

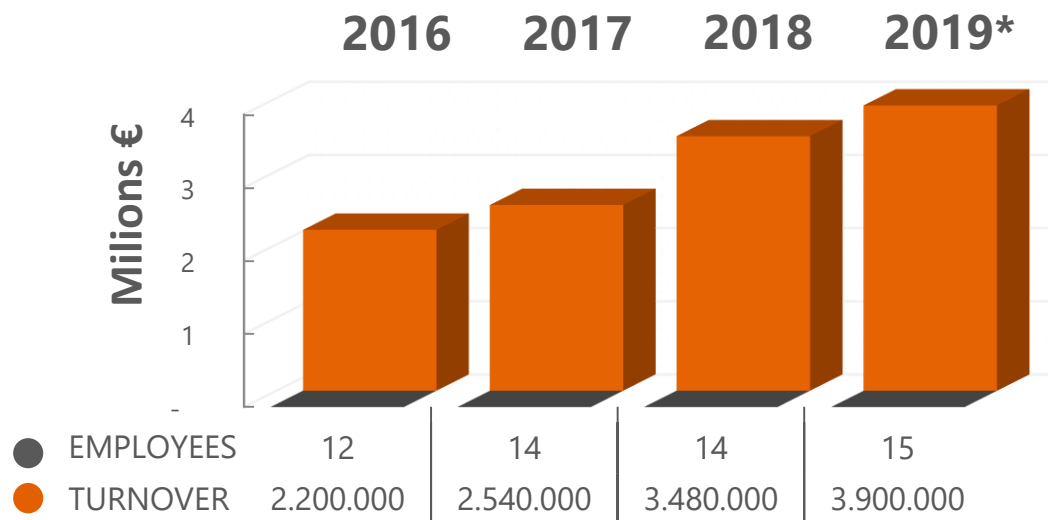


# 2019

COMPANY PROFILE



**SELF-LUBRICATING BUSHINGS AND WASHERS FOR VALVES  
AND OTHER APPLICATIONS IN THE HYDRAULIC,  
ENERGY AND METAL INDUSTRY**



**TURNOVER**

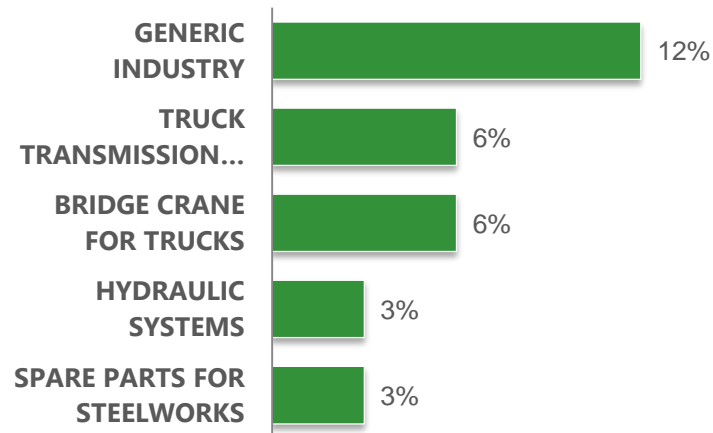
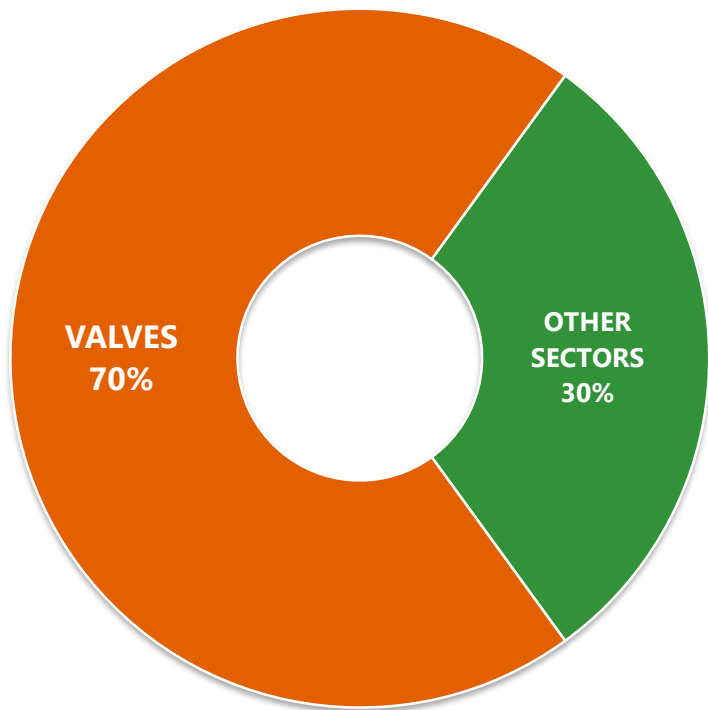
**€ 3,9 Millions**  
(forecast 2019)

