

OPTIMAL CONTROL TECHNOLOGY APPLIED TO THE MOTION PLANNING OF DYNAMIC SYSTEMS



CONTEXT

Nowadays there are many applications based on autopilots, however the systems use to be limited, little flexible and they only generate trajectories.

Thanks to this technology, autopilots can optimize time, energy or distance. Using it, it enables systems learning from the experience, interacting with the environment and being able to self-adapt themselves to possible changes in real-time.

APPLICATIONS

The technology can be used in autopilot systems for aircrafts/RPAS and controllers for ground systems which need an optimal control and motion planning, in different sectors, such as:

SECURITY & SAFETY

ENERGY & ENVIRONMENT

INFORMATION & COMMUNICATION TECHNOLOGIES

AERONAUTICS, AUTOMOTIVE, MARITIME & TRANSPORT

TECHNOLOGY SUMMARY

It allows one to control any dynamic system, including complex real non linear systems. The main advantage is that it can self-adapt to changes in the controlled system. This means that, if there is a feasible solution, the controller can redefine its behavior to take into account modifications in the system, the sensors or even the actuators.

BENEFITS

IMPROVED TECHNIQUE: The technology has been optimized in order to improve their functionalities and operative capacity.

INNOVATIVE MODULAR ARQUITECTURE: the controllers have the ability to plan their movement taking into account possible obstacles interposed in its movement, either static or dynamic.

AUTO LOCALIZATION SYSTEM: the platform that this technology uses does not have to count on external location systems.

LOWER COSTS due to a cheaper maintenance because of the optimization of the technological solution.

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IP STATUS

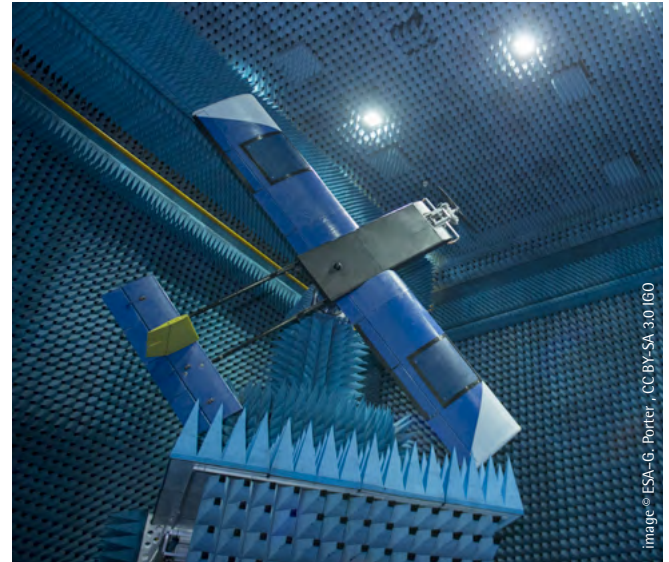
This technology is currently protected by two granted patents in Spain. One of the patent is dated in 2001 and the other one is dated in 2012.

TECHNOLOGY READINESS LEVEL AND TIME TO MARKET

TRL: 9. This technology is already on the Market.
TTM: This technology is ready to be applied in any of the applications mentioned.

ORGANIZATION PROFILE

This technology has been developed by a Spanish spin-off in the field of robotics systems.



BUSINESS OPPORTUNITY

Technology transfer by licensing or commercial agreement with technical assistance (joint further development, testing of new applications, adaptation to specific needs).

KEYWORDS

SPACE SYSTEM SOFTWARE
SPACE SYSTEM CONTROL
AUTOMATION, TELEPRESENCE & ROBOTICS
OPTIMAL CONTROL
AUTOPILOT
CONTROLLER

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