Italian Center of competence for Systematic Innovation

Training and Tutoring activities
Services and support activities

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The Centre fosters a scientific and systematic approach to technological innovation, promoting methods and tools for new product development and offering services and activities to industries, enterprises, public entities and individuals.

TRIZ-Theory of Inventive Problem Solving is the main and reference technique among those promoted.

The Centre is promoted by:

- Fondazione Politecnico di Milano (coordinator)
- Politecnico di Milano
- Università degli Studi di Bergamo
- Università degli Studi di Firenze
- PIN Scrl, Servizi didattici e scientifici per l'università di Firenze
- IRCrES-Cnr di Torino (2008)
The Center offers the following services:

- **Training and Tutoring activities to Companies and Individuals**, through didactic activities and practice activities on pilot projects and case studies proposed by the Client;

- **Services and Support activities to Companies**, through the execution of studies, analyses and facilitation activities on topics proposed by the Client.
Center of Competence: Training and Tutoring activities

**Entry Level**
- **M1-Structured problem solving**
  - Lecture: 16h; Tutoring: 4 weeks
- **M2-Patents as source of information**
  - Lecture: 16h; Tutoring: 4 weeks

**Intermediate Level**
- **M3-Inventive problem solving with TRIZ**
  - Lecture: 24h; Tutoring: 10 weeks
- **M4-Technology Mapping and Patent Strategy**
  - Lecture: 16h; Tutoring: 6 weeks
- **M5-Value-driven Innovation**
  - Lecture: 8h; Tutoring: 4 weeks

**Advanced Level**
- **M6-Technology forecasting**
  - Lecture: 32h; Tutoring: 10 weeks
- **M7-FMEA with TRIZ logic**
  - Lecture: 8h; Tutoring: 4 weeks
- **M8-Product and Process Value Analysis**
  - Lecture: 8h; Tutoring: 4/8 weeks

Suggested training Modules:
- Designers: M1, M2, M3, M7 e M8;
- Intellectual Property Managers: M2, M4 and M6;
- Innovation Managers and Executives: M1, M5, M6, M8.
# Center of Competence: Training and Tutoring activities

The table below lists the number of pilot projects conducted in various industry sectors since 2007:

<table>
<thead>
<tr>
<th>INDUSTRY SECTORS</th>
<th>NUMBER OF PILOT PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household and Industrial Appliances</td>
<td>10</td>
</tr>
<tr>
<td>Electrical and Electromechanical Components</td>
<td>8</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>5</td>
</tr>
<tr>
<td>Equipment for Metal Industry</td>
<td>4</td>
</tr>
<tr>
<td>Buildings and Constructions</td>
<td>4</td>
</tr>
<tr>
<td>Machines for Industrial Manufacturing and Processes</td>
<td>4</td>
</tr>
<tr>
<td>Components and Equipment for Automotive</td>
<td>3</td>
</tr>
<tr>
<td>Furniture systems</td>
<td>3</td>
</tr>
<tr>
<td>Radiology Systems</td>
<td>3</td>
</tr>
<tr>
<td>Stone working machines</td>
<td>3</td>
</tr>
<tr>
<td>Dental Industry</td>
<td>2</td>
</tr>
<tr>
<td>Filling Machines</td>
<td>2</td>
</tr>
<tr>
<td>Home Security Systems</td>
<td>2</td>
</tr>
<tr>
<td>Mechanical Pumps</td>
<td>2</td>
</tr>
<tr>
<td>Cookware Manufacturing</td>
<td>1</td>
</tr>
<tr>
<td>Food Packaging</td>
<td>1</td>
</tr>
<tr>
<td>Services</td>
<td>1</td>
</tr>
</tbody>
</table>

More than 50 case studies and pilot projects carried out since 2007!

*Last update January 2018*
Center of Competence: Services and Support activities for companies

**IDEA GENERATION AND PROBLEM SOLVING AREA**
- Problem modelling
- Patent Circumventing
  - Claim - Designating Portion
  - Claim - Characterizing Portion
- Idea generation in engineering design
  - Separation Strategies
    - Contradictory Requirements
- Innovation Projects Support
  - Performances to be improved
  - Suggested actions
  - Perceived Barriers

**INNOVATION STRATEGY AREA**
- New Value proposition
  - Technology Forecasting
- Strategic analysis of patents
  - Technology Maturity Assessment

**TECHNICAL INFORMATION AND KNOWLEDGE AREA**
- Patent State of the Art and Patent Landscape
  - DE, EP, KR, JP, US, WO, ...
- Prior Art search
- Network of Scientific Experts
  - Questions to experts

**COMPLEMENTARY SERVICES AREA**
- Identification of public funding
  - Submission Form
    - Application for public funding

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Through Fondazione Politecnico di Milano, it is possible to give support to Companies to identify, retrieve and submit proposals on public funding.

