



NANOFORCE 2.0

The 2nd Step

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND

The NANOFORCE Project

Nanosciences and Nanotechnologies represent new approaches to research and development (R&D) that concern the study of phenomena and manipulation of materials at atomic, molecular and macromolecular scales.

Nanotechnologies currently underpin many practical applications (medical, ICT, energy production, food-water, security, a broad range of materials, etc.) and have the potential to enhance quality of life and environmental protection, and boost industrial competitiveness.

The NANOFORCE Project, „Nanotechnology for Chemical Enterprises – how to link scientific knowledge to the business in the Central Europe space“ started in May 2011 and ends in January 2014.

The Project is performed in eight regions of the Central Europe belonging to seven countries. It has been developed by nine Project Partners, National & Regional Chemistry Associations and R&D Centers in the Central Europe.

The Partners are: SC Sviluppo chimica S.p.A.; Veneto Nanotech S. C. p. A.; Association of Chemical Industry of the Czech Republic; Chemie-Cluster Bayern GmbH; Polish Chamber of Chemical Industry; University of Nova Gorica; BioNanoNet Forschungs GmbH; Association of Chemical & Pharmaceutical Industry of the Slovak Republic; Institute of High Pressure Physics, Polish Academy of Sciences.



HISTORY OF THE PROJECT IDEA

At the end of 2006, Federchimica, the Italian Chemical Industry Association, launched the Programme named “NIC – Nanotechnologies in the Chemical Industry”. The aim has been to study the potential of Nanotechnologies for the Downstream User Sectors, according to the EU’s societal needs. During many workshops and national conferences in Italy, the first European network was established; a preliminary position paper was written on the risks and benefits of Nanotechnologies. Establishment of a stable Community with Central European Partners emerged as an opportunity to pursue in line with the EU Strategy for Nanotechnologies (2004) and the EU Action Plan for Nanoscience & Nanotechnologies (2009).

The general objectives of NANOFORCE Project are:

- to foster the innovative Nanotechnology sector networks across Central Europe regions by bringing together Public and Private Organizations (enterprises, research centers, venture capitalists and public institutions);
- to carry out collaborative & interdisciplinary research projects on nanomaterials (in the frame of REACH Regulation);
- to turn the most promising laboratory results into innovative industrial applications, not only to produce new materials, but also
- to improve industrial sustainability (more security & lower environmental impact in the product life cycles).

What we have developed!

1. THE NANOFORCE WEBSITE AND ITS TOOLS

NANOFORCE Project Partners created a website page www.nanoforceproject.eu, where all major project results (outputs) are freely available. On the website it is possible to find also different tools, which can help young scientists with an entrepreneurial spirit to test their proposals, find potential partners and investors:

- Data concerning the innovation level and experience in the Nanotechnology sector of the Chemical Companies, Governance Authorities, Experts, R&D Centers, Clusters and Scientific and Technological Parks at the national and regional level in order to outline the current situation of the Nanotechnologies in the Chemical Industry in the Central Europe region;
- The dealflow: an ICT platform to identify potential deals between R&D Centers and large and Small and Medium Enterprises to turn research into industrial processes and to support the commercialization of research results in the Central Europe. It will allow young scientists with an entrepreneurial spirit to test their proposals, find potential partners and investors;
- The “TRM – Technology Rating Methodology”: a tool that can help you to evaluate new proposal.

2. THE SAFETY OF NANOMATERIALS

The NANOFORCE Project produced different documents to foster the responsible use of nanotech and manage associated risks:

- Safety Data Sheets and specific Exposure Scenarios for 3 specific nanomaterials;
- “State-of-the-Art Report on Regulations”;
- “Transnational Guidelines for the responsible use/production of nanomaterials”;
- “The 10 Procedures for a Responsible Management of nanomaterials”;
- “The Book of Recommendations”.



3. THE FINANCIAL OPPORTUNITIES

The NANOFORCE Project deeply analyzed the development status and opportunities for Nanotechnologies in the 8 Area of Central Europe in the brochure “Discover the Central Europe’s Nanotech Valleys”. In parallel, the 9 Partners produced a document “Proposal to subscribe the incorporation of I.N.V.C.F. – Interregional Nanotech Venture Capital Fund, in Central Europe” to:

- Present the financial opportunities for this sector;
- Analyze the financing infrastructure and funding availability gaps;
- Propose the creation of the I.N.V.C.F..

