



# About SAES Group

**saes**  
group

making **innovation happen**, together

SAES® is an **advanced functional materials** Group, focusing its business on the development and production of proprietary and specifically engineered solution (components and systems) for many industrial and scientific applications.

The wide technological portfolio and the full vertically integrated production processes make SAES a **world leader** supplier of hi-tech, high quality solutions like:



- **Getters components and systems**  
to guarantee the proper vacuum conditions, modified atmosphere or gas purity in a variety of applications spanning from consumer electronics up to scientific research areas
- **Nitinol based components**  
for the healthcare market (minimal invasive surgery: e.g. stents)
- **Shape memory components and systems**  
like actuators and valves for consumer electronics, automotive and white goods industries
- **Functional composites and coated films**  
to protect goods for the packaging industry

# 70 years of World Wide leadership

For more than **70 years**, our **technology** has been supporting **innovation** in the:

- Information and Displays industry,
- Lamp industry,
- Vacuum and Ultra-high Vacuum applications,
- Vacuum tubes and electronic devices industry,
- Ultra-high gas purification,
- Renewable Energies area.

Since 2004 our **NiTi smart materials solutions** have been innovating:

- the Medical devices industry,
- the Consumer electronics industry,
- the Automotive industry,
- the White Goods and Domotic industries

Over the past 10 years we have developed a new generation of materials for gas management: the **functional polymeric composites**. And we are now also innovating the flexible packaging market through the creation of **functional coatings for the active packaging**.



# Our Research and Innovation



## Key Figures

- About **10%** of net sales allocated to R&D every year
- State-of-the-art corporate laboratories covering a surface of over **3,300 sq. m.**
- More than 150 highly skilled people engaged in RDI activities world-wide. Almost 17% of the total workforce of the Group:
  - about 50% are graduated (mainly in Physics, Chemistry, Engineering and Material Science)
  - 20% of graduated are PhD
- 233 Scientific Papers and Conference Proceeding published in the last 20 years
- Strong cooperation with Universities and R&D centers

# Why an Advanced Material Company?

Thanks to our Key Core Competences



We are able to develop and produce



**ADVANCED FUNCTIONAL MATERIALS**

Functional  
Metals

Functional  
Chemicals

## Functional Metals

**GETTER ALLOYS** whose function is to capture gases in vacuum or gas stream

**METAL DISPENSERS** whose function is to release vapors of pure metals

**SINTERED HEAT SINKS** whose function is to dissipate heat

**SHAPE MEMORY ALLOYS** whose function is to recover their original shapes thus exerting a mechanical action

## Functional Chemicals

**INORGANIC & ORGANIC GETTERS** whose function is to selectively capture gases and vapors in vacuum, modified atmospheres or gas streams

**ADVANCED POLYMERS** whose function is to control gases and vapors in combination with other functional properties

**ADVANCED COMPOSITES** whose function is to block or selectively control gases and vapor in combination with other functional properties

# SAES products: components & systems

## ADVANCED FUNCTIONAL MATERIALS



## PRODUCTS

### COMPONENTS - products

using proprietary advanced materials as active elements and which are **used in systems** to perform the function for which they were designed

- Getters
- Alkali and other Metal dispensers
- Nitinol components
- Polymeric composites
- Coated films
- Dispenser Cathodes
- ..... and more

