

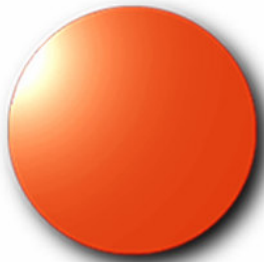
D'APPOLONIA

Dall'idea al progetto: il caso del progetto Coltex

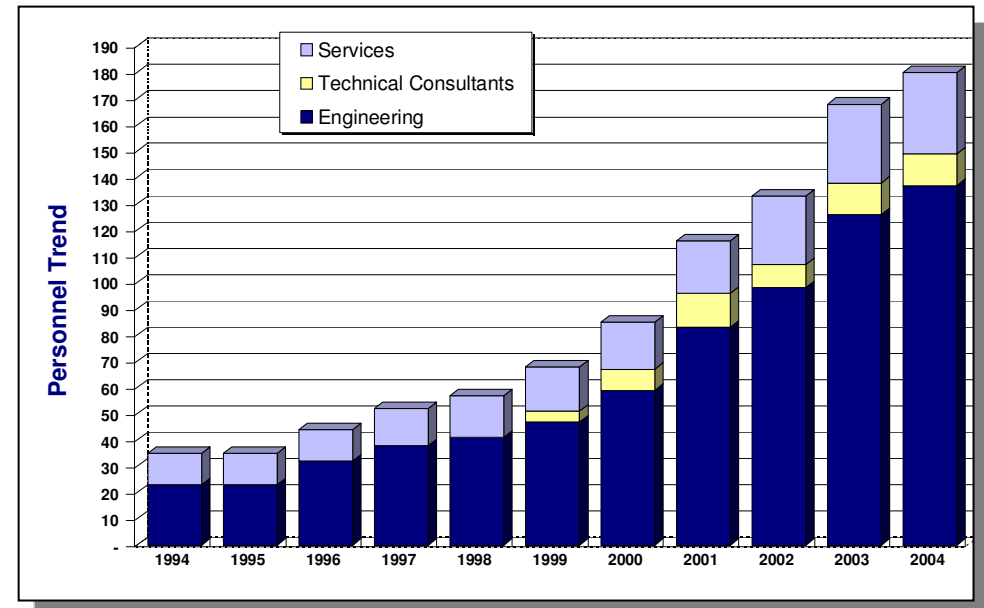
Innovazione tecnologica e non tecnologica: una sfida per il settore fashion in Europa

4 febbraio 2005

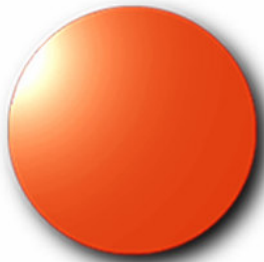
stefano.carosio@dappolonia.it



D'Appolonia is an engineering company founded in Pittsburgh in 1956 by Prof. Elio D'Appolonia.



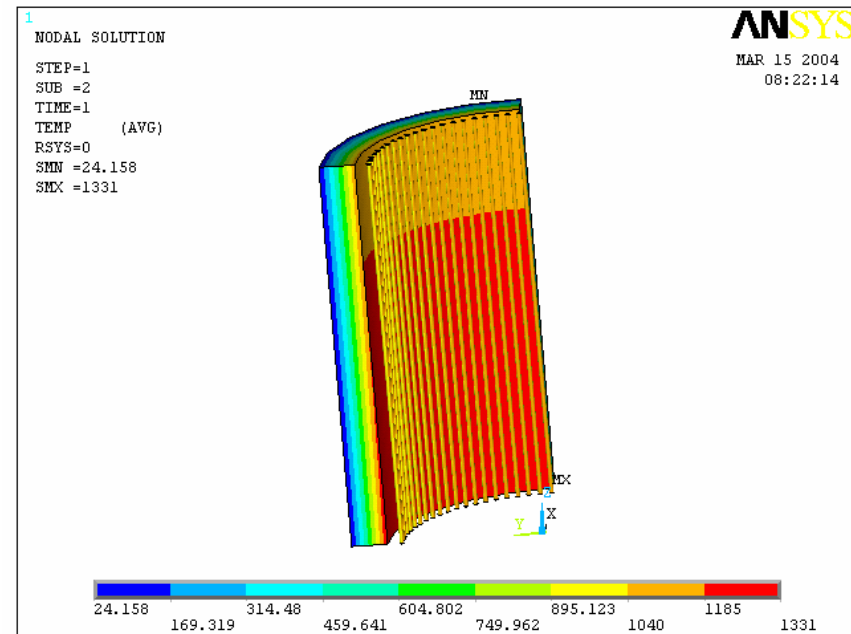
Since 1982 D'Appolonia S.p.A. is an **Italian private company with 200 staff** and 5 offices in Italy with a turnover of approx 20 MEuro.

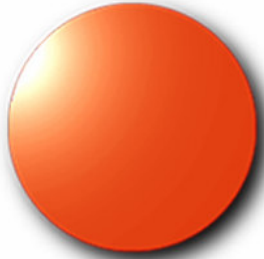


The Brindisi office is established within Consortium CETMA, in which D'Appolonia is member and actively cooperate in the area of textile reinforcements, composite materials, energy recovery as well as machine vision applications.

