

HELICOPTER ENGINES



INDUSTRIAL CAMPUS OPENING

Tarnos - 21 February 2020



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Safran is an international high-technology group, operating in the aircraft propulsion and equipment, space and defense markets. Safran has a global presence, with more than 95,000 employees and sales of 21 billion euros in 2018. Safran is listed on the Euronext Paris stock exchange, and is part of the CAC 40 and Euro Stoxx 50 indices.

Safran Helicopter Engines is the world's leading manufacturer of helicopter engines, with more than 72,000 produced since being founded. It offers the widest range of helicopter turboshafts in the world and has more than 2,500 customers in 155 countries.

For more information: www.safran-group.com and www.safran-helicopter-engines.com / Follow @Safran and @SafranHCEngines on Twitter 

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I. Introducing CAP 2020 industrial campus



The CAP 2020 industrial campus is inaugurated today in the presence of Florence Parly, Minister for the Armed Forces, and Geneviève Darrieussecq, Secretary of State. Launched in September 2015, CAP 2020 updates the Safran Helicopter Engines site in Tarnos (Landes), after a total investment of €50 million.

With a workforce of 1,550, Tarnos is the second largest Safran Helicopter Engines site (after Bordes, Pyrénées-Atlantiques). Its activities are focused on after-sales support and the MRO (Maintenance, Repair & Overhaul) of in-service engines, and comprises three divisions:

- **Support and Services Division (D2S)** with its corporate functions
- **Support France**, in charge of after-sales support for Safran helicopter engines in service in Europe, Africa and the Middle East
- **Centre d'Excellence mondial de Réparation de Pièces et Composants** (CERPC - Global Center of Excellence for the Repair of Parts and Components)

Tarnos will be a global support management center, demonstrating Safran Helicopter Engines' commitment to serving its helicopter operator customers, as well as the competence center for Support business lines. Each year, the site welcomes around 10,000 visitors, mainly international customers.

Tarnos also manufactures parts for new engines with an industrial competence center for static assemblies (CCI ES) and some specific parts (CCI PS). It is the second largest new parts production center after Bordes.

CAP 2020 represents a major investment for Safran Helicopter Engines. This "factory of the future" incorporates the very latest industrial equipment, enabling Safran Helicopter Engines' customers to benefit from world-class services.



"The CAP 2020 industrial campus enables us to welcome and serve our customers in a modern environment, and provide them with the very best quality of service. CAP 2020 also offers our teams a 21st Century working environment that inspires them to achieve their performance and competitiveness objectives. Finally, our company is consolidating its activity in Nouvelle-Aquitaine, sustaining more than 1,500 jobs in the region."

Franck Saudo – Safran Helicopter Engines CEO

A. Key figures and timeline

- **€50 million** investment
- More than **1,500 jobs secured** in Nouvelle-Aquitaine
- **33,000 sq. m** of new buildings
- A goal of **reducing MRO cycles by 30%**
- Environmentally-friendly infrastructure enabling **80% fewer CO₂ emissions per year**
- **September 2015:** project launch and laying of foundation stone, on Tarnos' 50th anniversary
- **February 2017:** work commences
- **February 2019:** delivery of the buildings by contractor Eiffage
- **April 2019:** industrial transfer to the new facilities (270 industrial resources and 3,000 pieces of equipment) for 1,200 people
- **21 February 2020:** Inauguration in the presence of Florence Parly and Geneviève Darrieussecq.

B. Description and investments

CAP 2020 involved several phases.

Three new buildings were built, including two autonomous industrial workshops, representing a total surface area of 33,000 sq. m.

- **An 8,500 sq. m industrial shop** for the repair of parts and components from international sites supporting helicopter engines (CERPC activities).
- **A 14,500 sq. m industrial shop** for the repair of engines from Europe/Africa/Middle East area (Support France).
- **A 10,000 sq. m office building** for Support and Services Division center, housing 600 people.



The two workshops benefit from a long-span metal structure that offer great flexibility for the siting of machine tools. They are equipped with skydomes that guarantee natural light levels of 60%.

This project was carried out by a consortium led by Eiffage Construction Sud Aquitaine, including Eiffage Energie Systèmes, Eiffage Route, Clévia, the Séquences architecture firm (Toulouse), the Artelia design engineering office (Lyon), Etchart Construction (Bayonne), Etchart Energie (Anglet), Bobion & Joanin (Billère) and Soubestre (Hossegor).