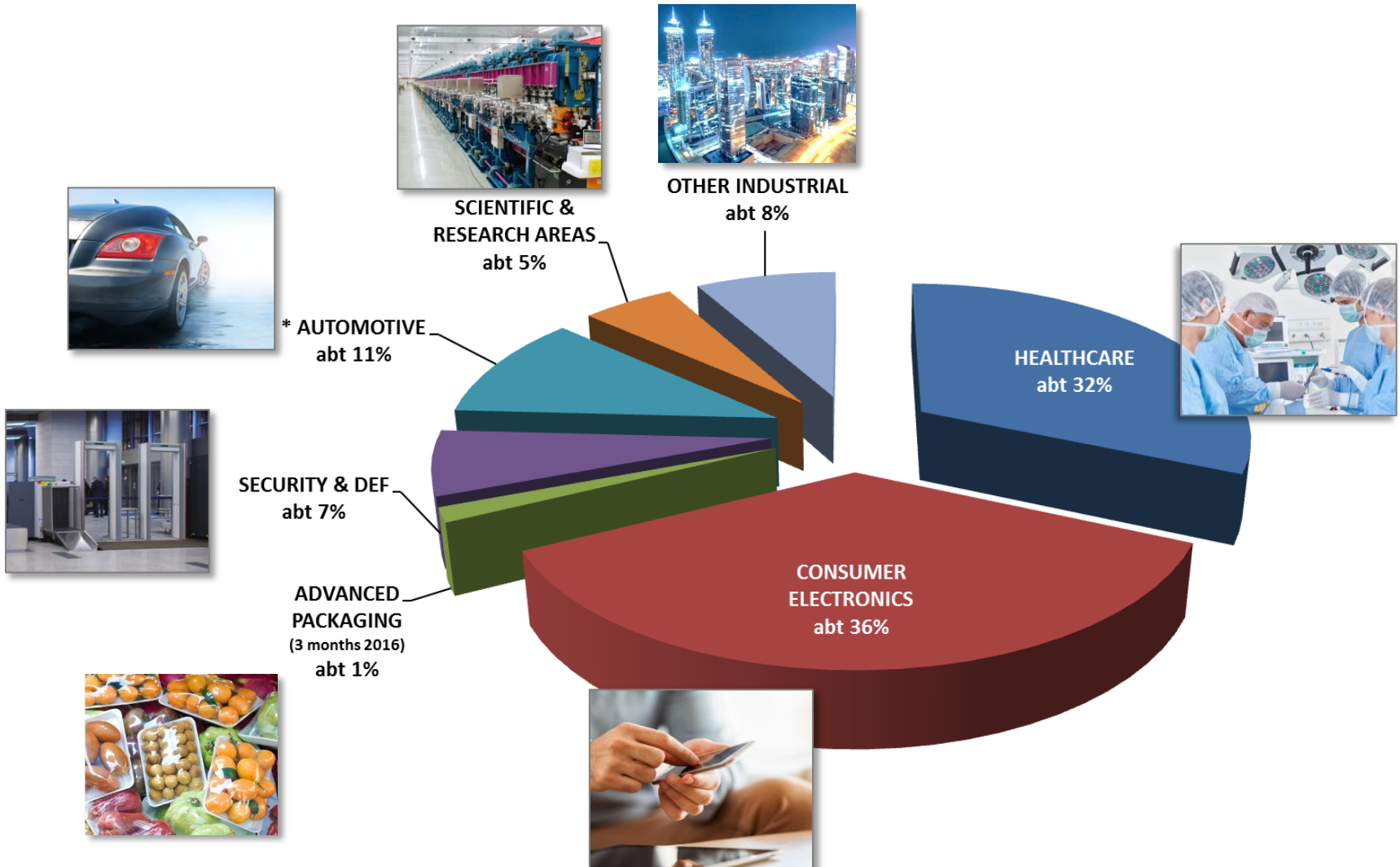


### SYSTEMS - complex products

that use proprietary materials and components as active elements to perform the function for which they were designed.

- Vacuum pumps
- Gas Purifiers
- Electro-mechanical actuators
- Fluid-dynamic valves
- ..... and more

# SAES 2016 in Main Final Markets



\* Achieved by incorporating the 100% joint venture Actuator Solutions





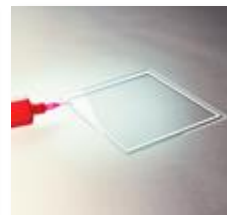
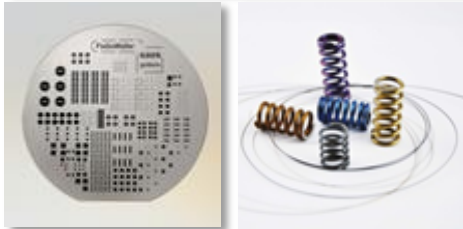
REVENUES 2016: about 36 %  
on Total Revenues

## CONSUMER ELECTRONICS

### FINAL APPLICATIONS:

- ✓ Gyroscopes, Resonators and Infra-red Sensors, that enable positioning and thermal vision of mobile phones, tablets and laptops.
- ✓ Miniaturized Autofocus & Optical Image Stabilizers for smartphones
- ✓ OLED displays,
- ✓ Semiconductor Production Processes
- ✓ Flexible and Wearable Electronic Devices
- ✓ Actuators and Valves for Domotics
- ✓ ... and more

**PRODUCTS:** Getters, gas purifiers, metal dispensers, electro-mechanical actuators, polymeric composites, Nitinol components.





