Saft’s Common Purpose

We energize the world.
On land, at sea, in the air
and in space.
Who is Saft today?

**GROUP PROFILE**

- **100** years of history
- **Leadership position** on 75-80% of revenue base
- **9.4%** invested in **R&D** with **3** main technologies: primary lithium, lithium-ion & nickel-cadmium
- **€788m** revenue FY 2018

**GLOBAL PRESENCE - SALES**

35% North America
32% Europe
33% Asia, MEA, LatAm

4,300+ people
3,000+ customers
Global presence

- Head office
- Manufacturing sites
- Sales offices

14 manufacturing sites
18 countries
30 sales offices
Where we fit in Total

- Exploration & Production
- Gas, Renewables & Power
  (Phillippe SAUGUET, President)
- Refining & Chemicals
- Marketing & Services

Total

Patrick POUYANNE
CEO

SUNPOWER
6,000 EMPLOYEES

SAFT
4,300 EMPLOYEES

4TH LARGEST OIL & GAS COMPANY

100,000 EMPLOYEES

130 COUNTRIES
GRP at a glance

GAS, RENEWABLES & POWER
2018 IN FIGURES

13,000 employees
Gas and power customers in 6 European countries
+2,6M solar lamps and kits sold in 40 countries
11 offices in Europe for energy efficiency
2GW of renewable electricity generation capacity
N°2 in LNG worldwide
$788M in sales in electricity storage with Saft
4 combined cycle gas turbine power plants in France and Belgium
2018 sales by division

Sales 2018

- **Civil Electronics**: €284m (36%)
- **Transportation, Telecom & Grid**: €232m (29%)
- **Space & Defense**: €85m (11%)
- **Industrial Standby**: €187m (24%)
We serve multiple customer segments for specific applications

- Aviation
- Defense
- Grid
- IoT
- Marine
- Medical
- Metering
- Mobility
- Oil & Gas
- Rail
- Space
- Telecom
- Utilities

Corporate presentation

Saft proprietary information – Confidential
Civil Electronics
Igal Carmi, Executive VP

Manufacturing sites:
- Büdingen, Germany
- Kiryat Lkron, Israel
- Poitiers, France
- Raškovich, Czech Republic
- South Shields, UK
- Valdese, USA
- Zhuhai, China
Market overview: Civil Electronics

Main applications
- Smart metering
- Electronic Toll Collection (ETC)
- E-call
- Asset tracking
- Internet of Things (IoT)
- Medical devices
- Portable military
- Oil drilling

Main technologies
- Primary lithium batteries
- Lithium-ion batteries
Our batteries for Civil Electronics

Tracking shipping containers
Strong growth in sales to US Army
Space & Defense
Annie Sennet, Executive VP

Manufacturing sites:
- Cockeysville, USA
- Poitiers, France
Market overview: Space & Defense

Main applications:
- Communications, scientific and military satellites
- Satellite launchers
- Space vehicles
- Base camps
- Weapon systems & torpedoes
- Military aircraft
- Hybrid armored vehicles
- Work boats
- Ferries
- Cruise liners & luxury yachts
- Cargo & offshore vessels

Main technologies:
- Lithium-ion batteries
- Silver-based batteries (for torpedoes and missiles)
Our batteries for Space & Defense

Powering torpedo propulsion
Saft powers Hayabusa 2 MASCOT mission; self-propelled asteroid lander
Industrial Standby
Franck Cecchi, Executive VP

Manufacturing sites:
- Bangalore, India
- Bordeaux, France
- Nersac, France
- Oskarshamn, Sweden
- Raškovice, Czech Republic
- Valdosta, USA
Market overview: Industrial Standby

Main applications:
- Emergency back-up power, starting power and cycling applications in the oil and gas industry
- Power generation and distribution
- Railway signaling systems

Main technologies:
- Nickel-based batteries
- Lithium-ion batteries
Our batteries for Industrial Standby

Delivering back-up power for data centers
Saft provides backup battery systems for Doha Metro
Transportation, Telecom & Grid
Hervé Amossé, Executive VP

Manufacturing sites:
- Bangalore, India
- Bordeaux, France
- Jacksonville, USA
- Nersac, France
- Raškovice, Czech Republic
- Valdosta, USA
- Zhuhai, China
Market overview: Transportation, Telecom & Grid

**Main applications**

- **Energy Storage Solutions**
  - Storage solutions for installation & renewable generation plants, micro- & distribution grids, and commercial or industrial end user sites

- **Aviation**
  - Backup power and emergency systems
  - Engine and turbine starting

- **Rail & Mobility**
  - Backup power for lighting, air-conditioning & on-board communications, & critical safety applications (emergency braking & door opening systems)
  - Electrification of industrial vehicles

- **Telecom**
  - Backup power for the telecommunications industry

**Main technologies**

- Nickel-based batteries
- Lithium-ion batteries

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Our batteries for Transportation, Telecom & Grid
Saft wins largest ever rail contract from Alstom India for batteries for 800 freight locomotives
Research and Development excellence

- 2 incubators (Bordeaux, FR & Cockeysville, US)
- €76m invested in R&D ~ 9.4% of sales
- 22 patents granted in 2018 Total portfolio of patents: 159
- 141 Saft Technical Experts recognized

Continuous innovation for superior products and technology
Operational excellence: Four pillars to build performance

Safety culture
- Global plan and commitment toward zero accidents
- Safety culture is the basis for our strong quality and efficiency

Lean
- Since 2004, ‘Saft World Class Program’ has deployed the highest lean standards in all plants
- TPM, pull flows, autonomous teams, lean supply chain, lean engineering

Industry 4.0
- In 2016, launch of a very ambitious Digital Transformation Program covering all activities
- Enhanced automation, data management, collaborative portals, on-line diagnostics

Collaboration
- One Saft worldwide team sharing information in real time and dedicated communities on specific areas of expertise
- To be extended toward external partners (clients, suppliers, R&D)
Sustainable development

Clean energy
- Our batteries are zero CO₂ energy storage devices
- Li-ion technology allows innovative and sustainable energy related services

Sustainable design
- Advanced batteries tailored to customer needs increase our customers’ energy efficiency
- Our battery designs incorporate recycling constraints without compromising performance

Circular economy
- Recycling of used nickel based batteries through our take back network
- Over 75% of materials are extracted to be reused by industry

Manufacturing
- Saft is committed to minimizing all impacts from manufacturing operations
- Saft policy is to exceed compliance with national laws and regulations governing environmental protection
Learn more about Saft

Stay tuned!

Corporate Brochure
Saft International Magazine