**EMPLOYEES**

**15**  
(forecast 2019)

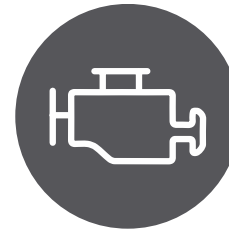
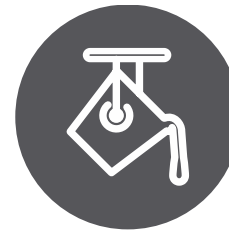
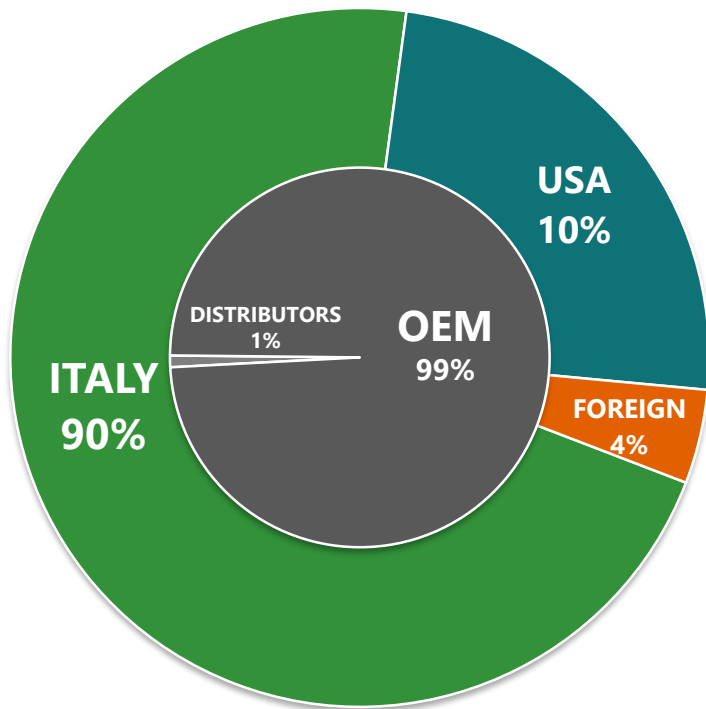