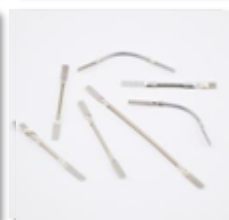
REVENUES 2016: about 32 %  
on Total Revenues

## HEALTHCARE

### FINAL APPLICATIONS:

- ✓ Minimally Invasive Surgery (angioplasty ballon shafts, stents, spinal clips, cardiac valves, parts for guidewires, etc.)
- ✓ Medical accelerators
- ✓ Implantable Medical Devices
- ✓ X-Ray tubes for diagnostic/ medical imaging industry
- ✓ ... and more

**PRODUCTS:** Nitinol components, getters, metal dispensers, vacuum pumps, polymer composites.





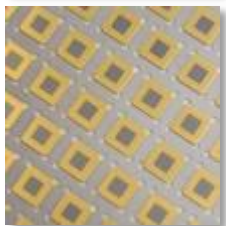
REVENUES 2016: about 11 % \*  
on Total Revenues

## AUTOMOTIVE

### FINAL APPLICATIONS:

- ✓ Comfort Seats Systems
- ✓ Engine Thermostatic valves
- ✓ Gyroscopes and accelerometers inside electronic stability devices (ESP)
- ✓ Infrared Cameras
- ✓ Emission Control of Cars
- ✓ ... and more

**PRODUCTS:** Getters, electro-mechanical actuators, fluid-dynamic valves, Nitinol components...



\* Achieved by incorporating the 100% joint venture Actuator Solutions



REVENUES 2016: about 7 %  
on Total Revenues

## SECURITY & DEFENSE

### FINAL APPLICATIONS:

- ✓ Sensor Detectors
- ✓ X-Ray Image Intensifiers
- ✓ Thermal Imaging Systems
- ✓ Night Vision Tubes
- ✓ Vacuum based Gyroscopes and Pressure Sensors to assure a reliable position to satellites and airplanes
- ✓ .....and more

PRODUCTS: Getters, metal dispensers, sintered components



## SCIENTIFIC & RESEARCH AREAS

REVENUES 2016: about 5 %  
on Total Revenues

### FINAL APPLICATIONS:

- ✓ Particle Accelerators and High Energy Labs
- ✓ Analytical Instrumentation
- ✓ Processing Tools for semiconductor manufacturing
- ✓ Vacuum Systems

PRODUCTS: vacuum pumps, vacuum chambers





REVENUES 2016: about 8%  
on Total Revenues

## OTHER INDUSTRIAL

### FINAL APPLICATIONS:

- ✓ Lighting
- ✓ Domotic
- ✓ Energy Devices
- ✓ Solar Collectors
- ✓ Gas Lasers & High Power Semiconductor Lasers
- ✓ MEMS Atomic clock
- ✓ Seismic Sensors for oil exploration
- ✓ Vacuum Insulated Pipes for Oil Extraction
- ✓ Cryogenic Applications
- ✓ Super-capacitors
- ✓ Lithium Batteries

