

Saft Presentation 2020



Saft's Common Purpose and Values

We energize the world. On land, at sea, in the air and in space.



Safety



Respect for each other



Pioneer spirit



Stand together



Performance minded

Who is Saft today?

GROUP PROFILE



100+ years of history



Leadership position
on **75-80%** of revenue base

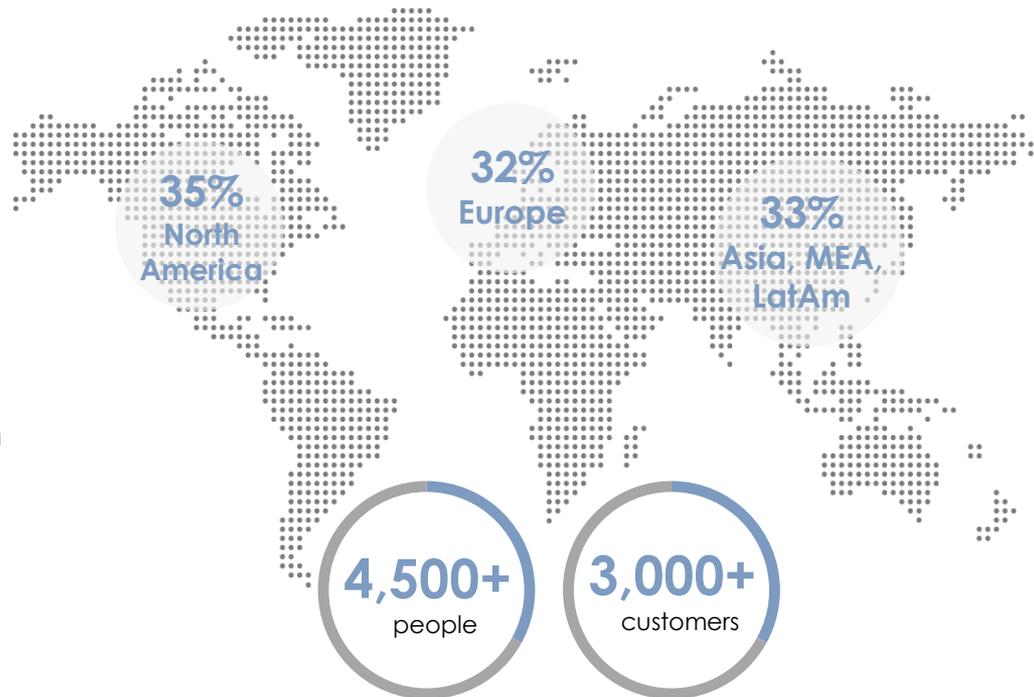


12.4% invested in **R&D** with **3** main technologies; primary lithium, lithium-ion & nickel-cadmium



