PROPULSION SYSTEMS
- Safran Helicopter Engines
- Safran Transmission Systems
- Safran Electronics & Defense

ELECTRICAL POWER SYSTEMS
- Safran Electrical & Power
- Safran Power Units
- Safran Landing Systems
- Zodiac Aerospace

LANDING AND BRAKING SYSTEMS
- Safran Landing Systems

AVIONICS SYSTEMS AND FLIGHT CONTROLS
- Safran Electronics & Defense

AEROSYSTEMS
- Zodiac Aerospace

SEATS
- Zodiac Aerospace

SAFRAN IS AN INTERNATIONAL HIGH-TECHNOLOGY GROUP, OPERATING IN THE AIRCRAFT PROPULSION AND EQUIPMENT, SPACE AND DEFENSE MARKETS. COMPRISING A NUMBER OF COMPANIES, SAFRAN HOLDS, ALONE OR IN PARTNERSHIP, WORLD OR EUROPEAN LEADERSHIP POSITIONS IN ITS MARKETS. IN FEBRUARY 2018, SAFRAN TOOK CONTROL OF ZODIAC AEROSPACE, SIGNIFICANTLY EXPANDING ITS AIRCRAFT EQUIPMENT ACTIVITIES. TOGETHER WITH ZODIAC AEROSPACE, SAFRAN HAS MORE THAN 91,000 EMPLOYEES AND WOULD HAVE AROUND €21 BILLION IN ADJUSTED REVENUE (PRO FORMA 2016).

SAFRAN OVERVIEW

91,000
EMPLOYEES
WORLDWIDE

in nearly
30
COUNTRIES

$18.5
BILLION IN SALES*
generated in 2017

#1 WORLDWIDE

• ENGINES FOR SINGLE-AISLE COMMERCIAL JETS
  (in partnership with GE)
• HELICOPTER TURBINE ENGINES
• LANDING GEAR
• SEATS FOR COMMERCIAL AIRPLANES**
• WHEELS AND CARBON BRAKES***
• AIRCRAFT WIRING SYSTEMS
• HELICOPTER FLIGHT CONTROLS
• MECHANICAL POWER TRANSMISSIONS***
• NACELLES FOR BUSINESS JETS

8% OF SALES INVESTED IN R&D

Safran applies a strategy based on innovation and continuous improvement in competitiveness, working closely with our suppliers and partners to address today’s economic, societal and environmental challenges.

* excluding Zodiac Aerospace.
** economy class seats for twin-aisle jets.
*** mainline commercial jets with more than 100 seats.
WITH DECADES OF EXPERIENCE IN AVIATION, SAFRAN MASTERS THE TECHNOLOGIES THAT MAKE ROTORCRAFT OF ALL SIZES FLY, FROM HELICOPTERS TO TILT ROTORS, IN BOTH CIVIL AND MILITARY MARKETS.

INVENTING TOMORROW’S HELICOPTER

We know that the key to performance of modern helicopters is energy generation and efficiency. This is why Safran is playing an active role in the development of next-generation helicopters by investing in hybrid propulsion systems and electrical power systems. Through additive manufacturing and the use of materials such as carbon and composites, we are providing the market with lighter and greener equipment including, engines, engine cowls and brakes. Our strategy is to improve flight safety, reduce operating costs and decrease the environmental impact of helicopters.

CUSTOMER SUPPORT GUARANTEED

Safran has a global service network that provides after-sales, customer and operators support, as well as maintenance, repair and overhaul services for its rotorcraft customers. We provide cost-effective maintenance packages that can be customized to meet the unique needs of our customers.

AN UNMATCHED OFFERING FOR ROTORCRAFT

Our products meet the needs of helicopter manufacturers across the spectrum, ranging from engines, auxiliary power units (APUs), power transmissions, electrical power management systems, to landing gear, wheels, brakes, navigation systems, flight monitoring solutions and flight controls.

SAFRAN’S COMMITMENT TO THE ROTORCRAFT MARKET
Engines
- Arrius
- Arriel
- Arrano
- MTR390
- Ardiden
- Makila
- RTM322

Auxiliary Power Units
- eAPU
- Saphir

Fuel systems including
- Tanks
- Gauging equipment
- Fuel circulation equipment
- Fuel control equipment

Evacuation systems
- Floats & Life rafts
- Life vests

Landing & braking systems
- Landing gear
- Wheels and brakes
- Electric braking systems

Seats
- Technical seats

Helicopter equipment
- Wiring
- Inertial navigation systems
- Infrared sights
- Flight control systems
- Autopilots
- Gyrostabilized optronic observation systems
- Mission planning systems
- Aerostructures (bays)
- Electrical Master Box
- External lighting
- Cockpit panels
- Windshield Wipers
- Portable oxygen equipment

Engine equipment & parts
- Engine control unit (FADEC)
MORE THAN 80 YEARS OF HELICOPTER ENGINE INNOVATION


TURBOSHAFT ENGINES

Our engine families, which include the Arriel, Arrius, Ardiden, Makila and RTM322 have all been recognized for their safety, reliability and operational excellence. With solutions for single and twin engine helicopters, Safran can meet very specific needs of different helicopter missions.