**PRODUCTS:** Getters, metal dispensers, polymeric composites, sintered components, Nitinol components & devices.





REVENUES 2016 (OCT/DEC)  
about 1 % on Total Revenues

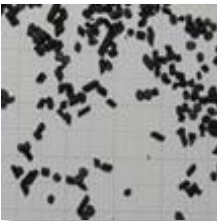
*2017 SALES PLAN ABT €15M*

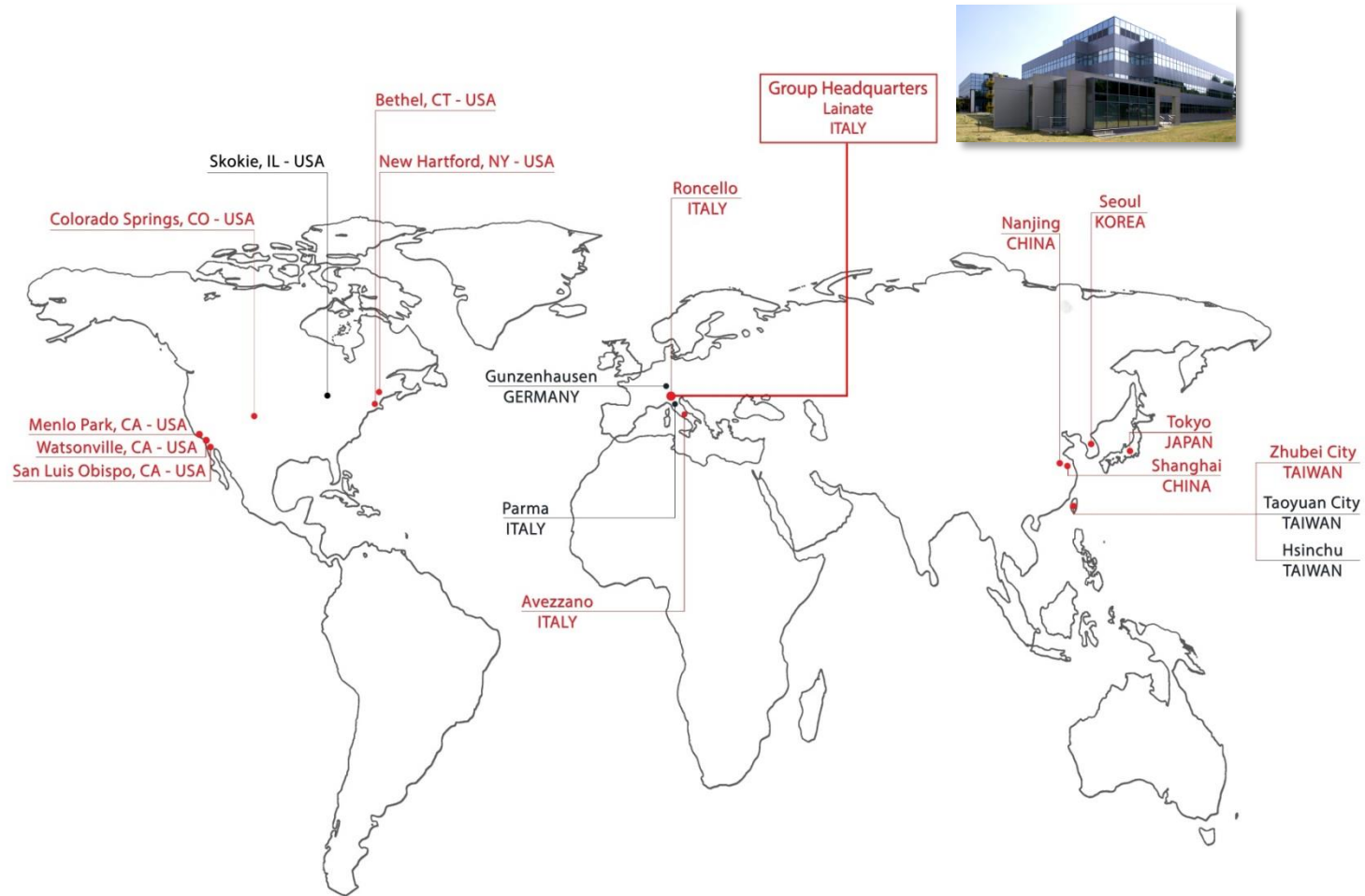
## ADVANCED PACKAGING

### FINAL APPLICATIONS:

- ✓ Food packaging
- ✓ Gas barrier films
- ✓ Pharmaceutical
- ✓ Nutraceutical
- ✓ ... and more

PRODUCTS: Lacquers, active & passive coated films





SAES Group is present in the world with twelve manufacturing facilities, distributed across Europe, United States and Asia, and has an active sales and technical service network on a global scale.





