

Another example is the Airbus Basic Primer project that researches potential alternatives with the aim of phasing out the green chromated primer coat.

Cultural Change

Corporations across industries are increasingly realising how essential their employees are as stakeholders in the conversations driving their business. At Airbus, this is no exception. The people who work here see sustainability in the aerospace industry not as an add-on to the business priorities but as an important part of their personal motivation in everything they do.

According to a 2018 survey, 11% of the Airbus Toulouse-based employees cycle to work. An annual event is organised by the Company to spread the initiative.

As part of its roll out plan, high5 + initiated a group-wide communication campaign to engage employees on day-to-day actions in order to reduce their environmental impact.

V. Future Outlook

"By 2050, we have made the commitment to bring CO₂ emissions to half of 2005 levels. A new generation of technology, research and development, and our total respect for the planet lay the foundation for a more sustainable aviation industry. By demanding more of ourselves in the areas of research, supply, production and operations, we can demand less of our planet. This clears the path toward a future in which we can connect more people than ever before, in the most sustainable way possible."

Guillaume Faury - Airbus CEO

New Technologies

When it comes to research and technology portfolio, the Company's first priorities are set on designing and maturing the technologies, which will then enable us to come to the market with an emission free aircraft.

The E-Fan projects are contributing to illustrate and disseminate the idea that electrically-based propulsion will probably be the next major breakthrough in our industry. So far, the E-Fan programmes have delivered assets and knowledge, but also aim to provide momentum for electrification with the Company taking a lead in the vision and its drive. E-Fan X is the next step of our electrification journey.

In order to advance aerodynamics research, the Company has developed a scale demonstrator aircraft with the first inflight, freely flapping wing tips that could revolutionise aircraft wing design through a biomimetic approach. Known as AlbatrossONE, this remote controlled aircraft has already taken its first flights to prove the concept.

The Company's fello'fly project aims to demonstrate the technical, operational and commercial viability of two aircraft flying together for long-haul flights. Through fello'fly, a follower aircraft will retrieve the energy lost by the wake of a leader aircraft, by flying in the smooth updraft of air it creates. This provides lift to the follower aircraft allowing it to decrease engine thrust and, therefore, reduce fuel consumption in the range of 5-10% per trip.

c. Responsible Defence and Space Products

I. Governance

The Company delivers defence and space products and solutions that enable governments and organisations to protect people and resources, and it aims to do so in a sustainable, respectful and fair manner.

This commitment is defined in terms of two thematic areas:

- A more secure world: Contributing to protecting citizens and nations' sovereignties, values, and infrastructure in a world of evolving threats; and
- A healthier environment: Designing products with a smaller eco-footprint and developing solutions to better monitor and manage natural resources.

In 2019, Airbus Defence and Space's R&S Governance Committee set a long-term objective to expand the number of products and services that contribute to its sustainability goals and the eight aforementioned UN SDGs. While inventive solutions are in the pipeline, this section describes solutions that currently contribute to a more secure world and a healthier environment.

II. Initiatives

a) Products for a More Secure World

As long-standing threats to public safety and infrastructure are compounded by emerging risks that take on new forms in our cyber age, the Company aims to increase the safety of communities and protect human lives through its defence solutions, space-based intelligence and communication, and cyber security solutions. Representative contributions include:

Maritime

The Company makes locating, tracking and communicating with seafaring vessels across the globe's vast and remote oceans possible through its optical and SAR satellite imagery. Its Ocean Finder solution allows customers to monitor ships and activity at sea, which may be at risk due to illegal activities, hijacking or hostile waters and can assist with search and rescue efforts.

On the dock, ports need software to enable the secure and efficient movement of levied goods, and in the water they need to monitor incoming sea vessels to ensure safe movement among cruise ships, freight liners, private vessels and tankers. The Company provides real-time maritime information to help organise port traffic, provide navigation assistance to vessels and ensure smooth goods operations on land. Australia, with one of the largest harbours in the world with 1.6 million passengers passing through its Port Authority, depends on Airbus' STYRIS® system to manage Sydney Harbor and Port Botany.

Public Safety

The Company helps to protect societies and cities by providing communication and collaboration solutions to government authorities, law enforcement agencies, emergency services, healthcare providers and other public safety organisations. Their solutions enable authorities to respond to, and collaborate on, multiple simultaneous missions, often in emergency or high-security scenarios, through the sharing of high-value information (voice and data). The Company has equipped 19

nationwide networks for public safety forces (of which 13 are in Europe) and more than 30 networks for local authorities and defence forces.

When security threats arise at large events or gatherings of people, the Company offers real-time secure data and surveillance, cyber security, secure connectivity and situational awareness.

