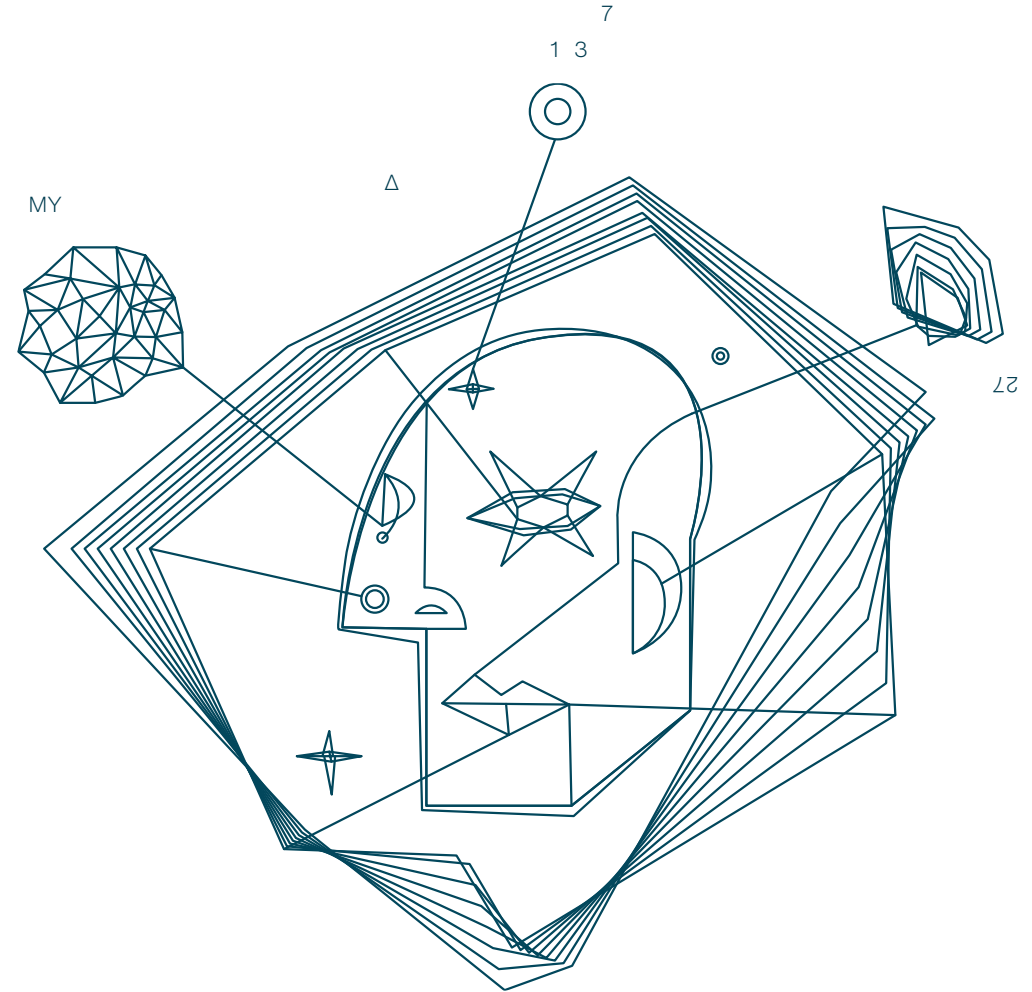
- increase in the level of effectiveness of sponsorship strategies
- + accuracy of the model in the classification of sponsor logos



Marketing recommedation engine

Reach your users with **relevant and effective proposals**, using the automatic recommendation models.

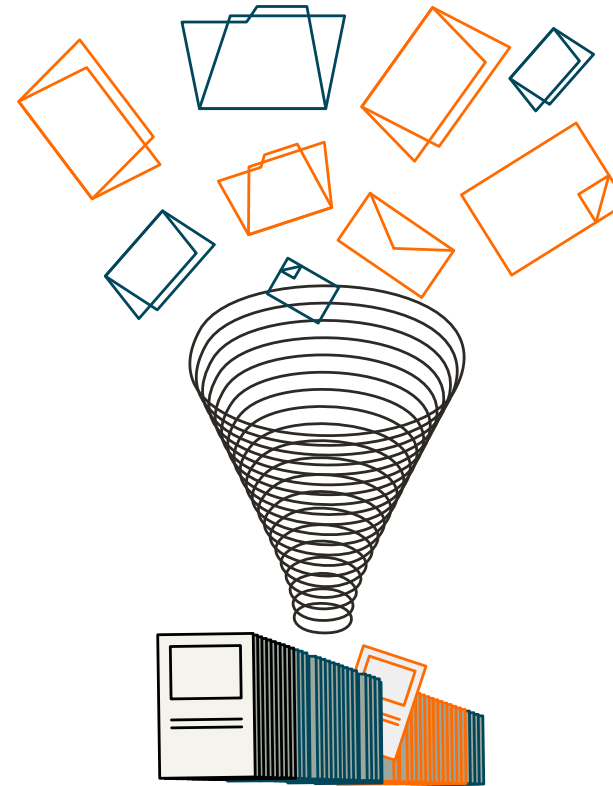
The MRE system filters contents and creates **specific recommendations for each user**, in order to help them in their choices.



