

SAES Group
STAR Conference – London 2014
October 2, 2014

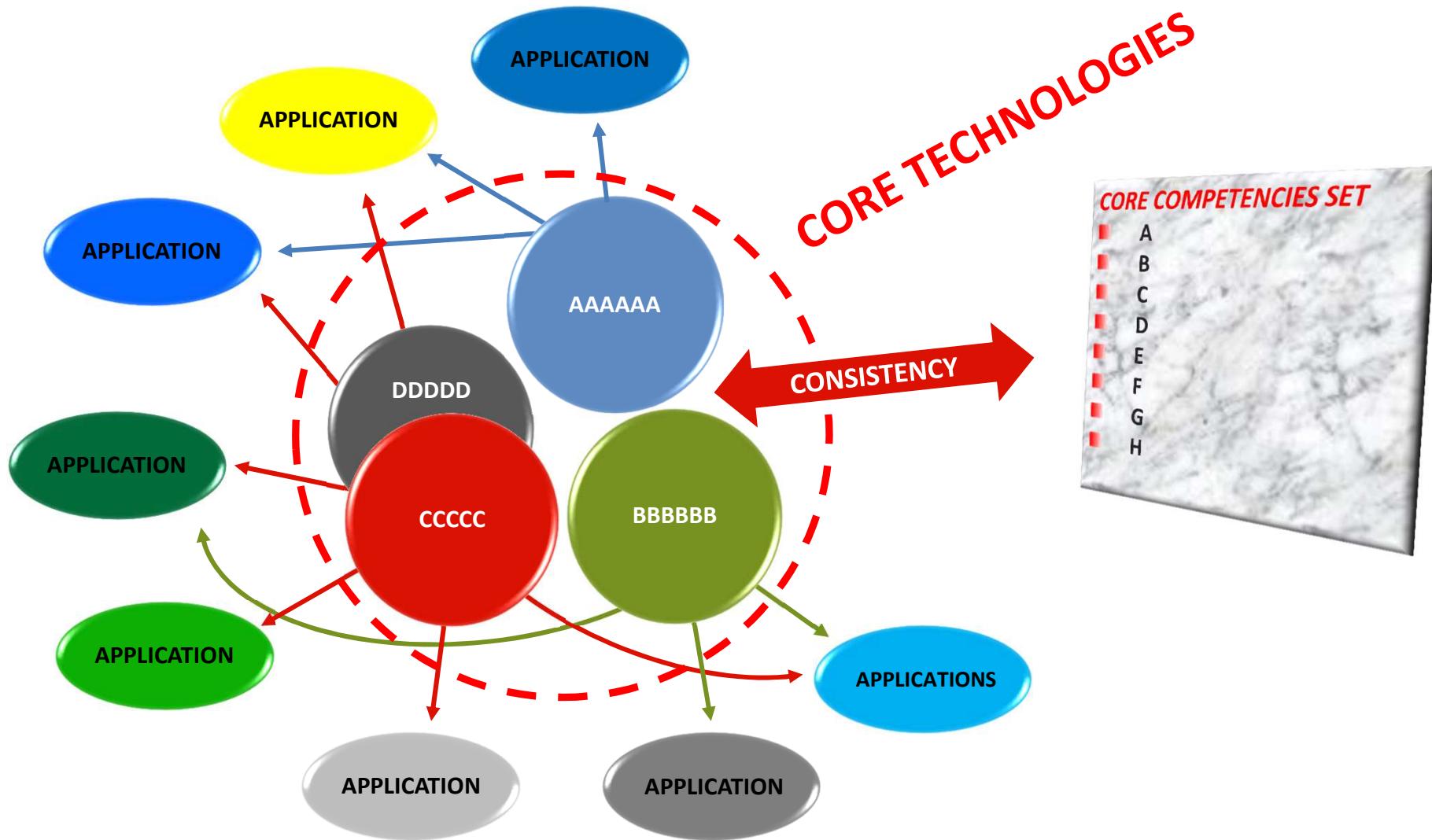


making **innovation happen**, together

The SAES Group

- **SAES Business Model**
- Technological Portfolio
- Group Organization
- H1 2014 Financial Results

SAES Value & Business Model



Core Business and Vision

Pioneering the development of getter technology, the SAES® Group is the world leader in a variety of scientific and industrial applications where **high/ultra-high vacuum** conditions or **pure metal vapors** or **ultra-pure gases** are required

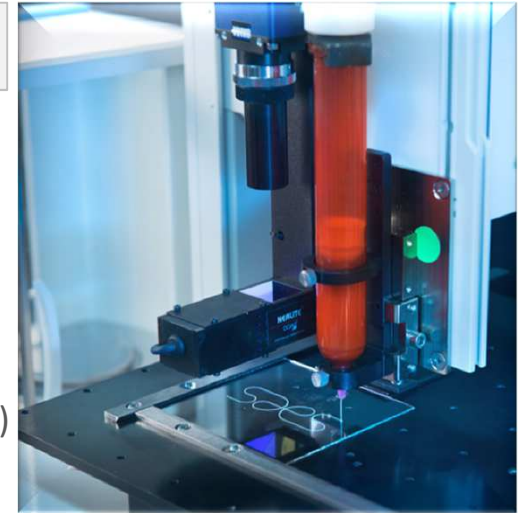


Starting in 2004 the SAES® Group has expanded its technological portfolio into **knowledge-intensive materials**, the **NiTiNOL**, whose super elastic properties are applied to medical devices while **shape memory properties** are applied in industrial and consumer electronics applications.

Growth Strategy

Organic Growth based on Research & Innovation:

- Consolidation of existing technology
- Scouting of new Applications
- Development of new technologies
- About **10%** of net sales allocated to R&I every year
- State-of-the-art corporate laboratories covering a surface of over **3,300 sq. m.**
- **100** highly skilled people engaged in R&I activities (50% graduated -> 20% PhD)
- Cooperation with Universities and R&D centers



Inorganic growth, acquiring Companies or Technologies complementary to our technological portfolio:

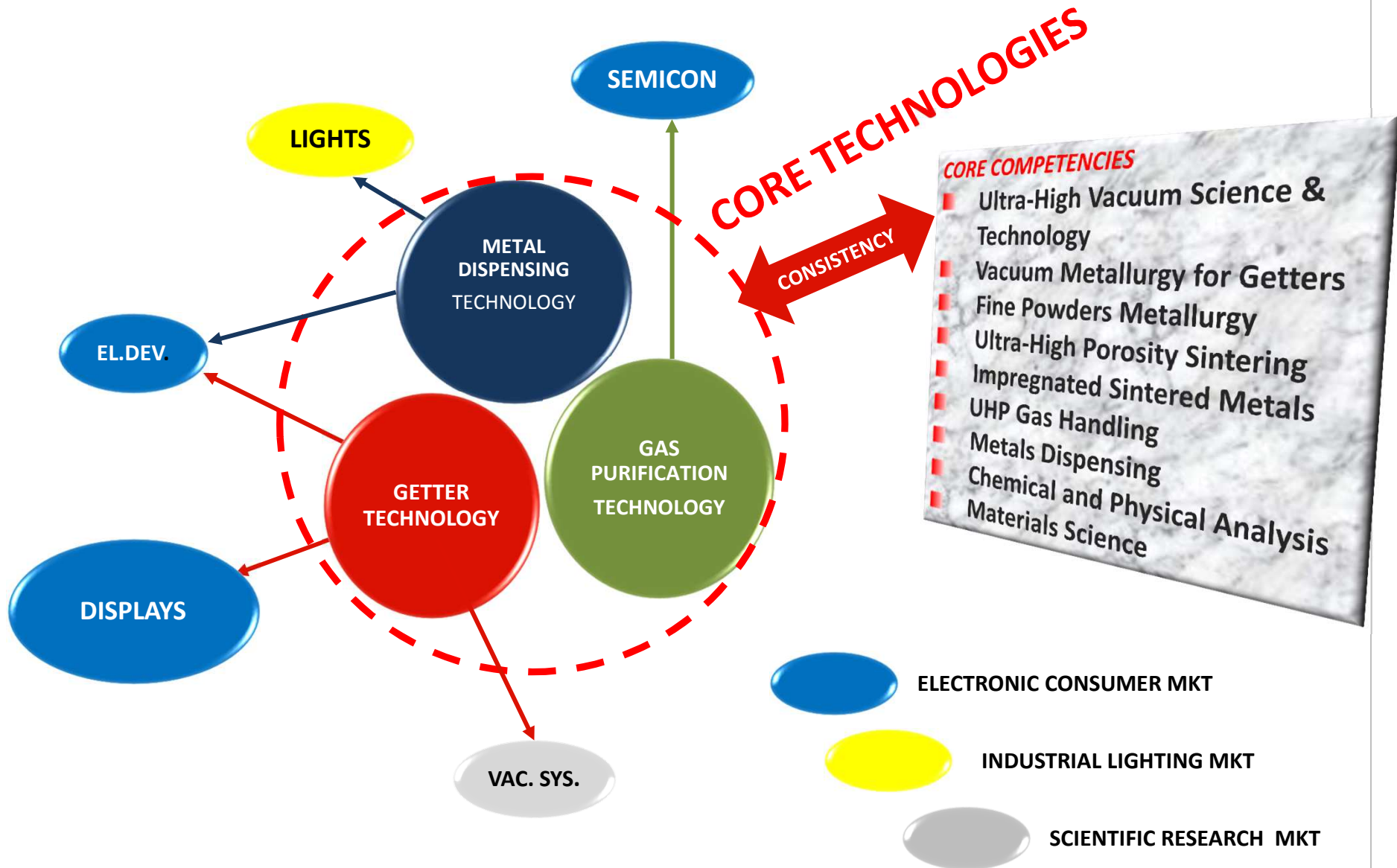
- SMA Industrial development launched in 2004:
 - Acquisition of Memory Metalle GmbH
 - Acquisition of SAES Smart Materials, Inc.
 - Acquisition of Memry Corporation
- Acquisition of Nano Zeolite Technology
- Acquisition of P&E hydrogen purification technology



