

## MATNANTECH Programme (2001-2005)

In order to respond to the need of a better integration and co-operation with European research, Romanian Government decided in 2001 the establishment of the **National Plan for Research, Development and Innovation** for a period of 5 years. This National Plan for Research comprises two categories of national programmes, one of them being devoted to the implementation of "knowledge-based society" concept. For this purpose, 4 national programmes have been created, in good correlation with the thematic priorities (TP) at European level: Biotechnologies - as a correspondent for FP6 thematic priority 1 (Biotechnology and genomics for health), Informational society - corresponding to FP6 thematic priority 2 (Information science technology), Technologies for aeronautics and space - as in FP 6 thematic priority 4 (Aeronautics and space) and, last but not least, **New materials, micro and nanotechnologies - as a main correspondent to FP6 thematic priority 3 (Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices)**. However, this last national programme covers certain aspects from thematic priorities 1 and 2.

In order to better cover the research trends in the field of materials, micro and nanotechnologies, MATNANTECH programme was structured into 3 main parts. The first one deals with new / advanced materials with certain properties, materials for process engineering and environmental applications, synthesis nonconventional synthesis of powders. This first part intends to respond mainly to the need to promote the development of new ("knowledge-based multifunctional") materials, new processes and products. However, nanomaterials and nanotechnologies are not excluded from this part. **The second part comprises mostly the micro and nanotechnologies, microsystems, nanomaterials and nanostructures.** Within this part, nanotechnology relevant activities contribute mainly to two areas, namely "Micro, nano and optoelectronics, Microsystems and devices" and "Micro and nanotechnologies, and nanomaterials". In such a future-oriented field like knowledge-based materials and nanotechnology, **sharing of knowledge and resources** is necessary to achieve critical mass in research and development, avoid duplication of effort, and

reduce both risk and time-to-market for products and services. Thus, **MATNANTECH is the only Romanian R&D programme which is effectively funding research networks, virtual centres, training centres**, with the aim of originating novel breakthroughs that could lead to entirely new materials, new devices, new products and new industries. The only Romanian networks on nanotechnology and nanomaterials which exist at the moment are created within MATNANTECH framework, as well as a virtual centre and 2 more training centres and 1 centre of excellence in the field. Within the framework of MATNANTECH Programme, a total of 115 collaborative projects and 3 single beneficiary projects were approved by August 2001, involving 139 organizations. Like the EU, in Romania we face the same 'European paradox': the fact that good scientific performance is often followed by less satisfactory exploitation of the results to obtain technological and economic benefit. Apparently, a participation of 39.6 % of private sector (SMEs and large enterprises) seems to be very good for a country like Romania, but, in fact, these organizations act rather as beneficiaries of the research result than effective investors. That is why, it is still a need for greater private involvement in both long-term and applied research.

As Research Commissioner Busquin said, **nanotechnology is "a golden opportunity for the creation of networks"...** It is obvious that the future progress depend on the sharing of knowledge about tools and techniques, as well as on the exchange of expertise on the atomic and molecular interactions along the new scientific frontier. This a truly multidisciplinary area of research and development, in which materials scientists, medical researchers, and mechanical and electronic engineers must work together with biologists, physicists and chemists. MATNANTECH is the only Romanian R&D programme which provided a framework for networks development. That is why Romania has at this moment 4 national networks on micro and nanotechnology (2 thematic networks and 2 network of excellence) which are included in the inventory of the European Commission (2003), with great chances to be integrated into European networks.

*Executive Director of MATNANTECH  
Corneliu Trisca-Rusu*

**MATNANTECH Programme was presented extensively at the CONRO Exhibition (organized by the Ministry of Education, Research and Youth), part of the Bucharest International Fair (7-12 October 2003).**

*The photos on this page are representing images taken at the above exhibition*



Mr. Ion Iliescu, President of Romania, is signing in the guest book of ROMEXPO in front of the MATNANTECH stand before leaving the CONRO Exhibition



Mr. Corneliu Trisca-Rusu, Executive Director of MATNANTECH (left), is presenting the Programme to Dr. Alexandru Athanasiu, the Ministry of Education, Research and Youth



Dr. Ileana Cernica, Deputy Director, addressing to the President of Romania, Ion Iliescu: "You already know the Institute of Microtechnology..."



Dr. Ileana Cernica, Deputy Director for Technology Transfer, is presenting the European Projects of IMT-Bucharest to the Ministry Alexandru Athanasiu and other officials from the Ministry of Education, Research and Youth



Dr. Carmen Moldovan, Deputy Director (left) presents IMT-Bucharest to Mr. Shawn Waddups, Second Secretary for Economic Affairs of the USA Embassy in Bucharest