A second phase is currently being studied. This phase concerns the renovation of an existing building for the Industrial Division (CCI ES) and the creation of a new company restaurant. Under the project management of the Seignanx community of municipalities, the restaurant will be financed by regional authorities, in particular the Nouvelle-Aquitaine and Landes department and be able to serve 1,120 meals per day. Phase 2 is scheduled for completion at the end of 2022.

C. Heritage



The Tarnos site opened its doors in May 1965 to repair engines and to support the activities of the Rolls-Royce Turbomeca (RRTM) consortium. After successfully retraining employees of the former Forges de l'Adour, the plant was dedicated to producing the Adour engine in the Franco-British Jaguar combat aircraft. The first series-production Adour left the plant in 1970.

Over the years, Tarnos gradually specialized in support business line activities. Today, Tarnos forms the backbone of Safran Helicopter Engines' global support and services network, as well as the largest

site for the repair of in-service engines.

Respecting the company's history, an in-house competition offered employees the opportunity to choose the names of workshop traffic routes. The name of Turbomeca's founder Joseph Szydlowski was selected, as well as that of the iconic Adour.

II. Competitive resources at the service of customers

CAP 2020 features optimized industrial resources that reduce engine repair times and enable better customer service.



The repair process is entirely on-line: previously, during the various dismantling, cleaning, repair and overhaul phases an engine could travel more than 5 km on site.

Today, new structures make it possible to simplify and optimize engine and component flows.

With CAP 2020, Safran Helicopter Engines aims to reduce MRO cycles by 30% to benefit its customers.

With CAP 2020, the CERPC is also acquiring new industrial resources: self-adaptive five-axis machining, CNC turning, CNC grinding and flow control. New, automated parts washing, surface treatment and bleed lines improve working cycles and conditions.



III. At the front line, supporting French military and paramilitary helicopters



The French government is Safran Helicopter Engines' main customer, with more than 1,600 engines powering some 550 helicopters. They are in service with France's Army Light Aviation division (ALAT), its Air Force and Navy, Civil Security Division, Gendarmerie, Customs and the DGA Flight Test Division.

Since 2001, these engines have accumulated more than 3.5 million flight hours.

They are covered by support contracts known as MCO (Maintenance in Operational Condition). The first such contract was signed in 2001 and they are renewed every 10 years, ensuring a high level of performance and dispatch reliability within a controlled budget.

In close collaboration with the Direction de la Maintenance Aéronautique (DMAé) and the Direction Générale de l'Armement (DGA), the women and men of Safran Helicopter Engines are proud to have delivered, for 12 years now, **100% service reliability** for the 1,600 French armed forces helicopter engines flying in metropolitan France and overseas.



In Tarnos, 23-strong team is in charge of daily logistical, technical, commercial, quality and contractual aspects in support of the State engine fleet. Naturally, this team is supported by other Safran Helicopter Engines departments.

This MCO concept, which is emblematic of the link between the French state and Safran Helicopter Engines, is a model in terms of performance and cost. Safran Helicopter Engines applies it to other export state customers, including Portugal and the UK.

Safran Helicopter Engines powers almost all the helicopters in service in the French armed forces, with a very strong representation of its engine range.

Arrius: H135 (National Gendarmerie), AS555 Fennec (Air Force and ALAT)

Arriel: H145 (Civil Security, National Gendarmerie), Dauphin/Panther (Navy)

Astazou: Gazelle (ALAT)

Astazou: Alouette III (Navy)

Turmo: SA330 Puma (ALAT and the Air Force)

MTR390: Tiger (ALAT)

Makila: AS532 Cougar (ALAT), H225M Caracal (ALAT, Air Force)

RTM322: NH90 (ALAT and Navy)

Arrano: H160M "Guépard" (commissioning in 2026)

IV. Respecting people and the environment

A. User-friendly working conditions

From the outset, CAP 2020 was designed to offer the best working environments and ensure the well-being of its teams.