The SAES Group

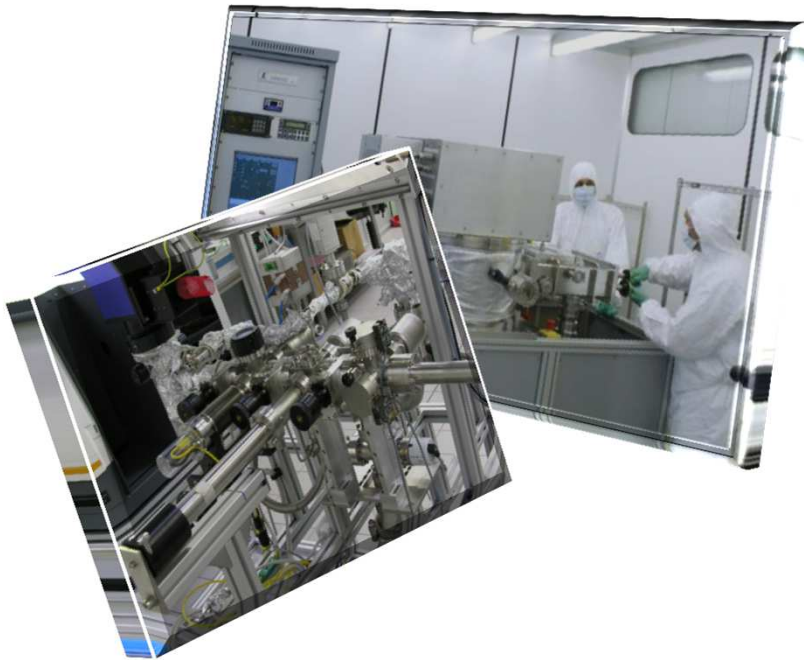
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SAES in 2007



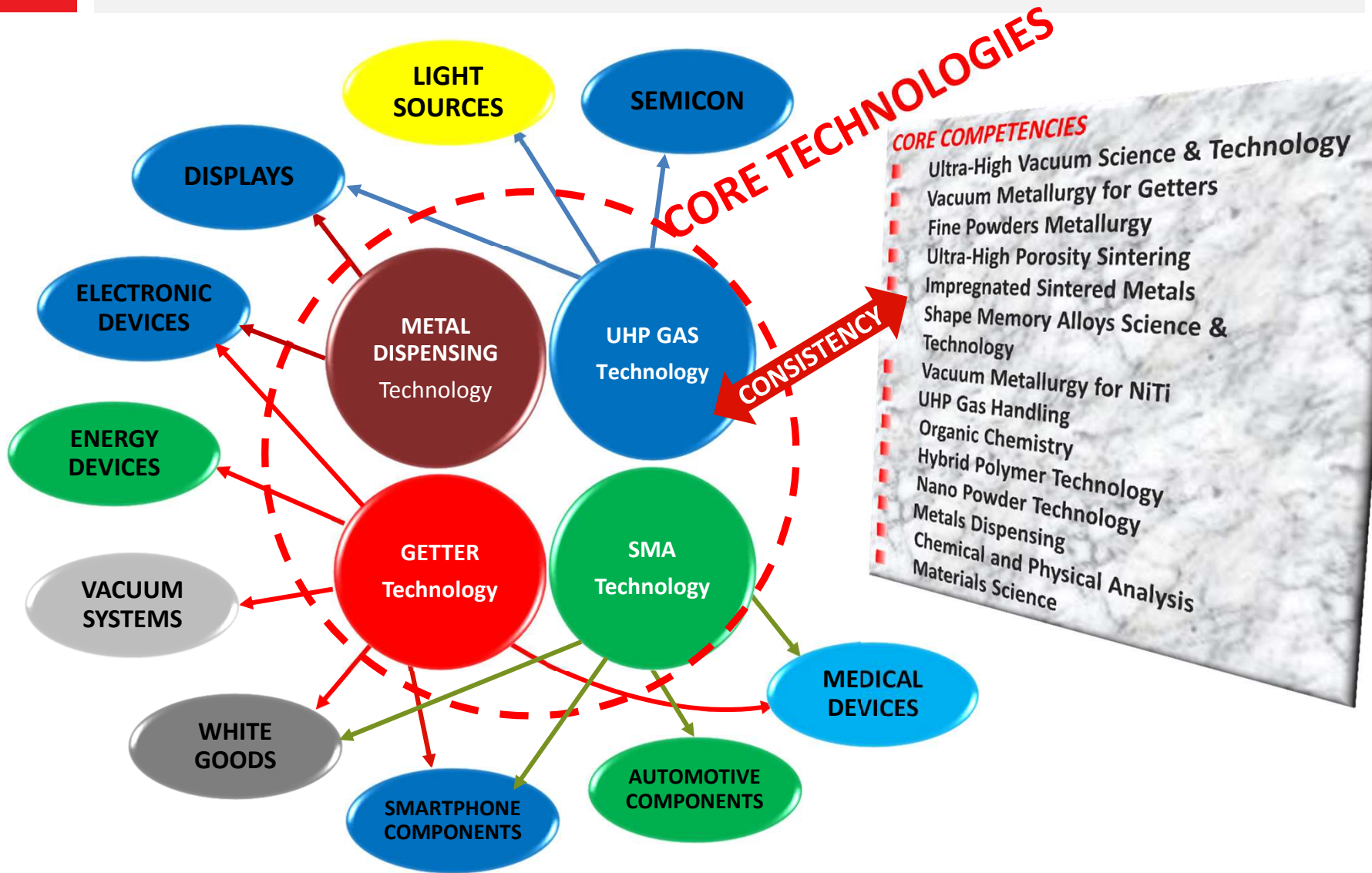
Expansion of Core Competencies

- Vacuum Metallurgy for Getters
- Fine Powders Metallurgy
- Thin Film Deposition
- Metals Dispensing
- Ultra-High Vacuum Science & Technology
- UHP Gas Handling



- Organic Chemistry
- Hybrid Polymer Technology
- Ultra-High Porosity Sintering
- Impregnated Sintered Metals
- Nano Powder Technology
- Shape Memory Alloys Science & Technology
- Vacuum Metallurgy for NiTi
- Chemical and Physical Analysis
- Materials Science

SAES in 2014



Main markets

Consumer Electronics



Medical Devices



Scientific & Research Systems



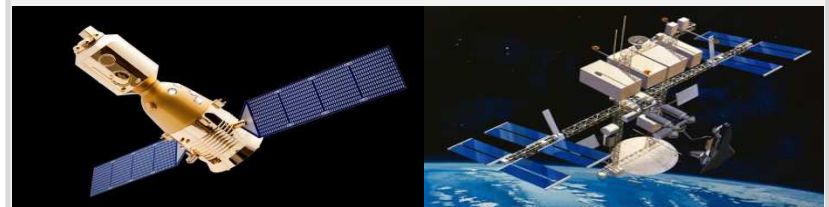
Automotive



Lighting



Telecommunications



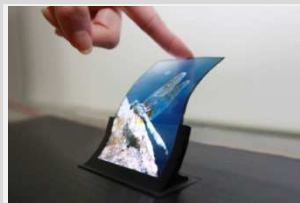
Final applications with high growth potential