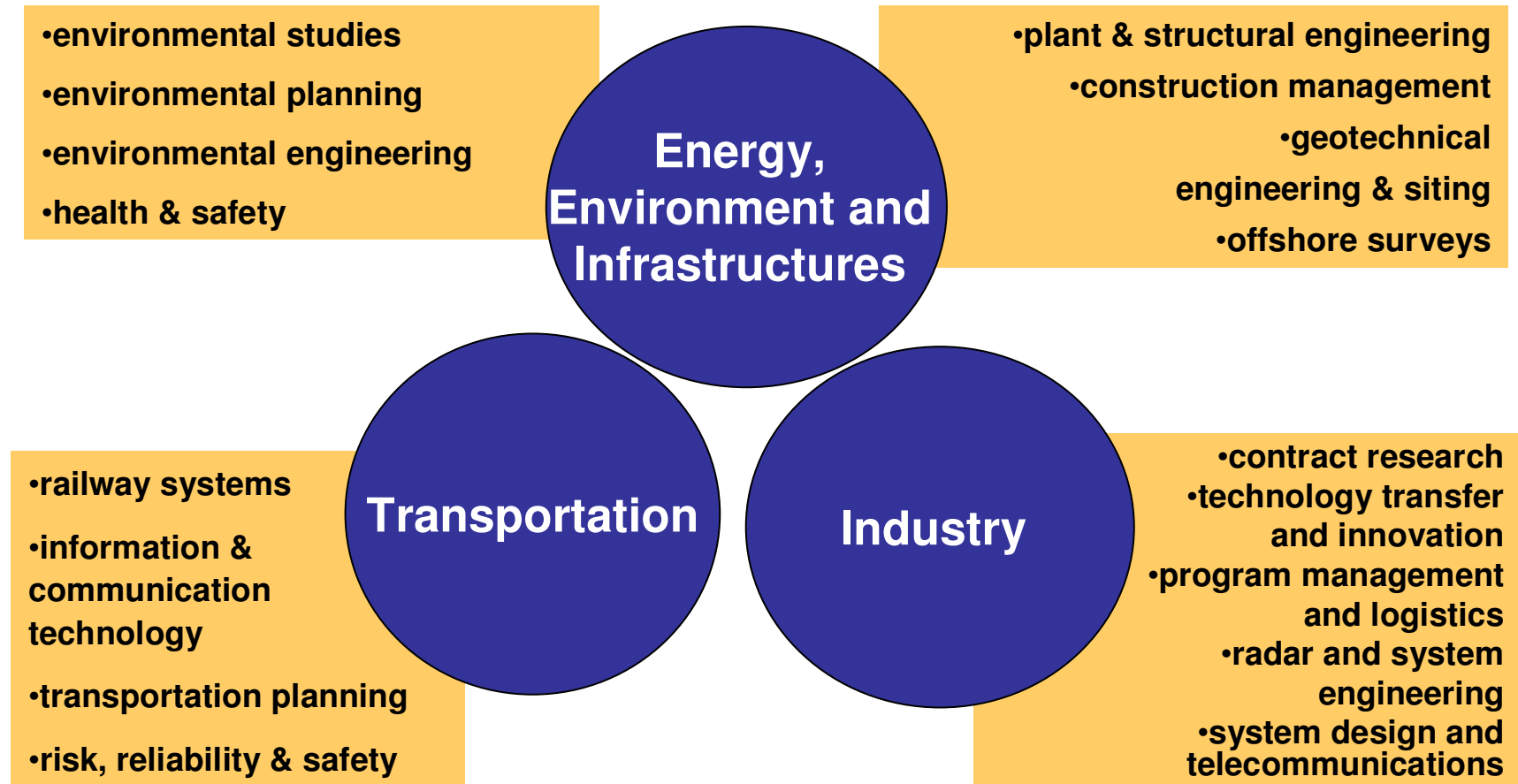


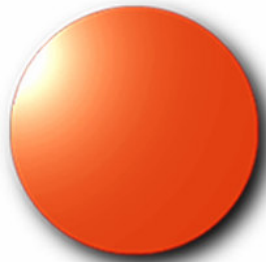
Modello FEM 3D Treno





D'Appolonia's engineering staff is organized into **three operating divisions.**





- D'Appolonia has been deeply involved in Innovative Product Development since the 90s:
 - ESA Technology Transfer Programme
 - Funded Research (at European and national level)
 - Industrial consulting for innovative product conception



Success Rate 80%

In medium sized EC funded projects (for NPD)

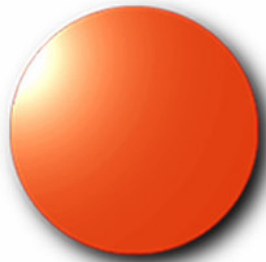
5 Times Better Than The Average Applicant



Success Rate 100%

In the new EC instrument: Integrated Project for sectoral innovation





Relevant textile projects: Leapfrog CA

- Leapfrog CA is an EC funded coordination action, jointly funded by the IST-NMP Thematic Areas, aiming at **establishing a knowledge community** on intelligent apparel manufacturing technology
- D'Appolonia is in charge of coordinating the contribution in the area of **New Materials and processes supporting intelligent apparel manufacturing systems**

LEAPFROG CA
Coordination of multidisciplinary knowledge
Home | Contact Us | News | Links
The Project | The Partners | The Approach | The Results

Partners Area
UserName:
Password:
Log In

LEAPFROG CA Knowledge Community

6

Leapfrog CA (Coordination of multidisciplinary knowledge and Research Activities to support Leadership for European Apparel Production From Research along Original Guidelines) is a Coordination Action project, funded by the EU in the context of the 6th Framework Programme as part of the joint action of the NMP (Nanotechnologies, Materials and Production) and IST (Information Society Technology) Programmes.

Leapfrog CA aims at the establishment of a **"knowledge community"** on intelligent apparel manufacturing technologies

This objective will be achieved through **effective coordination of 70 on-going research projects and networking of 37 key consortium representatives from 14 countries** with the overall goal to satisfy the urgent need for an optimised holistic production and design chain and in the end to reach rapid global manufacturing through the concept of the Extended Smart Textile/Garment Organisation. This networking activity will **secure added value by providing the necessary multidisciplinary and cross-sectorial forum** to share common problems and solution-oriented approaches, to channel efforts efficiently, to exchange and complement experience, to incorporate technology, to disseminate results to recommend best practice or best solution methodologies to the sector needs and to develop an integrated Roadmap for future research.

The project started in June 2004 and has a duration of 30 months.