100% FOCUSED ON SAFETY AND CUSTOMER SATISFACTION

Safran’s priorities are to provide customers with safe, reliable and high-performance engines, to stay focused on their missions and to keep their helicopters flying every day, everywhere. With safety as our watchword, we are committed to meeting and surpassing the industry’s highest safety standards. Today, our best-selling Arriel is as reliable as the CFM56, the benchmark gold standard in commercial aviation. Committed to providing customers with the most comprehensive and reliable support, Safran Helicopter Engines operates 16 sites globally, including five dedicated to helicopter engine repair.

#1 WORLDWIDE in helicopter turbine engines

A SAFRAN-POWERED HELICOPTER TAKES OFF EVERY 9 SECONDS somewhere in the world

MORE THAN 12,000 HELICOPTERS are powered by Safran worldwide

NEARLY 100 FIELD REPRESENTATIVES AND FIELD TECHNICIANS dedicated to our customers

MORE THAN 100 MILLION HOURS FLOWN by Safran Helicopter Engines

TURBOSHAFT ENGINE CUSTOMERS:
- Airbus Helicopters
- Avicopter
- Bell Helicopter
- Hindustan Aeronautics Limited
- Korea Aerospace Industries
- Leonardo
- NH Industries
- Russian Helicopters
- Sikorsky
PISTON ENGINES: MINI SIZE, MAXI EFFICIENCY

For light helicopters or for long range unmanned aerial vehicle (UAV) operations, Safran is developing several aero-diesel engines operating on jet fuels. These offerings range from the certified SR305 series engine (230 to 265 shp) to the next-generation High Power Density Engine (400 to 800 shp). Their low fuel consumption increases the endurance by 30% to 100% compared with small turbine engines.

ADDRESSING THE HEAVY ROTORCRAFT MARKET

Safran unveiled its new Aneto high power engine family in October 2017. Designed for new super-medium and heavy helicopters, it features several models ranging from 2,500 to over 3,000 shp output. Leonardo has selected the Aneto-1K to power its AW189K twin-engine. Airbus Helicopters has chosen the Aneto-1X to power its Racer (Rapid and Cost-Efficient Rotorcraft) high-speed demonstrator. Aneto offers a new level of performance coupled with reduced operating costs.

POWER TRANSMISSION

Leveraging more than 40 years of experience in power transmission technologies, we provide helicopter manufacturers with new applications including engine reduction gearboxes, accessory gearboxes and transfer gearboxes to help boost performance and reliability.

ARRANO: The most innovative turboshift in its class

Safran’s latest helicopter engine, the 1,200 shp Arrano, incorporates cutting-edge technology and numerous innovations. It offers a 15% improvement in fuel consumption over competing engines – one reason why Airbus Helicopters chose it to power the H160. Its first flight took place in January 2016.

ARRIUS 2R: The only 500 shp helicopter engine to feature dual channel FADEC

The Arrius 2R (500 shp) was selected to power the new Bell 505, successor to the hugely popular Bell 206 Jet Ranger – of which 7,000 examples were sold. The partnership is on track to deliver unprecedented levels of reliability and low maintenance costs. The engine was certified in December 2015.
ELECTRICAL POWER SYSTEMS
INNOVATING FOR TOMORROW’S “MORE ELECTRIC” ROTORCRAFT
ALL ONBOARD ELECTRICAL FUNCTIONS
As the world leader in electrical wiring interconnection systems, Safran is a recognized supplier to helicopter manufacturers around the world. From design and development to production and support, we cover other onboard electrical functions including generation, distribution, conversion, load management, systems integration, filtration and ventilation.

ENHANCED RELIABILITY POWER SYSTEMS
Safran has engineered a range of auxiliary power units including the eAPU and Saphir Power System families, providing a wide range of solutions for new-generation rotorcraft. Capable of supporting either pneumatic or electric main engine start and delivering electrical power on ground or in flight, their proven reliability allows operations in the most severe conditions.

HYBRID ROTORCRAFT PROPULSION
Safran is committed to meeting the needs of tomorrow’s more electric helicopters. By combining expertise in engines, electrical and power management systems and eAPUs, we are developing hybrid propulsion systems to remain at the cutting edge of helicopter innovation.

ELECTRIC BRAKES
Combining new-generation composite carbon friction material and electric actuators, our electric brakes represent a major improvement in helicopter braking. We were the first company to equip a helicopter with this new-generation braking system.

CUSTOMERS:
- Airbus Helicopters
- Avicopter
- Bell Helicopter
- Boeing
- Hindustan Aeronautics Limited
- Leonardo
- NH Industries
- Sikorsky

#1 WORLDWIDE IN AIRCRAFT ELECTRICAL WIRING INTERCONNECTION SYSTEMS
#1 WORLDWIDE IN POWER TRANSMISSIONS (mainline commercial jets with more than 100 seats)
#2 WORLDWIDE IN ELECTRICAL POWER & DATA GENERATION
A WORLD LEADER IN APUS FOR BUSINESS JETS, HELICOPTERS AND MILITARY AIRCRAFT
SIKORSKY GOLD SUPPLIER FOR ELECTRICAL WIRING INTERCONNECTION SYSTEMS
Combining advanced engineering, integrated systems technology and in-depth service experience, we offer cost-efficient solutions to helicopter and tiltrotor manufacturers around the world.