In the workshops, skydomes provide 60% natural light and the temperature is regulated. Its frames, which involve very few structural columns, guarantee a large internal volume that provides a better working environment and a more optimal, ergonomic and scalable industrial organization. Workstations are standardized and processes are in place to improve ergonomics and HSE (Health, Safety and Environment), and to provide versatility.

In the new office building, the emphasis is on collaborative, user-friendly and shared workspaces. The entire building is connected and equipped with wireless video-conferencing and projection systems. "Work bubbles" enable small groups to meet spontaneously.

This building also includes social zones (cafés, snack bars), a concierge service and outdoor rest areas.

Moreover, since October 2018 Tarnos has operated the best Safran HSE standards, and is certified as an "entreprise handi-accueillante" (disability-friendly company).



B. Employment and training in Nouvelle-Aquitaine

CAP 2020 directly sustains more than 1,500 jobs in Nouvelle-Aquitaine, and indirectly, through an ecosystem of SMEs and subcontractors, a further 4,500 positions. Safran Helicopter Engines is the largest industrial employer in the Basque Country and the southern part of the Landes department.

Through the *Safran Helicopter Engines Academy*, CAP 2020 offers major training opportunities. This multidisciplinary training unit, specializing in support and service business lines, provides product maintenance training to customers and job training to its employees.

The *Safran Helicopter Engines Academy* is located in the DEFI (Développement de l'Emploi et de la Formation pour l'Industrie or Employment and Training Development for Industry) training division opposite CAP 2020. DEFI is an educational tool of the UIMM (Union des Industries et Métiers de la Métallurgie or Union of Metallurgies Industries), inaugurated in December 2018, with partners such as the Aérocampus Aquitaine (Gironde), the ESTIA (Ecole Supérieure des Technologies Industrielles Avancées or Engineering School for Advanced Industrial Technologies) in Bidart (Pyrénées-Atlantiques) and the Jean Taris high school in Peyrorade (Landes).



Safran Helicopter Engines is also an important player in the training of talented young people, with a high level of work/study program students (more than 300 on average) at its Bordes, Tarnos and Buchelay sites. From high school diploma to doctorate (CIFRE) level, these initiatives enable it to anticipate its own recruitment needs and those of its subcontractors.

C. Sustainable transport

In 2016, in partnership with the Syndicat mixte des Transports de l'Agglomération Côte Basque-Adour (STACBA - Côte Basque-Adour conurbation public transport authority), the Conseil départemental des Landes (Landes departmental council), the Tarnos City Council, and the ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie - Environment and Energy Management Agency), Safran Helicopter Engines agreed a company travel plan (PDE) to promote more sustainable transport. It includes employee buses, a car-sharing scheme and the provision of terminals to recharge electric vehicles.



This travel plan is the first to be signed in the Landes department and the Communauté d'Agglomération Pays Basque (Basque Country Conurbation Community).

D. In harmony with environment



CAP 2020 is the only major industrial site in Nouvelle-Aquitaine to be adjacent to a Natura 2000 area. Its construction required the removal of two hectares of pine trees, and Safran Helicopter Engines replaced them with four hectares of pine trees in the southern Gironde.

In addition to zero discharge of industrial effluents, CAP 2020 has an energy and fluid power plant (CEF) named EOLYO 2 (an update to EOLYO 1, the Bordes site energy and fluid power plant), that provides water to all CAP 2020 buildings.

Hot water at 65°C comes from a boiler fueled by mixed biogas and natural gas, and a from natural gas boiler. The biogas is produced from class A wood (used only for firewood) introduced into a biomass. A gasifier raises the temperature to a level of about 800°C to extract the biogas, which is burned in the boiler. This principle enables an 80% reduction in annual CO₂ emissions (equivalent to a reduction of 614 tonnes of CO₂ emissions).

Cold water at 7°C is produced by industrial heat pump technology, using compressors with magnetic bearings rotating at 10,000 rpm. The hot and cold water produced in this way can be used, through air handling units, to cool industrial and tertiary buildings.

Over-pressurized fire-protection water is used to protect infrastructure and resources. It supplies automatic extinguishers (sprinklers) and fire hydrants.

Safran Helicopter Engines is committed to this energy approach through an 18-year contract with ENGIE Cofely, which designed and manufactured the CEF.

CAP 2020 is consistent with Safran's low-carbon project, launched in 2018.

POWERED BY TRUST

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