# SAFRAN IN 2013



Human logo formed by 3,000 engineers and managers at Safran Discovery Day on June 6, 2012 in Paris, France.





#### No.1 worldwide

- Jet engines for commercial airplanes (with over 100 seats, in partnership with GE)
- Helicopter turbine engines
- Landing gear
- Wheels and carbon brakes (commercial jets with over 100 seats)
- Aircraft electrical interconnection systems
- Power transmissions
   (commercial jets with over 100 seats)

#### No.2 worldwide

Cryogenic and solid rocket propulsion

#### 😡 worldwide

Military aircraft engines



# worldwide Helicopter flight control systems

• FADEC engine control units (commercial aircraft, in partnership with BAE Systems)

#### 🚺 in Europe

- Optronic systems
- Tactical drones
- Inertial navigation systems



- **Worldwide**
- Biometric ID documents
- Automated fingerprint identification systems (AFIS), plus biometric facial and iris recognition systems
- Explosive detection for checked luggage
- Multibiometric technology



# SAFRAN IS A LEADING INTERNATIONAL HIGH-TECHNOLOGY GROUP

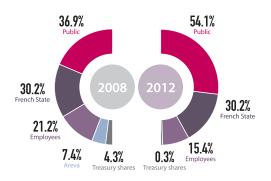
and Tier-1 supplier of systems and equipment for aerospace, defense and security. Operating worldwide, Safran has 62,500 employees and generated sales of 13.6 billion euros in 2012. Through its global presence Safran not only enhances its competitiveness, but also builds industrial and commercial relations with the world's leading prime contractors and operators, while providing local services to customers around the world. Working alone or in partnership, Safran holds world or European leadership positions in its core markets.

# **2012 BENCHMARKS**



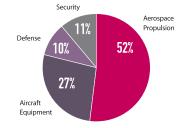
#### SALES (adjusted data, millions of euros)

The rise in sales reflected the performance of the aviation businesses (original equipment and commercial engine support), the resilience of our defense business (avionics) and dynamic growth in the security market (biometric identification, e-documents).



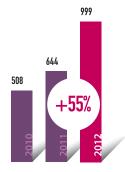
#### CAPITAL SHAREHOLDING STRUCTURE at December 31

The increase in its float (publicly-held shares) strengthened the liquidity of the Safran share. The significant number of employee shareholders, which boosts employee motivation and loyalty, is also a factor in underpinning stability.



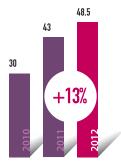
#### SALES BY BUSINESS

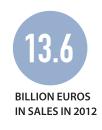
Aerospace sales recorded double-digit growth, with propulsion rising 14.6% and aircraft equipment 19.2%. The Group's avionics (defense) business grew, and sales by the security business jumped nearly 24%.



#### NET INCOME – GROUP SHARE (adjusted data, millions of euros)

The Group share of adjusted net income jumped 55% in 2012 compared with 2011, reaching 999 million euros, or 2.41 euros per share, compared with 644 million euros and 1.59 euros per share in 2011.





RECORD ORDER BOOK (billions of euros)

Safran booked 18.1 billion euros worth of orders in 2012, increasing the order book by 5.5 billion euros to a total of 48.5 billion euros at the end of the year. This figure is equal to about four years of production at current rates.



# 2012 BENCHMARKS

# 62,500 EMPLOYEES WORLDWIDE

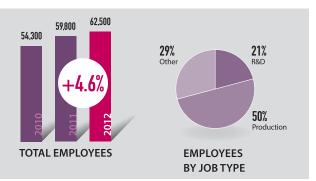
Our core markets – aerospace, defense and security – are global. With operations in over 50 countries, Safran is a truly global enterprise, with local entities guaranteeing responsive support for all customers.

