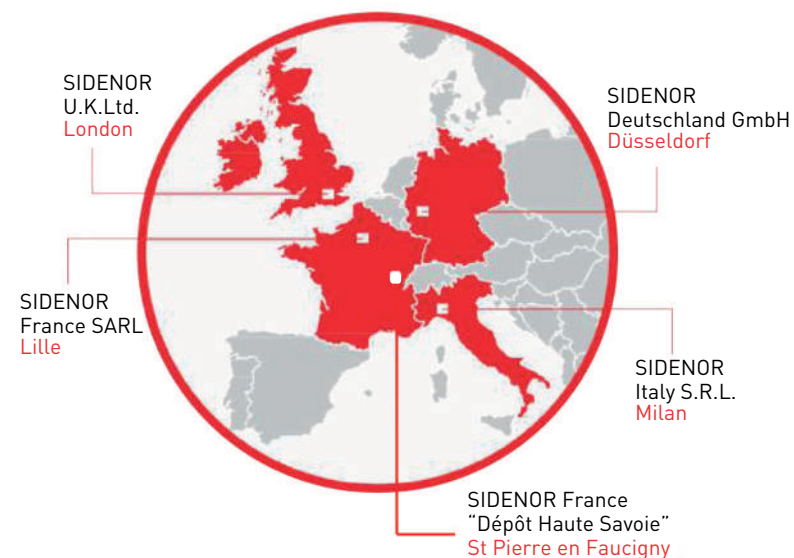
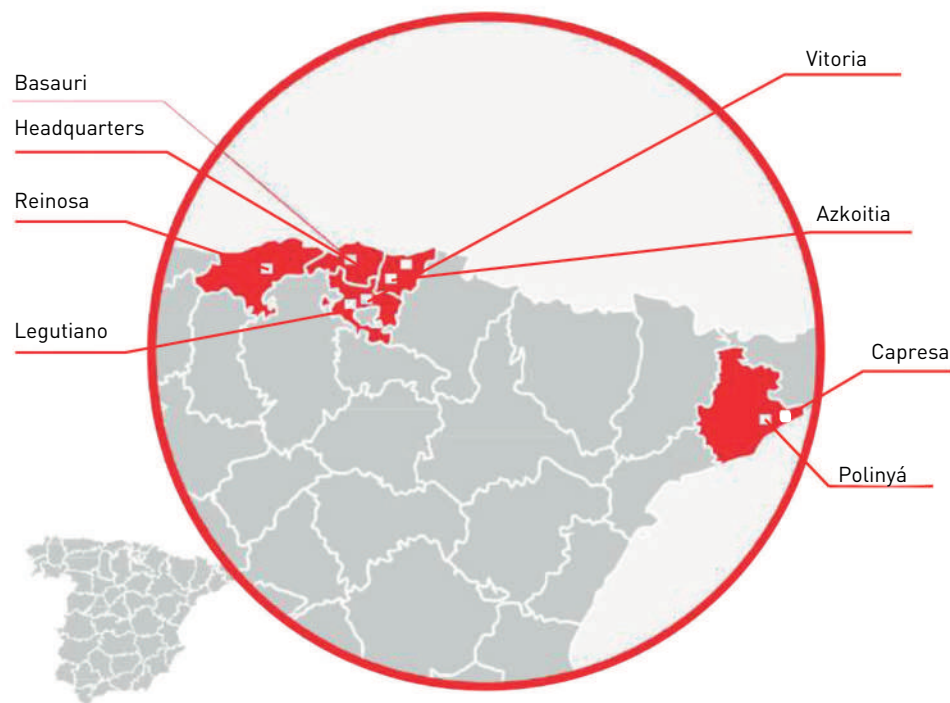


A photograph of a worker in a steel mill, wearing a protective suit and helmet, standing next to a large, glowing red molten metal ladle. The scene is dimly lit, with the primary light source being the intense heat of the molten metal, creating a dramatic, high-contrast environment. The worker is holding a long rod, possibly for stirring or sampling the metal.

