



Background Information about *NANO futures* ETIP and *NANO futures* a.s.b.l. at www.nanofutures.eu;

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Could you explain the rationale behind the *NANO futures* European Technology and Innovation Platform (ETIP)?

Interest in Nanotechnology has increased enormously in the last years due to the technology revolution potential it holds. Worldwide spending on research and development in Europe and the US exceeds 3 billion Euros per year and accounts for half of total funding. However, economic and social benefits from these large investments in research are nevertheless not appearing, as it would be expected. *NANO futures* has been created to help remedy this situation and accelerate the safe and responsible uptake and use of nanotechnology.

European public and private spending in nanotechnology is currently dispersed in a large number of EU, national and regional projects and initiatives. *NANO futures* intends to reduce the dispersion and fragmentation of efforts by contributing to the coordination of initiatives and by ensuring adequate networking among the different stakeholders. Furthermore, *NANO futures* focuses on the identification of European challenges and societal needs related to nanotechnology and their integration into a sustainable model respecting safety, health and environment.

In order to properly meet the great challenges of today several horizontal issues need to be addressed, including cross-sectorial strategic needs, broader socio-economic challenges going beyond technological gaps, which hinder the nanotechnology development and commercialization. Although other already on-going ETPs have been capable of addressing the specific needs and challenges of their sector or technology areas effectively, addressing such broader challenges requires an unusual multidisciplinary and cross-sectorial

collaboration within the value and innovation chains, including a international approach for future regulation.

NANO futures focus on several issues, including defining RTD and innovation roadmaps, defining a joint approach and solutions to safety, standardization and regulation requirements; discussing skills and education requirements and how meeting the strong demands that nanotechnology puts on knowledge base; and the crucial issue of promoting technology transfer & innovation financing. Networking and communication are essential elements in reaching results in all these areas, that are being addressed in the appropriate working groups defined under *NANO* futures.

What is your organizational structure?

NANO futures is governed by the Platform Steering Committee which includes 11 European Technology Platform representatives and 10 nanotechnology experts who chair the working groups on cross-sectional “horizontal” issues. These working groups are related to the following topics:

- Safety Research
- Industrial Safety Strategy
- Standardization
- Technology Transfer & Innovation Financing
- Regulation
- Industrialization & nano-Manufacturing
- Skills and Education
- Networking
- Communication
- Research & Technology

How are you funded?

*NANO*utures, as a new cross-ETP integrating and innovation platform, started its activities in 2009 as a voluntary initiative via a not-for-profit Association (A.S.B.L). In 2010, several stakeholders have applied for funding via a Coordination and Support Action within the Seventh Framework Programme. This project intends to address some of the main objectives identified by the platform. Several running EC-co-funded projects will support the *NANO*utures work too.

What was the core aim behind the need of building such a cluster?

The fast industrialization of nanotechnologies worldwide, the need to integrate society issues and the specific European dimension forced us to start this initiative within an international oriented network structure.

What kind of obstacles, if any, do you experience in your daily activity and what were they at the time of establishing your cooperation?

The crucial part of running a cluster is to activate the stakeholders, especially those coming from industry and investors. Clearly the role of industry in a new innovation platform is of vital importance. The best way to keep them engaged is by setting very clear objectives with high market orientation. Of course, in this nanotechnology innovation drive other stakeholders are needed, specifically researchers from Universities. Investors are also an important part of the puzzle since they are the driving force to create new technology-based companies or to support the existing ones.

Communication and networking activities are of increasing importance considering that the adoption of nanotechnology depends on public acceptance, these are key factors to ensure meeting the objectives and assuring added value activities. The platform must be able to communicate within the stakeholders' network to ensure efficiency and to the target groups and society as a whole in order to foster dialogue. The communication challenge of *NANO*utures depends on balanced and unbiased access to information about the technology and the balanced addressing of any critical issues.

An example is the ongoing discussion about the type of legislation required to govern the use of nanotechnology. This can only be based on a well-informed, balanced set of information that *NANO*utures expects to contribute to through its working groups on safety.

