

Finmeccanica rewards innovation: a next-generation atomic watch, a 40% more efficient electric engine and new materials for aerostructures

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A electromagnetic engine that can generate savings of up to 40% compared to those currently available; new hybrid composite materials ideal for both jet wings and motorcycle helmets, and a next-generation atomic watch for space applications, which is likely to set the exact time for the world. These are the three major award-winning scientific innovations selected by Finmeccanica from more than 450 entries from the group's 18 companies.

The Minister for Education, Universities and Scientific Research Letizia Moratti and Finmeccanica's Chairman and Chief Executive Officer Pier Francesco Guarguaglini presented the awards at the National Science and Technologies Museum in Milan, and commented on the award-winning features of these innovations: their capacity to increase competitiveness, patentability and originality, generation of cost savings, improvement in processes, expansion in product range, and their potential to create partnerships between group companies and research institutes or to be adopted for industrial use.

The three winning projects relate to areas that will enable them to be applied across the whole group. The electric engine was originally conceived by Wass and Ansaldo Ricerche for underwater vehicles, but can also be used in any other environment; it is considerably lighter, sturdier and more reliable than traditional engines, and most importantly, generates cost savings of up to 40%. The atomic watch for space applications, designed by Galileo Avionica and used in the Galileo satellite programme, is half the weight and volume of traditional models, has double the life span and an extremely low sensitivity to magnetic fields, features which will make it the standard time reference for the whole world. The *hybrid* composite materials, produced by Alenia Aeronautica, will be of paramount importance in the development of aerostructures. For the first time, it will be possible to make components that show micro fractures, and the materials will also be used in other sectors, such as the production of motorcycle helmets, where weight can be reduced by over 70% with no loss of safety.

The selection of the three best entries was made by a committee of ten leading academics: Gianni Vernazza, Dean of the Industrial Engineering Faculty at the University of Genoa; Piero Maestrini, Director of the Institute of Science, Technology and Information (ISTI-CNR), Pisa; Agostino La Bella, from the department of Economics and Organisation at the Engineering Faculty at the University of Rome 2; Giampio Bracchi, Chairman of the *Fondazione Politecnico*, Milan; Luigi Nicolais from the Department of Materials Engineering and the Construction of the *Federico II* University of Naples; Gianni Fabri, Chief Executive Officer of the Torino Wireless Foundation, Nick Lieven, Head of the Aerospace Engineering Department at Bristol University and Peter Grant, Head of Electronic Engineering at Edinburgh University. Special recognition was also given to Selex SAS Ltd., which only recently became part of the group. The recognition has been awarded for the electronic scanned array radar adopted by US Coast Guard.

The group has 3,100 researchers working at its various subsidiaries, and a total workforce of 55,200, of whom 15,600 are based abroad, principally in the UK (9,326 employees).