The TRM – Technology Rating Methodology

Nanotechnology is seen as one of the main factors of technological development and innovation in the near future. Therefore, the NANOFORCE Project was particularly targeted at young people who will create that future. The NANOFORCE Project developed a tool very useful for these young talents: the TRM – Technology Rating Methodology.

ARE YOU PREPARED TO CREATE YOUR OWN COMPANY?

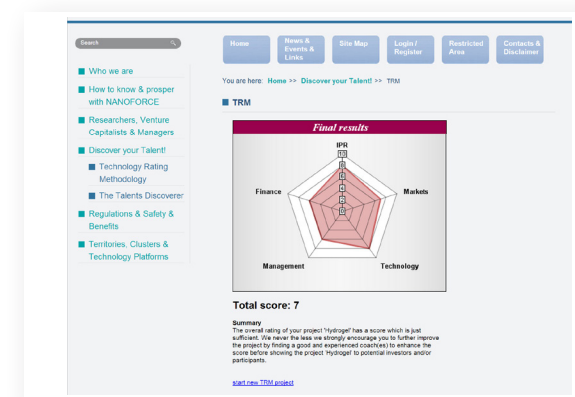
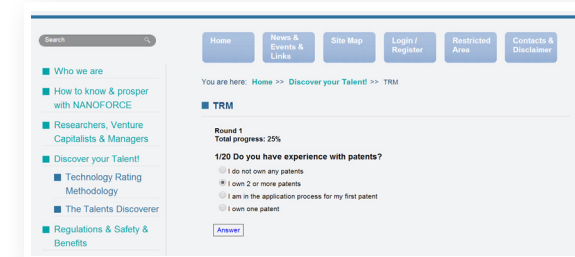
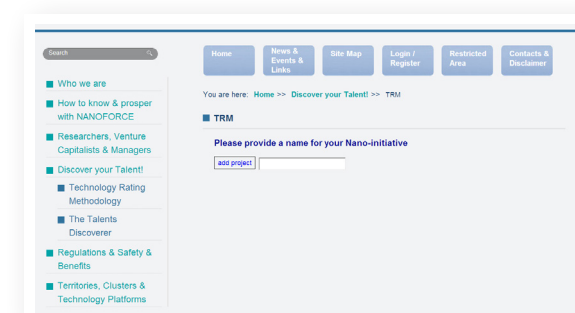
The talent, who has an idea for realization of a nano-initiative (a product, a process, a service) can use this tool to rate it.

This software is free available at www.nanoforceproject.eu, in the section “Discover your Talent”!!!

Once clicking on “Start the TRM process”, you will enter in the proposal testing phase answering a series of questions on the proposal.

This phase is divided in:

- Warming-up: 12 general questions on the proposal, generating a first indicative comment;
- First and Second Round: 20 questions for each round more focused on the qualitative aspects of the Proposal. At the end of these two rounds, it will appear a spider- web providing you with a valuable synthetic feedback on the quality of your Proposal, assessing its strengths and weaknesses. This visualization allows you to focus on the critical factors!

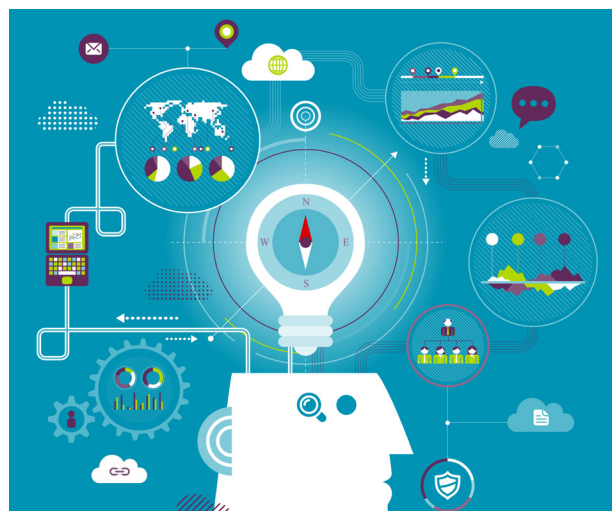


The Safety of Nanomaterials

The NANOFORCE Project is strongly aware that Nanotechnologies, as any kind of new technologies, shall not be known, developed, produced and eventually commercialized with the “precautionary principle” but using the responsible approach. This means to proactively cooperate with the Legislators and the Competent Authorities and to let adopt the values and the behaviors of transparency and the prevention for the health of Workers and Consumers. One of the main objectives of NANOFORCE Project is to improve the environmental, health and safety knowledge and develop a state-of-the-art report on regulations in the field of Nanotechnologies to identify needs and gaps and give possible recommendations for the European Community. Furthermore NANOFORCE wants to foster the collaborative and interdisciplinary research on nanomaterials and to turn the most promising laboratory results into innovative industrial applications.

