



XXI Plenary Assembly
Tokyo, 16-17 September 2009

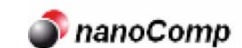


Veneto Nanotech - The Italian cluster for nanotechnology

General overview



Giorgio Simonetto,
President & CEO - Veneto Innovazione



17 September 2009

The cluster for nanotechnologies



Focus: Nanocomposite materials based on thermosetting polymers



Focus: Nanofabrication laboratory for the development of nanodevices, nanosensors and lab-on-chip

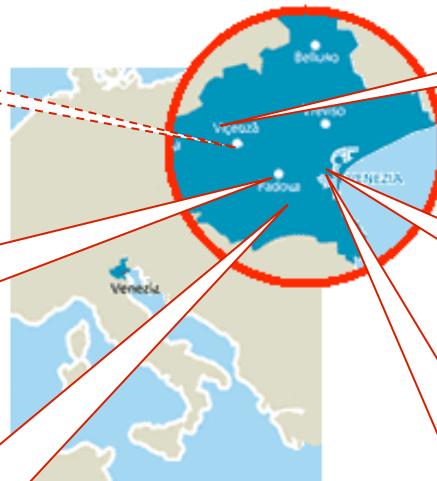


ecsin
european center for the sustainable impact of nanotechnology

Focus: Analysis of the impact of nanotechnology on the environment, human health and society.



Focus; Center of higher education for nanotechnologies



Focus: Surface treatments, new nanostructured materials, development of chemical and biochemical nanosensors and microarrays



Focus: Interuniversity organization focused on research and education



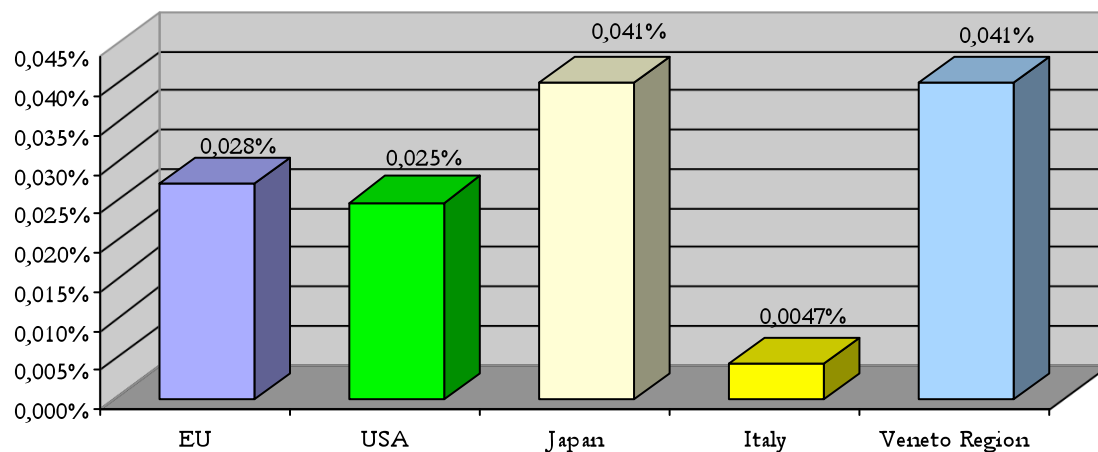
Public investments in nanotechnology: a benchmark

	EU	USA	Japan	Veneto Region (north-east Italy)
GDP	11.690.000	10.555.000	3.500.000	139.000
Public investments in nanotechnology	3.230	2.670	1.420	56,35
Ratio %	0,028%	0,025%	0,041%	0,041%

