

**Opinion of the European Economic and Social Committee on 'Growth Driver Technical Textiles'
(own initiative opinion)**

(2013/C 198/03)

Rapporteur: **Ms BUTAUD-STUBBS**

Co-rapporteur: **Ms NIESTROY**

On 12 July 2012 the European Economic and Social Committee, acting under Rule 29(2) of its Rules of Procedure, decided to draw up an own-initiative opinion on

Growth Driver Technical Textiles

(own-initiative opinion).

The Consultative Commission on Industrial Change (CCMI), which was responsible for preparing the Committee's work on the subject, adopted its opinion on 12 March 2013.

At its 489th plenary session, held on 17 and 18 April 2013 (meeting of 17 April 2013), the European Economic and Social Committee adopted the following opinion by 172 votes in favour with 6 abstentions.

1. Conclusions and recommendations

1.1 The sector of technical textiles which registered positive economic and employment trends in the EU is an example of "traditional sectors" able to "reinvent itself" on new business model fully suited to the needs of the new industrial revolution (more smart, more inclusive and more sustainable).

1.2 Textile Materials and Technologies are key innovations that could respond to a huge variety of societal challenges. Technical textiles are enablers in other industries by proposing and offering:

- alternative materials: light-weight, flexible, soft, (multi)functional, durable;
- new technologies: flexible, continuous, versatile;
- functional components reliable, multi-functional, cost-effective, user-friendly parts of larger technology systems and solutions.

1.3 The European Economic and Social Committee draws the attention of the European Commission and of the European Parliament to the major factors of success that need to be encouraged in order to foster the growth of this promising sector:

- to put in place at national and EU levels simple and efficient means aiming at encouraging and financing technological and non technological innovation;
- to support all the necessary efforts enabling the work force to upgrade its qualification and to adapt its skills to the growing markets (health, construction, transports, cosmetics ...);
- to include in relevant EU R&D programmes a textile component, with the aim of fostering the substitution of traditional materials such as steel and cement by more

sustainable textiles materials, and to strengthen research of recycling of these materials as well as in the evolving area of the "CO₂ economy" (CO₂ as resource);

- to take into account the effect of any increase of energy cost on high energy intensive companies in the EU operating for instance in the non woven and composites manufacturing;
- to support industry in conducting life-cycle assessments in order to demonstrate the environmental sustainability of the products.

2. The sector of technical textiles in the EU

2.1 Definition of the sector and major markets

2.1.1 Technical textiles are defined as textiles fibres, materials and support materials meeting technical rather than aesthetic criteria, even if, for certain markets like work wear or sports equipment, both types of criteria are met.

Technical textiles bring a functional answer to a wide range of specific requirements: lightness, resistance, reinforcement, filtration, fire-retardancy, conductivity, insulation, flexibility, absorption and so on.

Thanks to the nature of the fibres (polyester, polypropylene, viscose, cotton, carbon, glass, aramid, etc.), as well as the choice of the most relevant manufacturing techniques (spinning, weaving, braiding, knitting, non-woven ...) including finishing processes (dyeing, printing, coating, laminating ...), technical textile producers are able to propose textile solutions offering the mechanical, exchange or protective properties suited to the specific needs of the final users.

Hence, the definition does not depend on the raw material, the fibre or the technology used, but on the end-use of the product itself.

The Messe Frankfurt, which is the world wide leader of technical textiles trade fairs with "Techtextil", has identified 12 major markets ⁽¹⁾:

In fact technical textiles are part of a wider field that David Rigby Associates terms the "engineering of flexible materials" ⁽²⁾, including foams, films, powders, resins and plastics. They are also a key component of composites which could be defined as a combination of two or more materials differing in form or composition with, in general, a matrix that could be in fibres, and a reinforcement stronger than the matrix.

2.2 Facts and figures

2.2.1 The EU textile and clothing industry

According to the latest EURATEX estimates, in 2011 the EU T&C industry reached a turnover of EUR 171.2 billion thanks to its nearly 187 000 businesses employing more than 1.8 million workers. The size of the companies is quite low (textile: 13, clothing: 9, total: 10) which explains why they principally trade within the internal market while the Community Extra-EU exports reached EUR 38.7 billion or 22.6% of the global sales.

2011	Household Consumption (EUR bn)	Turnover (EUR bn)	Companies (.000)	Employment (.000 pers.)	Extra-EU Imports EUR (bn)	Extra-EU Exports EUR (bn)	Trade Balance (EUR bn)
Clothing	304,0	77,5	131,4	1 117,9	67,7	18,4	– 49,32
Textile	166,5	93,9	55,5	716,4	25,4	20,3	– 5,06
TOTAL	470,5	171,4	186,9	1 834,3	93,1	38,7	– 54,37

Source: EURATEX revised data on members data and EUROSTAT - 2011

2.2.2 The EU technical textile industry

In its previous opinions on the textiles sector, the EESC has pointed to technical textiles as one of the most promising field of activity for European textiles companies, especially SMEs. EU industry plays a leading role in developing technical textiles already ⁽³⁾. This industry, thanks to its high innovation capacity, offers a potential for direct and indirect jobs and growth in the EU.