## WORKING SECTORS





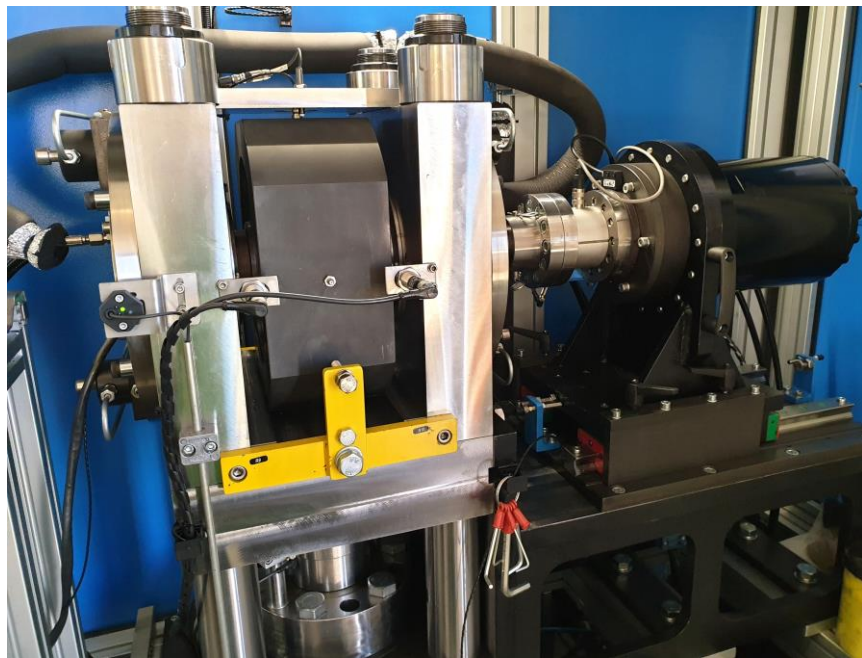
## MARKETS 2018





## SELF-LUBRICATING BUSHINGS AND WASHERS FOR VALVES AND OTHER APPLICATIONS IN THE HYDRAULIC, ENERGY AND METAL INDUSTRY

### ***TEST BENCH DETAILS***



The SLIB ITALY laboratory is equipped with a test bench to perform tests according to the following operating conditions:

- MAXIMUM ROTARY TORQUE: 2000 Nm
- APPLICABLE LOAD: 100,000 DaN
- HANDLING ACTUATOR WITH MAX. OPENING AT 180 °
- SHAFT ROTATION: 0 ° / 90 °
- MAXIMUM SPEED: 4 SEC / 90 °
- TEMPERATURE RANGE: -50 ° C min. -> + 230 ° C max.

- Torque variation over time at set pressure and temperature.
- Variation of the friction coefficient at pre-set pressure and temperature.
- Dimensional variation at established pressure and temperature.
- Maximum operating pressures with varying temperatures.



## **TYPE TF:** TF-C, TF-316, TF-316S, TF-625, TF-625S, TF-F51

The TF type is a composite multilayer material used in the manufacture of dry self-lubricating Sliding bearings and washers. The main parts composing this product are a filled modified PTFE layer (lead free, in accordance to the European Parliament "ELV" directive 2000/53/EC) for the sliding self-lubricating surface, and a special primer used to allow the bonding of the PTFE layer to four types of shell metal layers, like carbon steel, bronze, stainless steel and Inconel 625, F51, Titanium and Stellite. Thanks to its structure, the TF type

provides an excellent match between the mechanical strength of the steel, and the low coefficient of friction due to the modified PTFE sliding layer. This is a product, that can be used in applications with medium loads, and in a clean environment with low levels of abrasive elements such as metal powders. It can also be used with special mineral oils and specific greases such as silicone compounds or lithium soap.



## TYPE TX: TX-C, TX-316, TX-625, TX-F51, TX-Ti1, TX-STE

This code identifies a line of bearings that are specially manufactured to allow the bonding of a filled PTFE coated fiber (lead free, in accordance to the European Parliament "ELV" directive 2000/53/EC) on several types of shell metal layers, like carbon steel, bronze, stainless steel, Inconel 625, F51, Titanium and Stellite.

The Sliding Surface is primarily composed of filled PTFE coated fiber, and other elements to guarantee the high wear

resistance. The TX products find their best usage in slow-moving applications, with heavy loads, and where dry operation is required. Thanks to the thick self-lubricating layer up to 0.40 mm, this product has a high wear resistance, and can work in dirty or abrasive environment.