How it works

The system **analyses large amounts of data**, compares them, determines what the recurring patterns are and **identifies the right product** for each user at the right time.

Its forecasts constantly **adapt to the customer's actions**, maximizing the probability of conversion.



Fields and case studies

- PUBLISHING
- BANKING
- INSURANCE
- E-COMMERCE



Cross selling for insurance products

- + 85% cross selling accuracy
- + 75% conversion rate accuracy on prospects
- + accuracy in customer purchase forecasting

Editorial marketing recommendation system

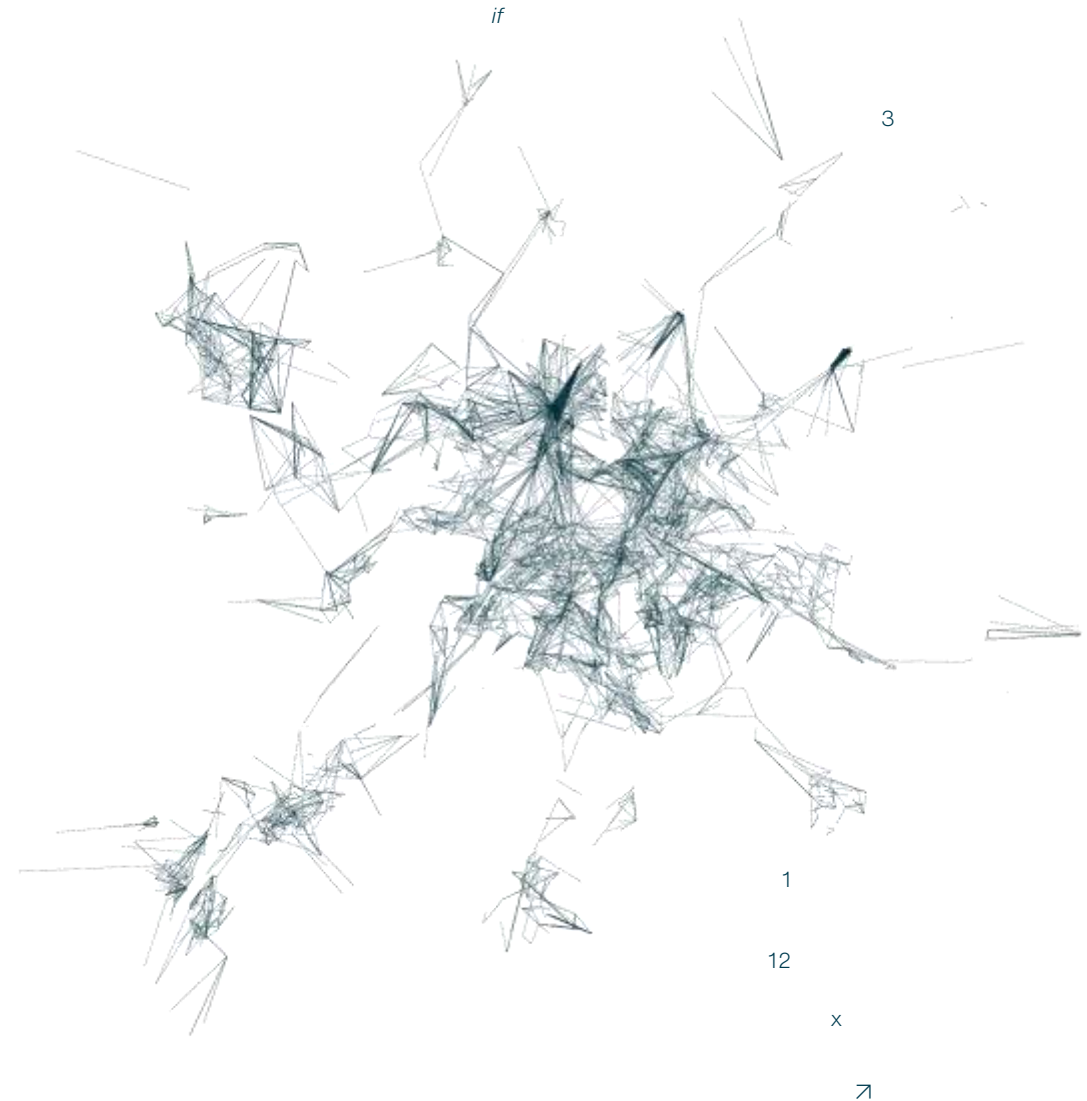
- Optimization of the level of user profiling
- Improvement of the experience of using the contents



Business intelligence

Thanks to BI you can **make strategic decisions** in an easier and more intuitive manner.