Vacuum systems
for
particle accelerators and *diagnostic equipment*



SMA actuators
for
automotive and *miniaturized cameras for mobile phones*



NANO getters and sealant
for
OLED and *packaging*



Safety devices
for
Lithium batteries



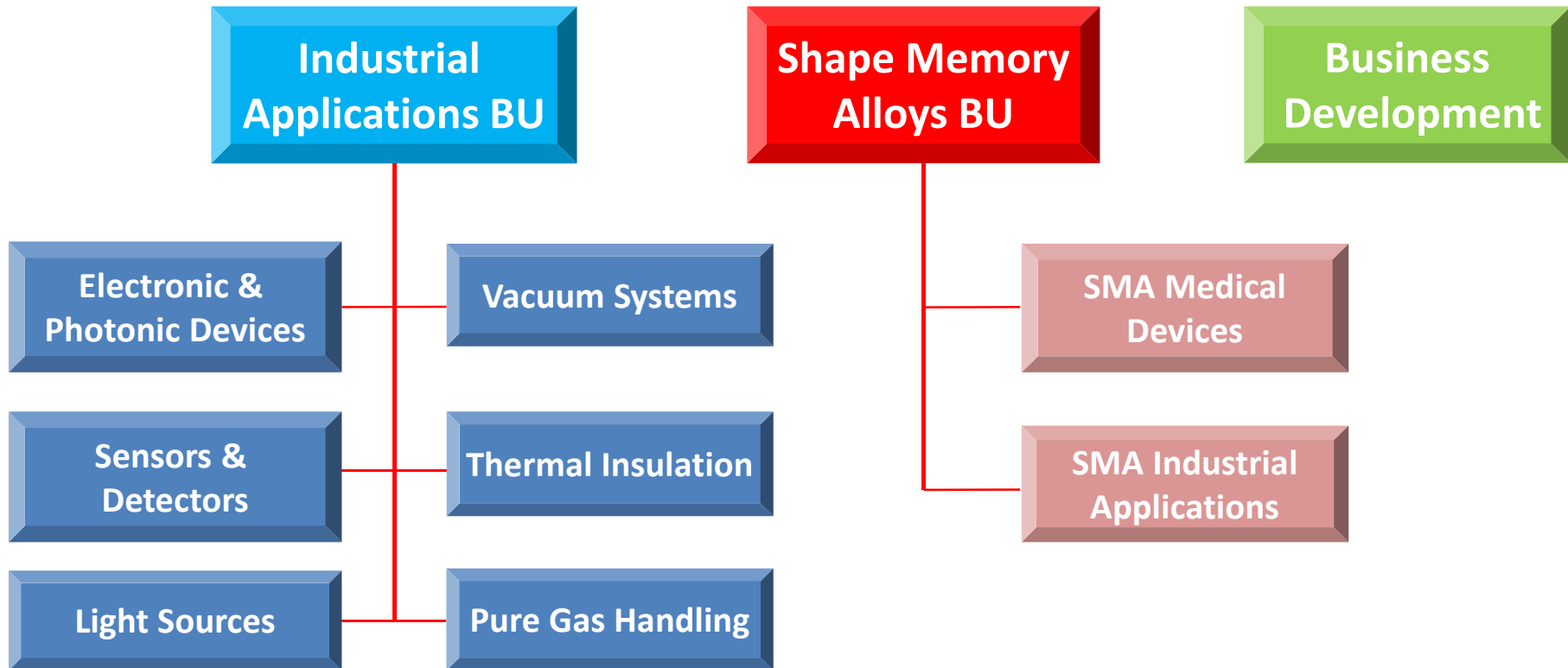
Innovative SMA devices
for
medical applications



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Business Organization



Business Organization

The SAES Group serves customers through global **Business Units (BU)**.

Each Business Unit addresses different markets and applications, aiming at the best customer satisfaction through the support of a world-wide based technical sales and service network.



Industrial Applications

- Getters & Dispensers
- Pure Gas Handling
- Vacuum Systems & Thermal Insulation



Shape Memory Alloys

- Medical
- Industrial



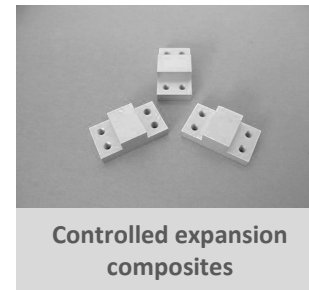
Business Development

- Hybrid Getters
- Energy Storage

ELECTRONIC & PHOTONICS DEVICES

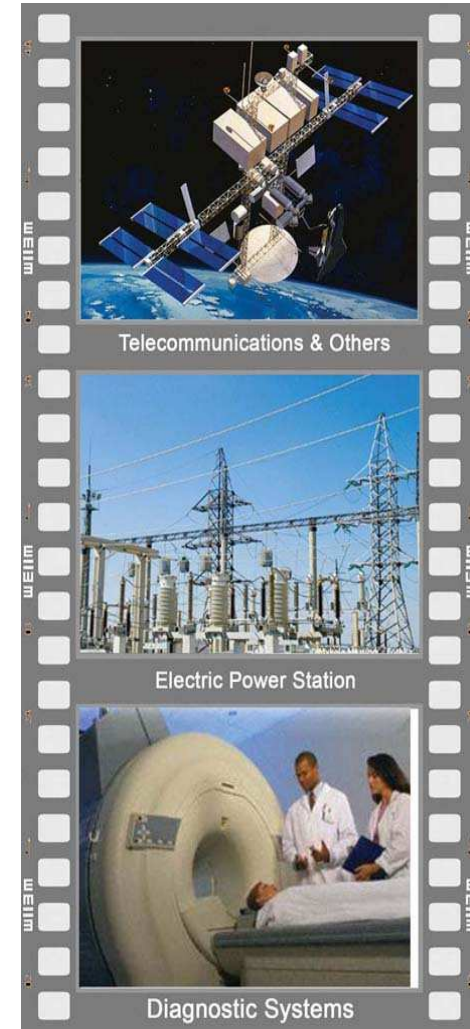
SAES Group offers **sophisticated solutions** to a variety of devices:

- Getters and dispenser cathodes for vacuum tubes for medical imaging, energy, telecom and avionic applications
- Alkali Metal Dispensers for medical, defense and industrial imaging
- Thermal management engineered parts for industrial, defense and telecom applications



Main applications:

- ✓ X-Ray Tubes & Systems
- ✓ Image Intensifiers
- ✓ Vacuum Switches and Interrupters
- ✓ Travelling Wave Tubes
- ✓ Pressure Transducers
- ✓ Microwave Power Tubes
- ✓ Gas Lasers
- ✓ High Power Semiconductor Lasers



Business Organization

LIGHT SOURCES

SAES Group serves the Light Sources Industry with:

- Non-evaporable getters for Discharge Lamps
- Advanced low dose Mercury dispensers for Linear, Circular and Compact Fluorescent Lamps
- Thermal management engineered parts for HB LEDs



Major applications:

- ✓ Street Lighting
- ✓ Industrial and Domestic Lighting
- ✓ Commercial Lighting
- ✓ Special Lighting

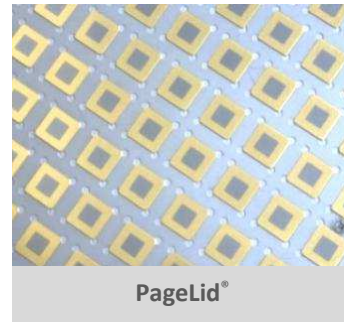
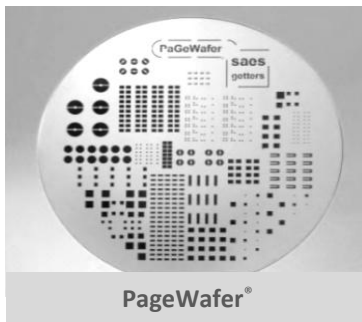


Business Organization

SENSORS & DETECTORS

To all the sensors and detectors under vacuum SAES Group offers **sophisticated solutions** :