2.2.2.1 A subsector of textiles

The technical textiles industry in the EU represents, according to EURATEX, roughly 30% of the total turnover in textiles (excluding clothing), i.e. EUR 30 billion (it could be a higher market-share in some Member States like Germany: 50%, Austria: 45%, or France: 40%), 15 000 companies and 300 000 employees. Certain analysts consider that other parts of the EU industries should be added: a part of the textile machinery industry as well as the "textile" part of the manufacturing activities of other sectors like tyres or the revetment of roads or buildings with geotextiles. This is why the size of the EU technical textile industry as a whole could be even larger (up to EUR 50 billion).

⁽¹⁾ 1. Agrotech: agriculture, forestry, and fishing. 2. Buildtech: building and construction. 3. Clothtech: functional components of shoes and clothing. 4. Geotech: geotextiles and civil engineering. 5. Hometech: components of furniture, floor coverings. 6. Indutech: filtration and other products used in industry. 7. Medtech: hygiene and medical. 8. Mobiltech: transport construction, equipment and furnishing. 9. Oekotech: environmental protection. 10. Packtech: packaging and storage. 11. Protech: personal and property protection. 12. Sporttech: sports and leisure.

⁽²⁾ *Technical Textiles and Nonwovens: World Market Forecasts to 2010* By: David Rigby Associates available at: <http://www.fibre2fashion.com/industry-article/pdffiles/Technical-Textiles-and-Nonwovens.pdf>.

⁽³⁾ — Supplementary Opinion on the Communication *The future of the textiles and clothing sector in the enlarged European Union* (CCMI/009), adopted on 7 June 2004, rapporteur: Nollet.

— Opinion on the Communication *The future of the textiles and clothing sector in the enlarged European Union* (INT/220), adopted on 1 July 2004, rapporteur: Pezzini.

— CCMI Information Report on *The development of a European textile and footwear industry* (CCMI/041), adopted on 4 February 2008, rapporteur: Cappellini.

— Opinion on *The Proposal for a Regulation on textile names and related labelling of textile products* (INT/477), adopted 16 December 2009, rapporteur: Cappellini.

2.2.2.2 The EU in world-wide fibre consumption

Worldwide, the development of technical textiles production is illustrated by fibre consumption. Technical textiles consumed worldwide about 22 bn tonnes of fibres in 2010, representing 27.5% of a total consumption of 80 bn tonnes for all textile and clothing applications. Europe accounts for about 15% of the global consumption of technical textiles, as evaluated by CIRFS (European Association for man-made fibres).

	Fibre consumption (000 tonnes)
EU	3 437
Americas	4 111
China	7 100
India	4 020
Rest Of the World	3 812
World Wide	21 880

Sources: CIRFS, Edana, JEC

The EU market share in value is more important: it varies from 20% to 33% of the main sub-segments of the USD 230 billion world technical textile market including non woven and composites.

WORLD TECHNICAL TEXTILE MARKET STRUCTURE - 2011

2011	Mt	Billion USD	EU-Share	Growth rate
Technical textiles	25,0	133	20 %	+3,0%
Non woven	7,6	26	25 %	+6,9%
Composites	8,0	94	33 %	+6,0%
Total	40,6	253		

Source: INDA, Freedonia Group, IFAI, JEC

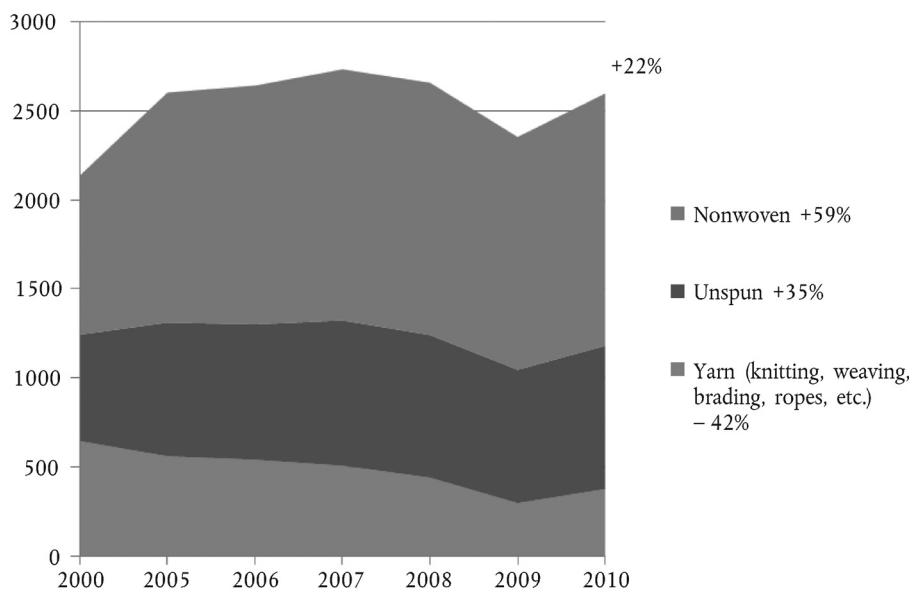
2.2.2.3 The EU-27 technical textiles exports to world in 2011