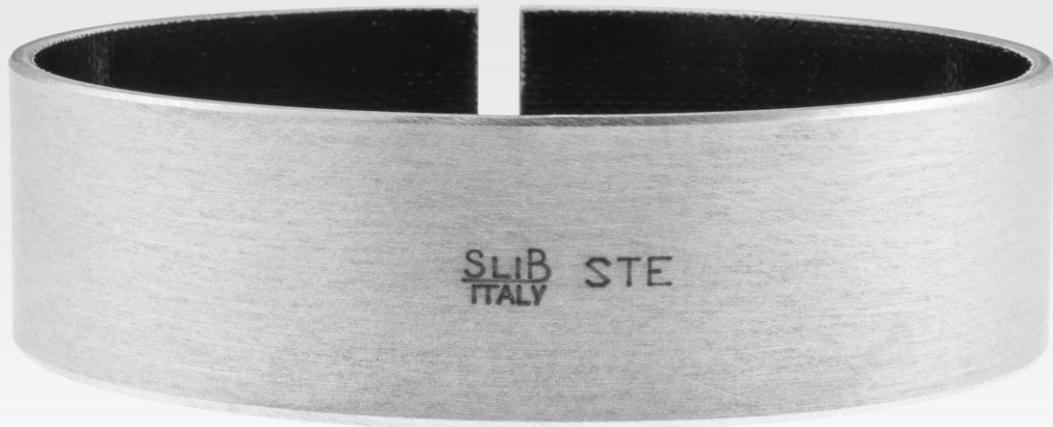
For this product it is not recommended the use of oil, while the use of special grease, such as silicon or lithium soap, is only possible during the assembly.



## TYPE PMT: PMT-316, PMT-316 plus, PMT-625, PMT-625 pluS

This product identifies a new generation of Sliding bearings and washers for applications in low and high temperature, thanks to a special coating performed with a system similar to the PVD process. This coating confers to the material an excellent resistance to extreme temperatures while maintaining a good coefficient of static friction even with a dynamic heavy load.

The metal backing layers used for this product are the Aisi 316L and the Inconel 625. With this type of product, the shaft should not be heat treated. It is not recommendable to use oil and grease with these bearings.



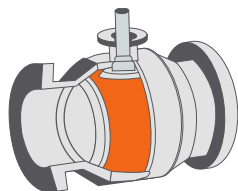
## TX and PMT Types with CARBIDE TREATMENTS

SLIB ITALY produces a variety of self-lubricating Bushings and Washers with 3 different types of carbide treatments, custom made on customer's demand:

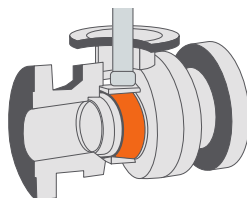
- Stellite (ST.6 HVOF)
- Tungsten carbide (TCC)
- Chromium carbide (CCC)



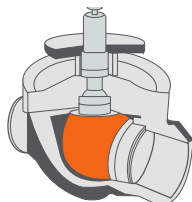
# SELF-LUBRICATING BEARINGS AND WASHERS FOR VALVES



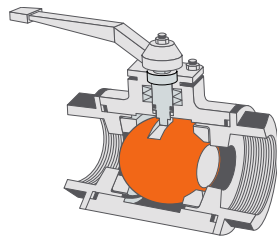
**FULLY  
WELDED**



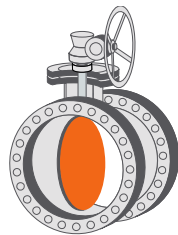
**SIDE  
ENTRY**



**TOP  
ENTRY**



**FLOATING  
VALVE**



**BUTTERFLY  
VALVE**

## VALVES - MAIN APPLICATIONS

Type of valves	Slib Italy Articles
High pressure valves	All TX types including "Plus"
High temperature valves	All PMT types including "Plus"
Cryogenic valves	PMT-316
Low pressure valves	TF Types
Small high pressure valves	All TF types including "S" and "Plus"
Subsea valves	TX-625
Actuators	All TX and TF types including "Plus"

*Special articles can be produced upon request from the customer*



## TYPE SB-00

SB-00 is a composite material constituted from one layer of loaded self-lubricating PTFE, one layer of tin bronze on a low carbon steel support. Thanks to his structure SB-00 combine the mechanical strength of the steel with the low coefficient of friction of the PTFE layer, the Bronze layer give to the PTFE a solid grip on the steel and increase the thermal dispersion of heating during the work. (lead free, in accordance to the European Parliament "ELV" directive .