- Mobile-phone and Aerospace inertial sensors
- Seismic Sensors for oil exploration
- Thermographic cameras for consumer and industrial applications
- Thick film getters for Micro Electro Mechanical Systems (MEMS) resonant systems
- Thin getter film on metallic lids for IR and resonant MEMS systems
- Silicon Wafers with patterned getter films for MEMS devices for consumer electronics
- Dispensable driers for optical and resonant MEMS devices
- Micro Alkali Metal Dispensers for MEMS atomic clocks



Main applications:

- ✓ MEMS Inertial Sensors
- ✓ Thermal Imaging Systems
- ✓ MEMS Pressure Sensors
- ✓ RF Switches
- ✓ MEMS Atomic clock
- ✓ MOEMS and Optical Switches



Business Organization

VACUUM SYSTEMS

Expertise in gas-surface interaction, vacuum technology, materials' outgassing and permeation has led SAES Group to the development and production of **non-evaporable getter pumps** and **getter coating** of vacuum chambers for particle accelerators



Getter Coating

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



Getter Pumps Family



X-FEL
Particle Accelerator

Large Hadron Collider - CERN
Particle Accelerator

UHV System

Business Organization

THERMAL INSULATION

SAES provides **getter solutions** for vacuum thermally insulated devices like:

- ✓ Vacuum Bottles and Dewars
- ✓ Vacuum Insulated Pipes for Oil Extraction
- ✓ Vacuum Insulated Panels for refrigerators
- ✓ Solar Collectors
- ✓ Cryogenic Applications
- ✓ Vacuum Insulated Glasses



Smart Combo



Combo



Pills



Tanks and Dewars

Vacuum Insulated Panels

Solar Collectors

Business Organization

PURE GAS HANDLING

Leveraging the unique competence of gas impurities sorption and gas purification equipment design, SAES Group is the **world leader in gas purification technologies**.

SAES has the largest offer of equipment solutions to purify all gasses for the manufacturing of silicon based semiconductor devices, LEDs, Fiber optics, Display Industry (LCDs, OLEDs) and photovoltaic devices.



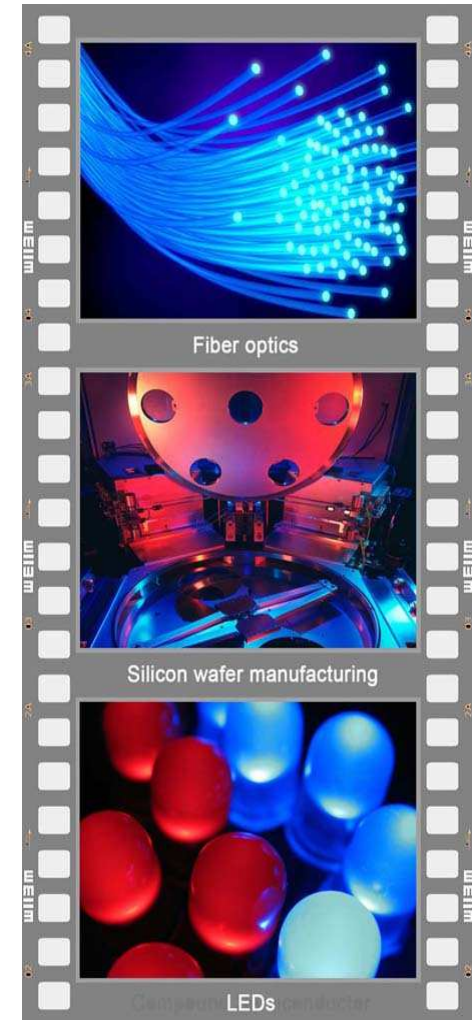
Point of Use



Customer Service



MegaTorr



Fiber optics

Silicon wafer manufacturing

LEDs

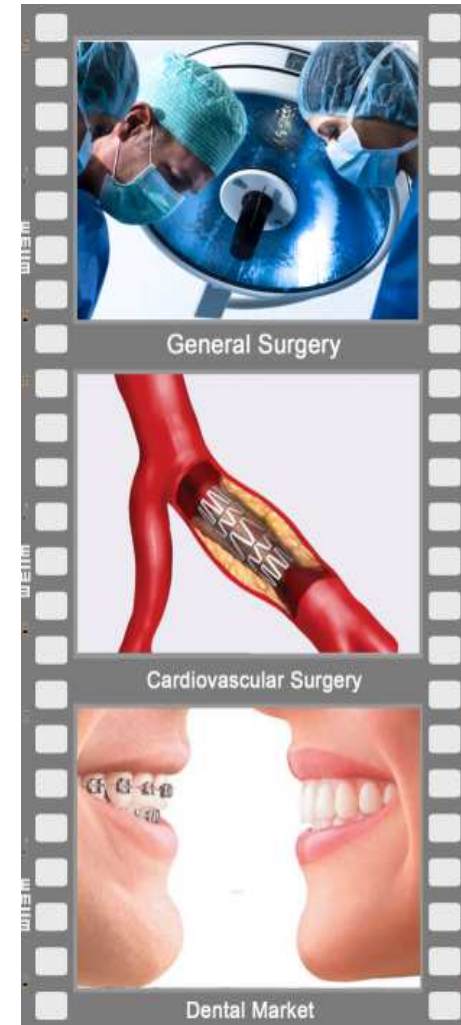
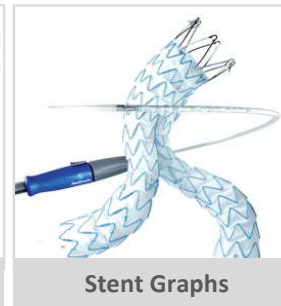
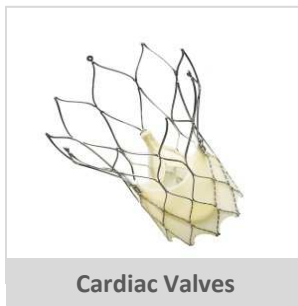
Business Organization

SMA MEDICAL DEVICES

Shape Memory Alloys, or SMAs, belong to an extensive range of metal alloys showing unique **super-elasticity**, **shape memory properties** and **extremely high bio-compatibility** characteristics.

SAES Group develops and sells a large variety of NiTi based products for Medical Devices:

- ✓ Semi-finished products (wires, tubes, sheets, coils)
- ✓ Parts for stents
- ✓ Parts for spinal clips
- ✓ Parts for cardiac valves
- ✓ Parts for guidewires



Business Organization

SMA INDUSTRIAL APPLICATIONS

SAES has been the first Company able to value and exploit the full potential of the Shape Memory Alloys (SMA) **properties of NiTiNol** by providing all types of SMA NiTiNol parts and devices for:

- ✓ Consumer electronics
- ✓ Automotive
- ✓ Domotic
- ✓ White Goods



SAES Group through the Joint Venture **Actuator Solutions GmbH**, in Germany, also develops and produces a wide range of **shape memory alloys actuators** used in consumer electronics, automotive and industrial applications:



Business Organization

BD - HYBRID GETTERS

The combination of SAES core-competence in gettering and its more recent know-how in polymer chemistry and organic-inorganic compounds created a powerful technology which is expanding from its traditional target of Organic Electronics to more and more applications in:

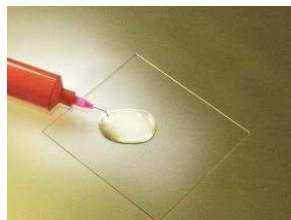
- ✓ OLED Displays
- ✓ OLED Lighting
- ✓ OLET Displays
- ✓ LCOS Displays
- ✓ EPD Displays
- ✓ Gas Barrier Films
- ✓ Specialized Food Packaging
- ✓ Special Applications

SAES Group developed a technological platform to address the growing needs of integration of gas-management solutions into the state-of-the-art production process in the above and many other fields with:

- Dispensable, printable and optically transparent dryers and getters
- Active edge adhesives
- Alkali Metal Dispensers



Dispensable Getters -
Glue



Dispensable Getters -
Filler



Dispensable Getters -
Paste



Hot Melt
Getters



Flexible Display

Gas Barrier Films

Special Applications

Business Organization

BD - ENERGY STORAGE

SAES starts serving the Energy Storage Industry with gas management systems for:

- ✓ Aluminum Capacitors
- ✓ Super-capacitors
- ✓ Lithium Batteries

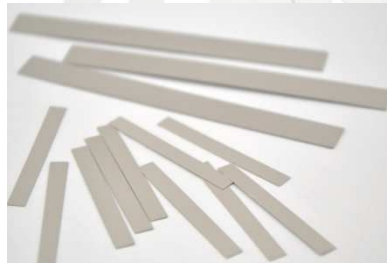
Increase
Safety

Increase
Stability and
Reliability

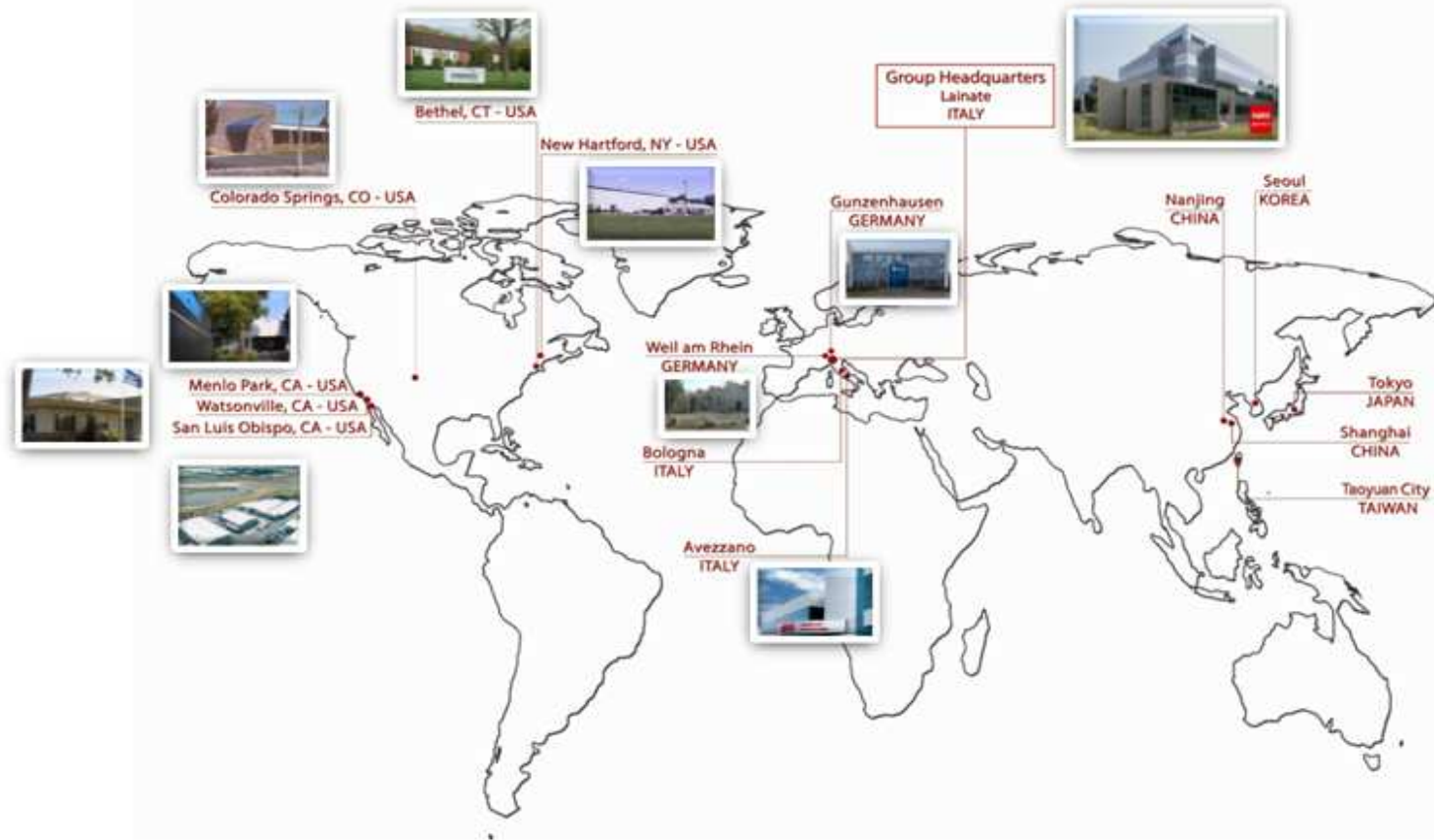
Increase
Lifetime
(Endurance or
Durability)



Hydrogen Getters



Global Presence



- SAES Group has a worldwide presence thanks to its subsidiaries located in Europe, USA and Asia
- The company is headquartered in Lainate, Italy
- The Group has 10 manufacturing facilities, six in the USA, two in Italy and two in Germany
- In Asia the Group can count on subsidiaries located in Japan, China, South Korea and Taiwan
- The worldwide presence of the Group is also ensured by a number of authorized distributors

A Customer-focused Approach

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

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

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

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

Quality, Environment, Safety & Ethics



**A Global
Quality
Approach**

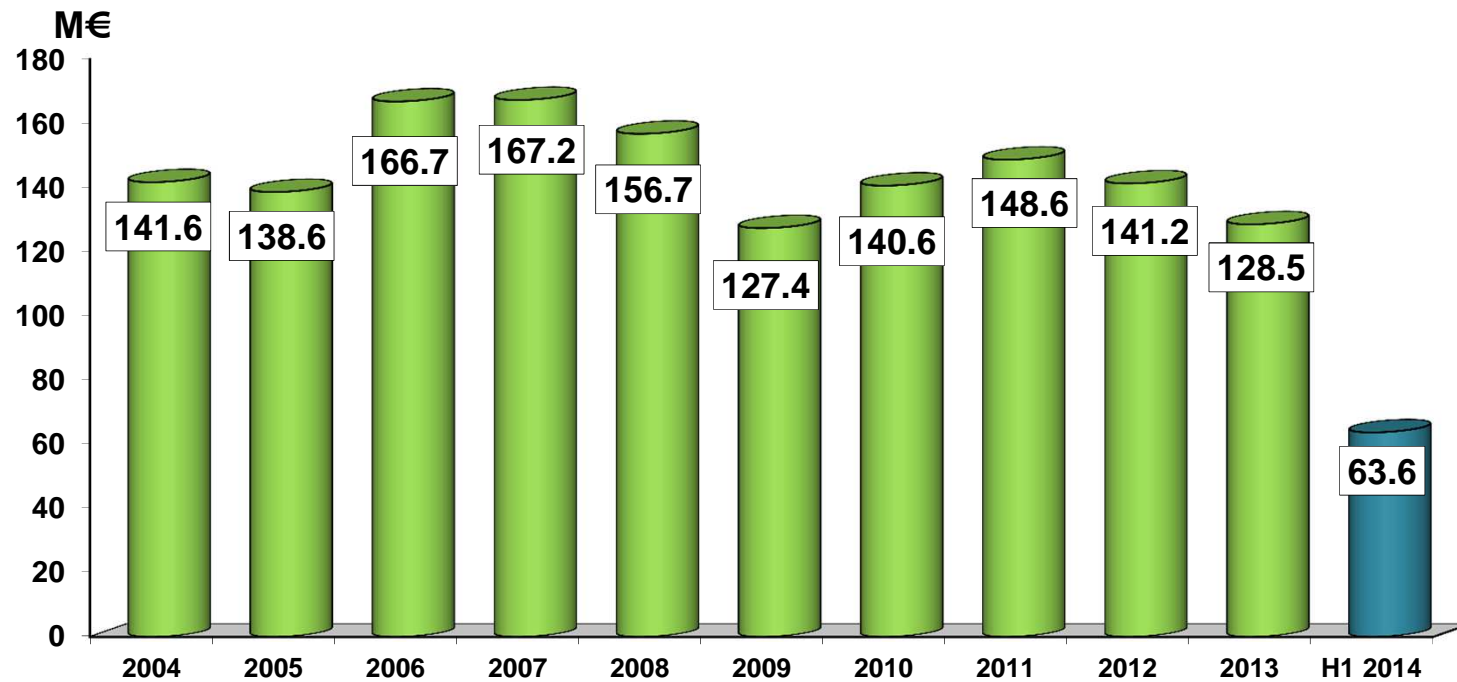
Total Quality Management
is our key approach for
*innovative, safe and
environmentally friendly*
products development