The top five exporters of technical textiles (DE, IT, FR, UK, BE) do represent 60% of the total exports to the world by the Member States. Moreover, the Member States whose technical textiles represent the highest share of their textiles exports (excluding clothing) are Finland, Denmark, Sweden, Czech Republic and Hungary (See Appendix 1: Share of Technical Textiles in 2011 textiles exports to world by Member State).

2.2.3 Recent trends in the EU technical textiles industry

2.2.3.1 The growth of non-wovens and of composites

In the past decade, the sector has grown by 22% as shown in the following figure presenting the development of fibre consumption by use (excluding fibreglass).



Source: CIRFS

The technical textile sector is undergoing significant industrial change with the growing importance of new applications (medical, sport and leisure, aeronautics, environment), and a radical move from traditional technologies (knitting, weaving, braiding etc.) to more recent ones (like composites or nonwoven technologies).

Growth in Europe is mainly driven by two technologies:

- Nonwoven with a growth rate of 60% over the past decade.
- Composites with a growth rate of 75% over the past decade.

2.2.3.2 A key position on three markets

"The top three applications areas in Europe also accounted for over 50% of total consumption, but in this case the areas were Mobiltech, Hometech and Indutech." (David Rigby Associates ⁽⁴⁾).

2.2.3.3 Euromed partnership

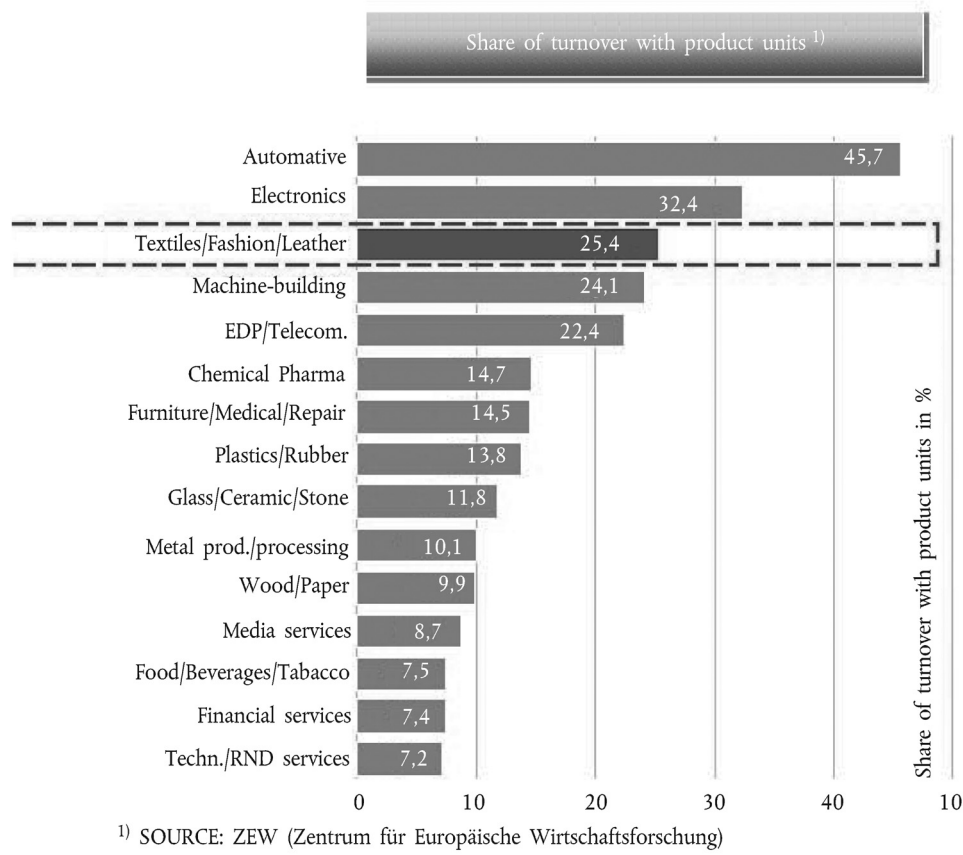
The EU textile and clothing industry has established a successful industrial partnership with the Euromed countries such as Morocco, Tunisia, Egypt in the fashion pipe line. Thus, lies for the future the opportunity to promote the EU investments on some technical textiles markets that are more mature, have a lower technological content, and are more sensitive to the price pressure from Asia.

