

FLUIDRA

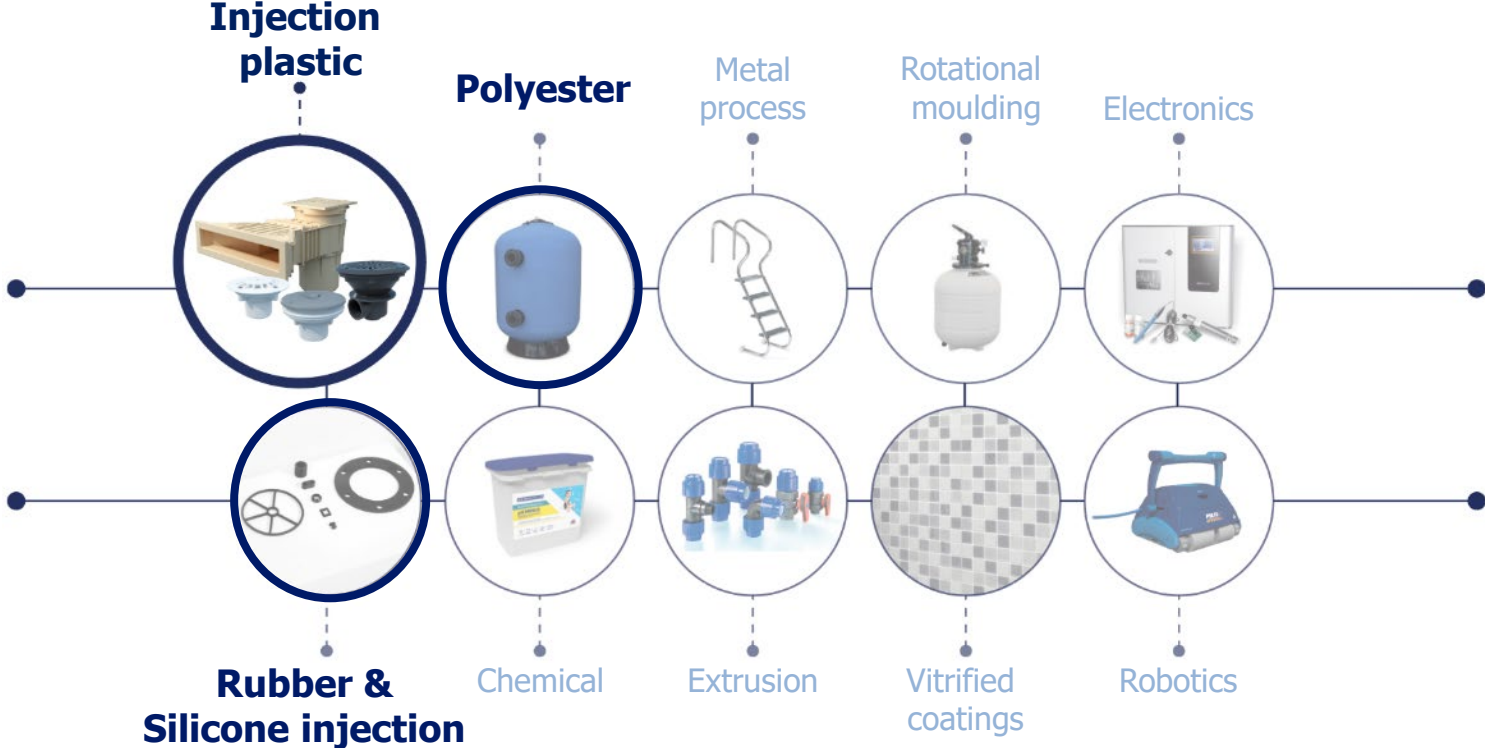
# SACOPA

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THERMOPLASTIC INJECTION-MOLDING FACTORY

February 2023

# FLUIDRA: PRODUCTIVE TECHNOLOGIES





**SACOPA**

## THERMOPLASTIC INJECTION- MOLDING FACTORY



+32.000 m<sup>2</sup>



60 Machines  
45 - 4.000 Tn



Automated raw  
material  
intralogistics



59 robots



6 assembly  
centers



1.000 m<sup>2</sup>  
clean room

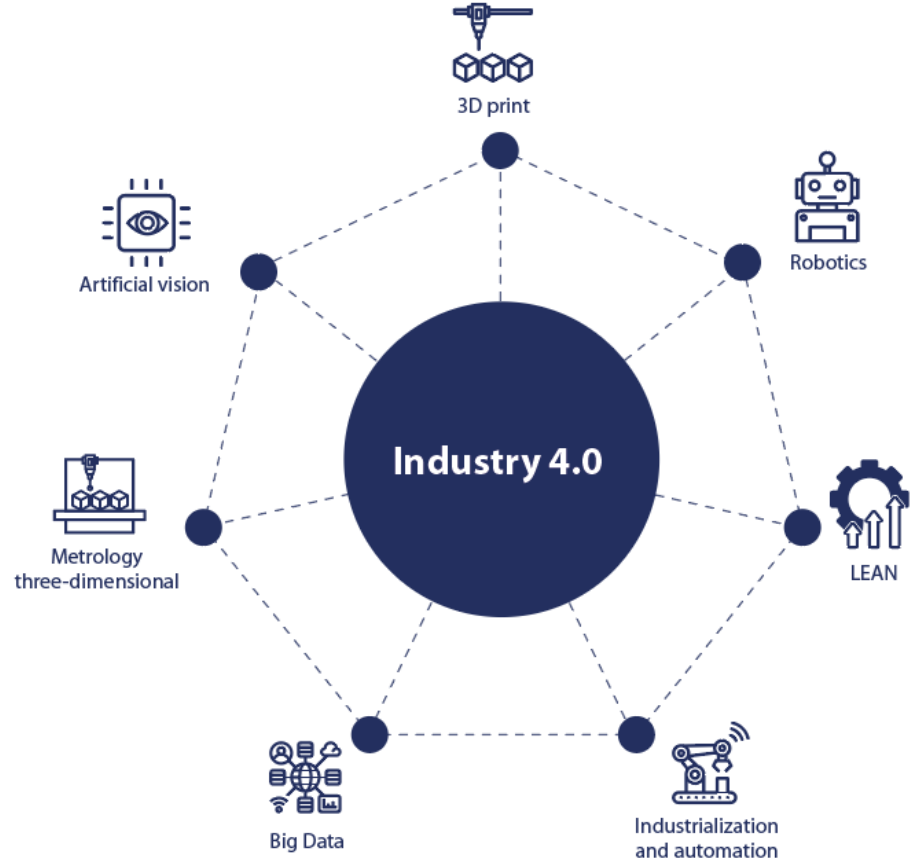
## WE MAKE SWIMMING POOL PRODUCTS AND PARTS

1. Pool basin products