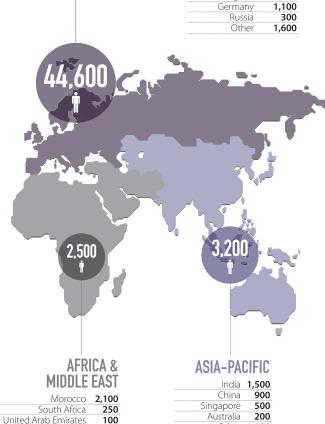
#### EUROPE France 38,000 United Kingdom 2,100 Belgium 1,500 Germany 1,100 Russia 3000



Other

350





Other

50

Other

100

# A WORLD LEADER IN AEROSPACE PROPULSION

Safran covers the entire life cycle of engines powering civil and military fixed and rotary-wing aircraft, from design, development and testing, to production, sales and support. We are also a world leader in space propulsion, as prime contractor for the cryogenic propulsion systems on the Ariane 5 launch vehicle, and supplier of other systems and equipment for launchers and spacecraft.

#### **LEAP** Tomorrow's aero-engine

The new LEAP engine will power the next generation of single-aisle commercial jets, the Airbus A320neo, Boeing 737 MAX and Comac C919. Incorporating a number of innovations, this engine offers a significant improvement in economic and environmental performance compared to current engines. Its proven architecture will deliver operational reliability and reduced maintenance costs for all operators.



#### **CIVIL AND MILITARY AIRCRAFT ENGINES**

• Single-aisle commercial jets: With the CFM56, Safran and its partner GE hold world leadership in the market for engines powering mainline commercial jets with over 100 seats. Its successor, LEAP, has already been chosen for the Airbus A320neo, Boeing 737 MAX and Comac C919.

• **Regional and business aircraft:** Safran is developing the Silvercrest, a new-generation jet engine for large, long-range business aircraft. Along with NPO Saturn, Safran is also prime contractor for the SaM146, which powers the Sukhoi Superjet 100 regional jet.

• Military aircraft: Safran produces the TP400 turboprop engine (Airbus A400M transport), as well as the jet fighter engines M88 (Rafale) and M53 (Mirage 2000), and the Larzac and Adour engines for training aircraft.

 Safran offers a complete range of maintenance, repair and overhaul (MRO) services for these engines.

#### **HELICOPTER TURBINE ENGINES**

• Light/medium helicopters: Safran offers two families of engines for this helicopter class, Arrius and Arriel, powering a number of civil and military helicopters made by Eurocopter, Sikorsky, AgustaWestland, Kamov and AVIC. The Group is developing the Arrano engine for Eurocopter's new X4 helicopter.

• Medium helicopters: Safran provides the engines for the Eurocopter Tiger and the HAL (Hindustan Aeronautics Ltd.) Dhruv, and is developing the Ardiden 3 for new-generation helicopters.

• Heavy helicopters: Working alone or in partnership, Safran makes the Makila and RTM322 turboshaft engines powering heavy helicopters by Eurocopter (EC225/725, Super Puma), NH Industries (NH90), AgustaWestland (AW101) and Boeing (WAH-64).

• Safran provides comprehensive local support services for all operators.

#### SPACE

• Launchers: Safran produces the Vulcain<sup>®</sup>2 and HM7B cryogenic engines for the main and upper stages, respectively, on the Ariane 5 launcher, along with the solid rocket boosters (with Avio). We are also developing the new Vinci<sup>®</sup> upper-stage engine for the Ariane 5 ME and Ariane 6 launchers. Along with Avio, Safran is prime contractor for the P80 solid rocket motor on the first stage of the new Vega light launcher, and the Group also provides a number of systems and equipment on the second and third stages.

• Satellites: Safran produces Hall effect plasma thrusters for satellites (such as the PPS\*1350 for Alphasat), as well as plasma propulsion systems, and is developing a range of thrusters with power ratings from 300 W to 20 kW. Safran also makes liquid rocket propellants (MMH) and high-precision sensors for satellites.