Sidenor 4.0

Digital Strategy

Production Centers & Employees



Centres	Basauri	Azkoitia	Vitoria	Reinosa Rolling	Reinosa F&C	Headquarters	Legutiano	Maltzaga	Polinyá	Scrap Processing Units	Commercial Offices	R+D	TOTAL
Headcount	744	378	223	136	501	127	62	19	55	6	23	45	2,319

* December 2017

** Maltzaga Plant activities finished in 2017

Overall results 2017

“Sidenor is a market leader in the European special steel long product industry and a reference point for heavy forgings and castings worldwide”

Annual Sales

746,000 Tonnes

Revenues

722 mill€

Employees

2,319



PRODUCTS



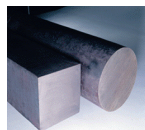
HOT ROLLED BARS

- Rounds
- RCS
- Flats



WIRE ROD

- Coils



FORGED BARS

- Rounds
- RCS
- Flats



BRIGHT BARS

- Drawn
- Turned
- Ground



DRAWN WIRE

APPLICATIONS AUTOMOTIVE



- Crankshafts
- Gears
- Common rails
- Leaf springs
- Coil Springs
- Bearings
- Shafts
- CVJ's
- Steering racks
- Steering pinions
- Shock absorbers
- Fasteners
- ...

APPLICATIONS NON - AUTOMOTIVE



ENERGY
(OIL AND GAS)



ENERGY
(WIND POWER)



RAILWAY

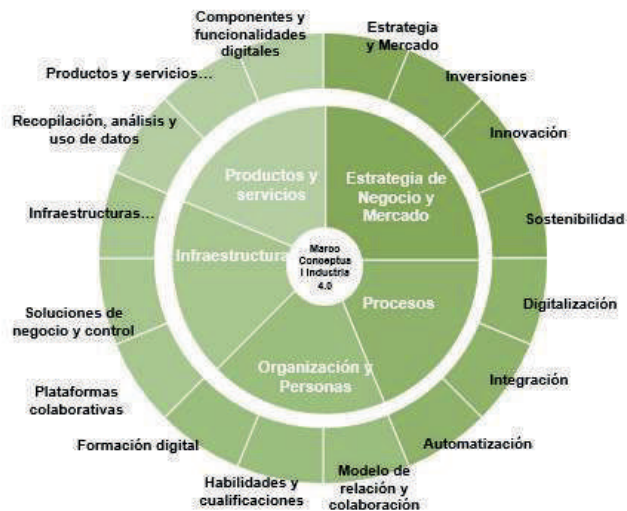


OFF HIGHWAY
EQUIPMENT

PHASE I

Definition of the Plan (Oct 2016/Jul 2017)

- Training in new technologies
- Interviews with main leaders
- Workshops with the management team
- Identification of digital talent and new digital capacity