Please visit the NANOFORCE webpage to download the following documents:

- 3 Safety Data Sheets and 3 Exposure Scenarios - These documents prepared in line with REACH Regulations requirements could help Producers and Users of nanomaterials (in particular of 3 substances: TiO₂, Ag and ZnO) to use them in a safe way.
- “State-of-the-Art Report on Regulations” - the State-of-the-Art Report on Existing Safety Procedures and Nanotechnologies related Legislation provides an analysis and an evaluation of the current regulations for nanomaterials in the European Union. The findings of the project NANOFORCE have revealed significant needs in the standardization in the sector of nanomaterials: better implementation and development of simpler and more standardized testing methods; more uniform data collection; better knowledge dissemination; and transparency of data available for stakeholders.
- “Transnational Guidelines for the responsible use/production of nanomaterials” - A guideline for the responsible use and production has been set up in order to provide a comprehensive overview on the main points of interest on nanomaterials. To raise awareness on specific requirements to fulfil when dealing with nanomaterials in both research and production (with market placement), NANOFORCE Project provides information in nanotechnology implementation.
- “10 operating procedures for a Responsible Management of nanomaterials” – This document could support Companies, and overall SMEs, in the right management of nanomaterials, in relation to Consumers, Workers and Producers.
- “The Book of Recommendations” – It could give suggestions in the definition of next possible steps in legislation, giving some positions and comments on the management of nanomaterials and differences between them and their bulk forms.



“Proposal to subscribe the incorporation of I.N.V.C.F. – Interregional Nanotech Venture Capital Fund”, **Discovering the Central Europe Nanotech Valleys**

The NANOFORCE Project aims to realize the “I.N.V.C.F. - Interregional Nanotech Venture Capital Fund” (the “I.N.V.C.F.”), as this is considered a powerful tool to sustain the entrepreneurial spirit of the 8 Areas. The document “Proposal to subscribe the incorporation of <<I.N.V.C.F. - Interregional Nanotech Venture Capital Fund>>, in Central Europe” is the first step to create the I.N.V.C.F., as it presents to Potential Investors the opportunity to invest in an Area - constituted by the 9 NANOFORCE Partners - that generate each year a combined GDP of about € 2,100 B. Moreover, in the 8 Areas, Nanotechnologies already are applied in all the markets of Industrial Users and Consumers: 46 “Industrial Clusters” have been identified by the Present Proposal and 7,000 Researchers are already studying and applying Nanotechnologies, with more than 161 patents filed, every year.

Moreover the 8 Areas share 4 Key Factors of success through which scientific knowledge is turned into economic and social wealth:

1. Excellence in R&D activities: almost 400,000 Researchers are active in the 8 Areas involved in the NANOFORCE Project, representing a huge potential for this selected space in Central Europe! In the sector of Nanotechnologies, on average, 1 patent application is filed for every working day!
2. More than 43 Venture Capitalists are in search of Nanodeals.
3. An integrated network where all the 8 Areas are efficiently connected! In addition, there are 38 Scientific, Technological, Industrial, Business Parks with a total of almost 3 million square meters available.
4. A wonderful quality of life for young Researchers.

What is a **NanoTech Valley**?

Imagine a place where you can lead a pleasant life...

Working closely alongside excellent Scientists in 9 capitals or large cities and being back at home in the evening...

Moreover, your company is incubated in Hight Tech Facilities and within typically a one and half hour travel distance serves a market worth more than € 161 bn in potential sales of chemicals...

This is a NanoTech Valley!

Some quotes about NANOFORCE

The “Magic Training Course”, organized within NANOFORCE EU project, has been a great and valuable experience to get in touch with entrepreneurial world. The structure of the course together with the brilliant speakers and the outstanding participants let me understand how to transform the scientific knowledge into a profitable business. The Magic Training Course provided to its participants (i.e. students with strong technical background but no idea on how to establish and run a business) the right knowledge and network to approach the entrepreneurial and business scenario. That’s why I think it has been a really wonderful experience that must be repeated.

Domenico Centrone
EggPlant, Bari



“We were also very glad to receive the INVCF’s business plan. We endorse the idea of the Establishment of an Interregional VC-Fund in the area of Nanotechnology. It would be interesting to follow this development further on and to analyse the respective cooperation opportunities on the individual basis.”