In this regard, the situation of Turkey should be considered separately. Turkey is a key-player in the Euromed Fashion pipeline and has a powerful integrated textile industry, from raw material (cotton or synthetic fibres) to garments or home textiles. An increasing number of Turkish companies are active on technical markets (10% to 15%) and domestic consumption is dynamic.

2.2.3.4 High innovation capacity sector

Recent research in Germany did confirm that the technical textiles companies belonging to this cross-sectoral branch and material supplier to several industrial segments have a high innovative capacity realising more than 25% of their turnover from new innovative products, ranking third after automotive and electronics industries. (Source presentation of Mr Huneke during the 1st EURATEX Convention, Istanbul).

⁽⁴⁾ See footnote 1.



2.3 A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis

2.3.1 Strengths and opportunities

2.3.1.1 Strengths:

- an increasing level of R&D and innovation within the companies, whatever their size;
- efficient collective tools to support innovation at national level (textiles clusters, R&D centres ...), particularly in Germany, France, Belgium, Italy, Spain, Netherlands, Poland;
- efficient collective tools at EU level: the T (Textile) and C (Clothing) technology platform with many collaborative projects that have led to cross-fertilisation between applicative markets, textile companies and researchers; a European network involving the main textile technology institutes (Textranet) university networks (AUTEX) as well as a network involving the main innovative textiles regions;
- EU leaders in growing markets (Freudenberg, or Fiberweb for the nonwovens for instance);
- leading position of the EU in textile machinery manufacturing with 75% of the global market;
- the diversity of end-uses which is an asset in a period of low growth;

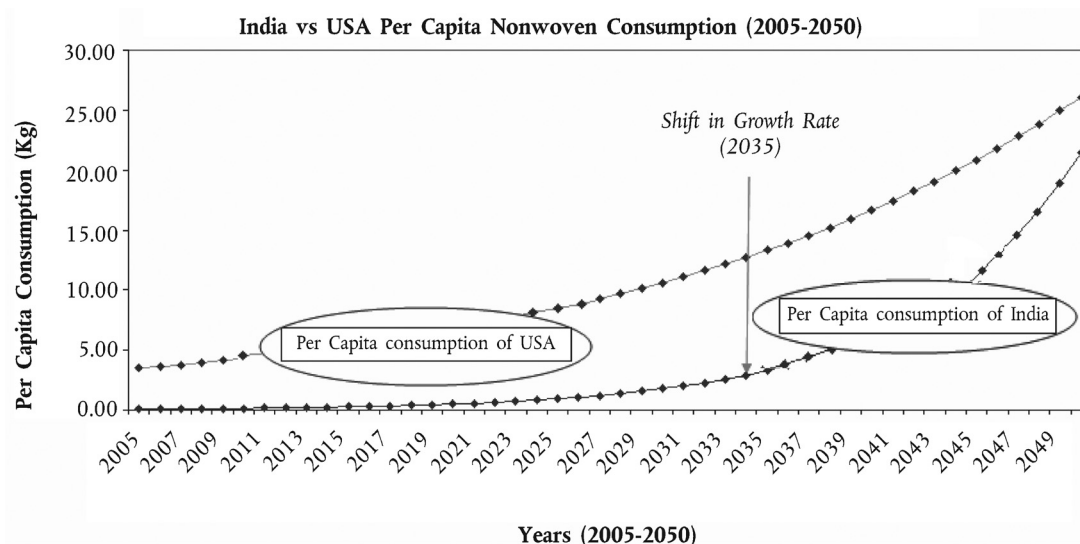
- a strong encouragement for personal protective equipment (PPE) considered by the EC as one of the six leading markets;

- better financial ratios in general than the other textiles and clothing companies (more value-added per employee, higher cash flow, higher level of margin ...);

- control of the leading worldwide trade fair (Techtextil).

2.3.1.2 Opportunities:

- growing needs of textiles solutions from the end-users: comfort and monitoring solutions for active life style, carbon emission reduction in transport (through reduced weight) and building (through thermal insulation), improvement of medical technology (nosocomial disease prevention, implants, health monitoring) ...;
- close cooperation between producers and customers in order to address very specific needs ("tailor-made solutions") and demand-driven innovation;
- growing demand for recyclability improvement, like for instance the replacement of foam by nonwovens, composite materials and in-vehicle cabin air filters;
- quick growth of technical textile consumption per capita worldwide and especially in China, India and Brazil.