€796m revenue FY 2019

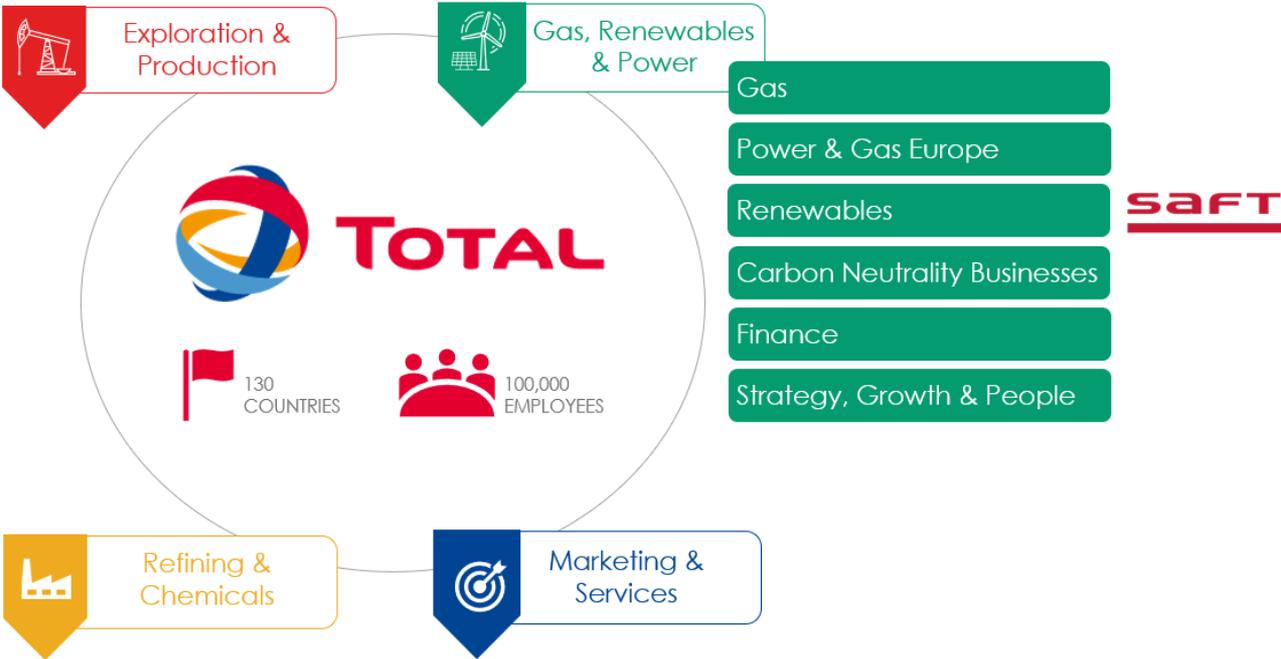
GLOBAL PRESENCE - SALES



Global presence



Where we fit in Total



GRP at a glance

Around **13 000** employees

Gas and power customers
in **6 European countries**



+3M
solar lamps
and kits sold
in 40 countries



Presence
in more than
40
countries

N°2
worldwide **in LNG**



11 offices
in Europe
for energy efficiency



€796m in sale in advanced-technology
batteries with Saft in 2019



3GW
of renewable
electricity
generation
capacity

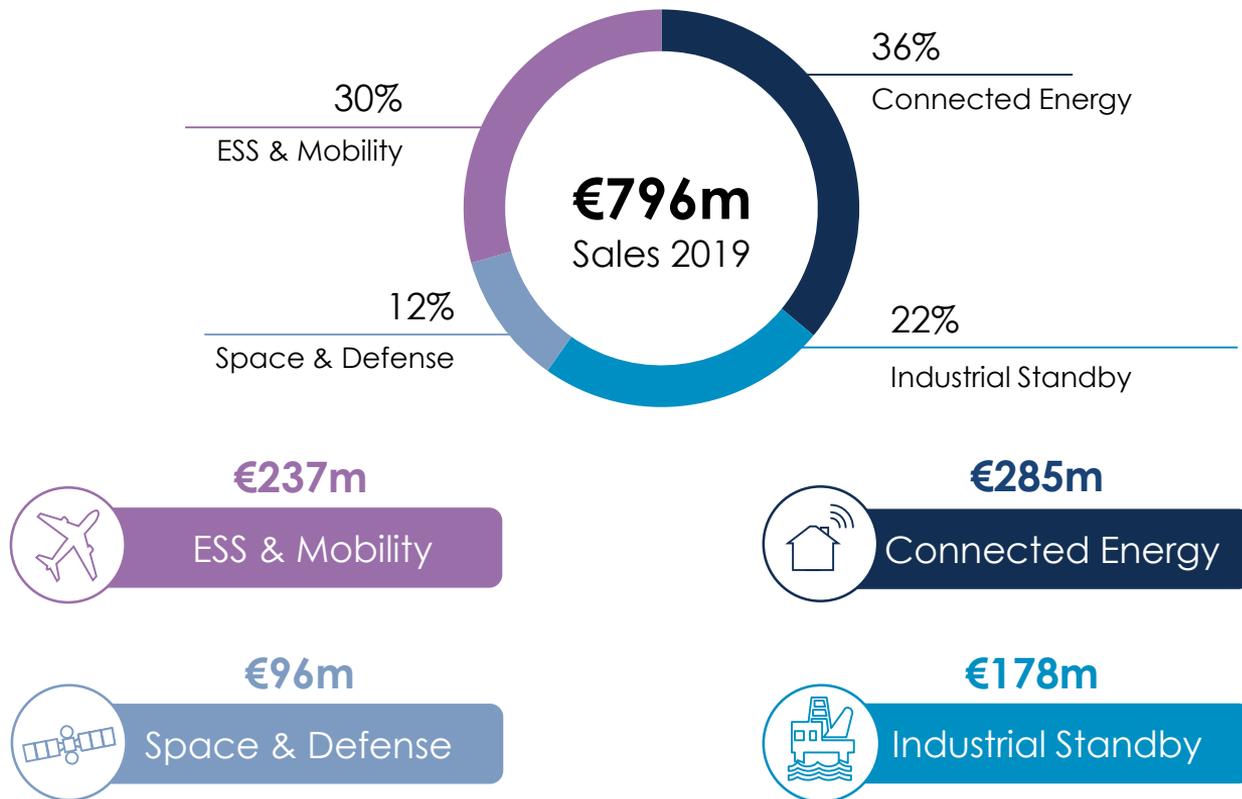


