

**Technological innovation:  
development of rail safety and interoperability  
Italian technology as a springboard for international expansion**

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It's now clear to everyone that the progressive globalisation of markets constitutes both a challenge and an opportunity for firms in the most developed countries, which are having to cope with new competitors in emerging economies – China and India of course, but also Brazil, Malaysia and others – and re-emerging countries, such as Russia and Japan.

This new competitive environment has changed the parameters in many areas of business, plunging a number of traditional industrial sectors into serious difficulty and giving rise – particularly in Europe – to a debate about the necessity or otherwise of taking a protectionist stance, with measures such as trade barriers, customs duties or import quotas.

Starting with the simple concept that attack is the best form of defence, to me it seems important to focus on how to capture market share on the international stage, rather than on wondering how to protect ourselves,

It is often said that one of the keys to improving competitiveness is the ability to innovate.

But innovation alone is not enough, because it can easily be copied: what really creates competitive advantage is the technological content of innovation.

Looking at Italy, we can see straight away where the problem lies.

On one side, almost 80% of manufacturing value added is attributable to small and medium-sized enterprises, and in the past, to their talent for innovation, which contributed greatly to the success of Italian-made products throughout the world.

However, although their talent for innovation is way above the European average, it largely relates to marketing, organisation and product communication, and has very little to do with technology.

On the other, the average percentage of revenues invested in R&D by Italy's top ten firms is 2.2%, putting us one place off the bottom of EU-25, just above the Czechs. In contrast, Germany spends 5.5% and Denmark 8.8%<sup>1</sup>.

This means that Italy's industry as a whole invests very little in technology and this is reflected in a low level of competitiveness on international markets.

In this context, Finmeccanica is something of an exception: every year, we invest around 14% of our revenues in R&D (some 1.8 billion euro), and it is precisely this strategy that has underpinned our expansion into international markets.

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One of the factors that is vitally important in helping to increase the competitiveness of our industry is the development of a stable and structured partnership with a major national client that:

<sup>1</sup> COTEC survey, 2006

- has demanding requirements, thereby encouraging the industry to do its very best and to develop its capacities as much as possible

- is cooperative and supportive of industry's efforts and will assist in research and designing solutions

This type of partnership is most effective at producing significant results if it is applied to long-term projects that enable industry to plan and make the necessary investment early enough for the development phase to be completed, providing a guarantee of returns that are not only financial, but which are also important in terms of acquiring new technological and management competencies.

In view of the event we are attending, I would like to give an example of how this approach was developed in a positive and fruitful way between Italian railways and Finmeccanica.

The virtuous circle was triggered when RFI – the Italian railway infrastructure company – had the farsightedness to equip itself with a new, highly technical signalling system, called ERTMS, and discovered the technological and systems expertise of Ansaldo STS.

The factors that have contributed most to the European – and worldwide – commercial success of this system, which is based on Italian technology, are:

- the close cooperation between RFI and Ansaldo STS from the planning stage, which resulted in a better system with more advanced technology
- the interoperability of the system with other European high-speed railways
- the prompt roll-out of the system on the Italian railway network, which provided a recommendation of its effectiveness

These factors enabled Ansaldo STS to achieve further successes in France, Spain, the UK, the Czech Republic, Hungary, Romania, Bulgaria, Greece and India. Subsequently, the system was recently acquired by German railways for a stretch of high-speed track, providing strategic, as well as commercial success. As confirmation of the high technological level reached, I would like to highlight the important agreement signed last week by Ansaldo STS and Chinese railways for the installation of our system on a stretch of high-speed track extending over more than 400 kilometres.

More generally, high-speed rail is a field in which Finmeccanica shares a world-class level of technological excellence with Italian railways. And it is precisely this knowledge that forms the basis of the strategic decision to participate jointly in major high-speed projects throughout the world.

The first act of this important partnership was consolidated in the memorandum of understanding signed in Rome by Finmeccanica, Italian railways and Russian railways in relation to the high-speed Jeddah - Mecca - Medina project. The contract for this project – which is estimated to be worth over 6 billion dollars – is expected to be awarded next year.

We are also working on another major initiative with Italian railways involving the high-speed Rio - Sao Paolo - Campinas project. This project, for which a tender process is set to be launched early next year, is worth around 11 billion euro.

Other initiatives in the pipeline relate to Egypt, Libya, Algeria, Argentina and China.

Another area in which Finmeccanica has gained a leading reputation – partly thanks to its aerospace and defence expertise – is safety.

Again with Italian and Russian railways we are conducting a feasibility study for a centralised safety system able to interface with local control centres. Finmeccanica companies involved in the project are Selex Sistemi Integrati and Ansaldo STS, and they are working closely with Italian railways, which already has this system.

Another important initiative relates to the project to create a rail link between Adler and Sochi in Russia, where the Winter Olympics will be held in 2014. Russian railways chose Finmeccanica and Bombardier as partners to design and build the system with high standards of safety and security and cutting-edge signalling and telecommunications, for which Finmeccanica, via Selex Sistemi Integrati, Ansaldo STS, Selex Communications, Elsig Datamat and Telespazio, has the necessary technological capabilities.

Thanks to the high technology content of our rail products and systems, Russian railways is seeking to acquire

Ansaldo STS signalling systems and electric trains developed by AnsaldoBreda, together with local company Transmashholding.

These considerations clearly apply in other areas of Finmeccanica's business.

There is another good example in the torpedo sector. A few days ago, when I was at the second National Torpedo Manufacturers Convention, I was reminded of how the recent MU90 and Black Shark programmes developed by WASS in partnership with the Italian navy found a lot of success with the navies of several countries, partly thanks to these products being quickly adopted by Italy's armed forces.

Continuing with the list of Italian technologies that have made it possible for Italian products and systems to be exported worldwide, I would like to mention the excellence of Alenia Aeronautica in composite aerostructures, the success of AgustaWestland helicopters and the leading position of Selex SI in radar for terrestrial applications, Selex Galileo in avionics and Thales Alenia Space in satellites.

To conclude, I would like to add a couple of comments.

First, while technology represents a springboard for international expansion, it is also true that foreign direct investment or partnerships with the industries of other countries provides access to the research programmes taking place there.

And since technology is becoming increasingly available, including in emerging countries, the process of international expansion sets in train a virtuous circle that tends to broaden the technology base of firms.

The second comment concerns Italian industry.

While, as I said before, it may be difficult for SMEs to invest in technology without severely denting their profits, by participating in large, industry-level projects, they will have the opportunity to benefit from processes of technological innovation that will improve their competitiveness.

The potential of this approach is enormous: Finmeccanica, for example, has more than 60,000 employees and indirectly provides employment for nearly four times this number – which involves several thousand SMEs.