## TYPE SB-01

SB-01 is a composite material constituted from one layer of loaded self-lubricating PTFE, one layer of tin bronze on a AISI 304 stainless steel support. Thanks to his structure SB-01 combine the mechanical strength of stainless steel with the low coefficient of friction of the PTFE layer, the Bronze layer give to the PTFE a solid grip on the steel and increase the thermal dispersion of heating during the work. (lead free, in accordance to the European Parliament "ELV" directive.



## TYPE SB-03

SB-03 is a composite material constituted from one layer of loaded self-lubricating PTFE, one layer of tin bronze on a solid bronze steel support to be used on ambient with water presence. Thanks to his structure SB-03 combine the mechanical strength of stainless steel with the low coefficient of friction of the PTFE layer, the Bronze layer give to the PTFE a solid grip on the steel and increase the thermal dispersion of heating during the work. (lead free, in accordance to the European Parliament "ELV" directive.

## TYPE SB-04

SB-04 is a composite material constituted from one layer of loaded self-lubricating SPECIAL PLUS PTFE, one layer of tin bronze on a low carbon steel support. Thanks to his structure SB-04 combine the mechanical strength of the steel with the low coefficient of friction of the SPECIAL PLUS PTFE layer, the Bronze layer give to the PTFE a solid grip on the steel and increase the thermal dispersion of heating during the work. (lead free, in accordance to the European Parliament "ELV" directive.



## TYPE SB-10

The SB-10 type is a bimetallic bearing composed by a low carbon still shell and an internal layer of Sintered Bronze (CuSn10Pb10). Those type of bearing need to be lubricated with oil or grease while working. The internal sliding surface is available with several geometries:

SB-10 = even bronze layer.

SB-11 = bronze layer with spherical cavities.

SB-12 = bronze layer with diamond cavities.

SB-13 = bronze layer with metal stock material on the internal diameter.

SB-14 = bronze layer with lubrication grooves on customer drawings.



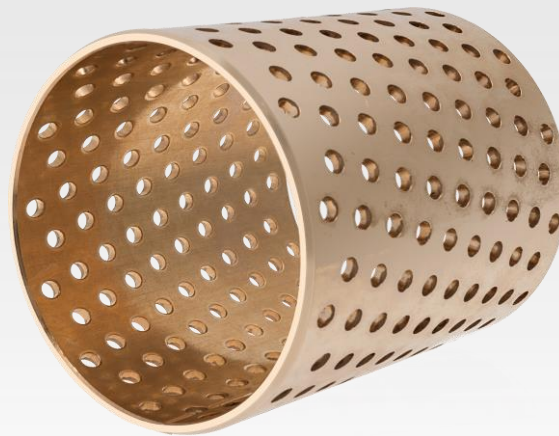
## TYPE SB-20

SB-20 is a composite material, the low carbon still shell is the base where a layer of porous bronze is sintered on. A layer of acetylic resin is impregnated over the bronze layer, the internal layer is machined with small cavities, those cavity will be filled with lubricant that will be gradually released during the bearing work life. The SB-20 application field is wide, from industrial and civil vehicles to construction machinery and everywhere a continuous lubrication is necessary. SB-20 is available as sliding bearing, washers and strips, in both metric and imperial (inch) dimensions. As addition to the standards we can produce also SB-21, with stock material on the internal diameter that can be machined according to customer needs before the assembly.