2. Underwater lighting
3. Filtration
4. Cleaning
5. Dosing Systems



## CUTTING-EDGE TECHNOLOGY

- In all our product design and manufacturing processes.
- We strive to fully interconnect our facilities and production processes



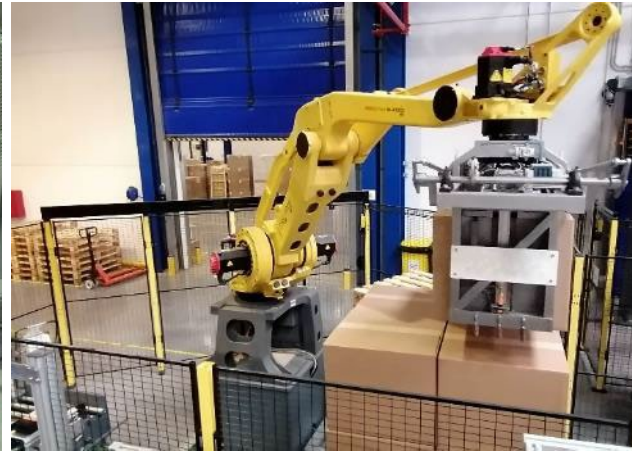
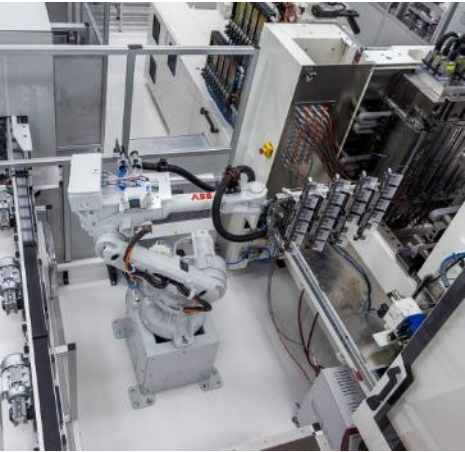
## MATERIAL

- Automated raw material transportation.
- Temperature, humidity, and pipe cleaning is controlled to create the perfect injection conditions for each material and type of product.