# AEROSPACE

# A MAJOR PLAYER IN AIRCRAFT EQUIPMENT

Safran is a major supplier of systems and equipment for both civil and military fixed and rotary-wing aircraft. Our products are used on most types of aircraft, not only in service, but also under development, including business and regional aircraft, single-aisle and twin-aisle commercial jets. We are structured to provide integrated packages – such as propulsion systems including the nacelle, or complete landing systems – to both aircraft manufacturers and operators.

#### egts Economical, ecological taxiing

The electric green taxiing system (egts) developed by Safran and Honeywell allows airplanes to move on the ground autonomously, without using their jet engines, thanks to electric motors in the wheels on the main landing gear. Safran is working closely with airlines on the development and testing of this system, with EasyJet and TUIfly already contributing to this project. The system will be introduced on new single-aisle jets in 2016, then made available for retrofit on aircraft already in service.



#### LANDING AND BRAKING SYSTEMS

• Landing gear: Safran designs, produces and supports landing gear for civil and military fixed and rotary-wing aircraft of all sizes. These systems are used on a number of aircraft, including the Airbus A320, A350 XWB, A380 and A400M, the Boeing 787 Dreamliner, Rafale, Eurofighter Typhoon, F-18, etc. The Group also designs integrated landing systems, including the landing gear, gear extension and retraction system, wheels and brakes and other equipment.

• Wheels and brakes: Safran designs, produces and supports wheels and carbon brakes, in particular for the Airbus A320 and A350 XWB, Boeing 737 Next-Generation, 767, 777 and 787.

#### **ENGINE SYSTEMS AND EQUIPMENT**

• Nacelles and thrust reversers: Safran provides these items for mainline, regional and business aircraft. We are the sole nacelle systems integrator for the engines on the Airbus A380. Working alone or in partnership with GE, the Group is developing nacelles for the LEAP engines powering the Airbus A320neo and Comac C919, and for the Silvercrest and GE Passport business jet engines.

• Power transmissions: Safran designs, produces and supports mechanical power transmissions for engines on civil and military fixed and rotary-wing aircraft, including the Airbus A320, A330/A340, A350 XWB and A400M, the Boeing 737 and 777, Rafale, Eurocopter EC175, Gulfstream G650, etc.

#### ELECTRICAL SYSTEMS AND ENGINEERING

• Electrical interconnection systems: Safran designs, produces and supports the installation of electrical wiring harnesses and cabinets, especially for Airbus and Boeing aircraft.

• Power electronics and electrical distribution systems: Safran applies all technologies needed for electrical power generation and distribution. It will supply the electrical distribution systems on the new Embraer KC-390 transport, and handle complete integration of the electrical system.

• Engineering: Major players in the aerospace and land transport sectors call on Safran's expertise in electrical systems, aerostructures, mechanical systems and safety-critical software.



# THE EUROPEAN LEADER IN OPTRONIC SYSTEMS

Safran offers a complete range of systems and equipment in the key sectors of optronics, avionics, navigation, electronics and safety-critical software, not only for defense, but also for advanced civil applications. We design products for a wide range of missions, including homeland security, police, customs, and sea or mountain search & rescue. Our solutions enhance the capabilities of armies, navies and air forces in many countries.

#### FELIN Soldier modernization program

FELIN is an integrated equipment suite intended for soldier modernization programs. Developed and built by Safran as prime contractor, FELIN offers significant improvements in terms of self-protection, observation, communications, mobility and support for warfighters. The program was launched in 2004, and FELIN systems are now progressively being deployed by French army regiments.



#### **OPTRONICS**

• Soldier modernization: Safran is prime contractor for the FELIN integrated equipment suite, designed to enhance observation, communications, mobility and support functions for infantry soldiers.

• Optronics and sights: Safran produces portable observation systems and equipment, and is developing solutions for land vehicles, aircraft and submarines.

• **Drones:** Safran produces the Sperwer tactical drone system, is developing the Patroller™ system, and applies all enabling technologies for these unmanned aerial systems.