Michael Brandkamp and Ron Winkler
“High-Tech Start-up Fund”, Bonn

“The Webinar was intended for companies, I am not a registrant but I am involved in REACH Regulation implementation and enforcement. I found the Webinar interesting and clear. The Webinar was exactly matching the registrants needs in terms of providing them with a guidance to the application of the specific requirements in the use of exposure scenarios for CSA according to REACH.”

Maria Letizia Polci
Ministry of Health, Rome

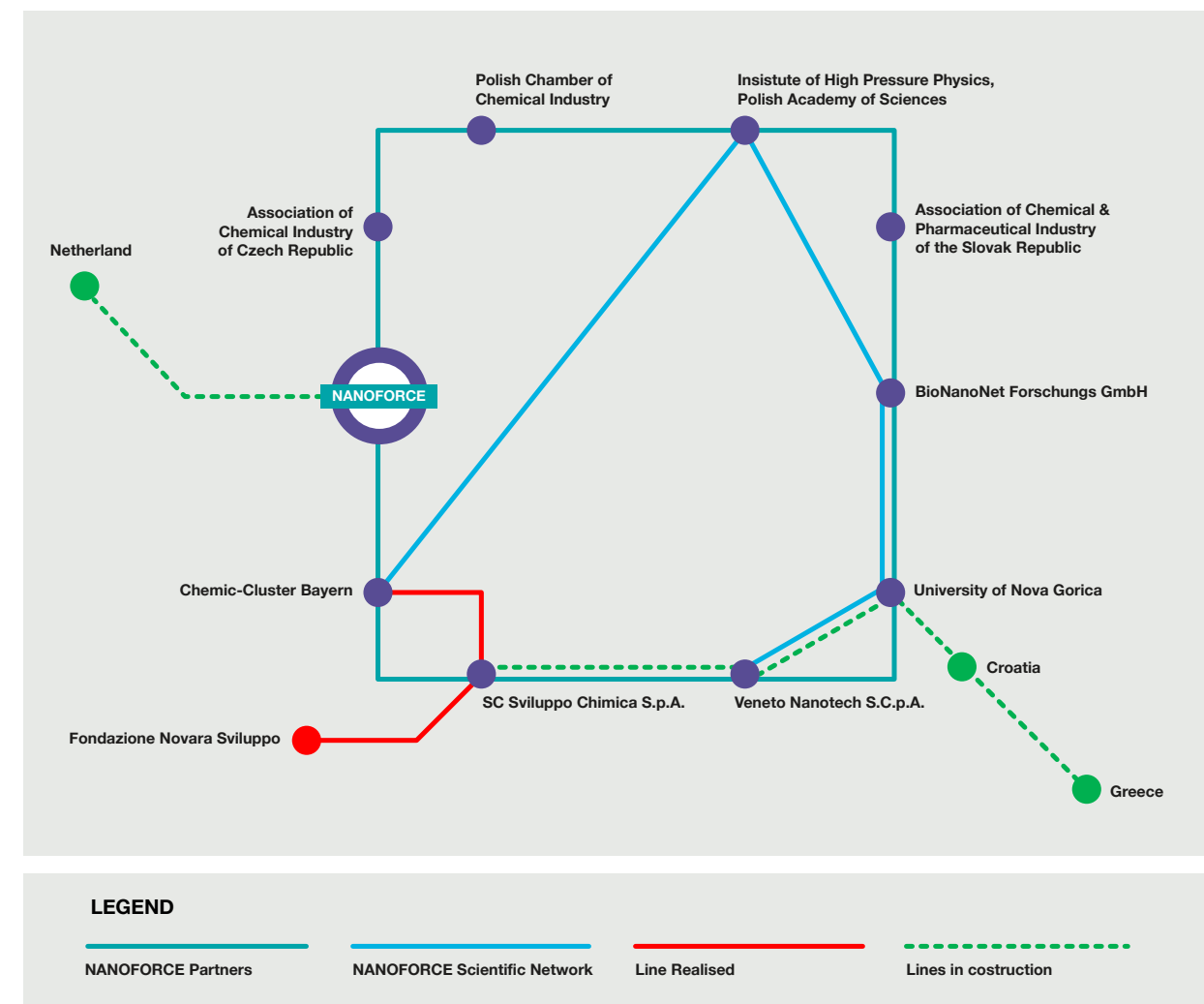
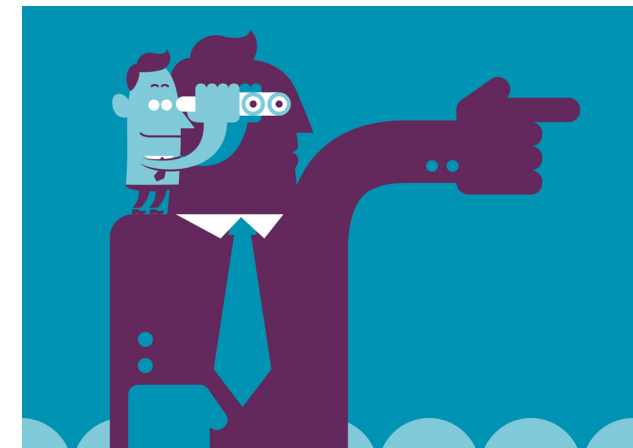
“I found the webinar informative and articulate. The Webinar was designed for companies, I am not a registrant but I am involved in REACH and CLP Regulations implementation. The speaker have provided a valuable contribution to facilitate companies with successfully managing the regulatory issues about CSA under REACH, especially in order to augment the practical experience in the use of exposure scenarios tools.”

