

National Technology Platform for Renewing of the Hungarian Textile and Clothing Industry

TEX_PLAT

Final Report

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1. Presenting of the scientific and technical content of the results

1.1. Aim and mission of the project

Main objective and content of the project was to establish the National Technology Platform of the Hungarian Textile and Clothing Industry and to start of its activity. On basis of the contract the main task was to elaborate the R&D Strategy and the Implementation Plan for the Hungarian textile and clothing industry. In addition to this, a number of actions were made the aim of which was to strengthen and support the sector's activity for innovation. Establishing and maintaining of international connections was also part of the project to serve the sector's innovation as well as communication towards the sector's entrepreneurs and stakeholders and, on the other hand, towards the general public and politicians.

The National Technology Platform for Renewing of the Hungarian Textile and Clothing Industry (its abbreviated name is TEXPLAT) was established on 21st January, 2009, with drawing in 19 organizations (important companies of the textile and clothing industry and other institutions being interested in the innovation process). TEXPLAT was established as result of the initiation of the Hungarian Society of Textile Technology and Science, the largest professional organization of the Hungarian textile and clothing industry.

TEXPLAT has set the following targets:

- to stop the decay of the Hungarian textile and clothing industry, to stabilize and to renew it by increasing of innovation and by transformation of its product structure;
- to increase the number of competitive and successful companies with at least maintenance of the present number of employees;
- to enhance the social prestige and self-confidence of the sector.

In the first year, 2009, the strategy was elaborated in which we defined the **perspective professional scopes** where the Hungarian entrepreneurs have real chance to link to the European processes of innovation and the areas where **the Hungarian small and medium size companies** (they represent 95 % of the textile and clothing industry of this country) **should strengthen their activity in innovation**, taking into consideration the specialities of this traditional industry.

Elaboration of the strategy was carried out on two levels: on the one hand in **teams** and, on the other hand, **on public professional forums and workshops** in which not only selected experts but also many entrepreneurs took place and gave their opinion. On basis of the R&D&I Strategy, prepared in 2009, the Implementation Plan was compiled in 2010.

The new results of the project on domestic and international level are as follows:

The most important result of the project is that after decades a comprehensive R&D&I Strategy and an Implementation Plan have been elaborated for this sector. They give incitement and guidance for the future development works.

It can be declared that the most important goals of the project have become real:

- the sector's National Technology Platform has been established and its activity has started;
- the Strategic Research Plan and the Implementation Plan have been elaborated.

The Hungarian Society of Textile Technology and Science intends to run the TEXPLAT project also in the future, in order of implementation of the strategy.

1.2. Elaboration of the Strategic Research Plan (R&D&I Strategy) for the Hungarian textile and clothing industry

1.2.1. The strategy elaboration process

The research, development and innovation strategy **was drawn up for a period of 5 to 7 years** on basis of our **Vision for 2020** accepted previously. To formulate the strategy **four teams** was created from 5 to 7 members in each. These teams dealt with the following subjects:

1. Development of new textiles and clothes, having special functions, including smart textiles and clothes, with particular attention to protective clothing.
Head of the team: dr. Lívia Palicska Kokas (Óbuda University, Budapest)
2. Introduction of textile products on new fields (use of textile materials on technical, medical fields, in vehicles, in agriculture, in construction, etc.).
Head of the team: dr. Katalin Máthé (Hungarian Society of Textile Technology and Science)
3. Renewal of the technology processes in the garment manufacturing technology in mass production, in order to meet the customers demands; up-to-date supply chain management.
Head of the team: Mr. György Beofsics, BEO Bt., Budapest
4. New concepts in design and product development according to the new social demands (quality of life, environment-consciousness, the aging society, etc.), new business models, innovative services.
Head of the team: Mrs Irina Lukács (Hungarian Society of Textile Technology and Science)

In the teams worked totally 28 experts, representing the industry, the education and R&D. The teams themselves organized **thematic forums** (conferences) where also active entrepreneurs were present and the subjects of which was the use of R&D results of the given field.

1.2.2. Definition of the vision and the priorities

The vision of the Hungarian textile and clothing industry introduces a stable sector, being able to develop and undertaking important role in improving the quality of life and change of technology in order to help the sustainable growth. Enterprises of the Hungarian textile and clothing industry will be present on meticulous market segments with their high level products developed completely or partly by themselves or they take part in the work as competent partner in the European product chains. Characteristic will be for Hungarian-made garments that they will meet the customers' various individual demands also using the values of the Hungarian craft and design in fastidious clothes and home textiles made in small series. Having up-to-date and flexible production lines and special machines, the industry will be very productive and will play leading role in the region in development and production of small and medium size series and sample collections.