• High-performance optics: Safran is the world leader in high-performance optics for space, supplying systems and equipment for the Helios, Meteosat and Spot programs, as well as a number of scientific satellites.

#### **AVIONICS**

• Navigation and sensors: Safran offers a wide range of inertial and hybrid navigation systems for submarines, surface vessels, ground combat vehicles, aircraft, missiles and satellites.

• Seekers and guidance: Safran provides the seekers for the Mistral and MICA IR missiles, and is developing the seeker and sight for the upcoming MMP medium-range missile, under prime contractor MBDA. The Group is prime contractor for the AASM Hammer air-to-ground guided weapon, already in service on the Rafale fighter.

• Flight control systems: The world leader in flight control systems for helicopters, Safran is developing some of the systems for Eurocopter's new-generation X4 helicopter.

• The Group also provides a wide range of innovative services for airlines under the Cassiopée label.

#### ELECTRONICS AND SAFETY-CRITICAL SOFTWARE

• Onboard electronics: Safran supplies and supports computers and pc boards used to control critical aircraft functions: flight data recording, engine control (FADEC), flight controls, information systems, landing and braking systems, etc. These products have been chosen for many of today's leading aircraft, including the Airbus A380 and A400M, Boeing 787, Rafale fighter, NH90 and Caracal helicopters, etc.

• Safety-critical software: Safran develops sophisticated safety-critical software, an integral part of the onboard systems made by the Group.



## THE WORLD LEADER IN BIOMETRIC IDENTIFICATION

Safran develops solutions that ensure the security of people, goods, businesses and countries, while guaranteeing safe transportation and transactions. In particular, we apply all technologies needed for airport security, including explosive detection, biometric identification, secure travel documents, border control, and more.

#### **AADHAAR** Biometrics to benefit all citizens

Safran plays a key role in the world's largest biometric identification program, Aadhaar, which aims to assign a unique ID number to each resident of India. Our products and technologies are widely used in this program, especially biometric data acquisition terminals, enrollment services and processing software.



#### **IDENTIFICATION**

• Large-scale ID systems: Safran offers biometric ID enrollment and registration solutions, and is participating in the world's largest program of this type, Aadhaar, in India.

 Border control and ID checks: Safran designs systems and equipment enabling the biometric identification of preregistered passengers, and also provides police and government authorities worldwide with automated fingerprint identification systems (AFIS).

• Other applications: Safran's identification technologies are also used in road safety systems and secure gaming terminals (lotteries and betting).

#### **E-DOCUMENTS**

• SIM cards: Safran supplies SIM cards to the world's leading mobile phone operators, calling on a global supply chain to deliver hundreds of millions of cards every year.

- Bank cards: Safran works with leading banks in Europe, Latin America and Asia.
- Secure ID documents: Safran produces highly secure personalized ID documents, including ID cards, passports and visas, driver's licenses, voter cards, healthcare cards, employee ID cards, etc.

#### DETECTION

• Explosive detection: Safran applies both computed tomography and X-ray diffraction technologies, vital to systems capable of automatically detecting explosives and dangerous or illicit substances. Nearly 2,000 of the Group's explosive detection systems are in service worldwide, especially at airports.

• Trace detection: Systems by Safran detect and identify traces of explosives or illicit substances, using ion mobility spectrometry. These systems, fixed, mobile or portable, are deployed in many different security applications, including border control, protection of high-value sites and during major events.

# INNOVATION & INDUSTRIAL EXCELLENCE

## INVESTING TODAY TO MEET TOMORROW'S CHALLENGES

Safran focuses on innovation and competitiveness, and we work closely with suppliers and partners to develop unified solutions that address today's pressing economic, societal and environmental challenges.