Source: Texas Tech University: "India Rising: Opportunities in Nonwovens and Technical Textiles", Seshadri Ramkumar and Appachi Arunachalam, Nonwoven and Advanced Materials Laboratory, Texas Tech University, Lubbock, Texas.

2.3.2 Weaknesses and threats

2.3.2.1 Weaknesses:

- small and medium-sized companies with limited capacity for investment;
- more difficult access to credit;
- lack of attractiveness of the textile industry for young graduates;
- decline in production of natural and man-made fibres in the EU, leading to difficulties in innovating with the low number of grades of fibres available and an increasing risk of dependencies on imports;
- at the moment low recyclability of technical textiles compared to traditional materials;
- a high energy-intensive industry;
- specialisation on mature applicative markets, such as Mobiltech (with the critical situation of the EU car manufacturing industry) or Hometech particularly for carpets, furnishing fabrics and mattresses.

2.3.2.2 Threats:

- scarcity of raw materials and increasing prices (mainly synthetic, regenerated or inorganic fibres, polymers, spun yarns and filament yarns);

- increase in energy costs (gas and electricity) in the EU that could lead to a relocation in the United-States or in Asia of the production plants for the more energy-intensive producers (man-made fibres, non woven, dyers and finishers ...);
- growing competition from emerging countries and increasing market access barriers to those countries. Asia is already the first production region in tonnage in 2010 having multiplied by 2.6 times its production value;
- growing pressure on prices, particularly on mature markets;
- increasing risk of counterfeiting and copies.

3. The contribution of this dynamic sector to the challenges of the 2020 strategy

3.1 A smart growth

A smart growth will be based on a more innovative EU industry with a more efficient use of energy, new materials, ICT (Information and Communication Technology) support, and competitiveness on the part of companies, including SMEs.

The technical textiles sector can contribute proportionally to this smart growth in various ways:

- promoting best practices of transfer of technologies from one sector to another (cross-fertilisation);
- undertaking efforts to increase the energy-efficiency of the production;

- the ability to combine technological innovation and non-technological innovation: a lumbar belt should be efficient but also nicely designed for the patient;
- the capacity to foster creativity in the conception, the use and the end of life of the products/materials;
- the experience of upgrading the qualification of employees in order to conquer new markets ...;
- a dissemination of ICT in the every day life thanks to the smart textiles which are textiles communicating with their environment: "smart clothing" for elderly people monitoring and conveying critical physiological data to hospitals will help them to stay at home for example.

3.2 An inclusive growth

The EU technical textiles sector showed in a recent past a positive pace for job creation in many Member States with already some cases of labour and skills shortage that should be tackled.

An inclusive growth in the EU will maintain and develop our social model based on a high level of standards, a tradition of social welfare and a strong tradition of social dialogue. Vulnerable industries, territories and people should pay a particular attention in the EU policies and at national level in order to ensure that they benefit from economic growth, technological progress and innovation in their every day life.

The technical textiles sector can contribute at its scale in various manners to this inclusive growth:

- the ability to put on the market suitable and innovative goods and services for disabled, sick or elderly people: tailor-made garments, anti-fall garments, specific equipment for sports and leisure;
- the ability thanks to customisation to bring answers to demographic and social changes that generate increased demand for more sophisticated and personalised products and services (see some projects in the Prosumer.net - European Consumer Goods Research Initiative).

3.3 Sustainable growth

Sustainable growth in the EU means an energy- and resource-efficient economy with a capacity to meet its commitments in the fight against climate change and upcoming resource scarcity. The former is usually coined as "low-carbon economy", which refers to reducing CO₂ emissions. However, the technical textiles sector demonstrates a first example for a potential move towards an economy with carbon as resource.

The technical textiles sector can contribute proportionally to a sustainable growth in three major ways:

- by reducing emissions of CO₂ thanks to lighter materials in transports (composites for aeronautics and carbon fibres for cars);
- by offering concrete textiles solutions, for example in the fields of filtration, reinforcement and insulation for improving the energy efficiency in the housing and building sectors;
- by recycling PET from plastic bottles to produce polyester.

For the potential sustainable branding of technical textiles, EU companies should be encouraged to:

- consider eco-design when designing products and ways of production;
- perform life-cycle assessments (LCAs) of their products, which will play an increasingly important role in the future because until now traditional materials like metals are often cheaper to recycle.

Three main issues related to carbon fibres are pending:

- the first one is to develop, in anticipation of the end of petroleum age, a EU recyclable carbon fibre based on natural fibres ⁽⁵⁾;
- the second is to develop methods for recycling that would allow the complete recycling of textiles consisting of blended fabrics (80-90%);
- the third one, of a more ambitious nature, will be to support industry and the scientific community in developing suitable processes for using carbon from CO₂ as resource, e.g. by transformation through accelerated photosynthesis or other approaches. Research is already undertaken in the context of other applications, but should be intensified (towards a "CO₂-economy" ⁽⁶⁾).

