Veneto Nanotech - The Italian cluster for nanotechnology

General overview

Giorgio Simonetto,
President & CEO - Veneto Innovazione
The cluster for nanotechnologies

**nanoComp**
Focus: Nanocomposite materials based on thermosetting polymers

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

**ecsin**
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

<table>
<thead>
<tr>
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<th>EU</th>
<th>USA</th>
<th>Japan</th>
<th>Veneto Region (north-east Italy)</th>
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</thead>
<tbody>
<tr>
<td>GDP</td>
<td>11.690.000</td>
<td>10.555.000</td>
<td>3.500.000</td>
<td>139.000</td>
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<tr>
<td>Public investments in nanotechnology</td>
<td>3.230</td>
<td>2.670</td>
<td>1.420</td>
<td>56.35</td>
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<tr>
<td>Ratio %</td>
<td>0,028%</td>
<td>0,025%</td>
<td>0,041%</td>
<td>0,041%</td>
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Data in Million €

**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%.
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
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.
4. Invitations for attending scholarly and technical meetings
Contacts

Veneto Nanotech s.c.p.a.
via San Crispino 106
35129 Padova, Italy
Tel. +39 049 7705500
Fax. +39 049 7705555

info@venetonanotech.it

www.venetonanotech.it