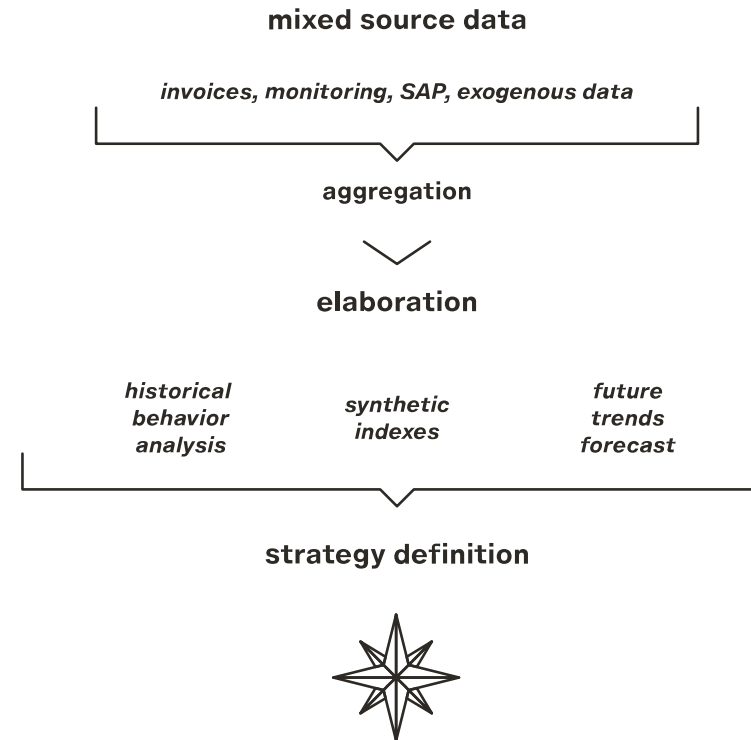
Through the interpretation of graphs, reports and indicators, BI allows you to **access new levels of process knowledge**, assuming precise, concise and significant information.



How it works

BI puts into a system different raw data, within a single working environment.

This bulk of raw data is cleaned, validated and processed to reveal the **correlations and trends** that exist between the data. Everything happens in real time, through interactive dashboards and ad hoc reports.



Fields and case studies

- TERTIARY
- MANUFACTURING
- MULTI-SITE



Less time needed to analyze energy costs in the service sector

- Component analysis
- Automated detection of anomalies in energy invoicing
- Consumptions and cost analysis archive

Monitoring of IT processes in production

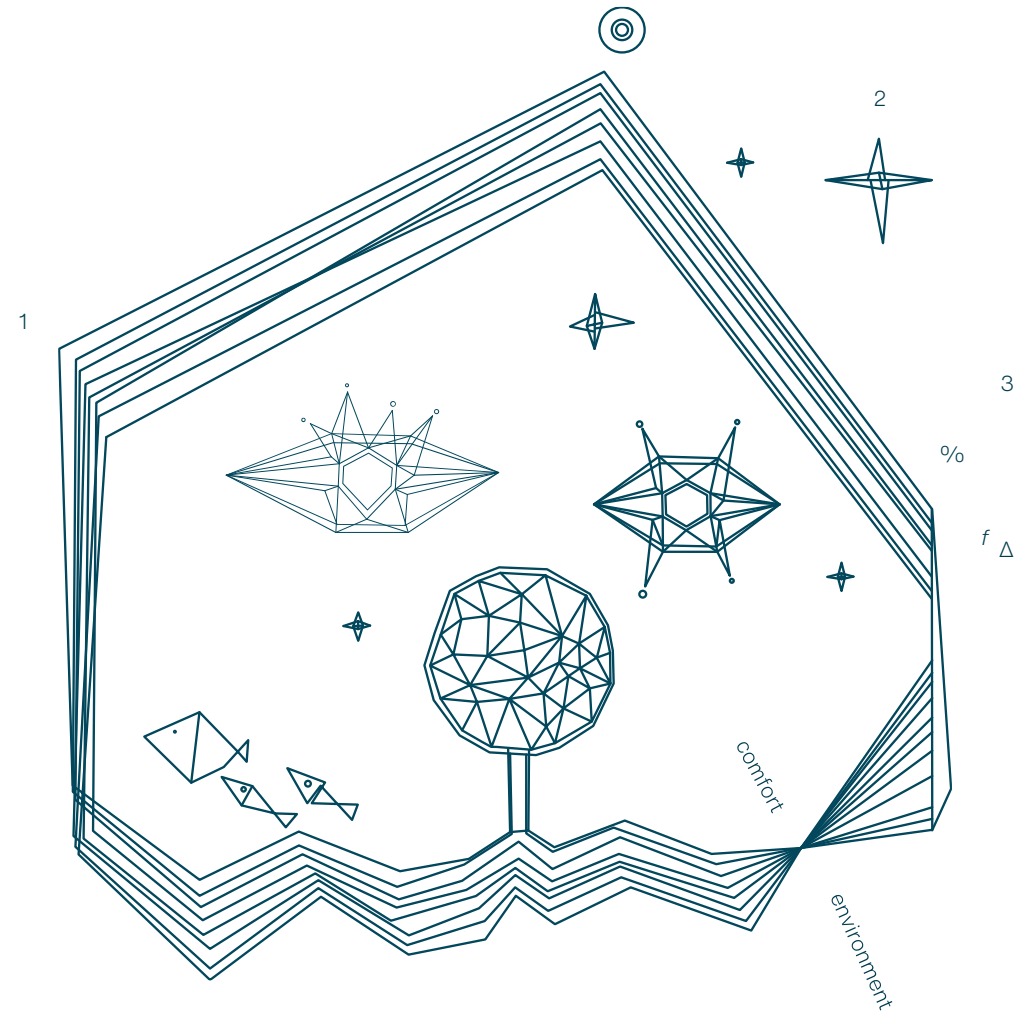
- + ability to promptly intervene
- + overview of complex pipelines
- Aggregate and detailed reporting on individual processes