Basis of the R&D&I strategy of the Hungarian textile and clothing industry is, like that of the entire Hungarian economy, the enhancement of intensity of knowledge and, arising from this, **enhancement of added value and competitiveness**.

The Hungarian textile and clothing industry is integral part of the European textile and clothing industry. Consequently, to define the main scopes of our R&D&I activity we had to consider the Strategic Research Plan of the European Technology Platform, accepted in 2006, as starting point. The TEXPLAT Council has defined three main scopes, considering the peculiarities of the Hungarian textile and clothing industry:

1. Development of textile products and clothing presenting **new special functions**, including smart textiles as well, with particular attention to protective clothing.

2. Placing textile products on **new application fields** (technical textiles, health care, vehicles, agriculture, construction industry, etc.).
3. **Renewal of the technology processes in the clothing industry** in order to implement the mass production according to the customers' demands, intelligent supply chain management.

In addition, part of the strategy is that the aspect of **sustainability** has to be taken into consideration in every development work.

1.2.3. Tasks formulated in the strategy for enhancement of the innovation activity

In addition to studying of the scopes to be developed, the sector's R&D&I strategy deals also in details with the tasks that are necessary to be carried out to significantly enhance the **innovation capacity and activity** of the companies, mainly of SMEs. The strategy defines the main fields of support of innovation as follows:

- "Innovation of the heads" – development of human capital, education,
- Joining of forces, collaboration, organization of clusters,
- Knowledge management, creating of knowledge base,
- Enhancement of the sector's prestige and self-esteem.

1.3. Elaboration of the Implementation Plan

Tasks of implementation are organized according to **programmes** formulated in the strategy. These programmes are **partly professional, partly horizontal**. The latter ones deviate from the vertical character of the professional programmes, they cover the whole sector and help to fulfil the objectives formulated in the professional programmes.

1.3.1. Professional programmes in the Implementation Plan

The **actual professional programmes** are defined according to the R&D&I priorities formulated in the strategy. Each of them sets important social aims, in addition to the sector's ones.

Programme	Sector's aim	Social aim
Development of functional textile products (clothing and home textiles) for general use	Renewal of the sector's product structure, enhancement of the competitiveness by products of increased added value	Improving of quality of life, sake of sanity, protection against environmental nuisances
Development of special textile products for protection or for other functions for professional end-uses	Increasing of the added value, achievement in higher profitability on markets that are more particular than the consumer market	Enhancement of human safety during work and other risky activities; protection against extreme environmental nuisances
Development of the technology and products that help the sustainability	Products with higher added value and higher profitability; improvement of the sector's image	Contribution to the implementation of the sustainable development and growth
Product development for new application fields	Conquest of new, more profitable markets	To help the solution of tasks which are important for the society (environment protection, health care, built environment)

Programme	Sector's aim	Social aim
Development of actual production processes in order to achieve processes that are of higher knowledge level, more effective and more consumer-orientated	More effective processes, increasing the effectiveness of the product chain, higher competitiveness	Dissemination of info-communication technology and culture, more effective and more attractive work places

Three to five **subject matters, sub-programmes** are defined for which the tasks, projects for the coming years, the results to be reached were elaborated, taking into account also the necessary sources, the potential partners and the necessary cooperation.

These five professional programmes are elaborated in more detailed for the following subject matters:

1. Development of functional textile products (clothing and home textiles) for general use

- Development and setting into production of textile products and clothing for improving the quality of life.
- Development of functional home textiles.
- Development of smart textiles and clothing.
- Establishing an evidence base for examination and certification of functional properties.

2. Development of various protective textile products for professional application fields.

- Development of protective work clothes for usual work.
- Development of work and protective clothes for governmental and community based organizations.
- Establishing a technology transfer centre for innovation of protective clothes.

3. Product development for assistance of sustainability

- Optimizing of the production technology in the textile and clothing industry in order to the sustainability.
- Surface modification of textiles using environment-friendly plasma treatment.
- Introduction of finishing technologies using low water consumption or waterless process.
- Innovative application of renewable raw materials.
- Introduction of view of sustainability in design of textile products, clothing and service.

4. Product development for new application fields

- Development of reinforcing textile fabrics for composites.
- Development of innovative textile fabrics for the construction industry.
- Development of knitted technical textiles.
- Development of textiles for health care and the health industry.
- Activities aiding the application of technical textiles.