PHASE II

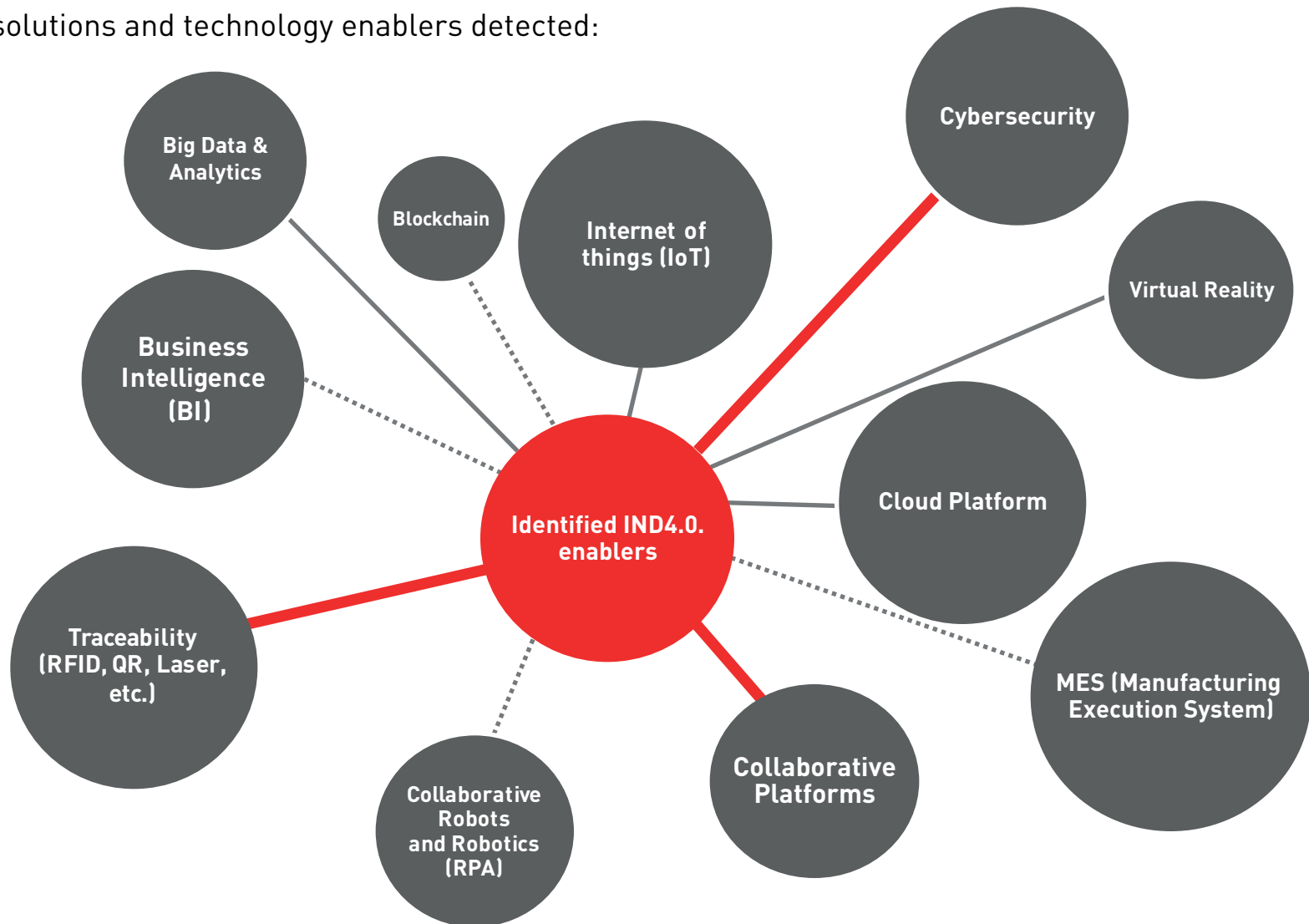
Digital Strategy 2017-2021

- Deployment and implementation of the digitalisation plan:
 - Industrial area "Smart Factory"
 - Functional processes "Smart Process"



- Plan communication and follow-up

Main solutions and technology enablers detected:



- Digitalisation first requires a Value Chain...to which “intelligence” will then be added so that it may become agile, flexible and efficient

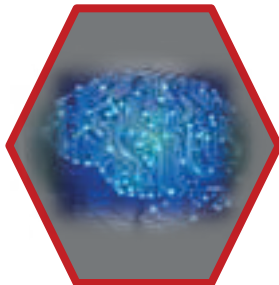
1. Elimination of the scrap in its current processes



2. Automation of the activities and/or manual processes with new platforms or systems



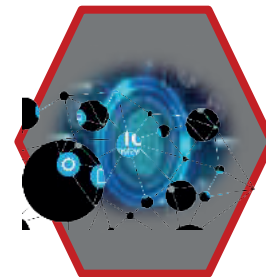
3. Introduction of data collection devices in the machines