Maria Alessandrelli
Istituto Superiore di Sanità, Rome

The 2nd step for NANOFORCE 2.0

1. THE LINE REALISED AND THE FUTURE NEW LINES

The basics of the 2nd step of the NANOFORCE Project, named “NANOFORCE 2.0”, will last 5 years from 2014 to 2018. In this image, it is represented the NANOFORCE “underground” and the new lines under construction.



The 2nd step for NANOFORCE 2.0



2. INTERREGIONAL NANO-TECH VENTURE CAPITAL FUND (I.N.V.C.F.)

As already written in “The NANOFORCE Website and its tools”, the NANOFORCE Project proposed a tool that allow potential deals between R&D Centers and large and SME of Central Europe to turn research into industrial processes.

During the Project, 61 potential deals have been collected and 8 deals have been realised.

As follow-up of the Project, it is foreseen a specific development of transnational businesses (e.g. joint ventures) that after the end of the project will go through the industrial application of innovative nanoproducts.

NANOFORCE Partners are working on new collaboration that could generate NANOFORCE 2.0:

- Improving new collaborations with other EU Projects related to Nanotechnologies;
- Some initiatives of cooperation could be started during 2014, thanks also to Horizon 2020;

3. DEALS AND COLLABORATION

The “Proposal to subscribe the incorporation of <<I.N.V.C.F. – Interregional nanotech Venture capital fund>>” suggests to Potential Investors to subscribe € 50.0 Mln of the I.N.V.C.F. to support, finance and accelerate the start-up phase of promising innovative ideas and enterprises originated by the Nanodeals Generator, a tool developed within the NANOFORCE Project which consists of a database gathering proposals emerged within Central Europe (the “Deal-flow”).

The I.N.V.C.F. will be not alone in its investments: up to this moment about 80 Co-Investors are willing to scout and economically and financially assess the 80 proposals emerging from the Nanodeals Generator (these numbers are continuously updated). So that the first simulation of the Business Plan of the I.N.V.C.F., consisting of detailed SWOT analysis and feasibility study, benefits and risk assessment, presents a net Internal Rate of Return of 13.8% , that is considered quite a remarkable financial target for the Potential Subscribers.

The Proposal to launch the I.N.V.C.F. will be further developed and advanced, as to be proposed for a project follow-up and an attempt to fundraise the necessary financial resources from the Potential Investors operating and active in the participating Regions. It will become a specific proposal and opportunity for Potential Subscribers as to provide funding for the Nanotech initiatives emerged and identified within the territories, starting from the opportunities arising from the Dealflow. It will enable better integration of the Venture Capitalists during the phases of scouting, identification, pre-analysis and evaluation of the Nanodeals.

The NANOFORCE Team



THE ROLE OF CENTRAL EUROPE

CENTRAL EUROPE is a European Union Programme that encourages cooperation among nine central European countries: Austria, Czech Republic, Germany, Hungary, Italy, Poland, Slovakia, Slovenia and Ukraine. It aims to improve innovation, accessibility and the environment and to enhance the competitiveness and attractiveness of their cities and regions (www.central2013.eu).

The Programme is financed by the European Regional Development Fund (ERDF) and runs from 2007 to 2013.

NANOFORCE 2.0

The 2nd Step

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