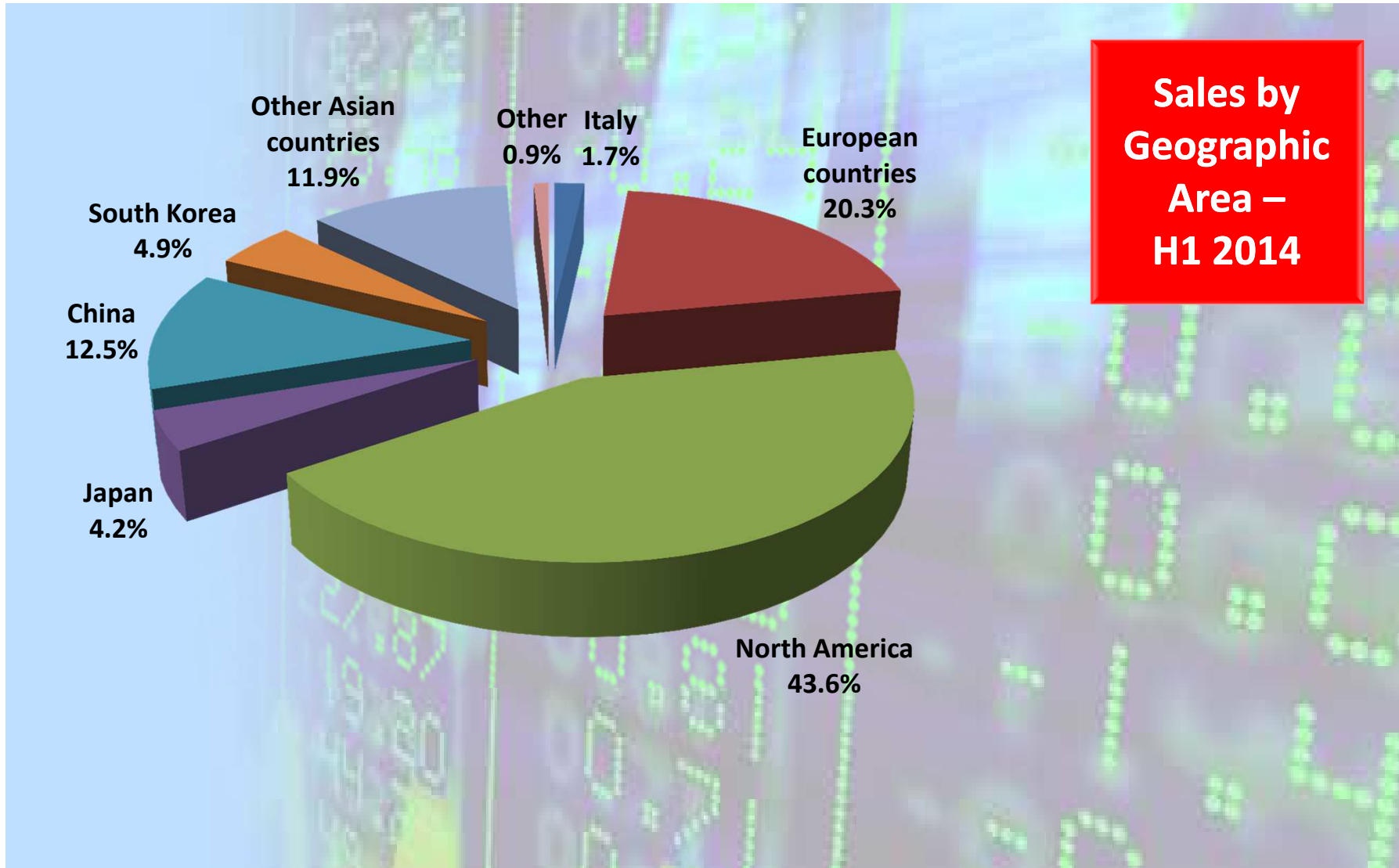
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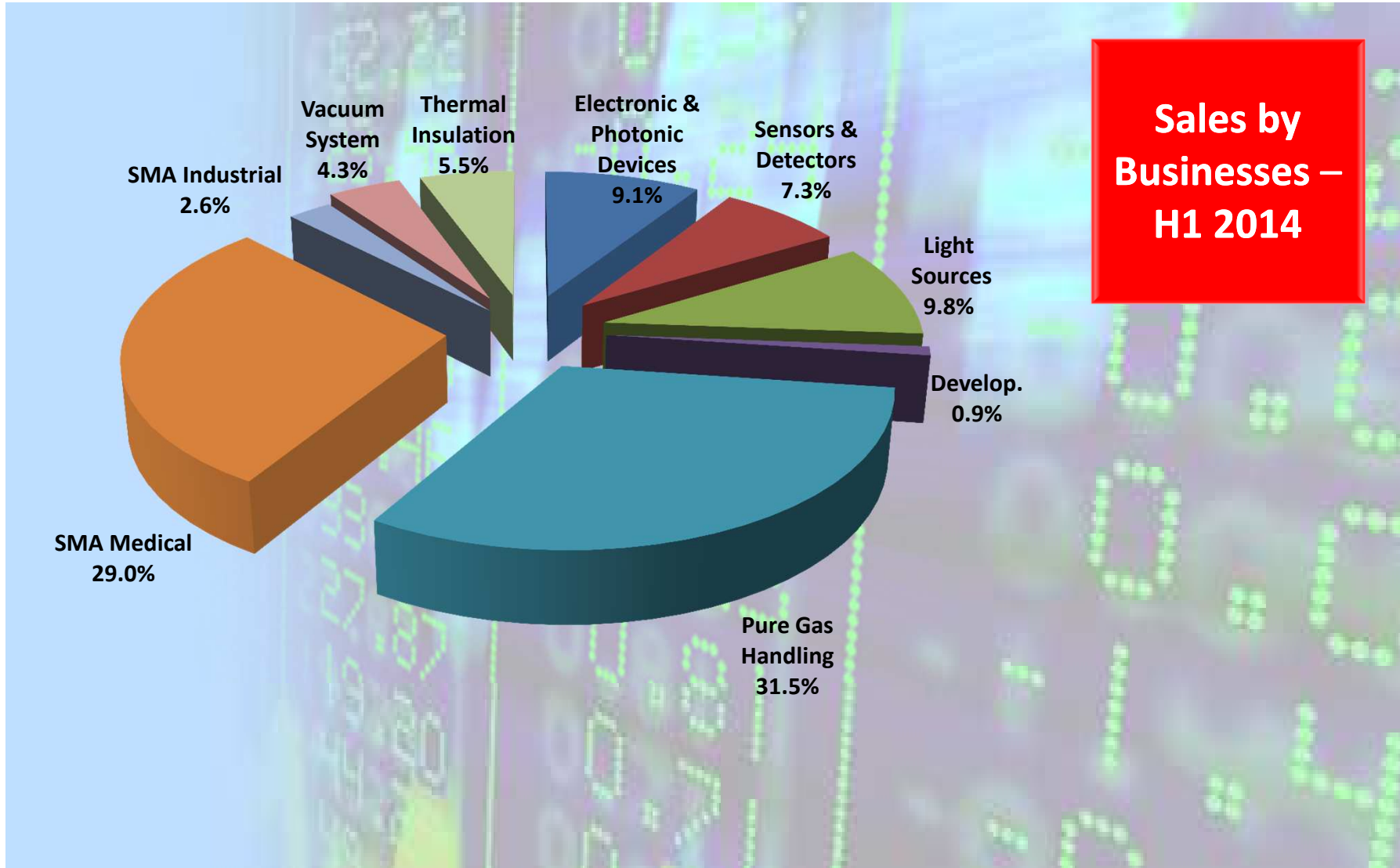
SAES Group Consolidated Sales