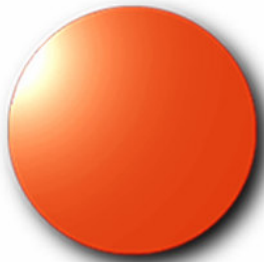
News / Events

- LEAPFROG CA Project meeting, September 14th 2004
- LEAPFROG CA, Technical Meeting, July 28th 2004
- LEAPFROG CA Kick-off meeting, July 13th 2004
- LEAPFROG CA project start, June 1st 2004

Publications/ Press

- LEAPFROG CA General

www.leapfrog-eu.org



Relevant textile projects: webTEXpert

- EC co-funded Collective Research project aimed at establishing web-based services on SMEs industrial associations' portals as learning and training platforms for **integrated methodologies for innovation management**
- D'Appolonia contributes to the project coordinating the area developing **cross sectoral technology transfer methods**



WebTEXpert

Project Brief

The Consortium

Collective Research

The WebTEXpert project (Research for a New Generation of Integrated Innovation and Knowledge Management - Development of Appropriate Web-based Training Methods, Tools, and Best Practice Demonstrators) is co-ordinated by the Textile Research Council (Forschungskuratorium Textil e.V.) Germany and started its operational work on 16 June 2004. WebTEXpert is co-financed under the EU Sixth Framework Programme for Research and Technological Development and is part of the Collective Research Scheme.

With a consortium composed of 46 partners from 8 European countries, the project will run for a duration of 3 years and aims at the development and provision of advanced methods in the field of innovation-management with a focus on new product development and introduction to increase the competitiveness of Small and Medium Sized Enterprises (SME) operating in the textile and clothing industry. The participation of Industrial Associations and Groupings (IAGs) is considered to be a central element of the project securing the dissemination of results to SME at regional, national and international level.

For further information, please do not hesitate to contact the project co-ordinator:

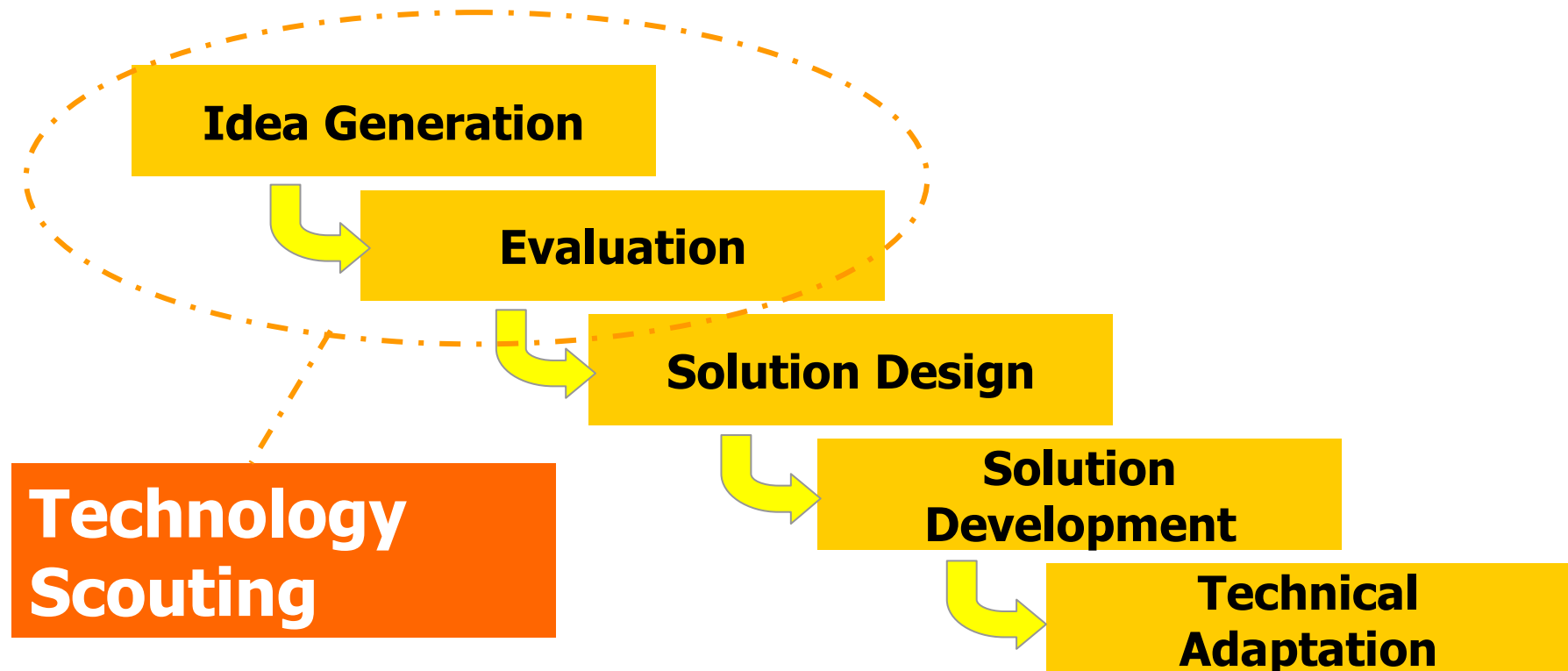
Forschungskuratorium Textil e.V.
Frankfurter Straße 10 - 14

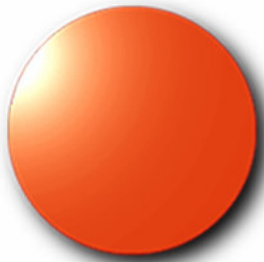
News Contact Links Imprint



www.webtexpert.net

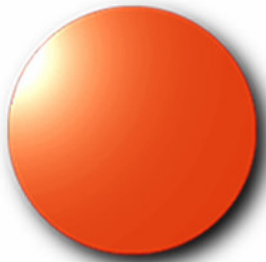
- D'Appolonia has developed a systematic approach to idea generation and evaluation (**Technology Scouting**) whose application has enabled the selection of high potential concepts for innovative products:
 - 30 ideas selected among over 200 for successful funded research proposals
 - quick go-non go redirection for industrial R&D programmes





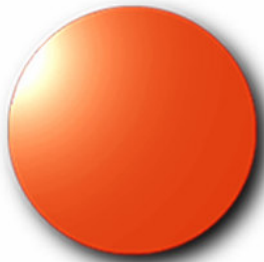
Innovation Management: Technology Scouting