Energy & sustainability management

Reduce energy consumption and management costs, improving the sustainability of processes.

We digitize consumption information in a single database and integrate all your monitoring, in order to identify the right intervention.



How it works

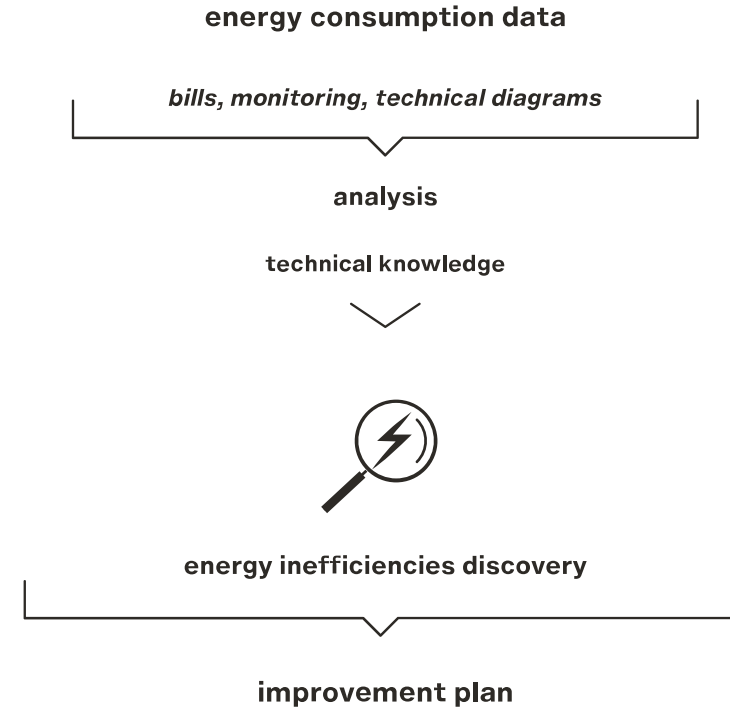
We optimize the **management of procurement and the use of resources**, pursuing the best economic and environmental objectives.

1: Data analysis and organization

- Energy diagnosis
- Resource diagnosis
- Carbon footprint / LCA

2: Performance improvement

- SGE ISO 50001
- Energy efficiency plan / Feasibility study
- Circular economy project
- Carbon offset



Fields and case studies

- BANKING
- INSURANCE
- HEALTHCARE
- DATA CENTER



BEMS optimization for banking sector

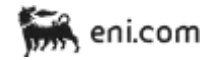
- Increase in the level of comfort within branches
- – 17% Reduction in energy consumption in 1 year of the structural real estate assets

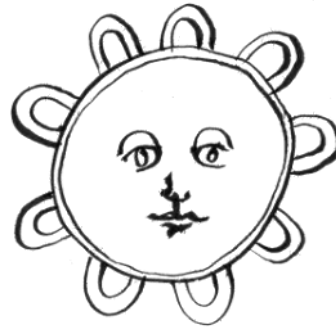
Carbon & water footprint for Healthcare

- Optimized resource management
- Reduction of emissions and environmental impact
- Company carbon offset projects identified



Some of our clients





We transform data into advanced mathematical solutions to astonish and guide man towards new social and productive sustainable visions.

Ammagamma designs the future before it happens.



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