[See in Appendix 2 a qualitative comparison of the environmental impacts of traditional materials *versus* technical textiles in 3 examples.]

4. The key factors of success that need to be encouraged at EU level

4.1 Upgrading and transmitting skills and know-how

4.1.1 The role of education is key for the development of this sector: universities, engineering schools in textiles, plastics, flexible materials, and so on. EU companies need to have access to young professionals with the required skills for these new markets: a more qualified workforce, engineers with various skills in textiles, but also in chemicals, plastics and resins, car manufacturing, construction, and so forth.

The role of training and qualification for the employees is also key. A priority should be given at national level to a shift of the more relevant skills from mature markets to growing markets.

⁽⁵⁾ This path, however, has limitations due to the required land and conflicts with food production (as occurred in the context of biofuels already).

⁽⁶⁾ See for example www.bio-based.eu, www.nova-institut.de VCI /Dechema, 2009: Positionspapier – Verwertung und Speicherung von CO₂.

For this reason, the European Economic and Social Committee supports the work done by the sectoral European Skills Council Textiles-Clothing-Leather (ESC-TCL), which was set up in 2011 by the social partners with the financial support of the European Commission, and asks this Council to assess the specific skill needs of technical textiles companies.

4.1.2 Given the fact that the rapid development of new applicative markets is rather recent, there is a need to promote the new opportunities for jobs in this sector. The project to link the various existing Observatories of skills and jobs should be encouraged. This promotion task is particularly urgent because of the bad image of the textile industry.

4.2 *The access to non-technological and technological innovation and the means to bring to market new products and services*

In Horizon 2020 for the period 2014-2020, the European Commission has identified three main priorities:

- societal challenges;
- leadership in enabling and industrial technologies;
- excellence in the science base.

The European Economic and Social Committee supports the key changes of Horizon 2020, compared to the former FP7:

- raising industry and SMEs' participation and benefits;
- more smaller projects with fewer administrative burdens (maximum duration of 2 years, 3 to 6 partners);
- a clear commitment to innovation support, including non-technological innovation.

4.2.1 The Economic and Social Committee supports COSME because it offers means to help SMEs in the consumer goods sector to bring to market innovative consumer goods through market replication projects and initiatives using new business models.

4.2.2 On the basis of the experience of the various collective tools at national and EU levels (already mentioned), some specific needs have emerged for this sector:

- developing a simple, SME-friendly form of communication concerning R&D programmes linked to new products and to new materials because a large part of them have textiles connections;
- support of industry-academia research collaboration and innovation structures (EU Technology platform for the

Future of Textiles and Clothing, councils and networks at national level, innovative clusters at regional level ...);

- ensure communication and interaction between such structures across the EU and similar structures in other industries to foster cross-sectoral innovation;
- proposing new, ambitious funding in Horizon 2020 for textile recycling (both waste from production and finished products), in order to improve the recycling performance of textiles compared to those of the paper, or glass industries. The revision of the waste directive is an opportunity to organise the textile recycling sector;
- intensify research on approaches for CO₂ as resource, including accelerated photosynthesis.

4.3 *The challenge of access to finance*

4.3.1 *The access to funding from banks*

The implementation of the new solvency rules of Basel III ⁽⁷⁾ will lead to more restrictive credit activity in the banking sector because of the higher level of share-holders equity required by bank regulation authorities. This limitation on credit will have a strong impact on SMEs, in particular in industrial sectors.

The access to funding for various investments (investments in machines, new technologies, external growth, purchase of patents, etc.) is a key factor for the development of technical textiles in the EU.

The access to funding from banks is generally more difficult for SMEs having a rather low level of equities (own funds) which, on top of it, could be put at a disadvantage by a negative sectoral rating.

4.3.2 *Access to funding outside banks*

The share of non-bank funding in the economy is limited in the EU compared to the USA: 1/3 versus 2/3. Thus efforts aimed at fostering access to financial markets for SMEs and promoting business angels and equity funds should be encouraged.

Technical textiles companies have certain features that could attract private investments: they are often family businesses; their leaders are often engineers, with scientific backgrounds (like for instance certain French start-ups launched by surgeons in order to develop specific surgical yarns and prostheses); and the share of turnover invested in R&D is higher than in the so-called "traditional industries" (see above 2.2.3.4).

⁽⁷⁾ These are the new capital and liquidity rules for banks.

4.4 *The protection of Intellectual Property Rights (IPR) inside and outside the EU*

SMEs generally underestimate the value of their intangible assets. They should be helped to protect their Intellectual Property Rights (IPR), especially in the field of patents, brands, while models and designs are more important for the Fashion and Home markets.