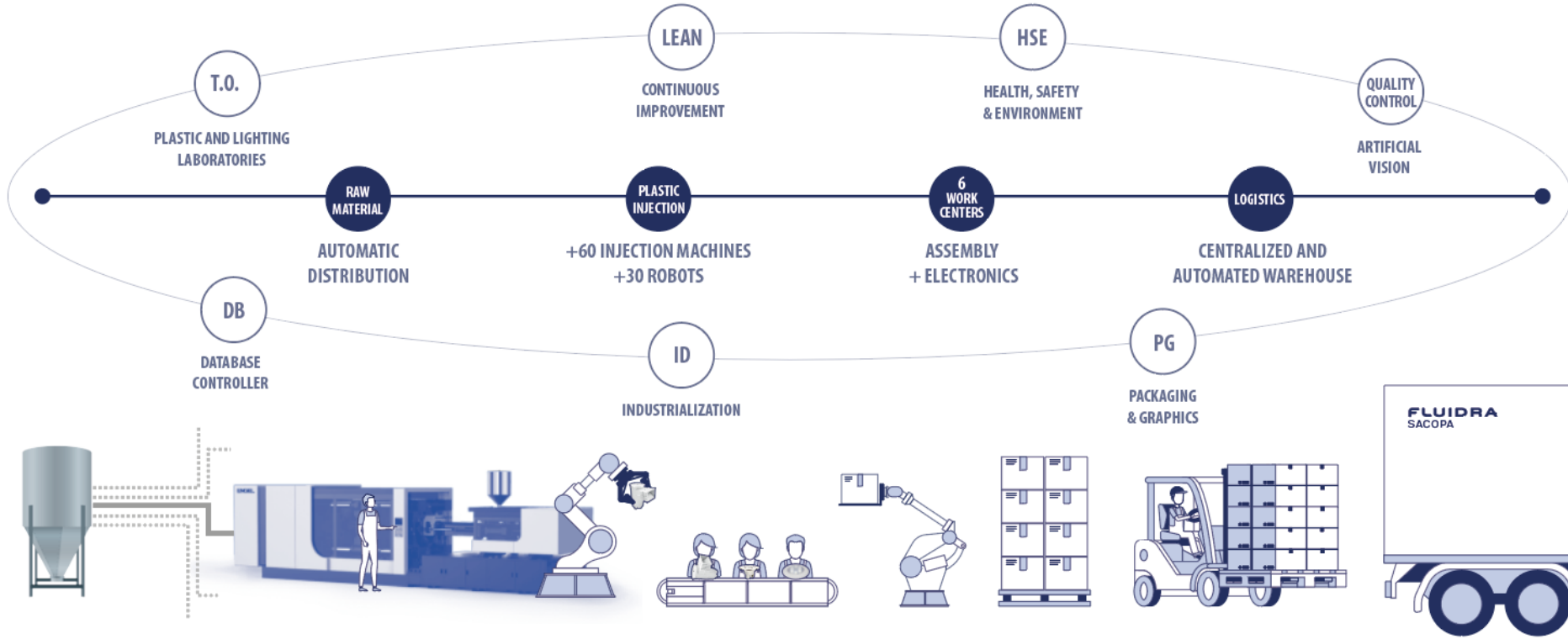


## PRODUCTION PROCESS

Automation of the production, assembly, and palletizing systems

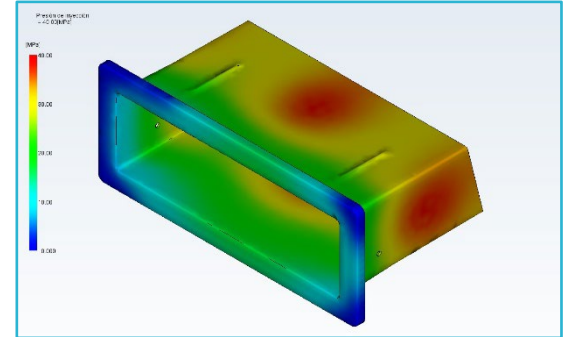
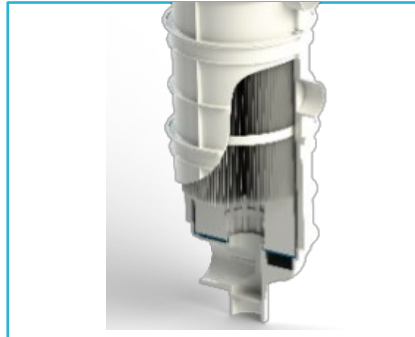
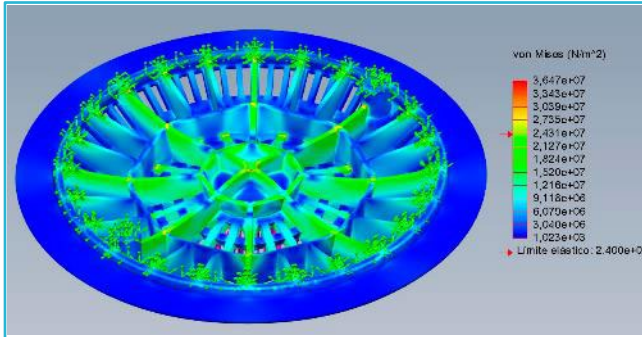
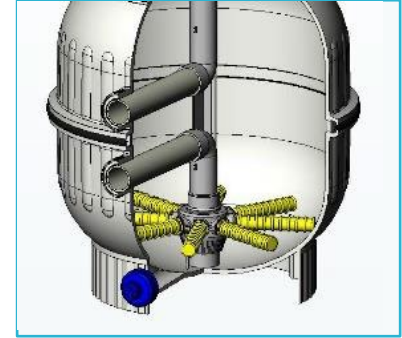






## TECHNICAL OFFICE

- Multidisciplinary team of engineers specialized in plastic injection and electronics applied to LEDs.
- CAD-CAM (Solidworks), Fluidro Dinamics, Dialux, Lighttools, etc. are some of the programs and tools we use to develop products and parts.
- More than 250 m<sup>2</sup> of mechanical and light testing laboratories to conduct tests and checks at each development phases.



## MECHANICAL TEST LABORATORY



### UNIVERSAL TEST

Mechanical resistance test machine with a force of up to 10 kN. Can perform tension, compression, tensile, and stress tests.



### XENOTEST

Accelerated weathering equipment that can reproduce, in a question of hours, the weather conditions that can affect the product.



### ENVIRONMENTAL CHAMBER

Chamber can test loads up to 1 m<sup>3</sup>, reproducing extreme temperature and humidity conditions.



### LEAK TEST

Vacuum chamber to check the water tightness of sealed products using helium gas. Used to check the seals of welds, grafts, and materials.



### 3D PRINTER

Impressora industrial que amb poques hores permet tenir una peça física a partir d'un disseny 3D. Útil per validació de la peça en diferents processos i fases de producte.



### 3D COORDINATE MEASUREMENT MACHINE (CMM)

Tests and inspects the measurements of repeated, automated parts during the manufacturing process.

T.O.

LEAN

CC

PD

ID

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## LIGHTING TESTING LABORATORY



### GONIOPHOTOMETER

Measures the light parameters of LEDs and light sources. Measures luminous flux, performance, photometric curves and how the optical lenses behave. This information is used to generate the photometric files required for light simulations.



### INTEGRATION SPHERE

Measures LEDs individually, measuring different temperatures to obtain the light output curve and absolute measurements of luminous flux as a function of the LED operating temperature. Provides information on color, spectrum, color rendering index, CCT in °K.



Auxiliary devices: luxmeters, handheld spectrum radiometers, dataloggers for thermal measurements, oscilloscopes, testers, network analyzers, insulation analyzers, etc.