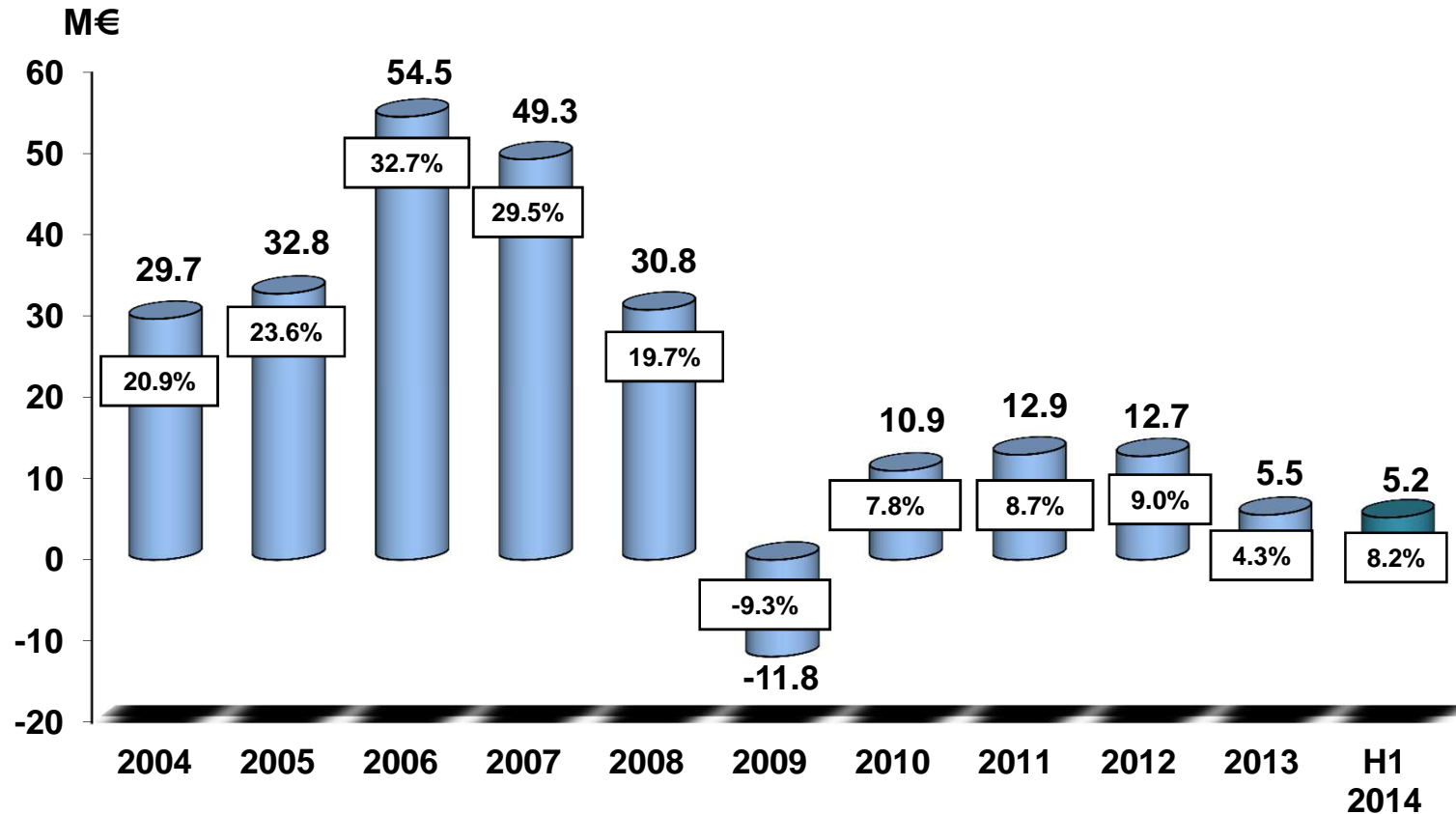
SAES Group Consolidated Sales



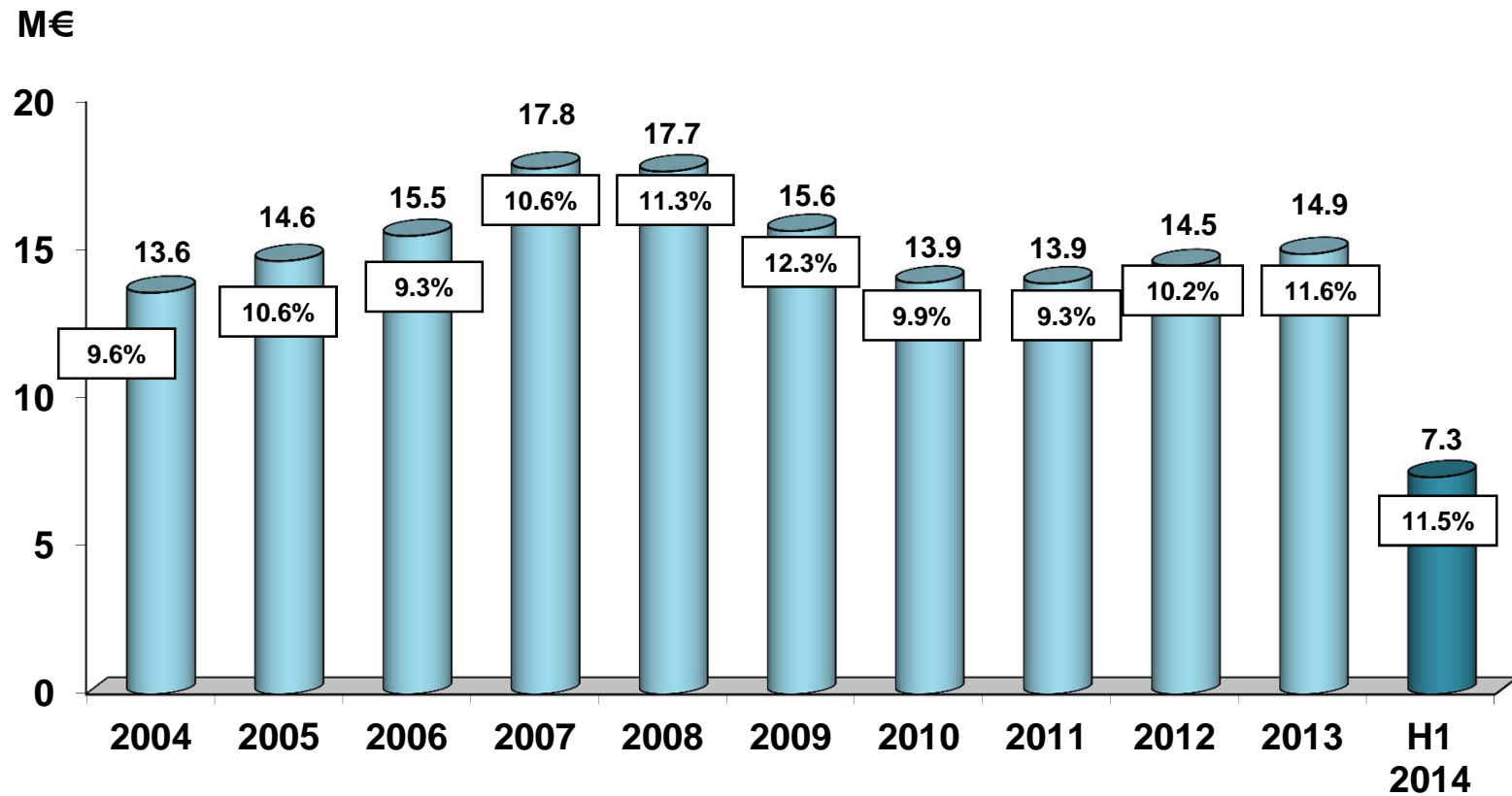
SAES Group Consolidated Sales



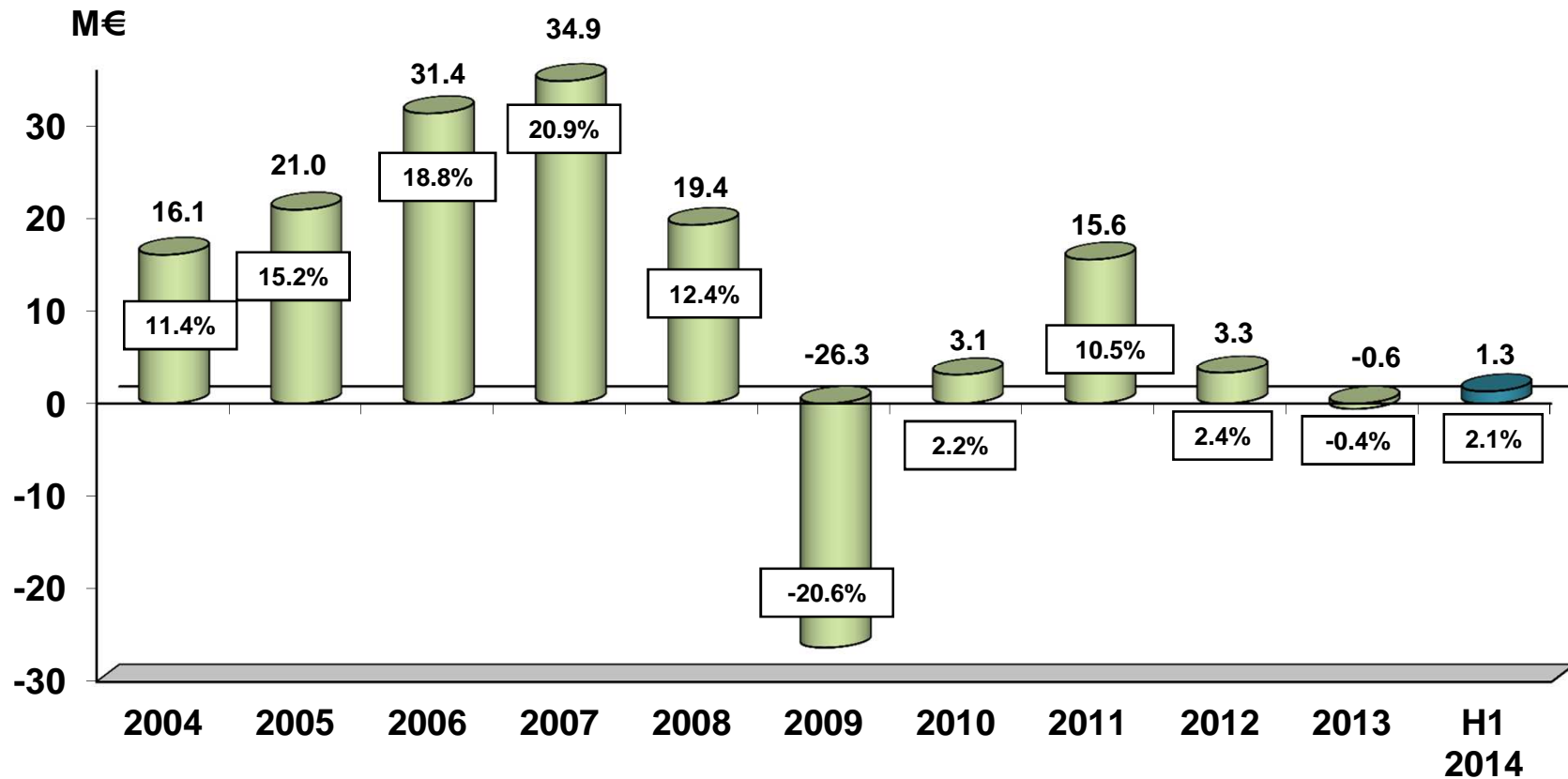
Consolidated Operating Income (% on net sales)



