



address by

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Science Council of the French Senate & National Assembly
for the
9th German-Japanese | 9th International Symposium on Nanostructures
March 6-8, 2016 in Wenden, Germany

The Fourth Industrial Revolution will require Research & Innovation In Nanostructured Materials

Materials are the backbone in the manufacturing of industrial products, representing up to 20 % of the total product-cost. The fourth industrial revolution does count on the discovery & development of nanostructured materials in the future.

Innovation is the key of industrial welfare where e. g. within the Organization for Economic Co-operation and Development (OECD), innovation often is understood as a flux of investment money. For politicians, innovation is the creation of jobs. For an engineer it is not the improvement of but the creation of a new product which could not be foreseen and which finally will lead to new jobs and welfare. The driving force for innovation should not be politics but economics to motivate brains in a competitive world.

Europe's fundamental research and its inventiveness is world class, however our ability to transform new knowledge into new products is comparably inefficient described by the so-called 'Valley of Death'. Despite great efforts in the past decade, Europe's contribution of new high tech products to the world-market is less 20 %: a recent US newspaper described it as "Billions spent and nothing to show" !

Nanostructured materials are already walking into a great future and will be found in a very large number of applications offering new, sustainable properties in tomorrow's knowledge-based industry. Maintaining Europe's worldwide forerunner's position also in "nanostructures" does require great efforts in R&D & innovation from all regions throughout Europe and European institutions. Europe should have a unique model for research & innovation of new high-technology products like USA, China and Japan. The "fragmentation" in development policy of each country and its own financial structures should be disfavoured. And in order to generate a natural transfer of R&D findings from academia to start-ups and industry, a hybridisation of university and industry sectors including a new culture in both circles in Europe is required.

In companies and science-policy institutions, directors are generally and scientifically-technically very competent. In Europe, the leaders in industry often are from the financial sector with political nominations in European institutions resulting in strategies that are not always promoting innovation.

Also a new European educational culture (incl. mass media) where young people are attracted and motivated by science, (nano)technology & innovation, should be created. The "precautionary principles" of the political elite - with lack of international technology knowledge, hampering the concept of innovation e. g. by inappropriate regulations for new product developments do not fit into the future.

Insofar the Symposium on Nanostructures is since years focusing on the very right and very important goals and this as one of the very early cross-thinking and almost institutional-like event. I can only underline the motivation of staying to-date and maintaining the front position in nanostructured materials by frequent brain-exchange over different kind of scientific institutions AND industries can help to making this world a better and brighter one in the future. And I do wish all attendees very fruitful discussions and a successful 9th International Symposium on Nanostructures !

Marcel Van de Voorde

Geneva, 3 January 2016

A handwritten signature in blue ink, appearing to read 'Marcel Van de Voorde', with a stylized flourish at the end.