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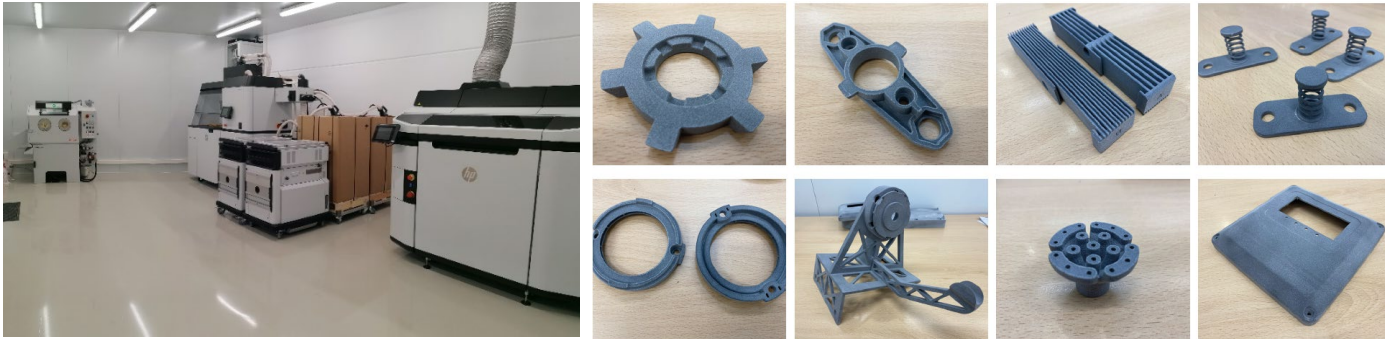
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## Technical Office: 3D

SACOPA has a facility for **additive manufacturing**. This technique, also known as **3D printing**, is a manufacturing process able to obtain prototypes, finished parts and tools by superimposing layers of materials processed by the printer's software.

3D technology makes it possible to obtain parts with complex shapes impossible to make using traditional processes, fewer intermediate processes such as the manufacture of tools are required, parts can be redesigned and less waste is generated.

The system is made of three different components: Processing Station, Printer and Build Unit.



## LEAN – CONTINUOUS IMPROVEMENT

- We apply the LEAN methodology, analyzing and optimizing processes.
- We work actively and across all departments to continuously improve all productive and administrative processes.
- We develop improvement projects in specific industrial sections.



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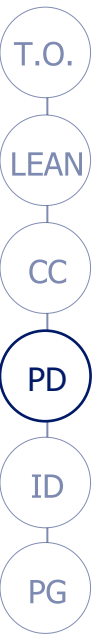
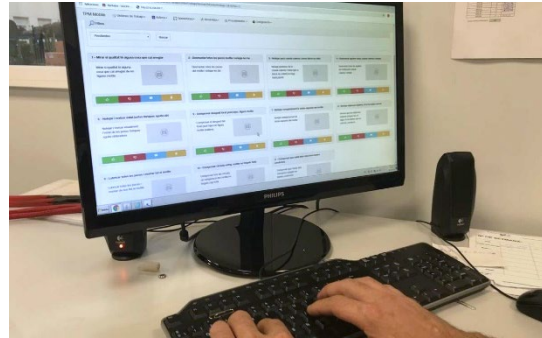
## QUALITY CONTROL

- We implement verification, traceability, and control processes at every phase of product manufacturing.
- We have several lines of computer vision control, with parameterized systems that make it possible to check multiple zones of a plastic part per second to ensure quality.



## PROCESS DIGITALIZATION

- All the infrastructure of a 4.0 company supported by the Database Controller department.
- Department fully incorporated in the company.
- Uses several data parameterization and plant information systems, working across all departments to improve quality, productivity, maintenance, etc.





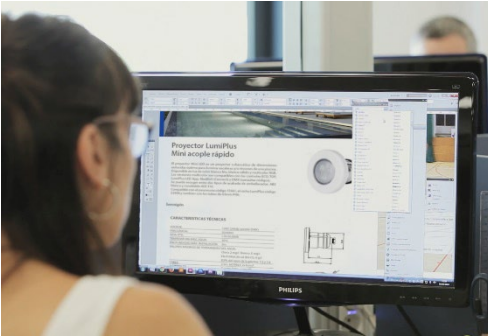
## INDUSTRIALIZATION

- Process optimization using new technologies.
- Continuous efforts towards achieving optimal productivity in the injection and assembly phases of components and products.
- Continuous study of real-time manufacturing information to improve our industrialization systems.