## TYPE SB-30

SB-30 is a full body CuSn8 Bronze bearing. This material is perfect sliding joints lubricated by grease or oil, and also have a high resistance to chemical and environmental agents. The sliding surface is machined with several diamond shaped grooves for the lubricants allocation, so that the lubricant itself will be gradually released during work life. SB-30 is available as sliding bearing, washers, strips and custom drawings. The most common application of SB-30 is on earth moving machinery.



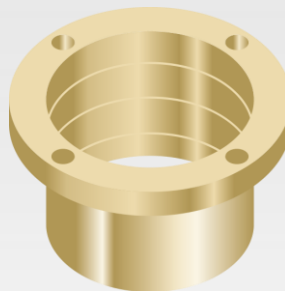
## TYPE SB-31

SB-31 is a full body CuSn8 Bronze bearing, similar to the SB-30, with a different lubricating system. Instead of having groove on the internal surface we have Through holes with a higher capacity of storing lubricant. SB-31 main application is with lubricant paste and grease, where the maintenance frequency is lower. SB-31 is available as sliding bearing, washers, strips and custom drawings.



## TYPE SB-40

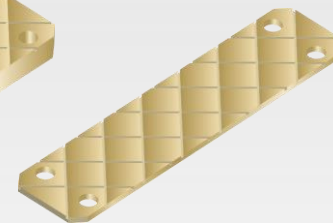
SB-40 is ideal for low speed and high load movements. Base material is Bronze CuZn25Al5 with body insertion with solid lubricant, as PTFE or Graphite that will be released on the shaft during the sliding movements. Even if the standard base material is CuZn25Al5 is possible to use others according to customer's needs. B-40 is available as sliding bearing, washers, strips and custom drawings.



SBM-10



SBM-11



SBM-20

## TYPE SBM

This is a material designed for use where a high wear resistance is needed, even when low or high temperature are present, as much as heavy loads. In comparison to similar materials, this product keeps a relatively low coefficient of friction. The self-lubricating layer is a peculiar mixture of sintered bronze and special solid lubricants. The backing materials used for this product are carbon steel, stainless steel and bronze. We can produce any dimension for any type of bearings: round flanged bearings, thrust washer or sliding plates and shaped tapes according to drawing. Normally, this material does not require any lubrication and can be used with hydrodynamic lubrication.



## APPLICATIONS

COMPRESSORS FOR REFRIGERATION  
AND AIR CONDITIONING

TOWER CRANE

TURBINES

PUMPS

GEARS AND DIFFERENTIALS

AXLES FOR TRUCKS AND TRACTORS

HYDRAULIC CYLINDERS

## PRODUCTS

SB-00/SB-10

SB-20/SB-30

SB-10/SB-40/SBM

SB-04

SB-10/SB-30/SBM

SB-10/SB-30/SB-40

SB-00/SB-10/SB-20/SB-30/SB-40



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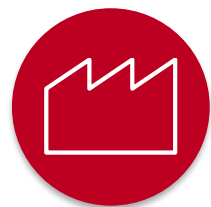
Self-lubricating  
bushings and washers  
for valves and other  
applications in the  
hydraulic, energy and  
metal industries.