What is the added value of being a member? and what is missing in the traditional ETP structure that made you create the new ETIP? What is your technological focus? Do you work on specific projects/topics?

The strong point of *NANO futures* is that it is not linked to any specific technology or sector but it tries to gather together the common points from different sectors to pave the way of nanotechnology to the market. The common challenges are now discussed in a structured environment under the working groups of *NANO futures*. Furthermore, the role of nanotechnology as an answer to the future challenges of our time, such as climate change, constraints in energy production and shortage of resources, food safety, affordable health care worldwide, etc., are issues embedded in the agenda of the platform. Our platform strategy addresses these challenges with an integrating approach that brings together key experts from other ETPs. This rich dialogue is at the origin in the definition of key “horizontal” nodes common to several sectors in which all (i.e. industry, researchers, investors and society) are called to work in the near future.

Is the ETIP limited in time? Is the ETIP just a specific project?

NANO futures a.s.b.l and platform are long term oriented; they have not been conceived to fulfill the objectives of a specific single project. The objectives are very ambitious since it involves the coordination of other numerous activities in Europe. It would be unsustainable to view our work within a particular project timeframe.

Who are your counterparts?

NANO futures is a very innovative approach because it has been created as an integrating platform in nanotechnology very much focused on innovation. While innovation is the backbone of the platform, the involvement of other more sector-focused initiatives at local, regional, European and international level are crucial. This is the reason why *NANO futures* includes 11 ETP representatives from different industry sectors (textiles, nanomedicine, chemistry, construction, nanoelectronics, nanomanufacturing, transportation, advanced materials, photonics, etc) and cooperates with other international networks.

How would the ideas from the ETIP be transmitted to the industry in Europe?

Industries, as well as SMEs and large companies, were involved since the early days of *NANO*utures. They actively participated in the set up of the working groups and the scope of their. Providing the opportunity to companies all over Europe to influence the future development in nanotechnologies is the principal motivation and advantage for companies willing to join the platform. A very important pillar is also the local and regional aspect, integrating directly regional nano-initiatives and supporting the local people to start new ones. Particularly for regulation related aspects like regulation. Clearly, it is very useful to have communication channels available on all levels.

What is your perception of the benefits from being part of the ETIP?

There are several important reasons for being actively involved in a platform as *NANO*utures. The following can be highlighted:

- Awareness of the new technological/methodological trends on a specific translating in the capacity to align companies' strategy within them.
- Contribution to the future European strategy in all aspects including education programs, so importantly needed for the next generation of scientists and engineers.
- Possibility to get in touch with other key players in the same or other complementary fields of activity.
- Facility to work in cooperation with research organisations and industries in order to develop new products or processes.
- Knowledge on the current challenges to be faced by Europe in technological and non technological topics, including safety and regulation aspects.

How is the European Commission considering our ETIP initiative.

The European Commission and its Nanoscience and nanotechnology programme are strongly supporting the *NANOfutures* initiative for several reasons.

NANOfutures main objective is to promote the rapid use of nanotechnology, and improve the competitiveness of European industries in a safe and responsible way. This is recognized as highly important on the European political agenda.

It is clearly beneficial having a single representation of the various stakeholders when discussing research policy and roadmaps for implementing these.

The stronger links with regional and national technology centres and programme owners is expected to help in establishing more consolidated and coordinated efforts in promoting the uptake of nanotechnology with SME's.

The several safety, regulation and standardization activities require a coordinated approach as offered by *NANOfutures*.

Worth mentioning is also the need for open communication based on an informed view ensuring that the public perception of nanotechnology, its risks and benefits, is based on facts and not emotionally driven opinions.

Finally, a contribution to a better environment for innovation aimed by the *NANOfutures* initiative can also be expected to lead to a higher interest by industry and private investors in investing in nanoscience and technology RTD – crucial for Europe's competitiveness and the welfare of our citizens also in future.