**A Global  
Quality  
Approach**

**Total Quality  
Management**  
is our key approach  
for *innovative, safe  
and environmentally  
friendly* products  
development



# A Customer-focused Approach

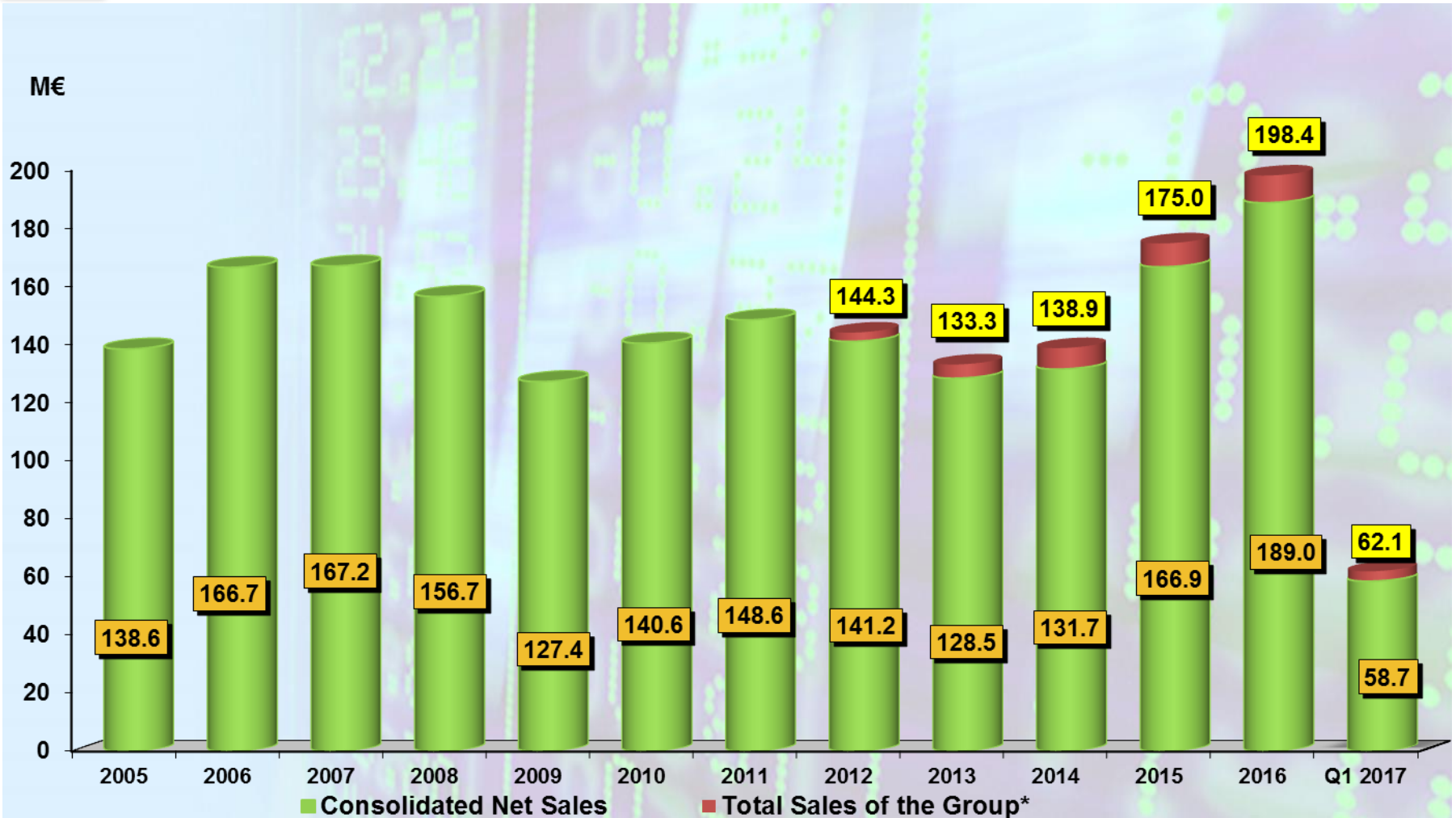
More than **2,000 active customers in 5 continents**, spanning from blue chip companies to business start-ups, Universities and R&D centers

More than **70 years** of expertise in partnering with customers for the engineering **of fully customized solutions**

**High flexibility** in product development, fine-tuning and manufacturing, **to foster emerging and forefront application technologies**