Source: *International Monetary Fund*, 2007 and Unioncamere Veneto, 2007

Data in Milion €

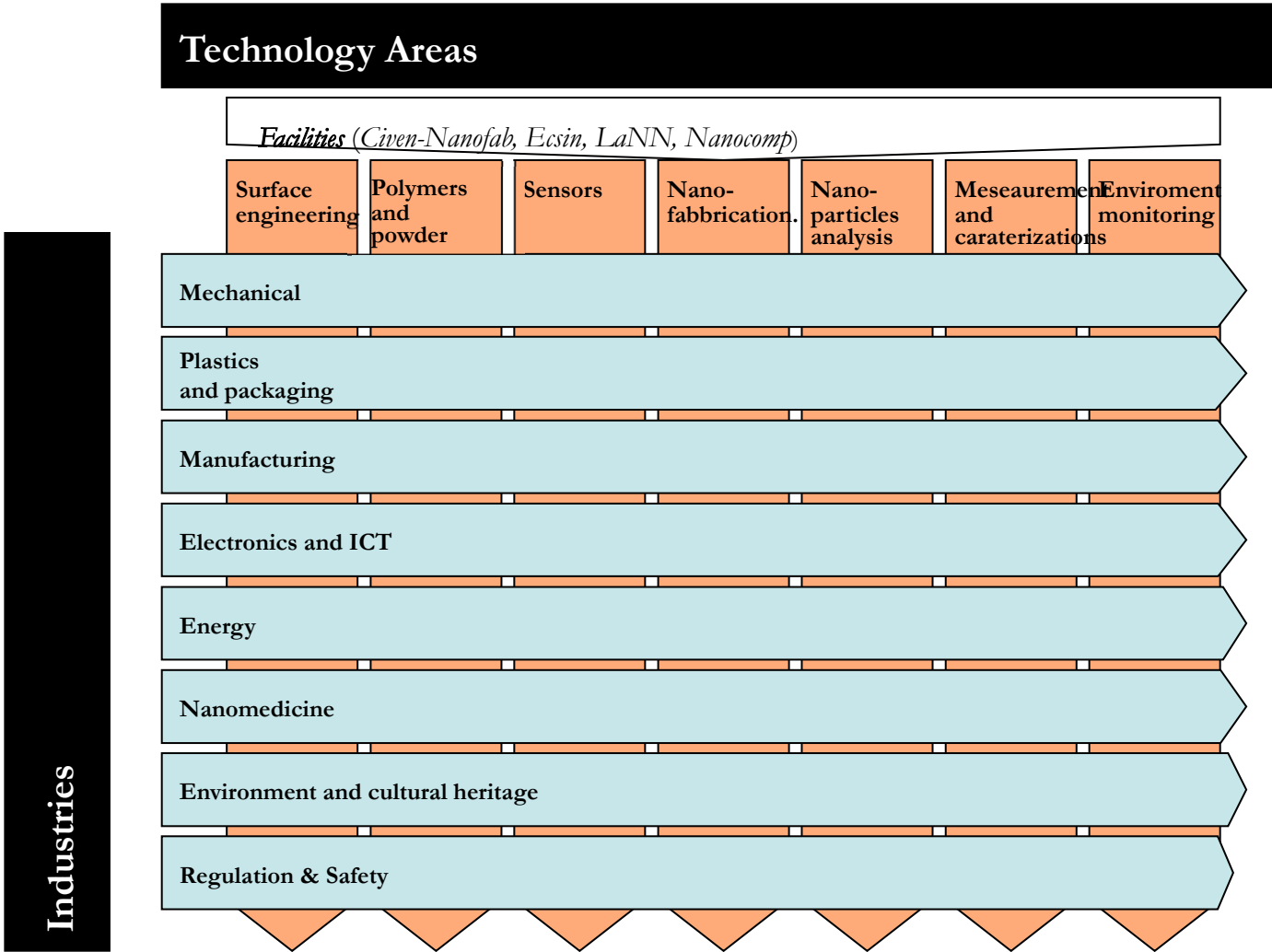
Ratio % between public investments and GDP



- ✓ Public investments in nanotech in the Veneto Region are in the same amount as Countries that are investing a lot in this sector.
- ✓ European and USA investments are both around 0,03% of GDP.
- ✓ In both Veneto Region and Japan the percentage is around 0,041%.