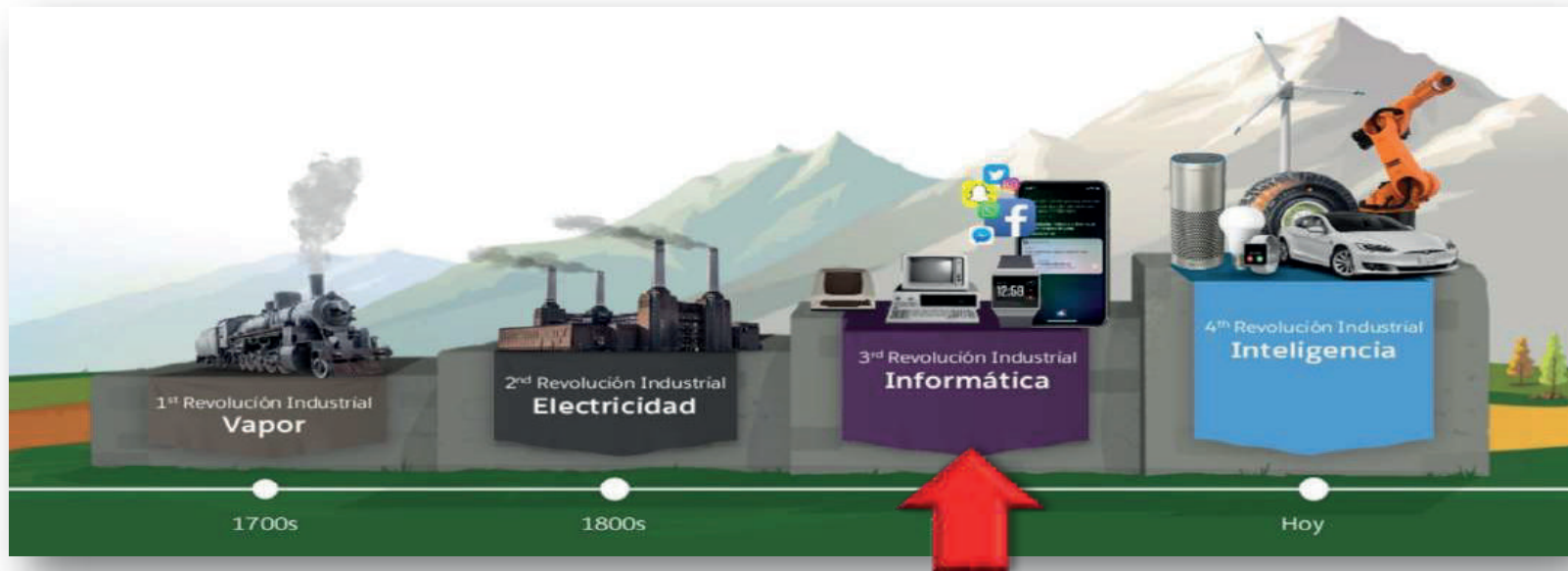
6. Creation of algorithms which can anticipate issues and offer solutions



5. Storage of data analysis, providing it with intelligence for an easier decision-making



4. Connection of devices and machines through the IoT for data collection



Where were we?

- Stable and strong MES which are fully integrated to our management systems
- SAP implemented in 2000 and about to make the technological leap
- Millions of collected data, of which we only use a very low percentage