#### An ambitious R&D policy

Safran's success is built on a strategy of continuous innovation, anchored in Research & Development investments equal to about 12% of total sales, plus targeted acquisitions, especially technology start-ups. We also form partnerships with laboratories and research organizations from around the world, and maintain long-term relations with a number of engineering schools and universities. This razor-sharp focus on innovation is at the heart of Safran's corporate identity. Our business successes have always been the result of technological developments that kicked off decades earlier. Safran files hundreds of patents every year. We ranked third among French companies in terms of the number of patents published in 2012 (according to the ranking published in April 2013 by INPI), and Snecma (Safran) is ranked among the 2012 "Top 100 Global Innovators" by Thomson Reuters.

#### **Extensive capital expenditures**

Safran invests heavily in industrial facilities around the world to keep pace with rising production rates, support our strategy of establishing a distinctive difference through innovation, and move closer to our customers. We remain profoundly attached to our home territory, where two-thirds of our people work. We continue to develop strategic research and production capabilities in France, and build new facilities meeting today's most demanding industrial and environmental standards.

#### A structured approach to continuous improvement

Over the last few years, Safran has deployed a modernization initiative to improve our competitiveness and industrial performance, covering all Group companies, businesses and functions. We have set up improvement projects to enhance performance across the entire design and production cycle, based on cost-effective industrial and technological excellence, while meeting customer expectations in terms of performance, functionality, quality and lead-times. Safran deploys Lean-Sigma methodologies in all areas, including support functions, to optimize our processes by using proven tools to make them more reliable and predictable. This approach generates higher productivity, lower overhead costs and improved service quality delivered to our customers. We also apply a participative innovation approach across the Group, enabling each and every employee to be recognized as a change agent based on their ideas and initiatives.



ABOUT 12% OF SALES INVESTED IN R&D

OVER 750 PATENTS FILED IN 2012



### TALENTS GUARANTEEING FUTURE SUCCESS

In our high-intensity technology sectors, the innovations we develop today – and the talented people behind these innovations – will guarantee our success in the future. Safran invests heavily to recruit the most talented people available, and makes sure they enjoy real career development opportunities. At Safran, developing people's full potential is one of our top priorities.



#### ATTRACTING AND INTEGRATING TOP TALENTS

Safran recruits a wide variety of candidates, including recent graduates, seasoned engineers and managers, technicians and line workers. We also maintain strong relationships with engineering schools and universities offering post-graduate degrees in our fields, while investing heavily in training young people through work-study programs, apprenticeships and internships.

#### SAFRAN CORPORATE UNIVERSITY: A UNIFYING FORCE

Safran Corporate University helps promote a shared corporate culture and values, while directing training efforts towards priority objectives for skills development, with programs designed for all employees. Our university already has two international campuses, in Dallas and Beijing. The university also offers programs leading to vocational certificates and degrees.



The future Safran Corporate University campus in Massy, near Paris.



Safran's people are our most important asset.

#### **AFFIRMING OUR SOCIAL MODEL**

Safran's employees have a clear stake in our performance, through an active policy of employee shareholding and continuously improved social benefits. They are stakeholders in our strategy, based on a constructive labor-management relationship and a dynamic process of participative innovation.

### **7,500** NEW HIRES IN 2012

25% WOMEN IN THE WORKFORCE

# **TALENTS**

# SHARING STRONG VALUES

Our commitment to exemplary performance is an integral part of our corporate strategy, with an inclusive human resources policy based on respect, a culture dedicated to anticipating health, safety and environmental risks, and to philanthropy and sponsorship actions that reflect our values.



Encompassing a wealth of diversity

Safran is fully committed to equal opportunity and diversity in the workplace, both major factors driving performance and innovation. Our actions in this area are based on four primary objectives: promoting gender equality throughout the enterprise; employing seniors; hiring disabled persons and maintaining their employment; and social inclusion. Safran has signed agreements to support these goals, already deployed at most companies, and established partnerships with associations that actively promote these principles.



