



University of
Zagreb



Faculty of
Textile
Technology



T-Pot project
229801



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Unlocking the Croatian Textile Research Potentials Grant agreement 229801

T-Pot aims to reinforce research potentials of the Faculty of Textile Technology of the University of Zagreb (TTF) in order to strengthen the university sector to become one of the components of the national innovation system in Croatia. The goals are to develop the capacity for breakthrough research, leading to innovative textile and textile related products, contributing in this way to the local industry, both nationally and in the region.

The overall objective of T-Pot is to *unlock and upgrade the research potential* of the Faculty of Textile Technology (TTF), particularly its *Textile Science Research Centre*, enabling enhanced participation of Croatian textile organisations in research activities at the European level, in order to support the harmonisation and integration process of Croatian textile entities into the European Research Area.

The reinforcement of TTF's research potentials is done through the reinforcement of human and material potential, as well as the research infrastructure. The recently established Textile Science Research Centre is upgraded to become one of the components of the national innovation. Top scientists are attracted to the country for exchange of know-how and guidance of Croatian textile manufacturers.

That is why *T-Pot addresses all major issues* of improvement of research capacities, addressed in FP7 Capacities Work Programme: Research Potential, as topics for REGPOT-2008-1:

- 1.1.1 Reinforcement of S&T potential
- 1.1.2 Developing strategic partnerships with well established research groups
- 1.1.3 Supporting and mobilising the human & material resources
- 1.1.4 Facilitating communication between the centres having similar scientific interest
- 1.1.5 Disseminating scientific information and research results
- 1.1.6 Improving the responses to socio-economic needs (of Croatia).

All tasks envisaged to be carried out in this reporting period are successfully completed. The main task of the first project period was the acquisition of equipment and the setting up of two new laboratories. By the end of January 2010, both laboratories were fully equipped and set up to be in full function, at the Department of Textile Chemistry & Ecology in Zagreb, Croatia:

1) SEM Laboratory:

- Microscope: FE-SEM MIRA/LMU, Tescan; EDX detector for the chemical analyses: AXS Microanalysis Quantax, Bruker and Sputtering device: SC7620-CF Mini, Quorum Technologies

2) Textile Science Research Laboratory:

- DSC, FTIR with TG-IR interface and TGA, Perkin Elmer

The opening ceremony was held on 25/02/2010 in the presence of Minister of Science, Education and Sports, Rector of the University of Zagreb and representative of Ministry of Economy, Labour and Entrepreneurship. The event was widely covered by all national media. National TV broadcasted a special report in the prime time. Two trainings were organized at each set of equipment: a basic level

training immediately after the installation of the equipment, and an advanced level training 3 weeks after the installation. Both trainings were attended by 9 TTF researchers. Shortly after the set-up, the laboratories are already being used by the 6 faculties of the University of Zagreb, Universities of Ljubljana and Maribor (Slovenia), University of Belgrade (Serbia) and 4 Croatian SMEs.



Figure 1-2: Opening of new laboratories at the University of Zagreb, Faculty of Textile Technology, Textile Science Research Centre: 1) Textile Science Research Laboratory; 2) Training in SEM Laboratory.

An Important task conducted within the T-Pot project with the purpose of raising the competitiveness of TTF and TSRC is the recruitment of experienced researchers. Since 1st October 2009 Prof. Andrea Katović from the University of Calabria, Faculty of Engineering has been recruited to the Department of Textile Chemistry & Ecology, Faculty of Textile Technology, University of Zagreb. Her expertise with SEM and TG analyses was extremely useful and shortened the basic training period.

Strategic partnerships were successfully established with 4 technology centers and 1 high-tech SME with research facilities. The further objective of organisation of workshops and conferences was fully addressed through the successful finalisation of 4 training events organised at the premises of strategic partners:

- 1) Leitat (Terrassa, Spain) from 16 till 19 June 2009
- 2) TTF (Zagreb, Croatia) from 21 till 23 September 2009
- 3) STFI (Chemnitz, Germany) from 29 November till 4 December 2009
- 4) INFMP (Poznan, Poland) from 15 till 17 June 2010.

Each of the training events held at the partnering institutions were attended by 8-10 TTF researchers, 2 SME representatives and researchers from host institutions. The training at the premises of the fourth partner, SME Grado Zero Espace was held from 27th-28th May 2010 in Montelupo, Italy .

The Textile Science Research Portal is set up and running at: <http://www.ts-rc.eu>, contributing fully to all objectives of the project.

Expected final results and impact

One of T-Pot's highest priorities was the improvement of scientific infrastructure in order to reduce the gap between our present state and EU standards. Investing in the equipment served another important purpose – to boost the development of applied research, development of methods, technologies or new products.

At the moment, the acquisition of the chosen equipment is contributing to the reinforcement of Croatian internal scientific and technical capacities and enabling sharing the research resources with the project partnering institutions and SMEs. The expected final results would be sharing the

research resources with a wider community and developing services in support of business and innovation.

Future participation in the research activities of the European Research Area would be enabled through joint research or new project initiatives, primarily with the project partnering institutions and secondarily with any of the institutions in textile or related fields.

More information and contact details can be found on the project public website:

<http://www.t-pot.eu>.

Project results



Figures 3-4: First Workshop was held at Leitiat's premises from 16th till 20th June 2009 in Terassa, Spain



Visit of MB members to Croatian SME Kelteks, 24th September 2009

Figure 5-6: Second Workshop was organized by TTF and held at the premises of Croatian Chamber of Commerce from 21st till 23rd September 2009, Zagreb, Croatia



Figure 7: Visit to Soex company during the Third Workshop, held at STFI's premises from 29th November till 4th December 2009.



Figure 8: Attendance at the Colloquium Recycling for textiles in Chemnitz, Germany



Fourth Workshop was held at INFMP's premises from 15th till 17th June 2010, in Poznan, Poland.



Figure 9: Laboratory of silkworm breeding. **Figure 10:** Visit to experimental plant Lenkon.



Figure 11-12: Visit to new premises of additional partner: SME – Grado Zero Espace (GZE), from 27th-28th May 2010 at Montelupo, Italy