Critical Infrastructure Protection

The Company protects government installations, air bases and military sites, ports and airports, sensitive industrial sites and civil infrastructure. The focus of our critical infrastructure portfolio is to provide operators of protected facilities with situational awareness of that site, as well as with actionable intelligence and command and control systems that enable them to respond to threats and manage incidents when they do occur. For example, Airbus communications solutions help to secure over 100 metro lines, 20 airports and 11,000 km of pipelines.

Secure Connectivity for Transportation

With the growth of large urban areas around the world, efficient but safe transportation is vital. The Company provides some of the busiest airports, train stations and underground train systems in Europe and China with its Tetra system, a secure radio communication network, allowing hundreds of users to securely communicate in real time. These operators rely on Airbus' secure communications to relay urgent and confidential messages in emergency situations.

Cyberspace Protection

Airbus CyberSecurity's Orion Malware solutions provide businesses with the ability to detect malware in their networks and investigate emerging threats. In the past when the French TV channel (TV5 Monde) suffered an unprecedented cyber-attack, taking the station offline, Airbus CyberSecurity provided a fast and satisfactory resolution of this crisis.

Defence and Security

The Company works with the EU, NATO and other governments to supply the necessary equipment to support their efforts to make the world a safer place. Nations need defence systems and equipment to guarantee sovereignty, security and human rights. The Company's military aircraft, satellites and security technologies help protect democratic values around the globe. A partnership with the Company also helps them to protect their nations from the changing nature of terrorism threats and cybercrime.

Airbus Defence and Space does not produce nuclear weapons. Through its 50% share in ArianeGroup, there is a connection to the French Nuclear Deterrence Programme as ArianeGroup produces the M-51 launcher. However, the warhead is exclusively built by France's Directorate General of Armaments (DGA).

b) Products for a Healthier Environment

The Company has been a trusted provider of governmental space capability since the birth of European space 50 years ago, delivering satellites as well as data solutions that inform decision making on significant environmental issues. Its aerial imagery of climatic and environmental changes around the planet reveal the scale of change and dependencies at work, deepening understanding of Earth's systems and enabling smarter responses.

Earth Monitoring

Copernicus, the EU's Earth Observation programme, is the biggest provider of Earth observation data in the world. Its images are vital to managing the health of our planet. The Company contributes to all the Copernicus Sentinel satellites and its SpaceDataHighway, a near-real time laser communication relay, is used to transmit data from the Sentinel-1 and -2 satellites. Airbus satellites include:

- Sentinel-2, which circles the Earth's landmasses every ten days, delivering data for agriculture, forestry, natural disaster monitoring and humanitarian relief efforts;
- Sentinel-5 Precursor, which provides critical insights in helping to understand and mitigate the effects of climate change.

Other Airbus satellites in orbit include:

- ADM-Aeolus provides global observations of atmospheric modelling and analysis techniques, which are used in weather forecasting and climate research;
- the MetOp satellites. Since their launch, errors in one-day weather forecasting have been reduced by 27%. The MetOp mission provides meteorological observations from polar orbit and contributes to long-term climate monitoring;
- Twin Grace-FO satellites are mapping the Earth's gravitational field to better understand movement of water, ice and land masses.

Agriculture

Satellite and drone imagery integrated with Airbus digital platforms enable agricultural stakeholders to understand and monitor crop growth. Platform solutions include:

- Verde helps farmers optimise crop scouting, irrigation, seeding, fertilisation, and crop detection, to improve practices over the long run to get more out of fields in a sustainable way;
- Farmstar supports French farmers to improve their harvest quality with plot-specific accuracy, offering a complete range of information on the condition of crops (stand counts, nutritional condition, risk of disease, etc.) in order to rationalise fertiliser input and safeguard the environment;
- AgNeo provides agribusinesses with an innovative and reliable decision support platform to drive greater efficiency. It provides in-season actionable information utilising imagery, field data and weather insights.

Forest Management

Airbus' Starling is a private and independent tool that allows companies to monitor the implementation of their "No Deforestation" policies by tracking land cover change over time. Nestlé is using the Starling system to monitor its entire palm oil supply chain. Starling helps Nestlé understand better where deforestation occurs, what drives it and who is involved.

Sustainable Space

The Company is working to ensure a sustainable space environment to prevent space debris and protect valuable national assets, such as satellites in orbit around the globe. For example:

- Airbus is the first company to test technologies to clear out space junk and avoid spacecraft collisions. Three main debris removal technologies have been tested in orbit: harpoon, net and vision-based navigation. In addition, active debris capture using robotic arms is being developed on the Airbus site in Stevenage;