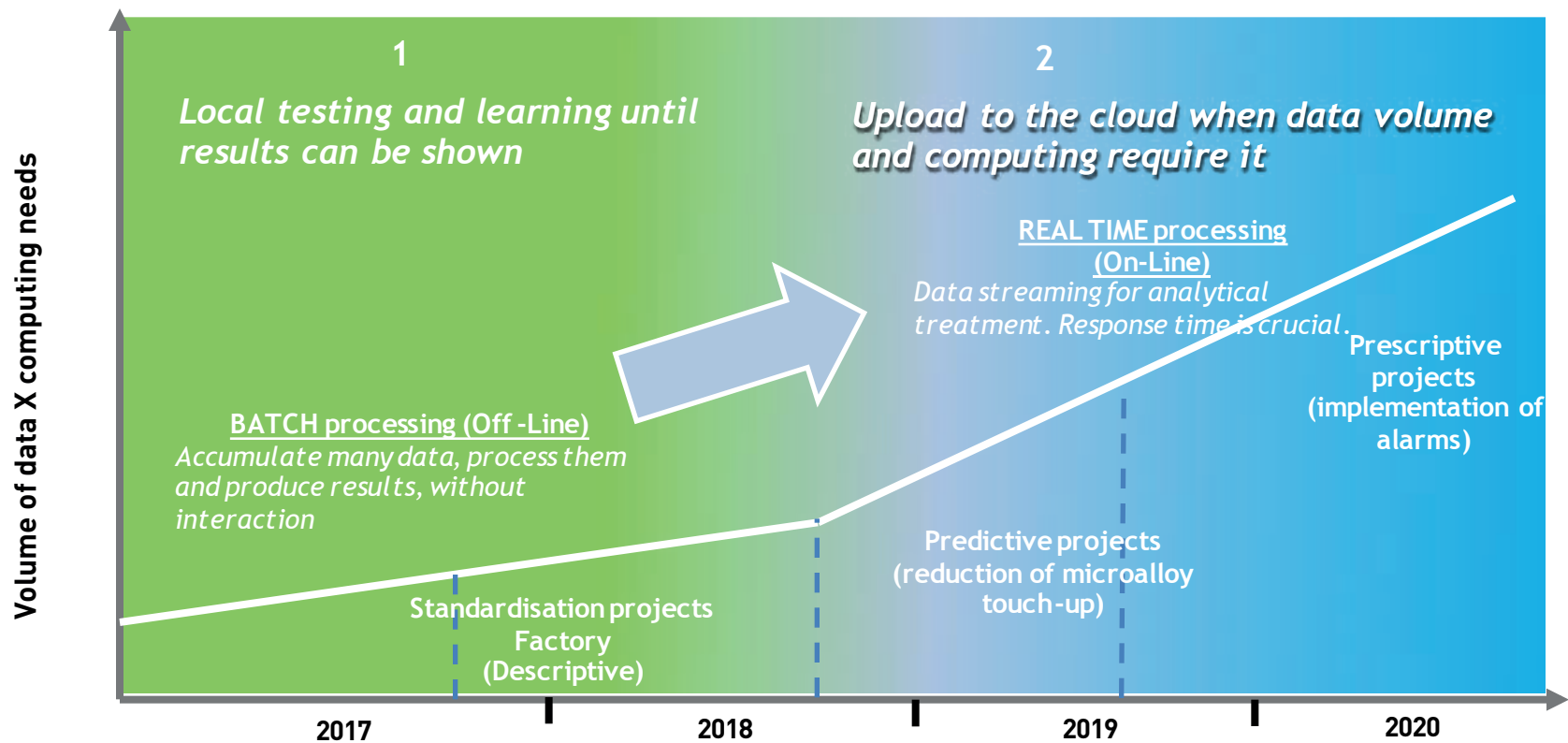
Where did we want to go to?

- Advanced systems in line with new technologies
- Implementation of new technologies in all business processes where they bring value
- Conversion of the millions of collected data into business intelligence