**Technical service** network and **CRM** structure **supporting customers' innovation** 24 hours a day

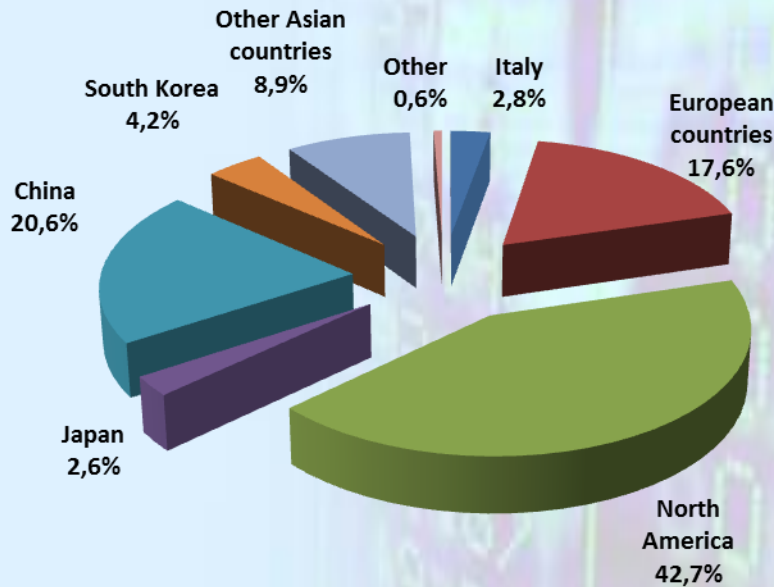
# SAES Group Sales up to Q1 2017



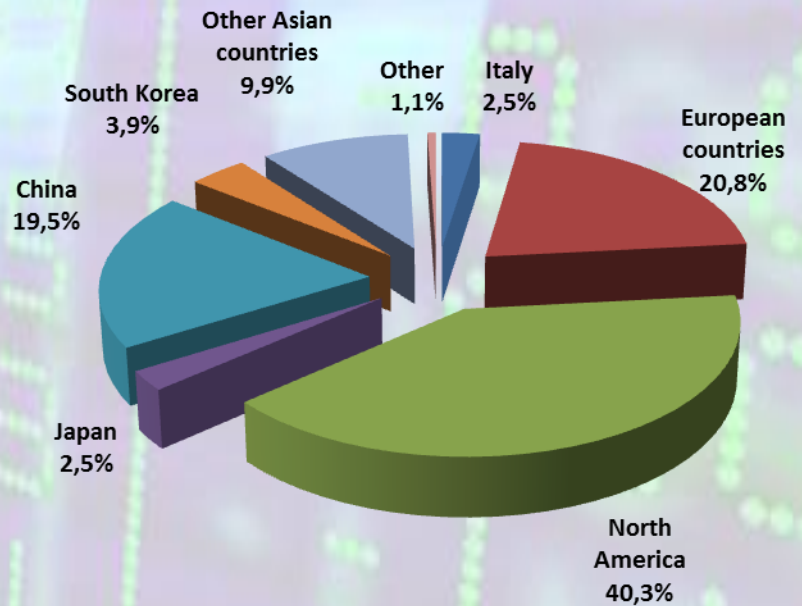
\* Achieved by incorporating the **50% joint venture Actuator Solutions** and the **49% joint venture SAES RIAL Vacuum S.r.l.** with the proportional method instead of the equity method

# SAES Group Sales Q1 2017

*Consolidated Net Sales*  
by Geographic Area



*Total Revenues of the Group*  
by Geographic Area





## INDUSTRIAL APPLICATIONS

- Getters & Dispensers
- Solutions for Vacuum Systems
- Sintered Components for Electronic Dev. & Lasers
- Systems for Gas Purification & Handling

## SHAPE MEMORY ALLOYS

- Nitinol for Medical Devices
- SMA for Thermal & Electro Mechanical Devices



## ADVANCED PACKAGING

- Solutions for advanced packaging

## BUSINESS DEVELOPMENT

- Organic Solutions for Electronic Devices



**Thank you for your attention**

**saes  
group**

**[www.saesgroup.com](http://www.saesgroup.com)**