The European Economic and Social Committee makes a plea for rapid implementation of the European patent, which will bring simplicity and uniform, affordable protection for the EU's innovative SMEs within the limits of "patentability" (specific swot analysis for the type of innovation, market and profile company).

At the global level, European companies are the victims on a large scale of copying and counterfeiting. The European Commission should help them to protect their rights in major emerging markets such as China, India, Brazil or Mexico. The problems of protecting brands, designs and models are already well known in the creative industries. Protection of patents for textile machinery, new fibres and new processes adding new functionalities should be reinforced in the IPR Action Plan of the European Commission.

4.5 *Access to public procurement in the EU and abroad*

Public procurement represents a powerful lever to create jobs, encourage sustainable development and stimulate innovation within the technical textiles business⁽⁸⁾. In the EU the requirements should include economic, social and environmental criteria. Public buyers should be actively encouraged and trained in how to "mitigate" price criteria and extra-price criteria (practical guidelines).

Access to European public procurement should be limited for foreign companies operating from abroad not in compliance with EU social and environmental standards, and access to foreign public procurement should be improved for EU companies.

The European Economic and Social Committee supports the proposal for regulation dated 21 March 2012 which aims at full reciprocity between the access to EU public procurement for non-EU companies and access to non-EU public procurement for EU companies⁽⁹⁾.

⁽⁸⁾ See also CCMI Information Report on *The development of a European textile and footwear industry* (CCMI/041) CESE 1572/2007, adopted on 4 February 2008, rapporteur: Cappellini.

⁽⁹⁾ European Commission Proposal for a Regulation on the access of third-country goods and services to the Union's internal market in public procurement and procedures supporting negotiations on access of European Union goods and services to the public procurement markets of third countries, COM(2012) 124 final, 21.3.2012, available at: http://ec.europa.eu/internal_market/publicprocurement/docs/international_access/COM2012_124_en.pdf.

4.6 *Access to third markets*

DG Trade is now fully aware of the offensive interests of the entire EU textile and clothing industry, and the EC is already attentive to understanding and eliminating the various tariff and non-tariff barriers.

The European Economic and Social Committee asks DG Trade to take into account, in the ongoing and future bilateral negotiations (India, Canada, Japan, USA ...) the specific needs of technical textiles:

- by paying more attention to investments (and not only exports);
- by paying more attention to all those customs headings which are not specifically included in Chapters 50 to 63 (from yarns to garments), for instance glass fibres fabrics (HS 70.19) or non-woven hygiene products (HS 96.19);
- by further investigating the problems faced by EU companies in their access to public procurement abroad in fields such as workwear, hospitals, etc.;
- by including, for instance, in a future Transatlantic agreement, some commitments on standardisation.

4.7 *Access to critical raw materials*

More than 80% of the fibres used in technical textiles are synthetic. Some of them are available in large volumes and at affordable prices, like polyester, while others, like carbon fibres, aramid, glass fibres or high tenacity yarns, are more costly and generally produced outside the EU.

The EU technical textiles industry is dependent upon non-EU suppliers that could be tempted by restrictive trade measures, as was the case with India in 2011 with restrictive trade measures on cotton raw material and on cotton yarns.

For this reason the European Economic and Social Committee asks the European Commission to:

- take into account, where necessary, the critical raw materials for technical textiles in its raw materials "diplomacy";
- encourage production of natural fibres - flax, hemp, wool, cellulosic fibres - and biopolymers, so as to secure for the textile industries home-grown resources in raw materials.

5. Appendix 1

Share of Technical Textiles in 2011 textiles exports to world by Member State (excluding clothing)

Member State	Share TechText in Textiles only exports	Export size €	Share in total	Member State	Share TechText in Textiles only exports	Export size €	Share in total
AT	21 %	545 836 380	2,5 %	LT	39 %	178 787 500	0,8 %
BE	28 %	1 664 943 280	7,5 %	NL	31 %	1 499 620 840	6,8 %
BG	23 %	94 353 020	0,4 %	PL	42 %	723 561 280	3,3 %
CZ	46 %	1 075 687 960	4,9 %	PT	23 %	383 053 520	1,7 %
DE	37 %	5 471 826 120	24,8 %	RO	24 %	237 749 020	1,1 %
DK	55 %	696 198 480	3,2 %	SE	65 %	558 986 660	2,5 %
EE	40 %	44 819 560	0,2 %	SK	36 %	262 766 180	1,2 %
FI	61 %	201 378 760	0,9 %	SL	37 %	221 994 210	1,0 %
FR	35 %	1 781 833 080	8,1 %	SP	28 %	963 521 670	4,4 %
GR	16 %	106 778 290	0,5 %	UK	40 %	1 683 055 490	7,6 %
HU	47 %	356 668 170	1,6 %	Other 5 ^(*)	65 %	712 194 990	3,2 %
IT	23 %	2 608 481 980	11,8 %	EU Countries	33,3 %	22 074 096 440	100 %