7
combined cycle
gas turbine
power plants
in France and Belgium
including 1 in development*



*Including two acquired from Uniper as of 2020

2019 sales by division



We serve multiple customer segments for specific applications

Aviation



Defense



Energy Storage



IoT



Marine



Medical



Metering



Mobility



Oil & Gas



Rail



Space



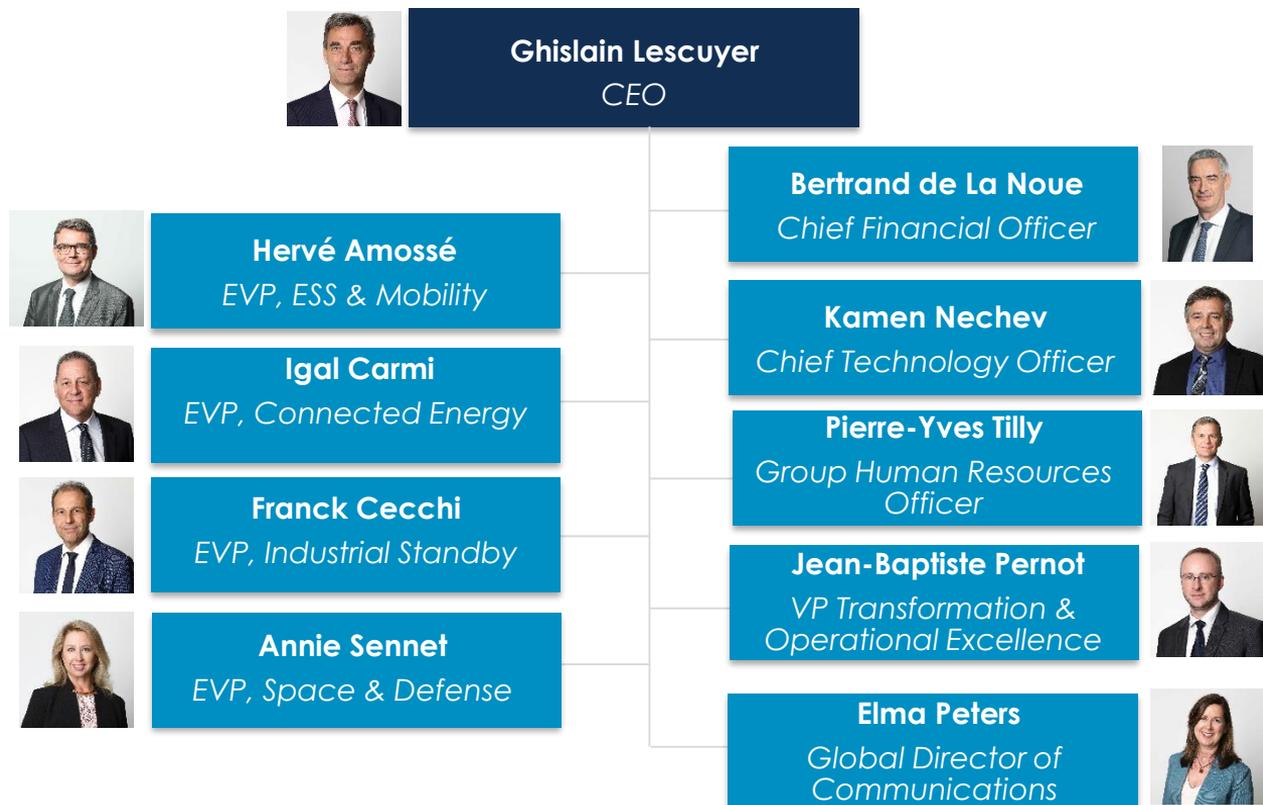
Telecom



Utilities



Saft Management Committee



Connected Energy

Igal Carmi, Executive VP

Manufacturing sites:

- Büdingen, Germany
- Kiryat Ekron, Israel
- Poitiers, France
- Raškovice, Czech Republic
- South Shields, UK
- Valdese, USA
- Zhuhai, China

Market overview: Connected Energy



Main applications

- Smart metering
- Electronic Toll Collection (ETC)
- E-call
- Asset tracking
- Industrial Internet of Things (IIoT)
- Medical devices
- Portable military
- Oil drilling
- Environmental monitoring
- Security systems

Main technologies

- Primary lithium batteries
 - LiSOCl₂
 - Li-MnO₂
 - Li-SO₂
 - Hybrid
- Lithium-ion batteries



2019 highlight
for Connected
Energy

Strong growth in smart water metering
applications in China

Space & Defense

Annie Sennet, Executive VP

Manufacturing sites:

- Cockeysville, USA
- Poitiers, France

Market overview: Space & Defense



Main applications

- Communications, scientific and observation satellites
- Satellite launchers
- Space vehicles



- Base camps
- Weapon systems & torpedoes
- Military aircraft
- Armored vehicles



- Work boats
- Ferries
- Cruise liners & luxury yachts
- Cargo & offshore vessels

Main technologies

- Lithium-ion batteries
- Silver-based batteries (for torpedoes and missiles)



**2019 highlight
for Space &
Defense**

**CAST: Largest space contract
signed with China**

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

A photograph of an industrial facility, possibly a refinery or power plant, with tall distillation columns and pipes. The image is partially obscured by a blue vertical bar on the left side. The text 'Industrial Standby' is overlaid on the blue bar.

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
- Backup power for the telecommunications industry

Main technologies

- Nickel-based batteries
- Lithium-ion batteries



2019 highlight for Industrial Standby

E.ON selects latest generation of Saft nickel battery as a plug-and-play replacement for lead-acid batteries

ESS & Mobility

Hervé Amossé, Executive VP

Manufacturing sites:

- Bangalore, India
- Bordeaux, France
- Jacksonville, USA
- Nersac, France
- Raškovice, Czech Republic
- Valdosta, USA
- Zhuhai, China

Market overview: ESS & Mobility

Main applications

Energy Storage Systems



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

Rail



- Backup power for lighting, air-conditioning & on-board communications, & critical safety applications (emergency braking & door opening systems)

Off-Road Mobility



- Electrification of industrial vehicles

Aviation



- Backup power and emergency systems
- Engine and turbine starting

Main technologies

- Nickel-based batteries
- Lithium-ion batteries



**2019 highlight
for ESS**

A large white wind turbine stands prominently in the foreground, its three blades extending outwards. The background shows a snowy landscape with several other smaller wind turbines visible in the distance under a clear, bright blue sky.

**Saft to build the largest lithium-ion energy storage
system in the Nordic countries**



Our partnerships

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SIGNING CEREMONY

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Saft joins forces with Tianneng to grow in China

Joint Venture with Tianneng

- In 2019, Saft signed an agreement with **Tianneng Energy Technology (TET)** to create a joint venture. Saft has a **40% shareholding**; Tianneng holds the remaining shares.
- **Name:** Tianneng Saft Energy company (TSE)
- **Scope:** Development, manufacturing and sales
- **Technologies:** Advanced Li-ion cells, modules and packs
- **Markets:** E-bikes and Electric Vehicles (EV), Energy Storage Solutions (ESS)
- **Geographic scope:** China and worldwide markets



