PUBLISHABLE EXECUTIVE SUMMARY

1. PROJECT SUMMARY

The main objective of the Network of Excellence **NANOFUN-POLY** has been to generate the **European Centre of Nanostructured Polymers** (ECNP scarl) designed to become the European organisation on **Multifunctional Nanostructured Polymers and Nanocomposite Materials**. This objective has been reached through the structuration of a **trans-disciplinary partnership** of 120 scientists combining excellence in different scientific areas, where the synergy of international excellence and multidisciplinary approaches has lead to develop and spread knowledge **in innovative functional and structural polymer-based nanomaterials and their sustainable technologies**. Applications that benefit from NANOFUN-POLY concern strategic industrial sectors which can be competitive only by using advanced technologies: optoelectronics and telecommunications, packaging, agriculture, building construction, automotive and aerospace, biomaterials, etc. Europe can now develop an **integrated approach** from macromolecular and supramolecular chemistry to tailored design and apply advanced processing methods for polymer-based nanostructured polymers and nanocomposites. The integration of a **critical mass of resources and expertise** to provide European leadership was realized by NANOFUN-POLY and will continue in ECNP through different **integrated networking activities** aimed primarily at creating a durable integration of the research capacities of the network participants while, off course, at the same time advancing knowledge on the topic.

The Consortium forming the Network of Excellence (and the ECNP defined as the main deliverable of the Joint Program of Activities) have mainly performed a set of **integrating activities** aimed at structuring and shaping the way that the partners carry out research on nanostructured polymers and nanocomposites. This includes the coordinated programming of the participants' research activities in order to enhance complementarities and develop mutual specialisation. The integrating activities also include training and education programs, the sharing of research facilities/tools/platforms, the joint management of the participants' knowledge portfolio, staff mobility and exchanges and the reinforcement of electronic communication tools to support interactive working between the teams involved.

Moreover, NANOFUN-POLY performed a programme of **jointly executed research** to support the network's goals, developing new research programmes and research platforms for common use and by generating new knowledge to fill gaps in or to extend the collective knowledge portfolio.

Finally, a set of **activities designed to spread excellence** has been developed. The most important element are a joint programme for training researchers and PhD students, a new scientific journal (the Journal of Nanostructured Polymers and Nanocomposites), an Annual Conference becoming a well known event in the field and few web-sites for communication inside and outside the Network. Other activities to spread excellence include dissemination and communication activities (including transfer technology and raising public awareness and understanding of science) and, more generally, networking activities to help transfer knowledge to teams internal and external to the network.

All the network's activities have been carried out within a coherent management framework.

The network includes partners outside Europe to help in spreading excellence and at the same time to obtain access to knowledge not necessary available in our region. The final objective, completely fulfilled at the end of the project, was the creation of **a lasting integrated organisation** of European researchers, **the ECNP**, well connected with the rest of the world and able to lead research, education and technology transfer in nanostructured polymers and their nanocomposites.