- Our Scouting Methodology consists of:
 - SoA Scenario and Relevant Technological Identification
 - Key players and relevant topics landscape
 - Technological Maturity Assessment
 - Technological Trends and Gap Identification
 - Opportunities Assessment
 - Inventive problem solving
 - SWOT analysis
 - Quick go/no go or redirection support for R&D

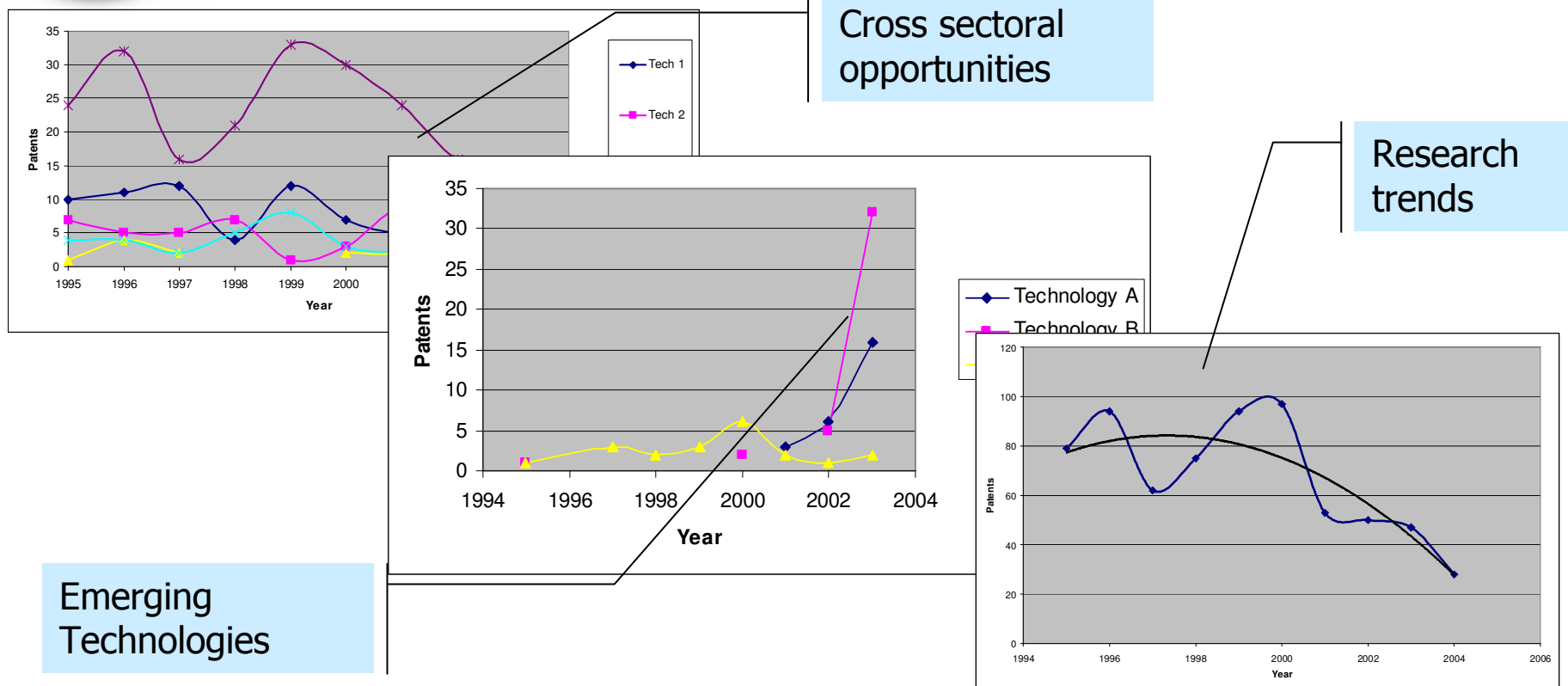


SoA Scenario and Relevant Technological Identification

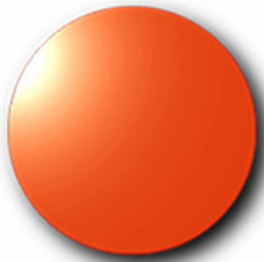
- D'Appolonia structured approach to Innovation is based on in-depth SoA Scenario creation combining different contributions:
 - **Bottom-up** (based on the results of research programmes)
 - **Top-down** (based on patents application analysis)
 - **Horizontal** (starting from technical literature and our network of contacts)



Technological Maturity Assessment



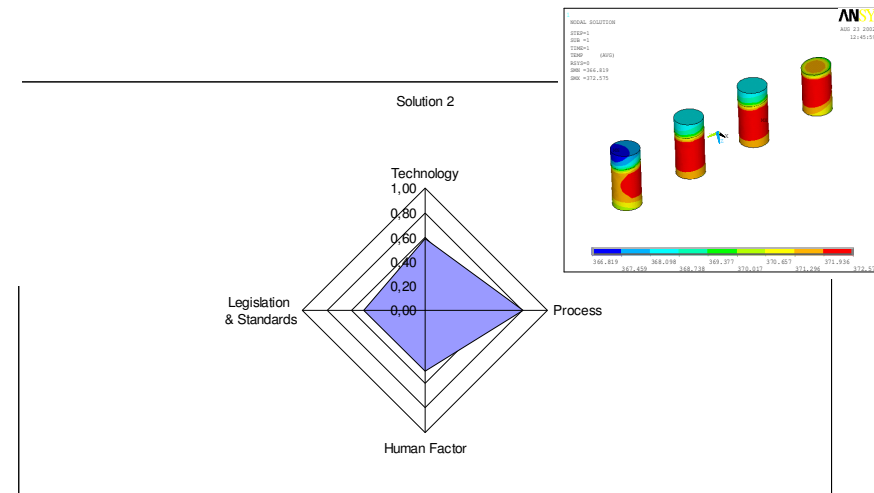
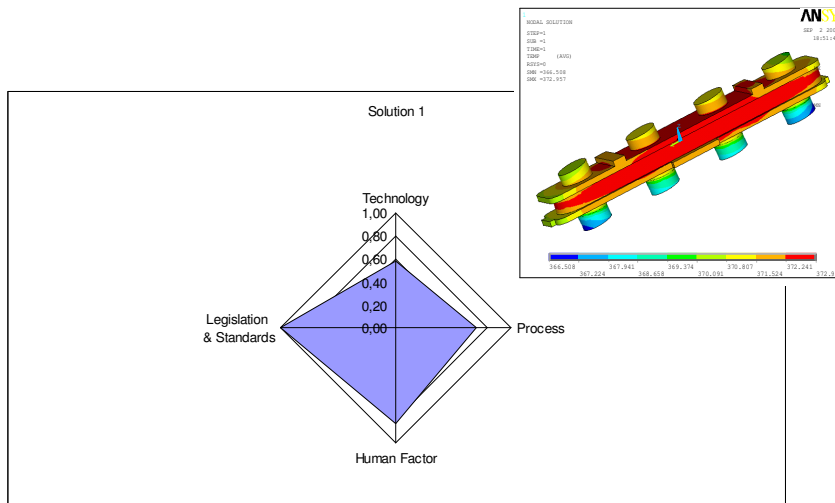
D'Appolonia systematically applies technological trends identification based on patents analysis and TRIZ methodology (the Theory for Inventive Problem Solving)