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12

COMPANIES



660

EMPLOYEES



77

COUNTRIES  
SUPPLIED



4

TESTING  
FACILITIES



345

PRESSES



100

LATHES  
AND CNCs



7

TOOL  
SHOPS

160

RUBBER  
INJECTION  
MOULDING

105

RUBBER  
COMPRESSION  
MOULDING

55

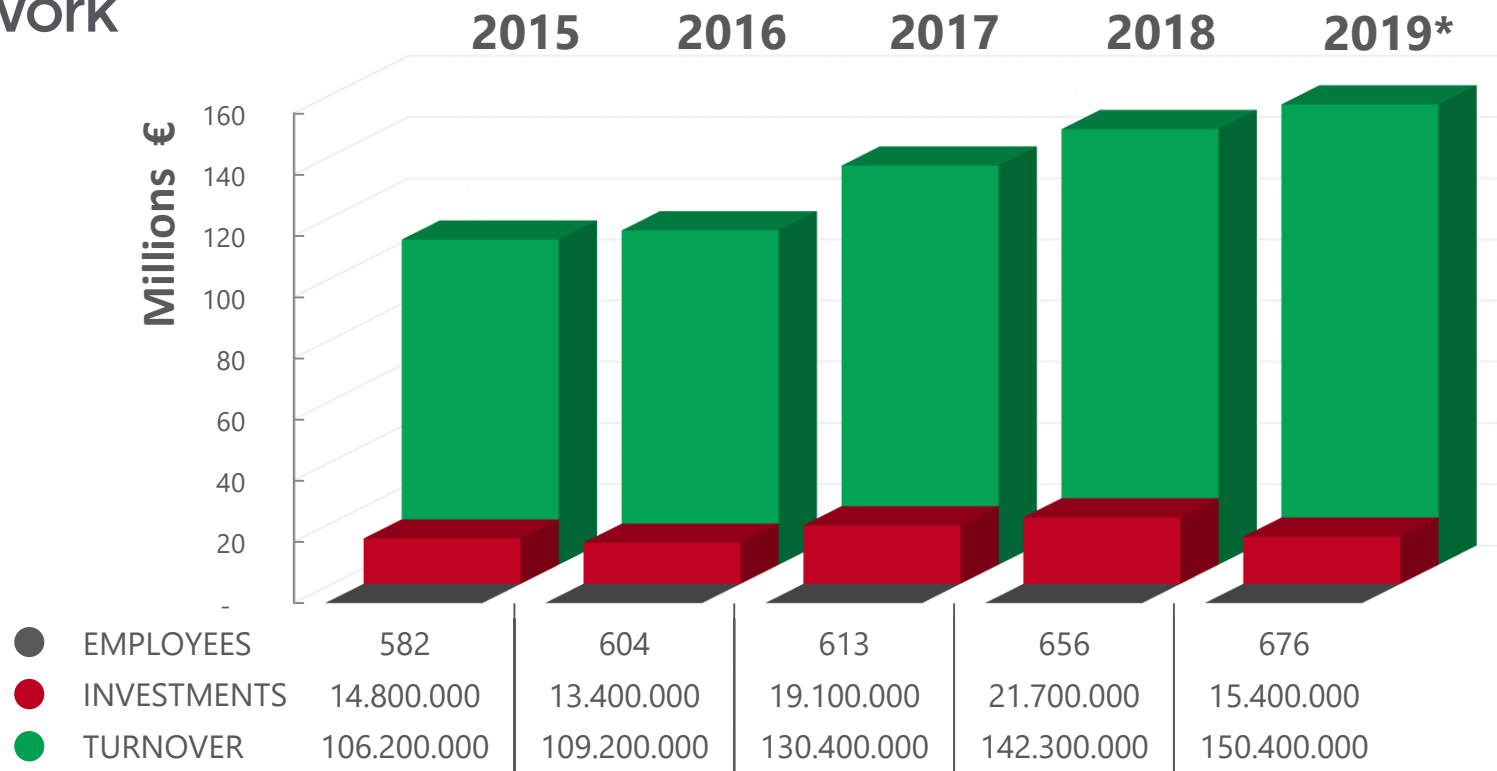
THERMOPLASTIC  
MOULDING

25

MECHANICAL  
PRESSES

**SEALCORE is a Global Network**, which Companies provide a 360° full service controlling any single step of the production. The whole Network is active in various sectors through 7 main production divisions strictly dedicated to the manufacturing of **Industrial High Technical grade components**, out of a total of 12 Companies including subsidiaries and warehouses.

SEALCORE Network is a guarantee of a **quality made in Italy**. From the design to the realization and production of the molds, to the final products. Standard or Custom-Made. SEALCORE Network is a winning philosophy from the manufacturing to the final control of the finished parts in various materials and compounds, and with a large variety of quality certificates.



These data refer to all 12 companies that make up the Sealcore Network



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