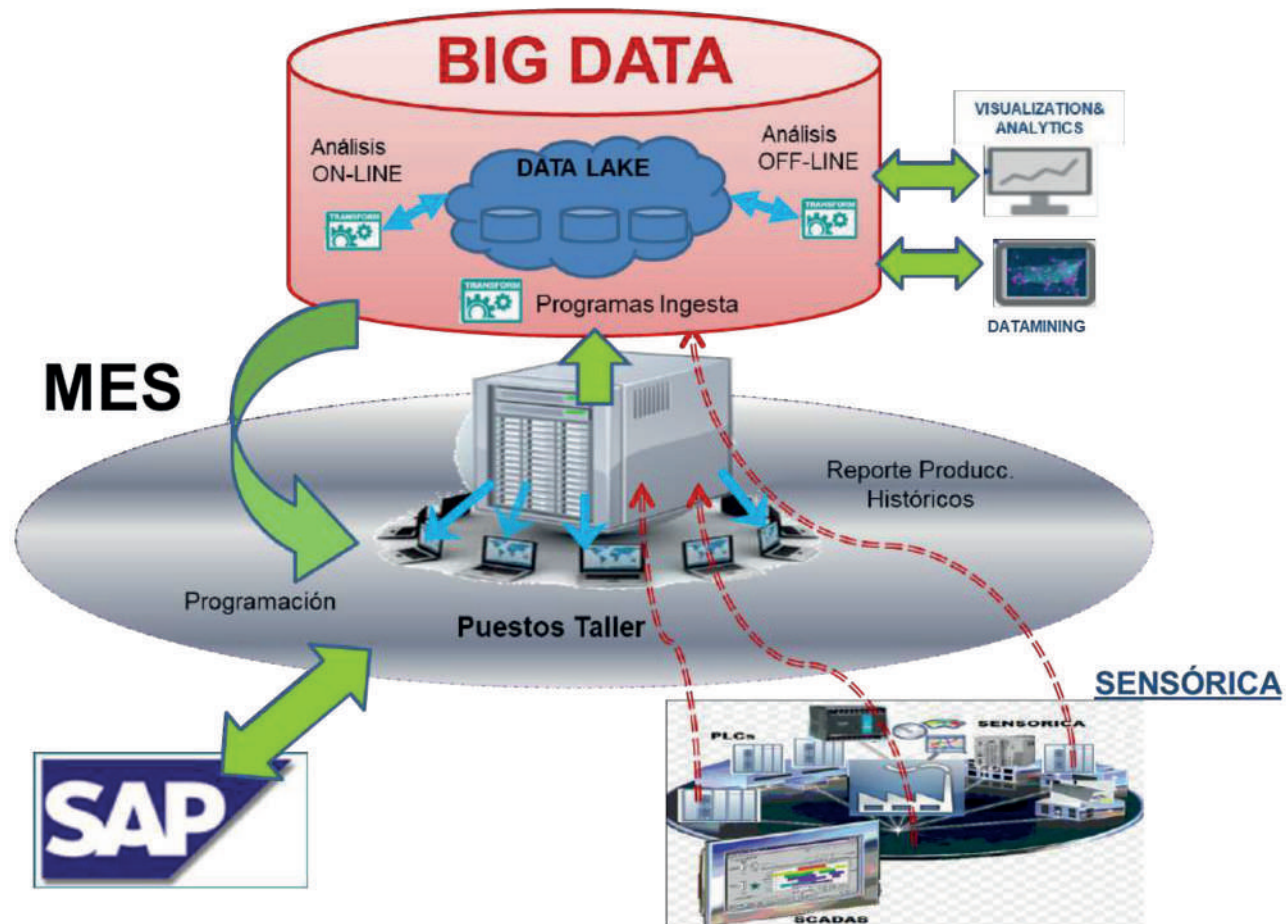
Basauri, Smart Factory

1

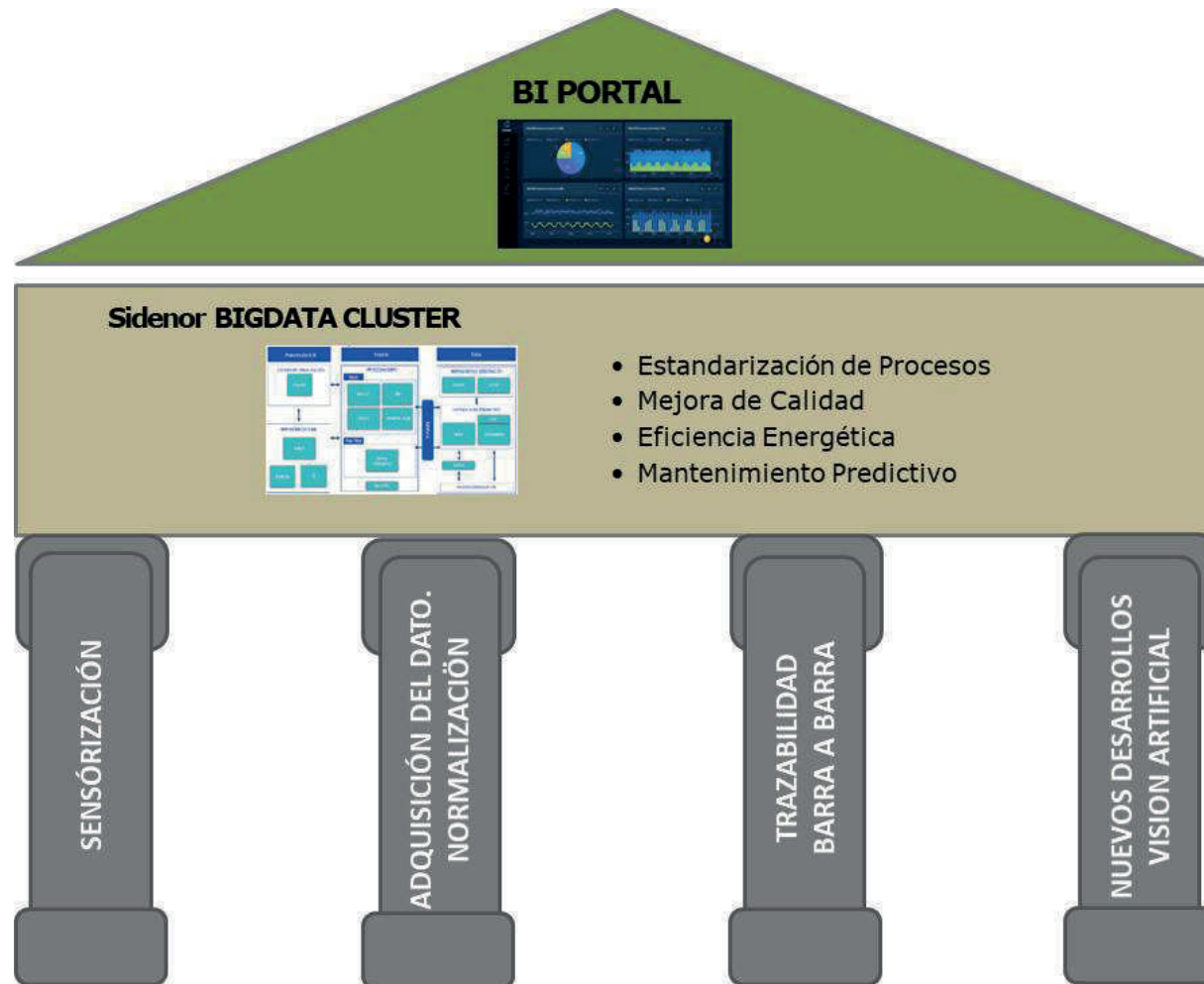
- ...analysing how to address challenges...



- A. Have a **Big Data Solution** which allows us to store, process and use the set of data...




- ...SMART FACTORY project, connected industry




Main lines of work

Smart Process

- 
- Digitalisation of HR processes.
 - Virtual training.
 - Intelligent planning.
 - Development of collaborative platforms.
 - Intelligent storage.
 - Track & Trace.
 - Accessibility to management systems through mobile devices.
 - BI-BSC PORTAL – factory / business.

Smart Factory

- 
- Standardisation of production parameters.
 - Quality improvement.
 - Energy efficiency.
 - Predictive maintenance.
 - Mobility in the factory.
 - Intelligent logistics.

Innovation programmes