5. Development of the present production processes to achieve more effective and more customer-orientated processes

- Uniform communication along the product chain, introduction of the uniform electronic language "eBIZ" (developed in the framework of the EU's "eBIZ-TCL" project).
- Elaboration of the method for making fit-to-size clothing on industrial scale.
- Establishing of a complex anthropometric and expert system data base.
- Application of 3D computer aided design in the clothing industry.

1.3.2. Horizontal programmes in the Implementation Plan

Three horizontal programmes contain the subject matters in the Implementation Plan the active functioning of which is considered as indispensable for the sector's successful innovation in each scope of development. These horizontal programmes deal, on the one hand, with all supporting activities needed for the creation of developments and, on the other hand, with all supporting activities needed for the successful implementation of the developments in the practice and to introduce them on the market.

The horizontal programmes are as follows:

1. Assurance of up-to-date information needed for the innovation activity, knowledge management

- Creation of a knowledge base on internet with development of the infrastructure of information technology at the Hungarian Society of Textile Technology and Science.
- Establishing clusters in the textile and clothing industry to improve the companies' cooperation.
- Organizing of collaboration of the companies and designers.
- Developing of the collaboration of industrial enterprises with R&D&I institutions and other sectors.
- Developing of international connections, to join international projects, technology transfer.

2. Development of human resource

- Dissemination of innovative thinking and knowledge of innovative management.
- Introducing new items of professional knowledge to each level of education approved by the State.
- Teaching of new items of professional knowledge, developing the sector's adult education.

3. Improving of the sector's marketing activity, strengthening the market positions of the Hungarian textile and clothing industry.

- "Creation" of the conscious consumer.
- Application of up-to-date info-communication tools in order to strengthen the market position of the Hungarian textile and clothing industry.
- Common marketing activity with other sectors to improve the competitiveness of the textile and clothing industry.

Both the Strategic Research Plan and the Implementation Plan were discussed in open sessions of the TEXPLAT Platform Council with presence of professionals of the industry and other institutions. All the accepted and final documents are published in booklets and can be found also in the internet site of the Hungarian Society of Textile Technology and Science.

1.4. Events and actions of the Platform supporting the innovation

During the two-year period of the project conferences, forums and workshops were organized, **more than originally planned** and with **more participants than we had reckoned on**. Aim of these events was to collect information and opinions from professionals for the elaboration of the plans and, on the other hand, to inform them about novelties in order to lift the sector's innovation level.

We already gave detailed information on these events in the progress reports, here we are summarizing them only shortly. Indicators and monitoring data see in Chapter 4.

Conferences, professional forums – 9 events

- Five thematic forums (2009)
- eBIZ International Conference (2010)
- International TEXPLAT Conference (2010)

- 1st TEXPLAT Professional Forum (2010)
- 1st Professional Forum at the National Office for Research and Technology (NKTH) (now: National Innovation Office, NIH) (2010)

Workshops (regional information days)

- Four professional workshops in order to elaborate the Strategic Research Plan (2009)
- Thirteen professional workshops in order to elaborate the Implementation Plan (2010)
- Three regional information days (2010)
- Two networking forums at the TREND 2 trade centre

Other events (meetings)

- TEXPLAT Statutory Meeting (January 25, 2009)
- Six extended meetings of the Platform Council (2009, 2010)
- Six meetings of the Business Environment Working Group (2010)
- TEXPLAT Project Closing Conference (2010)
- Networking forum and product show in order to strengthen the market positions of the Hungarian products (2010)
- Organization of the Work-clothes Design Competition (2010)
- Elaboration of an education programme for development of innovative clothing (2010)

1.5. Activity for improving the outside conditions of innovation

Parallel to the acceptance of the sector's strategy the TEXPLAT Platform Council established also the Business Environment Working Group (lobby group). Its task is to elaborate recommendations for improving the business environment on the fields of politics (economic control system, education system, tendering system, protection of intellectual property rights, etc.).

Work of this group was particularly very important in the social discussion on the *New Széchenyi Plan* to which, on behalf of TEXPLAT, we prepared detailed proposals on basis of opinions and suggestions collected from enterprises.

1.6. Liaison and networking

1.6.1. Liaison with the European Textile Technology Platform (ETP)

Since establishing of the European Textile Technology Platform (ETP) in December 2004, there has been contact between the Hungarian textile and clothing organizations and ETP. This contact has strengthened during the implementation period of the programme. In both years (2009 and 2010) we took part on the annual conferences of ETP, in 2010 we gave also lecture there. On the TEXPLAT Conference 2010 several lectures were given on ETP. We have joined the work of ETP's partner seeking service (TEPPIES) the aim of which is to help small and medium size enterprises to join FP7 projects. We joined also the eBIZ programme of the European textile and clothing industry.