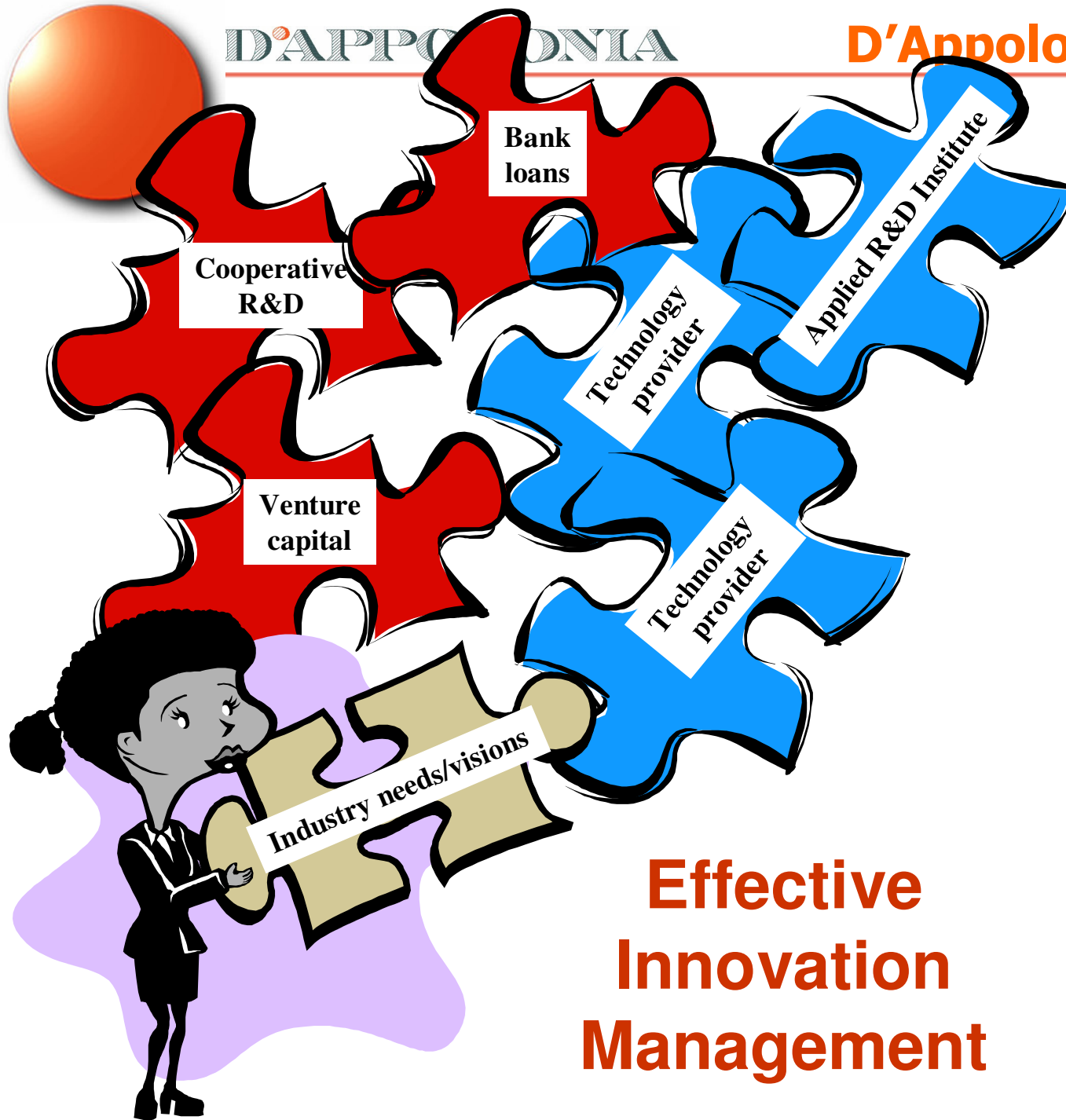


Opportunities Assessment

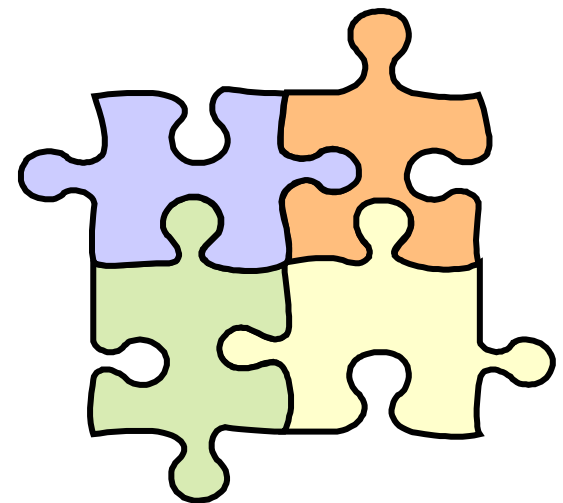
Opportunities are evaluated using the SWOT methodology (Strengths/ Weaknesses/ Opportunities / Threats) developed on four different perspectives:

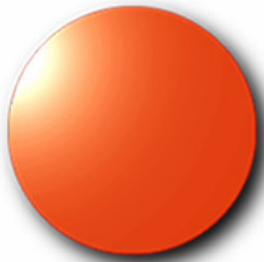
- Technology
- Process / Product
- Human Factor
- Legislation and Standards





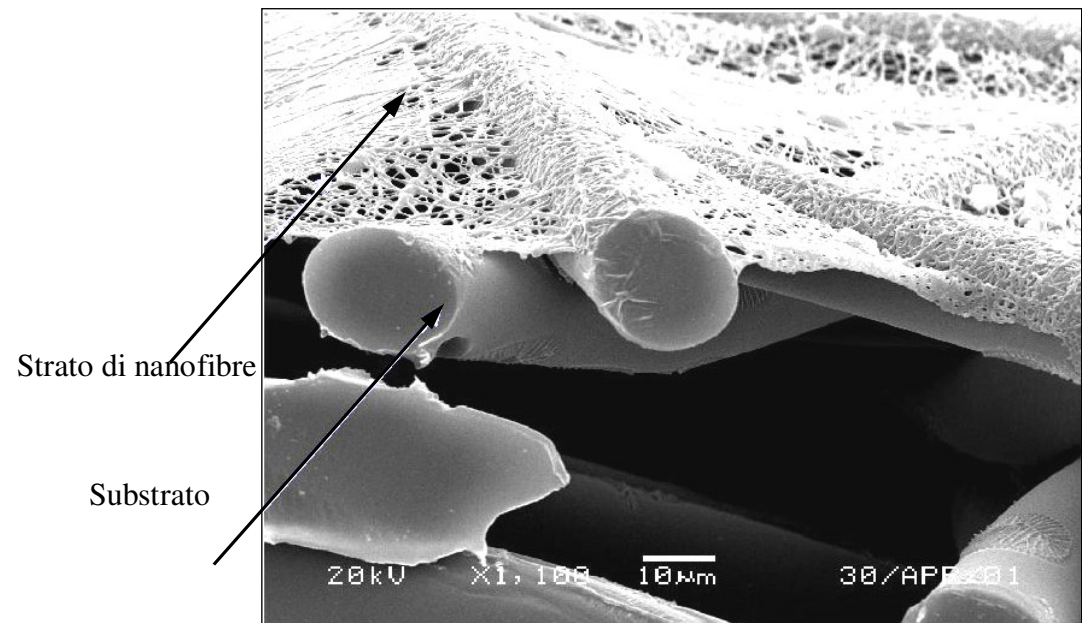
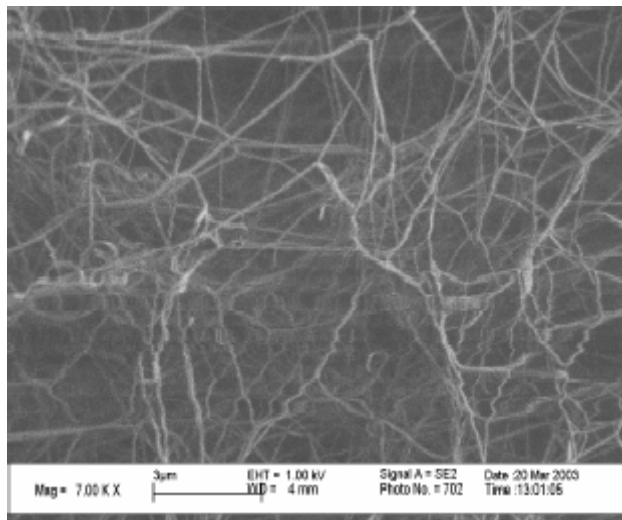
**Effective
Innovation
Management**

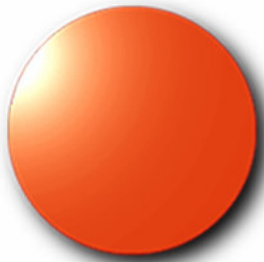




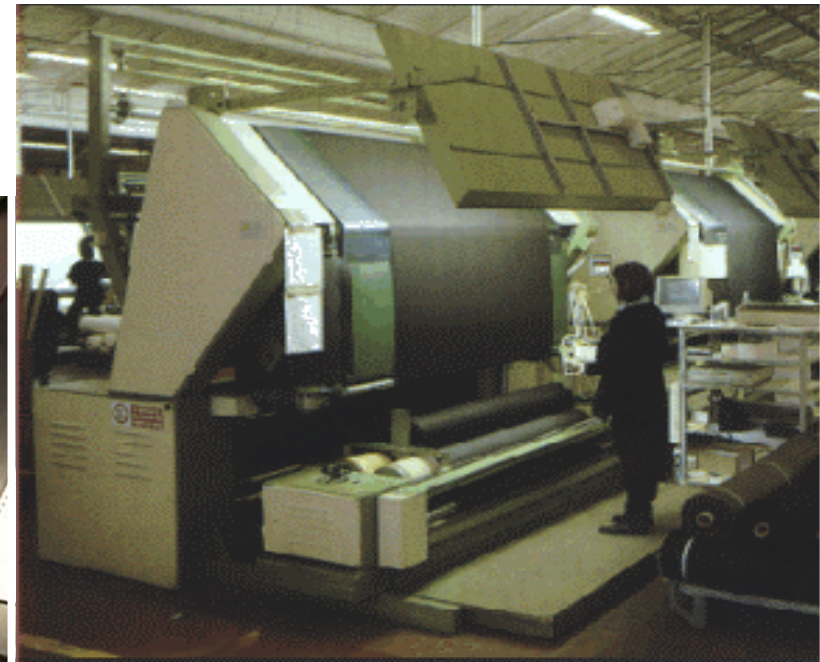
Within an industrial contract, technology scouting methodology has been applied in order to identify innovative solutions to traditional industrial sector issues.