Our capabilities include landing gear, landing gear extension and retraction systems, steering systems, braking systems, as well as wheels and brakes integration.

**BREAKTHROUGH IN HELICOPTER BRAKING**

We have applied decades of experience in carbon technology to develop innovative braking systems for the helicopter market. Our brakes are designed to be lighter, more reliable and highly efficient.

Our program of continuous development is geared at providing helicopter platforms with next generation landing and braking systems that are not only reliable and easy to maintain, but lighter, quieter, more cost-efficient and robust.

**CUSTOMERS:**
- Airbus Helicopters
- Sikorsky

**PROVIDING SUPPORT TO MORE THAN 2,800 HELICOPTERS in service**

**WORLD LEADER IN AIRCRAFT LANDING SYSTEMS**

**PIioneer and World Leader in Carbon Brakes**

**PIioneer in Electric Brakes**

**Supplier of the World’s First Carbon Brakes for Helicopters**

*Mainline commercial jets with more than 100 seats.*
SAFRAN’S FULL RANGE OF HELICOPTER AVIONICS SYSTEMS COVERS FLIGHT CONTROL, INERTIAL NAVIGATION, DATA ANALYSIS, OBSERVATION AND MISSION MANAGEMENT.
Safran has 50 years of experience in manufacturing and supporting analog, digital and Fly-By-Wire control computers that meet the specific needs of each customer.

**FLIGHT CONTROL COMPUTERS**

**SENSORS AND NAVIGATION**

Using the most modern technologies (FOG, MEMS, HRG), Safran designs, produces and supports sensors, attitude heading reference systems (APIRS) and GPS/GLONASS/Inertial navigation systems (SKYNAUTE).

**COCKPIT MANAGEMENT**

From throttle control assemblies, active side sticks to illuminated switches and displays panels, Safran offers an advanced range of flight control systems designed to improve flight safety.

**ACTUATION**

Safran’s smart electromechanical actuators are installed in series with trim actuators and managed by the flight control computer.

**ENGINE CONTROL**

Based on Safran’s long experience on Full Authority Digital Engine Control (FADEC), Safran’s Engine Control Units are designed to withstand adverse conditions offering the highest level of safety and reliability.

**AIRBORNE IR ELECTRO-OPTICAL SYSTEMS**

The Euroflir family delivers the highest level of performance for demanding missions worldwide: maritime patrol, homeland security, border and coastal surveillance, SAR, CSAR and special operations.

**FLIGHT DATA MANAGEMENT**

Safran’s Helicopter Flight Data Monitoring solution Cassiopée Helisafe is designed to make the best use of your flight data. Entirely automatic, lightweight and easy to use, Cassiopée Helisafe enhances flight safety and operations and sharpens the maintenance activity.

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CUSTOMER SUPPORT
PROVIDING COMPREHENSIVE WORLDWIDE CUSTOMER SUPPORT

FLEXIBLE, TAILORED SUPPORT

Rotorcraft manufacturers and operators require reliability, flexibility, cost-efficiency and optimized planning. Safran is well-positioned to offer extensive, custom-tailored support across the full lifecycle of rotorcraft programs.

Our global aftermarket offering includes spares provisioning and supply, maintenance, repair and overhaul (MRO), Aircraft-On-Ground (AOG) support, engineering services, real-time data monitoring, logistics management, as well as on-site and technical support and training.

IMPROVING SERVICES THROUGH INNOVATION

As an innovator, our strategy is to constantly anticipate and introduce new technologies, new production techniques and new materials in order to better maintain and repair our products.

We believe in preventive maintenance, which is why we leverage our expertise in data analytics to diagnose and forecast maintenance needs.

GLOBAL REACH, LOCAL SUPPORT

With facilities strategically located in major aviation hubs, we meet the demands of fleet operators, while strengthening ties with our customers. This strategy enables us to provide immediate, efficient and reliable support, ultimately improving dispatch reliability.

- CERTIFIED SERVICE CENTERS WORLDWIDE
- SUPPORT BY THE HOUR
- TRAINING AND CONSULTING SERVICES
- 24/7 CUSTOMER SUPPORT AND SERVICES
- DISTRIBUTION CENTERS
- INTERNATIONAL REPAIR NETWORK ON-SITE SUPPORT
- MORE THAN 200 TECHNICAL REPRESENTATIVES WORLDWIDE

BOOST® (BANK OF ONLINE SERVICES & TECHNOLOGIES) is Safran’s new online rotorcraft engine maintenance management service. Developed in partnership with IBM, this tool provides operators of Safran-powered helicopters with real-time, personalized engine data to enrich their own fleet maintenance management, with the direct support of Safran teams.