1.6.2. Liaison with other National Technology Platforms

We have started to find the fields where we can collaborate with the following National Technology Platforms in order to organize common actions:

- Food for life Hungarian Technology Platform (MNÉTP)
- Hungarian Construction Technology Platform (MÉTP)
- Hungarian National Technology Platform for Integrated Micro and Nanosystems (IMNTP)
- Creative Industries Technology Platform (KIP)
- Manufuture-HU Technology Platform (MANUFUTURE)
- eVita National Technology Platform (eVita NTP)
- Hungarian Association of Manufacturers of Reinforced Plastic Materials (EMSZ)

1.7. Communication activity of TEXPLAT – Publications, articles, lectures

Main tool of communication is the **internet website** of the Hungarian Society of Textile Technology and Science (www.tmte.hu). On the title page a separated menu was created for the programmes, events, news, publications, lectures belonging to TEXPLAT. We published 8 times **special newsletters** giving information on TEXPLAT's activity. We always disseminate information on TEXPLAT in **TMTE's own publications** (*Magyar Textiltechnika online edition, Textilvilág-TMTE News*) and in the sector's **other magazines** like *TextilForum, Divat Marketing, Next Magazin, Munkahelyi Módi*.

In addition to these, **articles and interviews were published** in the following daily and weekly papers, radio stations and TV channels: *Magyar Nemzet, Népszava, Figyelő, Világgazdaság, MTI Közlemény, MR1-Kossuth Rádió, Klubrádió, Gazdasági Rádió, Európa Rádió (published on the internet), Duna TV, Echo TV, Márta TV (published on the internet)*.

Two **foreign textile magazines** published news about TEXPLAT's activity: *Il Ponte* (published by the Italian Chamber of Commerce) and *Forward Textile Technologies*.

A lecture, given to the **2010 conference of the International Federation of Knitting Specialists** (IFKT) in Ljubljana, also dealt also with the work of TEXPLAT.

In the favour of enhancement of the prestige we prepared a CD ROM under the title **"Is this also textile? Yes!"** in order to popularize the sector.

Detailed data of all publications see in Annex 3. **The summarized data** are as follows:

	2009	2010
Lectures	37	52
Articles	22	21
News, interviews	7	8
Publications	1	1
CD ROM	1	0

2. Planned and actual period of the Project

The Project launched on 1st January, 2009, and finished on 15th December, 2010 – as scheduled. There is no deviation comparing to the plan.

3. Participants in the Project

Expert's			No. of the member of consortium	No. of the subject matter	Devoted working time (FTE)
name	identification code	state			
Lakatosné Győri Katalin	LAKKA53	Project management		1.1.-2.11.	0,850
Némethné Ecker Gabriella		Project management		1.1.-2.11.	0,717
Lukács Árpádné		Project management		1.1.-2.11	0,426
Szigetvári Eszter		Project management		1.1.-2.11	0,514
Máthé Csabáné dr.	MATCSA42	Researcher without PhD degree, professional leader of the Project		1.1.-2.11	0,312

Expert's			No. of the member of consortium	No. of the subject matter	Devoted working time (FTE)
name	identification code	state			
Kokasné dr. Palicska Livia		Researcher with PhD degree		1.4-1.6, 2.3	0,100
Kutasi Csaba	KUCSA48	Researcher without PhD degree		1.4, 1.6, 2.3	0,040
Total FTE					2,959
Number of staff calculated on the total working time					4

In addition to the persons listed in the table above and mentioned by name in the tender also further experts from the sphere of TMTE as well as some others were called upon to take part in implementation of the project. Their work was paid according to special contract or against invoice (material expenditures).