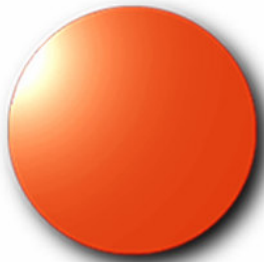
Emerging or even un-imagined solution arising for example from advanced Nanotechnology application have been identified.





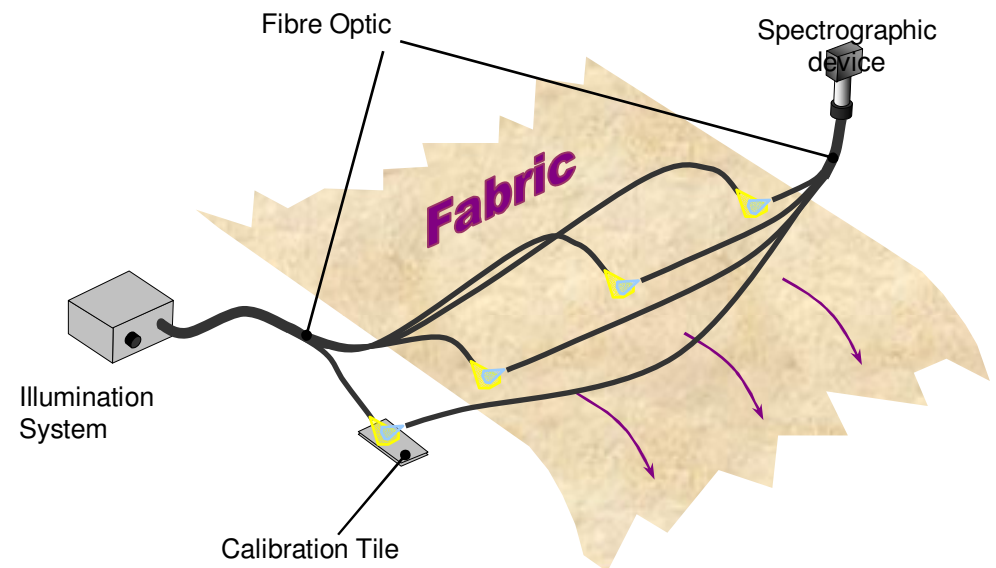
The Coltex project is a Cooperative research project funded by EC in the V Framework Programme to develop an on-line colour inspection system for fabrics, in order to replace current routine human inspections by more high added value operations.

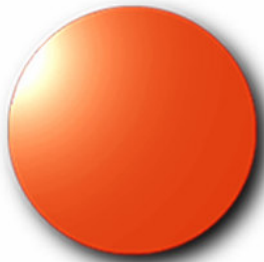




The target characteristics of the COLTEX System are:

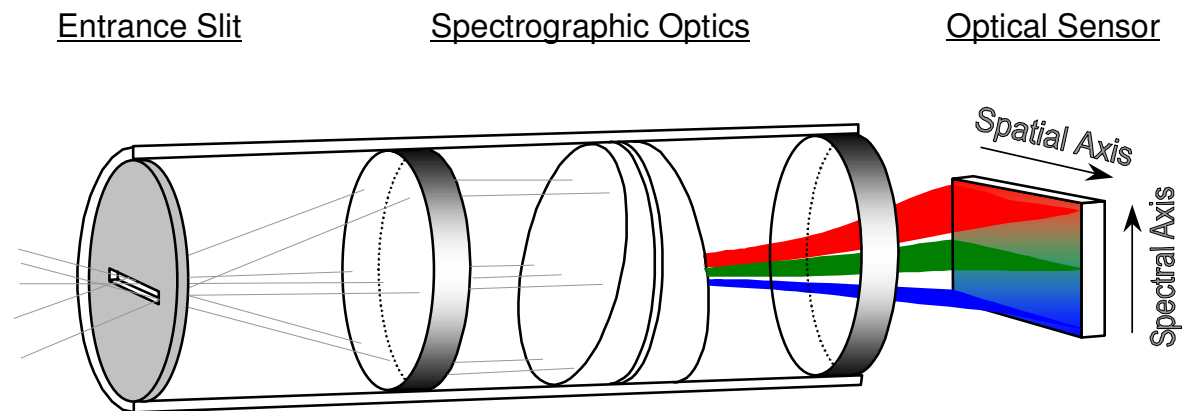
- No human specialist needed to supervise the machine work
- Real time automatic inspection of fabrics directly on the loom
- On-line dyeing process monitoring
- Off-line finished dyed product inspection

