

Finmeccanica Premio Innovazione 2007

Over the years, the Innovation Prize has become one of the most eagerly awaited events on the Finmeccanica Group calendar. The results achieved and the interest shown confirm that it is a valuable and effective instrument in the innovation policy. The prize represents the combined commitments of the Technical Office and the Central Human Resources Department, with the support of the External Relations Department.

The total number of proposals presented in the four editions exceeds 2000. The number of projects has more than doubled over the years (from 320 innovative projects presented in the first edition of 2004 to 758 projects this year¹). This means that in the four years, **more than 6,000 people** have been involved in the Prize, calculating that each project is presented by about three people on average. The participation of colleagues abroad has also increased greatly: **from 10 projects in 2004 to 203 in 2007**, which means that **the Prize is a truly international initiative.**

The 2007 edition therefore confirms the success of the Prize formula and highlights its potential, not only as a **stimulus for creativity and innovative ability**, but also as a **driver for integration and internationalisation**, capable of creating value for the Group, the shareholders and the stakeholders.

The excellence of Finmeccanica lies in technology and in research, but is especially to be found in the Group's workforce. Innovation is a top priority for Finmeccanica in order to increase the capacity of the Group and confront the challenge of technology markets. Today it is also important for the evolution of technology to be accompanied by **cultural innovation**, which means being able to offer solutions that are increasingly personalized and customized, on a complex global market, and which are achieved by developing ideas and projects in collaboration with the customers and with all our stakeholders.

Finmeccanica is moving in this direction. To return to the theme of the Innovation Prize, it is no coincidence **that one of the prize-winning projects last year, presented by Telespazio**, involved an automatic system for monitoring fires from

¹ Details of fourth edition of Innovation Prize

Edizione	Totale progetti innovativi a concorso	(DI CUI) N° progetti presentati da personale impiegato presso le sedi estere
2004	320	10
2005	450	50
2006	625	150
2007	758	203

satellites in real time. **Developed in collaboration with the Civil Protection authorities**, this new system makes it possible to locate fires covering an area smaller than a hectare, from an altitude of 36,000 kilometres.

The Innovation Prize brings out, and shares at the Group level, the main technological innovations developed in our various companies and **supports the process of patenting**: thanks to the innovative proposals presented as part of the Innovation Prize, the Finmeccanica Group's patent portfolio has grown significantly during the last four years.

The Innovation Prize encourages collaboration and sharing of skills among work groups dealing with similar subjects in different companies – e.g. the combined prize awarded last year to teams from Thales Alenia Space and SELEX Communication concerning key technologies in software radio – **and groups that, in different sections of the same company, combine to develop advanced technologies** – e.g. the combined prize awarded last year to two projects from the UK and Italian headquarters of AgustaWestland regarding helicopter vibration reduction. Skills and attention to people are the principles that guide Finmeccanica and guarantee the future developments of our Group.

The Innovation Prize has become the occasion and symbol of Finmeccanica's opening up to the patrimony of knowledge and experience of its workforce, of how individual abilities and the creativity of those working in the Group all over the world, constitute the driving force of our business.

Therefore the excellence of FNM lies in its 59,579 people², in their know-how and in their immense professional assets.

The Prize has the objective of making clear and sharing the “tacit” knowledge not only of our 11,300 engineers, of the more than 13,000 involved in planning and engineering and the 4,000 people engaged in R&D activities, but also every person working in every company structure, and of transforming this into “explicit” knowledge that will automatically become company “assets” and wealth for all those working in the Group. In this way Finmeccanica will be able to simultaneously present itself as an “Attractor of Talent” at an international level, and guarantee to “nourish” constantly and consistently the employment of its workforce.

ATTACHMENT 1: Some examples of projects presented for the Innovation Prize that have been implemented over the years, and have had important repercussions on an industrial level and received various types of recognition.

1. LOAM (Laser Obstacle Avoidance & Monitoring) - Selex-Communications
Winning project in the SELEX Company Communications Prize in 2005

² Finmeccanica Group data, August 31, 2007

LOAM is a control and monitoring system for helicopter flight routes. It is able to inform the pilot in real time about the nature, distance and direction of any obstacles, especially those of small dimensions such as wires and pylons, that constitute a real danger for navigation because, due to their low contrast against the background, they are not easily visible and cause 80% of accidents.

LOAM was recognized at the Le Bourget aeronautics salon as the best product of the year in the Avionics and Electronics category and has already been chosen for use onboard the Italian NH-90 and the Danish EH101 helicopters.

