

PRESS RELEASE

SENER and Aena will work together to improve air quality and energy efficiency at airports

SENER, responsible for the innovative [RESPIRA®](#) system, which uses artificial intelligence to improve environmental quality inside facilities, has signed a partnership agreement with Aena. Under this agreement, SENER will install a pilot project for its RESPIRA® system at the Valencia airport in order to test the system's ability to optimize the airport's HVAC systems.

Madrid (Spain), March 2nd, 2022 - The [SENER](#) engineering and technology group and the state-owned company Aena, which manages Spain's airports, have signed a partnership agreement to conduct a pilot test of the artificial intelligence system called RESPIRA®, developed by SENER, which provides for dynamic and predictive control of HVAC systems in enclosed spaces. The pilot test, which starts in December 2021 and will last six months, will be carried out at the Valencia airport, specifically in the boarding area of this airport, which has a surface area of 3,400 m².

This part of the airport was chosen because it is an area where users stay for a long time while they wait for boarding to begin, and because it hosts services whose goal is to make the passengers' stay as pleasant as possible before the departure of their flights. As a result, the environmental conditions in this area have the most effect on the passengers' perceived comfort.

RESPIRA® is an innovative system that will apply Artificial Intelligence to efficiently manage the HVAC systems within the airport. This will help regulate the temperature and humidity to improve user comfort, as well as reduce the energy consumption of the HVAC systems. It will also improve air quality within the airport, which will help lower the risk of microorganisms proliferating, including the ones that cause Covid-19.

RESPIRA®, SMART VENTILATION AND CLIMATE CONTROL

RESPIRA® is an artificial intelligence solution that is capable of improving the air quality and heat index in public spaces by defining several criteria and reading parameters in real time, such as the indoor temperature, humidity and air quality, and the efficiency of devices by analyzing their electrical consumption. These data are used by a dynamic algorithm to predict the environmental conditions (depending on the weather forecast, the service to be provided and other factors) and then apply a mode of operation to the HVAC units in order to ensure air quality and lower the heat index, while also minimizing electricity consumption inside the structure. Thanks to the ability of RESPIRA® to optimize HVAC systems with machine learning and automatic learning applications, the energy savings increase gradually, resulting in optimum efficiency.

As a result, the RESPIRA® system achieves performance that reduces energy consumption, as was shown in the Barcelona metro network, where RESPIRA® has been in use since 2020. In this facility, the use of RESPIRA® has also resulted in more efficient temperature control, with a temperature decrease of more than one degree inside the stations, enhanced passenger comfort and more efficient maintenance tasks, as it can quickly detect any abnormal operations in specific devices in the ventilation network and it can be used to determine where new investments are needed to maximize returns. The RESPIRA® system is thus helping to efficiently and sustainably manage the HVAC components.

Further information:

In the words of SENER's Innovation Director, Òscar Julià: "For SENER, the digital transformation involves integrating new technologies to make them available to society. We are looking for sustainable and environmentally friendly innovations that can improve people's lives. RESPIRA® is an example of how an Artificial Intelligence solution can not only improve the user experience in an airport, shopping center, train station, hospital or any other facility, but it can also save on energy consumption, contribute to the sustainable development goals and help alleviate the impact of this pandemic."

This pilot project is part of a global strategy for validating new technologies and processes to improve the passenger experience in the Aena airport network, which consists of a total of 46 airports and 2 heliports in Spain. The scope of this project is consistent with the organization's strategy, which includes focusing on a better passenger experience in the terminal, and a commitment to energy efficiency in all their facilities, thus promoting sustainability in the services offered by Aena.

About SENER

SENER is a private engineering and technology group founded in 1956, which seeks to offer its clients the most advanced technological solutions and which enjoys international recognition thanks to its independence and its commitment to innovation and quality. SENER has 2,400 professionals on five continents.

SENER combines the activities of Aerospace and Engineering and has ownership stakes in companies working in the energy field. SENER Aeroespacial has more than 50 years of experience and is a top-tier Space, Defense and Science supplier. SENER Engineering has become a world leader in the areas of Infrastructure, Energy and Marine.



About AENA

Aena SME, S.A. is the world's leading airport infrastructure management company by passenger volume. In 2019, it was the European airport operator with the highest passenger volume, with more than 275 million.

It manages 46 airports and 2 heliports in Spain and is directly or indirectly involved in managing a further 23 airports in different countries around the world.

The airports in Aena's network stand out by offering their customers - passengers, airlines, handling agents and users in general - a comprehensive, top-quality service. The implementation of new technologies and innovative processes, as well as the commitment to sustainability, are essential factors for the present and future of its facilities.

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