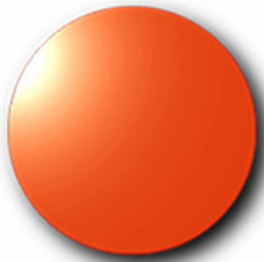




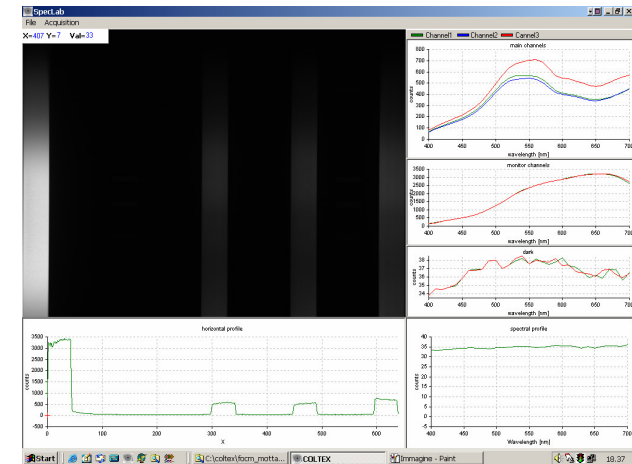
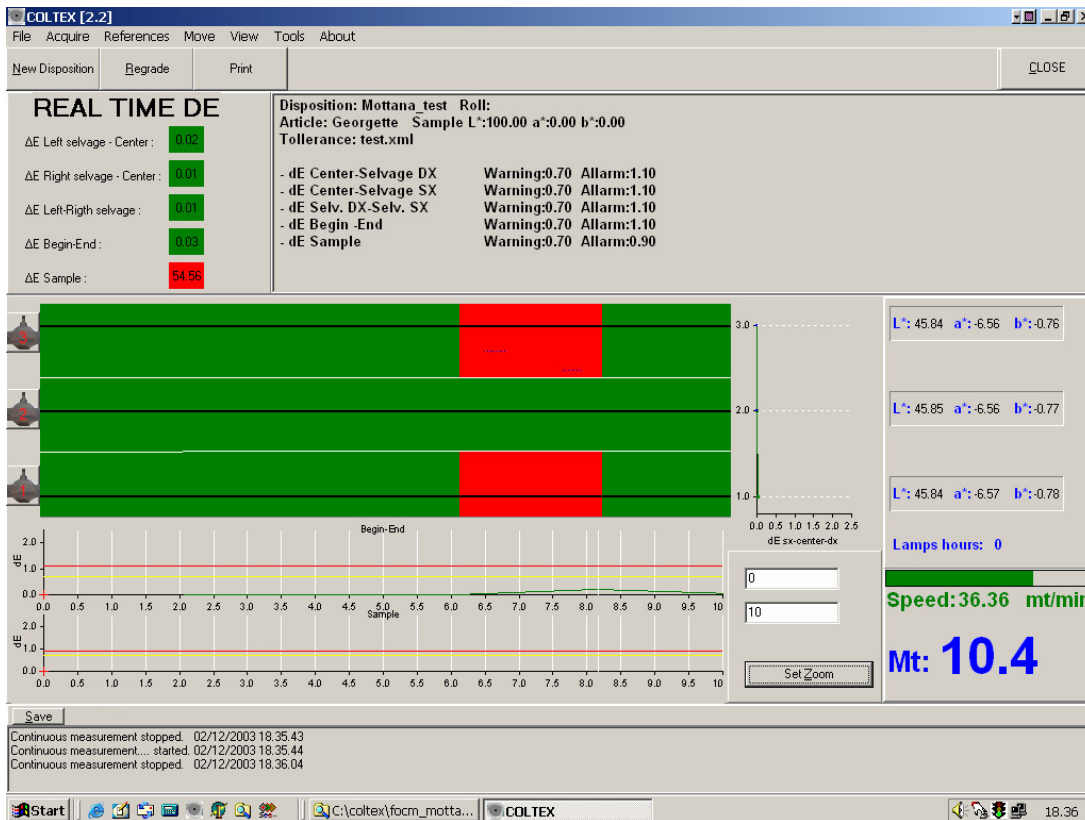
The proposed technology is based on the combination of a dispersive stationary spectrographic module and a matrix detector (CCD camera), both forming a fixed spectrometer.

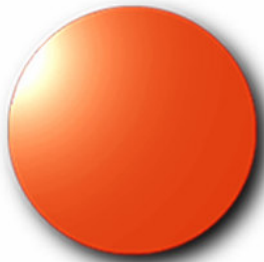
One dimension of the matrix detector constitutes a linear image in space, acquired through the entrance slit of the optical group, while the other dimension is used to record the spectrum of every element in the line.





The COLTEX software maps the whole fabric in order to show the operator where the fabric is out of dE margins, with relative or absolute CIELab coordinates.

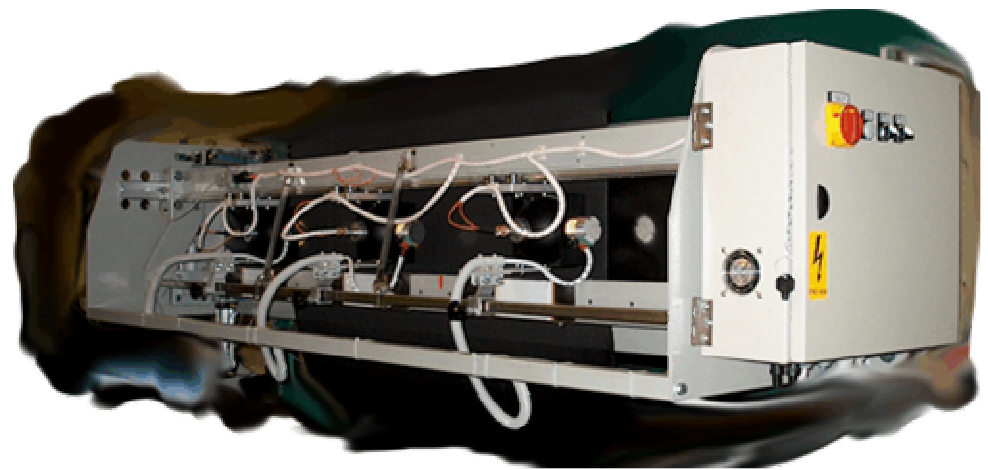


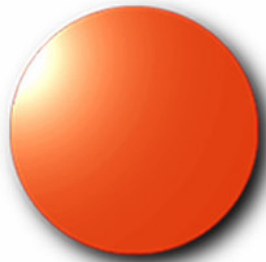


- Spectral imaging technique
 - involves a reduced spectral measurement time
 - allows simultaneously measurements in
 - multiple points without any movement
 - provides a better colour resolution
 - using PGP spectrographic device can reach the human eye resolution

Coltex can distinguish colours and spot mis-colouring of textiles and even identify changes in colour shades.

5 systems have been installed and are operative in Italy within 1 years from project end; further 5 systems are being installed.





D'APPOLONIA

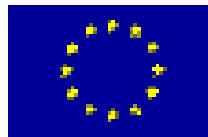
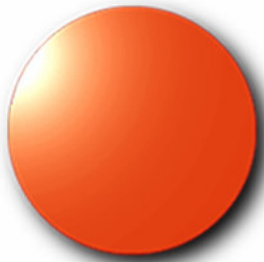
Coltex – key partners



D'APPOLONIA

MS MacroSystem





European Commission



ESA Technology
Transfer Programme