## PACKAGING & GRAPHIC

- Multidisciplinary team of graphic designers focused on implementing the circular economy.
- Department integrated in the company.
- Design of industrial and/or retail packaging always following the premises of the 3Rs:
  - **Reduction** of raw materials
  - **Reuse** of packaging for different products
  - **Recycling**: choice of materials and products that make it easier to save products



SACOPA MEDICAL

CLEAN ROOM

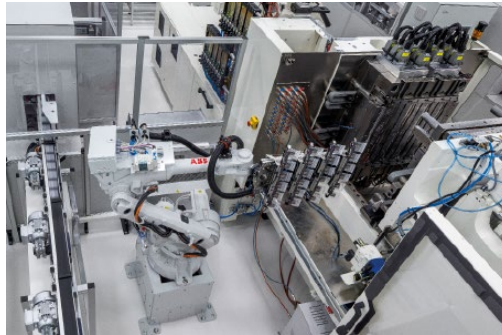


# CLEAN ROOM

- Sacopa has a space of 1,000 m<sup>2</sup> for injection in a clean room, to make pieces with high technical characteristics, such as the lenses of LED projectors
- One hundred percent of our processes are conducted in an environment with controlled humidity, temperature, and atmospheric pressure:



Raw material  
distribution room



Injection machines with  
robotic extraction



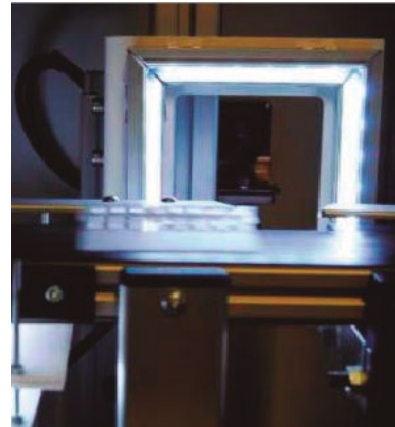
Plastic parts are fully  
tested



Warehouse and  
SAS logistics

## QUALITAT – AUTOMATED AND DIGITIZED

- Dimensional inspection during the production process.
- 100% verification of injected parts - computer vision.





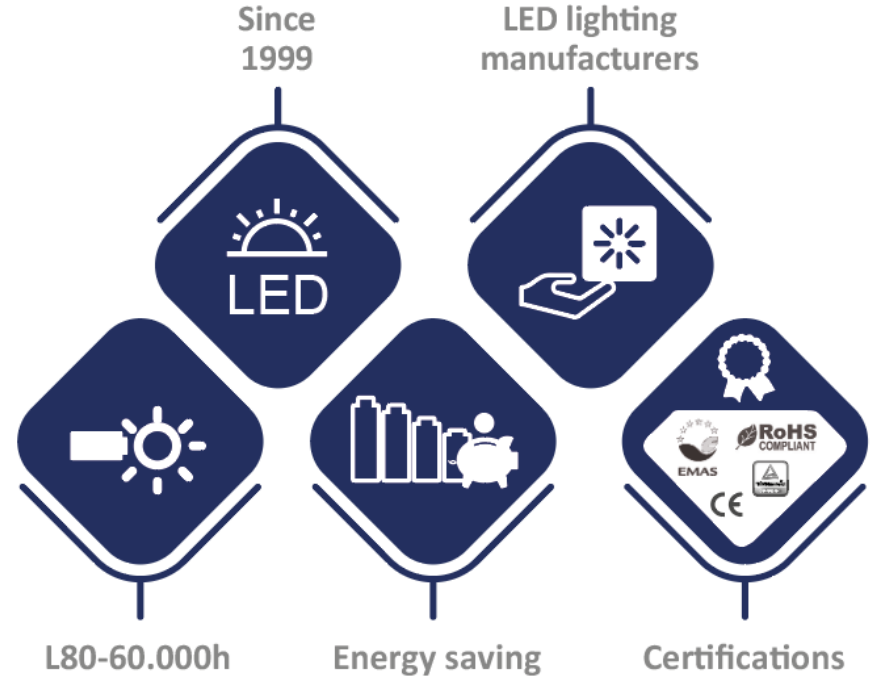
# LED LIGHTING

# LED LIGHTING

- SACOPA has used **LED** technology since 1999 and has **20-plus years** of experience in underwater and ornamental fountain lighting.
- We manufacture over **250,000** units of LED lights every year.

## WE MANUFACTURE PRODUCTS WITH LED TECHNOLOGY:

- Pool and wellness
- Ornamental fountains
- Sports centers



## MANUFACTURING AND SERVICES

- Electronic and mechanical design
- Design test
- Product validation
- Product manufacture and assembly







**THANK YOU FOR YOUR ATTENTION!**

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**SACOPA**