4. Indicators of the Project

Indicators	Target value	Actual value		Total value 2010-2011
		2009 (1st year)	2010 (2nd year)	
1. Results of the Project				
Organized events (number/number of participants)	14/555	14/521	30/804	44/1325
Conferences, professional forums	2/120	5/323	4/241	9/ 564
Workshops, regional information days	8/320	4/63	18/397	22/ 460
Other events (platform meetings)	4/115	5/135	8/166	13/ 301
Expenses of organized events (thousand HUF)	5750	5206	3990	9196
Publications (number)	2	1	1	2
2. Use of resources				
Amount of total sources used for the Project's organization and running:				
Human sources (number of people / +amount thousand HUF) from support	35 / + 24 780	37 / + 11 759	18 / + 10 938	55 / + 22 697
Technical equipment:				
- own contribution (4 computers, printers, telephone calls, internet, copying), thousand HUF				
- from support (1 notebook +1 projector pro-rata part), thousand HUF	330	169	120	289
Use of infrastructure:				
- own contribution (offices, use of conference room, amortisation and maintenance of office machines, etc. within 2 years), thousand HUF	1000	1161	970	2131
- from support (use of offices, pro-rata part) thousand HUF	650	336	280	616
Others:	-	-	-	-
3. International networking of the Platform				
Organizations that took part actively in the Platform's work:				86/100%
Total number / ratio (%)				
SMEs	15	21	30	51/60%
large companies	5	3	3	6/7%
academic research institutes	1	1	1	2/2%
universities	4	4	4	8/9%
associations	3	2	4	6/7%
consumers'/users' organizations	1	1	1	2/2%
representatives of politics	5	2	3	5/6%
financial organizations	1	0	0	0/0%
others	1	3	3	6/7%
Number of new members that joined the Platform in year of settling		78	18	96
SMEs	60	51	14	65
large companies	5	6	0	6
academic research institutes	1	2	0	2
universities	1	5	0	5
associations	3	4	3	7
consumers'/users' organizations	4	2	0	2
representatives of politics	3	3	0	3
financial institutions	1	0	0	0
others	2	5	1	6
The Platform's contact with other organizations (technology platforms, non-member organizations, associations)				
total number of organizations (domestic/foreign)	1		4/3	
commonly organized events (domestic/foreign)	1		1/0	8/3
publications (domestic/foreign)		4/1	0/1	1/0

Explanation of deviations:

All tasks are completed according to the schedule but with wider content and with more professional events as planned. We organized three times more conferences, forums, workshops because this was the most effective way to arouse the interest of small and medium size enterprises and to mobilize them for taking part in the Project.

Each monitoring indicator exceeds the target value.

5. Planned and actual costs by types

Types of costs	Planned costs in the 1st modification of contract	Actual cost 2009	Actual cost 2010	Actual costs total	Difference
Operating costs (1+2+3+4)	35 670 000	18 711 169	18 328 155	37 039 324	-1 369 324
Personal costs (1+2)	22 606 000	11 758 863	10 938 749	22 697 612	-91 612
Wage costs (1)	17 466 000	9 405 731	8 636 144	18 041 875	-575 875
Levies paid by the employers (2)	5 140 000	2 353 132	2 302 605	4 655 737	484 263
Material costs (3+4)	13 064 000	6 952 306	7 389 406	14 341 712	-1 277 712
External commissions (3)	3 430 000	2 030 500	1 550 700	3 581 200	-151 200
Other material costs (4)	9 634 000	4 921 806	5 838 706	10 760 512	-1 126 512
From the operating costs: overhead costs and coordination [I]	1 800 000	899 877	922 420	1 822 297	-22 297
Costs of accumulation (5+6)	330 000	136 240	120 243	256 483	73 517
Purchase of intangible assets (5)	0	0	0	0	0
Purchase of machines and equipment (6)	330 000	136 240	120 243	256 483	73 517
Total costs (1+2+3+4+5+6)	36 000 000	18 847 409	18 448 398	37 295 807	-1 295 807

Connecting to the financial fulfilment there are several remarks:

- The original contract was modified on 1st October, 2010, in which the sharing of External commissions and Other material costs were corrected.
- To the implementation of the project we allotted HUF 37 295 807 instead of the support amount written in the modified contract, i.e. HUF 36 000 000. The difference is equal to the interest realized on the advance payments received to the project.
- The interests were allotted to the surplus events and actions, to the material costs in connection with running of the project and to the communication.

6. Economical and social utility of the results

Main result of the project is that after many years a comprehensive R&D&I strategy was created for the textile and clothing sector and, on this basis, also an Implementation Plan that gives incentive and guidance for developments in the coming years and can accelerate the innovation in this sector and helps to re-establish its prestige.

The final documents introduce the target areas of interdisciplinary technology developments also for those who are interested in the sector's motivation like, e.g. decision-makers of development policy.

R&D priorities formulated in TEXPLAT are in harmony with directions chosen by the European Technology Platform for the textile and clothing industry. This enables to join the European R&D works. This process is helped by connections established within and outside the sector during the work carried on in the project. These connections form basis for further collaboration in innovations, networking and generation of new projects.

Budapest, 21th January, 2011

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