#### Protecting our employees' health and safety

Safran aims for excellence in occupational health and safety, plus environmental protection. In all of these areas, we deploy action plans that are continuously enhanced. Our major commitments focus on improving ergonomics, preventing occupational stress, and managing the use of chemical substances and our employees' exposure to these substances.

#### **RECRUITMENT 2.0**

Check out Safran on social networks 📑 💟 in Viqdeo

All of our job offers can be consulted at www.safran-talent.com

#### **PHILANTHROPY** Fostering social inclusion and equal opportunity

Safran applies its corporate philanthropy policy through two foundations, one to support social integration and the other for music. We also work directly with top-tier public and private partners to carry out other actions. Since 2005, Safran has supported nearly 400 different projects.



Safran supports the association Talents des cités ("Inner City Talents").

#### **SPONSORSHIP** A unifying project

Since 2005, Safran has sponsored an ocean racing yacht. From the outset, this project has been supported by the passion of our employees, who have contributed the Group's own technologies, processes and methods, achieving a breakthrough in the history of boat sponsorship.



The Safran Open 60 class ocean racer and skipper Marc Guillemot.



## ENSURING SUSTAINABLE, RESPONSIBLE GROWTH

Safran's corporate social responsibility (CSR) policy is based on long-term commitments and values shared by all employees. To better meet our stakeholders' expectations, we have set up a dedicated CSR governance structure and formalized our CSR strategy around six objectives.

#### SAFRAN'S STRATEGIC CSR OBJECTIVES

- Develop innovative products and processes with minimal environmental impact.
- Always aim for excellence in ensuring the security and protection of people and goods.
- Develop people's potential.
- Foster the involvement of suppliers and partners in this initiative.
- Sustain a culture of integrity.
- Guarantee optimum communications with all stakeholders.

Safran's CSR approach is applied by all Group departments and concerns all stakeholders, including business partners (aircraft manufacturers, airlines, shareholders, etc.), internal stakeholders (employees, unions), civil society (neighbors, associations, NGOs, media), observers (financial analysts, ratings agencies, auditors) and public partners (federal and local governments, schools, laboratories).

# SAFRAN COMPANIES

#### Aircelle

Complete nacelle systems for aircraft engines, associated support services, composite materials for aerostructures.

#### Herakles

Solid rocket motors for launchers and missiles, energetic materials, pyrotechnic equipment, thermostructural and organic composite materials for the aerospace, defense, automotive and manufacturing industries.

#### Hispano-Suiza

Power transmissions for commercial and military airplane and helicopter engines.

#### Labinal Power Systems

Electrical systems for the aerospace market, covering all electrical onboard functions (power generation, distribution and conversion, wiring, load management, ventilation). Engineering solutions for the aerospace, automobile and rail industries.

#### Messier-Bugatti-Dowty

Aircraft landing and braking systems. Capabilities covering the entire product cycle, from design and production to maintenance, repair and overhaul (MRO).

#### Morpho

Multibiometric identification solutions (fingerprint, iris and facial recognition), identity management solutions. Smart cards, secure documents and transactions. Explosives and narcotics detection solutions.

#### Sagem\*

Optronics, avionics and navigation systems and equipment, electronics and critical software for both civil and defense markets, covering land, sea, air and space applications. A full range of product support services.

#### Snecma

Engines for commercial and military aircraft, maintenance, repair and overhaul (MRO) services. Liquid-propellant rocket propulsion systems for launch vehicles and plasma propulsion systems for satellites and space vehicles.

#### **Techspace Aero**

Low-pressure compressors for aircraft engines. Equipment for aircraft and spacecraft. Test cells and equipment for engine testing.

#### Turbomeca

Turbo-shaft engines for civil and military helicopters, power systems for new generation aircraft and propulsion systems for missiles, target drones and unmanned aerial vehicles (UAV). Maintenance, repair and overhaul (MRO) and associated services.

\* Sagem is the commercial name of the company Sagem Défense Sécurité.



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