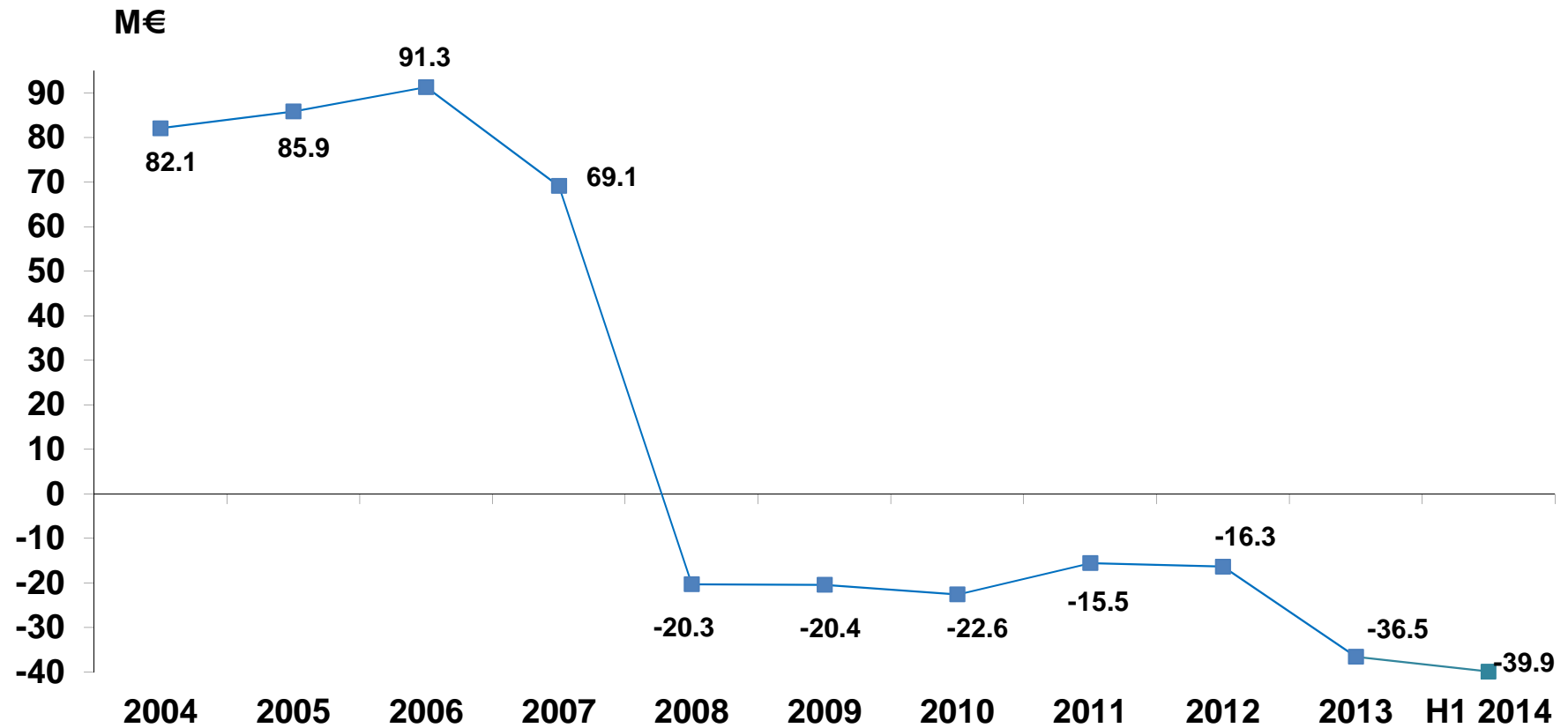
Research & Development Expenses (% on net sales)



Consolidated Net Income (% on net sales)

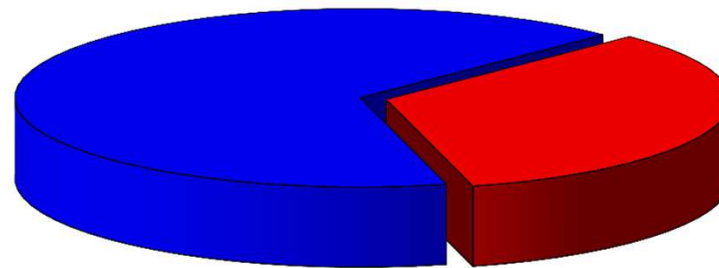


Net Financial Position



SAES Getters S.p.A. Capital Structure

Ordinary
Shares
67%



Savings
Shares
33%

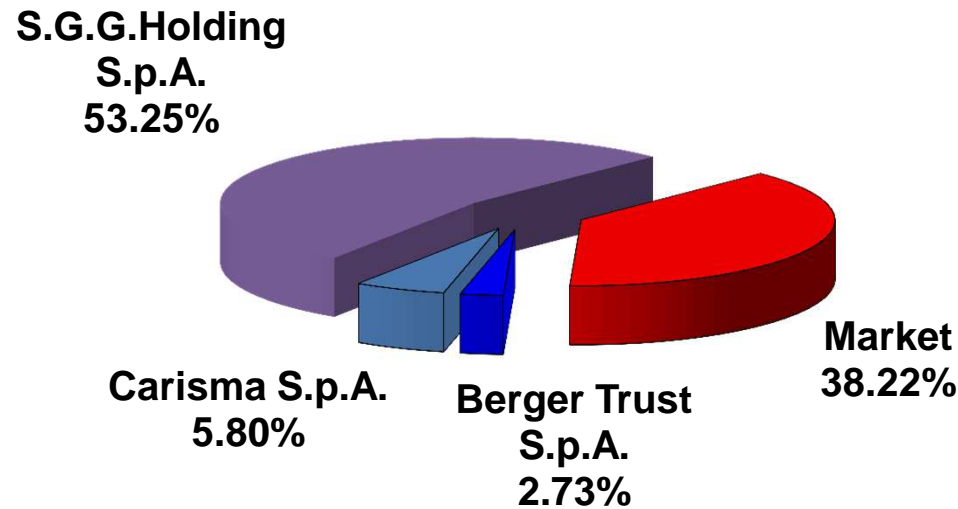
Ordinary Shares

14,671,350

Savings Shares

7,378,619

SAES Getters S.p.A. Ordinary Shareholders



Number of ordinary shares	S.G.G. Holding S.p.A.	Carisma S.p.A.	Berger Trust S.p.A.	Market	Total
	7,812,910	851,400	400,000	5,607,040	14,671,350
	53.25%	5.80%	2.73%	38.22%	100%

Thanks for your attention



www.saesgetters.com