2. Atomic clock for space – Galileo Avionica

Winning project for the 2005 Group Prize

Based on the hydrogen maser of the passive type for terrestrial applications (G-PHM), **the first hydrogen atomic clock** (Passive Hydrogen Maser – PHM) has been designed and tested for space applications, especially **for the GALILEO satellite navigation programme.**

The technologies for the terrestrial passive maser have been completely redesigned to enable it to support the extreme environmental conditions of space applications and to guarantee a working life of at least twelve years. **The PHM represents the time reference system with the best stability characteristics for short and medium periods (24h) ever created for space applications.**

There is a contract for eight flight models to be installed on the first four Galileo satellites, and completion of the delivery is foreseen by the end of 2007.

Moreover, the launching of the first satellite with the Galileo Avionica maser on board, is envisaged by March 2008.

3. Control system for gas turbines – Ansaldo Energia

Proposal presented for the “Finmeccanica Group Patent of the Year” 2006

A control system consisting of a group of regulators for gas and air flow in the combustion area, to keep the principal parameters of the turbine within fixed limits.

After being tested under simulation and after going through a commissioning phase in the main plant, the system has been installed in the following plants:

- Combined cycle plant, Voghera Energia (Pavia) – No. 1 TG control system;
- Combined cycle plant, Sparanise (Caserta) – No. 2 TG control systems;
- Combined cycle plant, Vado Ligure (Savona) – No. 2 TG control systems;
- Combined cycle plant, Leini (Turin) – No. 1 TG control system;
- Combined cycle plant, Escatron – Zaragoza (Spain) – No. 2 TG control systems;
- Combined cycle plant, Rizziconi (Reggio Calabria) – No. 2 TG control systems;

- Combined cycle plant, Napoli Levante – No. 1 TG control system;
- Combined cycle plant, Moncalieri (Turin) – No. 1 TG control system.

The related **brand name** [TUTOR (TUrbine Train Operation Referee) Ansaldo Energia] has been registered in Italy and internationally (the international brand name has been registered and is being examined in three countries: Germany, Switzerland and the United States).

Compared to the past, the system leads to estimated savings of about 10 million euros for the consignment, in addition to considerable savings in installation; in fact, the Siemens system previously used was much more expensive because of the high cost of Siemens assistance at the various worksites.

In addition, the concept and flexibility of the system makes it possible to match the turbines to production requirements more efficiently, with consequent economic benefits.

4. Apparatus and procedure for manufacturing fuselage sections – Alenia Aeronautica

Winning project in the “Finmeccanica Group Patent of the Year” 2006 competition.

A fuselage section is manufactured by automatically placing ribbons of fibre pre-impregnated with resin on the external surface of a cylindrical mandrel composed of radially retractable mandrel sections. The mandrel sections, which are made of a metal alloy, have a low coefficient of thermal expansion, preferably an iron alloy containing 36% nickel.

The idea was conceived to optimise equipment used in the production of fuselage sections for the Boeing Dreamliner 787.

The invention serves to speed up the fuselage production cycle, optimising the layout in the work place, avoiding damage during the manufacturing process, and facilitating cleaning operations for the preparation of a new cycle, in addition to savings in logistics.

The overall savings on the production cycle of the Dreamliner fuselage are significant and can be estimated at 15-20%.

5. Generator of scenarios and response in real time for secondary radars (IFF) of the Selex-Communications new generation.

Winning project in the SELEX Communications Company Prize 2005

The idea is related to the design of a complex scenario simulator able to generate IFF responses in real time for secondary radar, and with the functionality of the new NATO method of identification known as Mode 5.

The aim of the scenario simulator is to generate true IFF responses, in radio frequency, like an IFF transponder, in accordance with the NATO STANAG 4193 standard, which defines the characteristic of the secondary radars (IFF interrogators and transponders).

The IFF replies generated by the scenario simulator are used to stimulate the FF interrogator in a test to verify performance, especially regarding operation in Mode 5.

The product allows the simulation of complex scenarios, thus avoiding the need for costly flight tests. It was chosen by EADS for use on the RIG of the Attack Bus for the new European Fighter EFA2000.

6. Sky Light Simulator – Alenia Aeronautica

Winning project in the Alenia Aeronautica Company Prize 2006

The Sky Light Simulator, a large dome covered with luminous panels, big enough to contain the front part of planes and vehicles, is the most advanced ambient light simulator in the world, making it possible to regulate the illumination system of the pilot's cabin.

An appropriate combination of diffused and direct light, generated by luminous panels and by a sun simulator, creates the necessary condition for daytime tests; a lunar/stellar light generation system is available for night tests.

The project has already been completed and significant returns are expected from this innovative proposal.