Relating to the **SME Instrument - Horizon2020**, the Center offers the following services:

- **Preliminary models and studies** aimed to the submission of proposal for Phase 1;
- **Devoted and full studies and analysis** through structured techniques to develop Phase 1;
Center of Competence: 

Key strenghts

Key features that distinguish our activities and services:

- **Continuous development and enhancement of the proposed scientific and technical contents**, through the results of university research projects and experiences regularly carried out;

- **Renewal and upgrade of the Services targeting enterprises thanks to practical activities and studies carried out in research pilot projects performed with innovative companies** *(innovators)* **and further developed and formulated in new and well-established standard service.**

- **Assisted practical activity on real cases studies and pilot projects** through the tutoring activity led by the Experts of the Center on projects proposed by the Client;

- **10 years of experience** in promoting methods and tools for systematic innovation towards Italian enterprises and companies.

Training and Services activities proposed by the Italian Center of competence are regularly renewed and further developed according to a collaboration model which involves Innovative Companies, University, the Center and *Early Adopters* Companies.
Alcune attività svolte dal Centro:

- ABB SACE – 2 case studies + Training + 4 pilot projects
- Alenia Aermacchi – Training + 2 case studies
- Alluflon – Moneta – Training & Coaching
- Bracco Imaging – 1 pilot project (3 Patent Applications)
- Corghi – Training + 1 case study
- Coster Group – Training
- Danieli – Training + 2 pilot projects
- Electrolux Professional – Training + 5 pilot projects
- Enel – 2 Training activities
- Esaote – Training
- Faro - Training + 1 Extended Technology Forecasting + 1 case study
- Ferrero – Training workshop
- Intertaba Philip Morris – Training
- Intier Motrol - Training
- ITT Italia srl - Training
- John Bean Technologies – Training
- Krona Koblenz – Training + 1 pilot project
- Metelli Spa – Training + pilot projects
- Micron Technology – Training + 4 pilot projects
- Poste Italiane – Training workshops
- Procomac – Training + 1 Extended Technology Forecasting + 2 case studies
- SACMI – Training + 2 pilot projects
- Samsung – Advanced Training + Keynote presentation
- Sealed Air – Training + pilot project
- Tecniplast – Advanced Training & Coaching
- Unox – Training + pilot project
- Villa Sistemi Medicali – Training + 1 case Study
- Whirlpool – 1 pilot project (1 Patent)
- Zoppas Industries – Training
Competences

Through the competences and academic experts of the adhering partners, the Center gathers the following competences:

- Competences on inventive problem solving with TRIZ
- Competences on structured analyses on Patents
- Competences on trend analyses and Technology Forecasting techniques
- Competences on Business Intelligence and Market Analysis
- High level academic competences on technical and scientific themes

Center of Competence

Innovation Process

Companies, Small and Medium Enterprises

Through Fondazione Politecnico of Milan it is possible to give support to Companies to identify, retrieve and submit proposals on public funding and other financial supports.
Center of Competence: Actors

- President: Umberto Cugini, Fondazione Politecnico
- Advisory board:
  - Monica Bordegoni, Politecnico of Milan;
  - Umberto Cugini, Fondazione Politecnico;
  - Mauro Lombardi, PIN Scrl – Prato;
  - Caterina Rizzi, University of Bergamo;
  - Paolo Rissone, University of Florence;
  - Secondo Rolfo, ICRRES-CNR of Turin;
- Scientific board:
  - Gaetano Cascini, Politecnico of Milan;
  - Eugenio Gatti, Fondazione Politecnico of Milano;
- Program Manager: Filippo Silipigni, Fondazione Politecnico
Italian Center of Competence for Systematic Innovation

**President:**
Umberto Cugini - Politecnico di Milano

**Scientific Leader:**
Gaetano Cascini - Politecnico di Milano

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