Technology focus

- ❑ The Cluster is structured in 7 different Technology Areas, performed in its facilities
- ❑ Each Area has different Technology Platforms where many research projects are carried out.
- ❑ The projects have different applications for the most attractive industries



Nanocomposited polymers

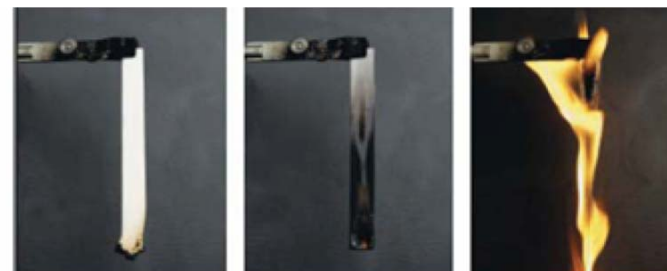
❑ Improved mechanical properties

❑ Advanced functional properties
(e.g.: antibacterial properties)

❑ Increased barrier properties
to gas and vapours



❑ Improved thermal stability and flame
retardant properties



PP with
nanocharges

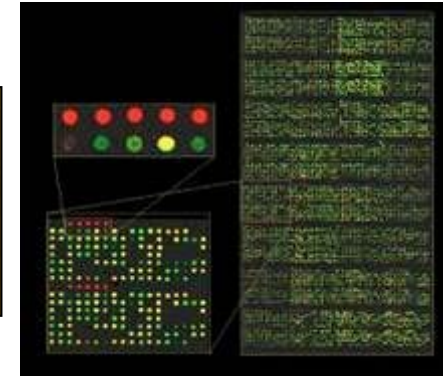
PP with alogenated
flame retardants

PP

Nanostructured biosensor

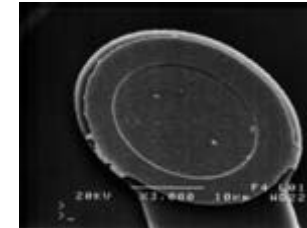
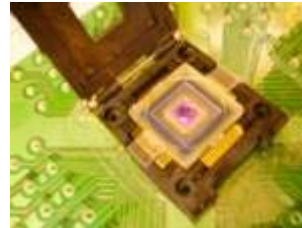
Development of a DNA microarray technology for diagnostic applications, environmental and food control

optical detection method



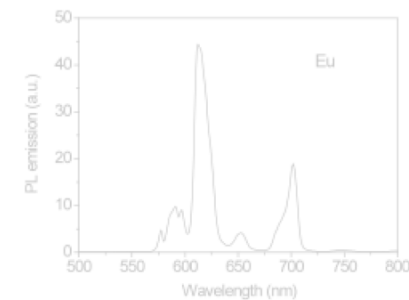
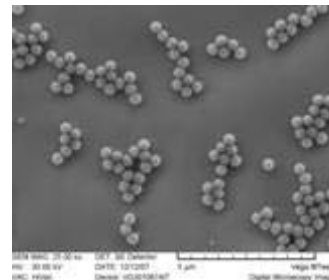
Development of biosensors based on microelectronic chips

electrical detection method



Development of more efficient markers based on inorganic luminescent nanoparticles

➔ Increasing of the signal/noise ratio and sensitivity of the technique



Cooperation with the Nagano Techno Foundation



Main steps towards international cooperation

2007: Meetings and contacts with the Nagano Techno Foundation (NTF)

2008: Signature of a MoU between the NTF and VN

2009: Identification of possible areas of cooperation

- exchange of know-how
- collaboration in project research activities
- match making of needs and opportunities

MOU between VN and NTF- main areas of cooperation

1. Exchange of visiting staffs, project researchers and enterprises.
2. The two organizations will seek opportunities to cooperate in a variety of activities and research areas.
3. exchange technological information.
4. Invitations for attending scholarly and technical meetings



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