Saft strengthens its energy storage business with the acquisition of Go Electric

Acquisition of Go Electric

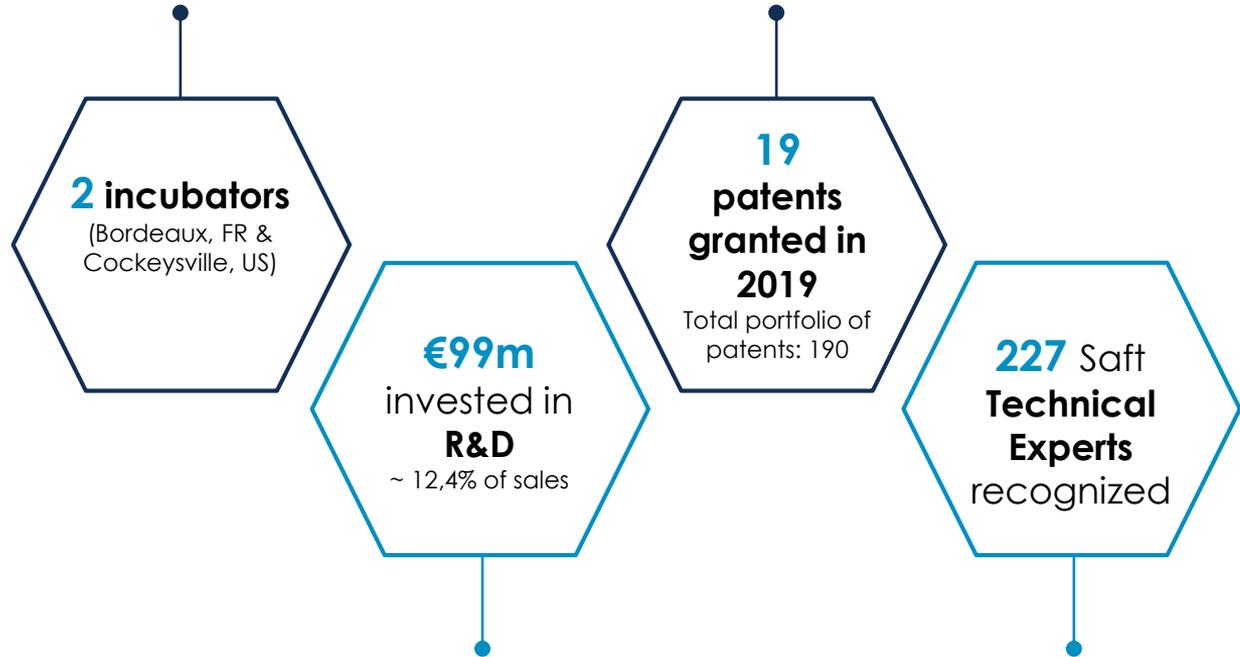
- In 2019, Saft acquired **100% of the shares of Go Electric Inc.**, a leading US-based developer of distributed energy resiliency solutions for **microgrids** and **Commercial & Industrial customers**.
- **Scope:** Deployment of integrated turnkey distributed renewable energy storage solutions
- **Technologies:** Grid solutions that integrate renewable energy, advanced batteries and generators into a plug-and-play energy resiliency system.
- **Markets:** Military microgrids and commercial sites

ADVANTAGE AWARD SAFT



**In 2019, Saft received “Supplier of the Year”
award from Boeing**

Research and Development excellence



Continuous innovation for superior products and technology

Saft's solid-state technology

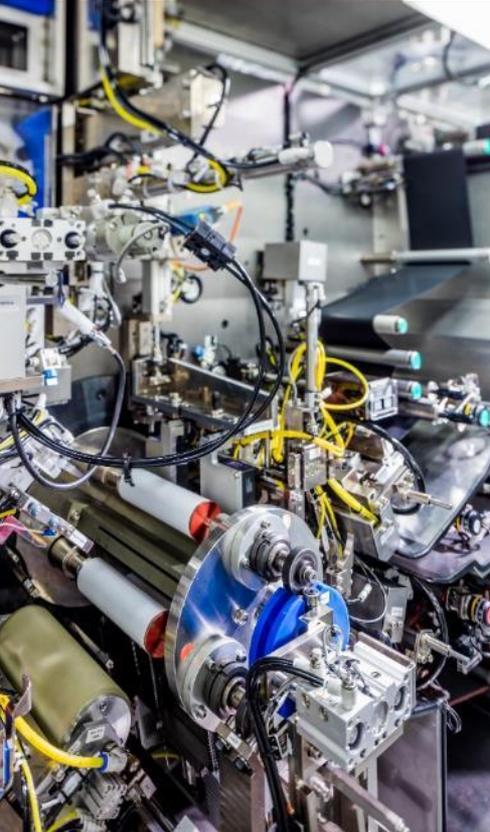
What is it?

- In all-solid-state batteries, the liquid electrolyte is replaced by a solid compound.

What are its advantages?

- **Safety:** solid electrolytes are **non-flammable** when heated, unlike their liquid counterparts.
- **Energy density:** a **high power-to-weight ratio**; the batteries are denser, lighter and have a better shelf-life.

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**

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

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

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

Circular economy



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

Sustainable design



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

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!

Saft International Magazine