(*) : Cyprus, Ireland, Luxembourg, Latvia and Malta
Source: EURATEX calculation on CITH data

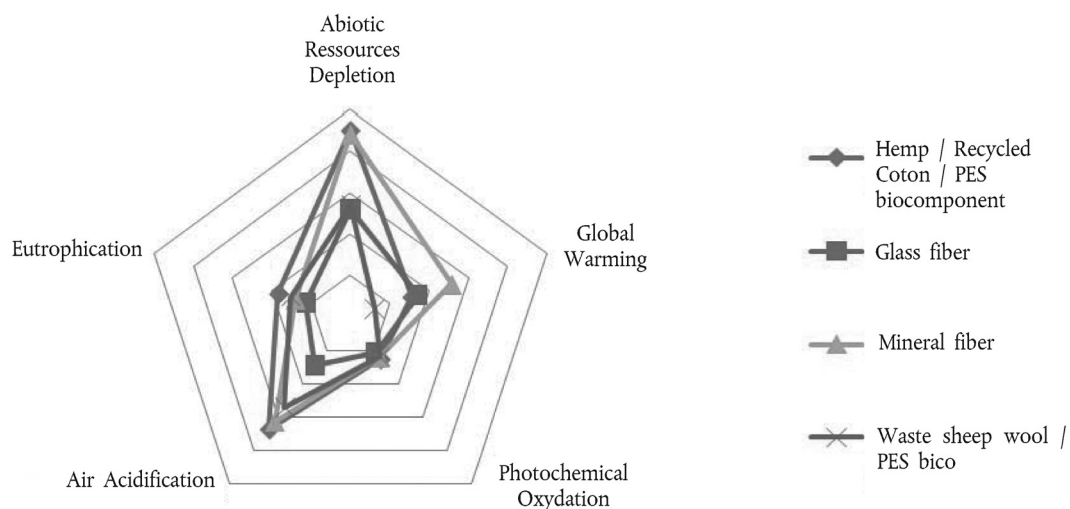
6. Appendix 2 Qualitative comparison of environmental impacts of traditional materials versus technical textiles in 3 examples

February 2013, IFTH – The French Textile and Apparel Institute

Detailed and scientifically based environmental comparisons are preferably done using LCA (Life Cycle Assessment). One major drawback of this tool is the amount of data to collect and to exploit, and also the important number of hypothesis which can be used, making difficult to compare and interpret LCA between them.

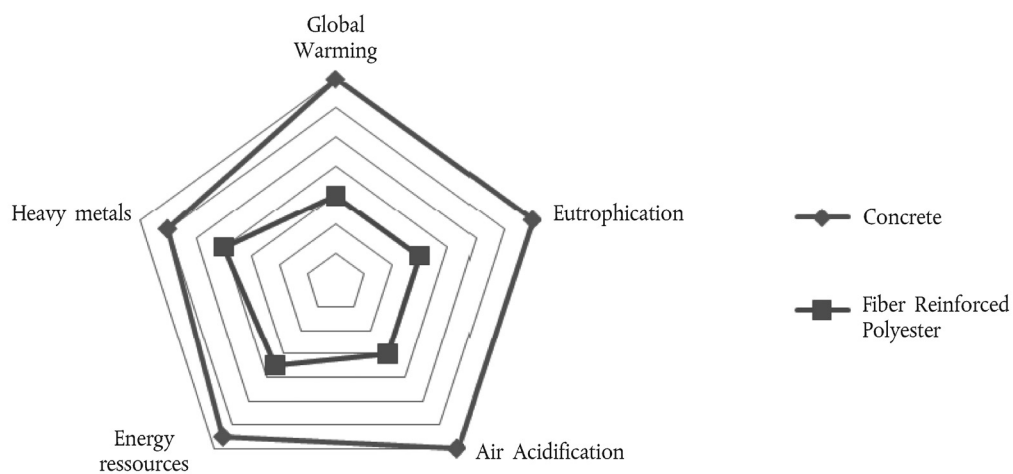
In order to give an insight of the environmental interest of using technical textiles, we gather, as example, the results of Life Cycle Assessment comparing textile material with traditional materials in 3 different applications. These applications were chosen among building and transportation products. Those 2 sectors, together with food and beverage, account for 70 to 80 per cent of the whole life cycle impact of products in Europe (Environmental Impact of Products (EIPRO), Analysis of the life cycle environmental impacts related to the final consumption of the EU-25 (http://ec.europa.eu/environment/ipp/pdf/eipro_report.pdf)). Results presented are based on the normalized value (except for the third one for which the normalised value was not calculated in the study) and concern for the major environmental impact for each product. The results show some significant advantages in terms of better environmental performance of technical textiles.

6.1 1 Building - Insulation



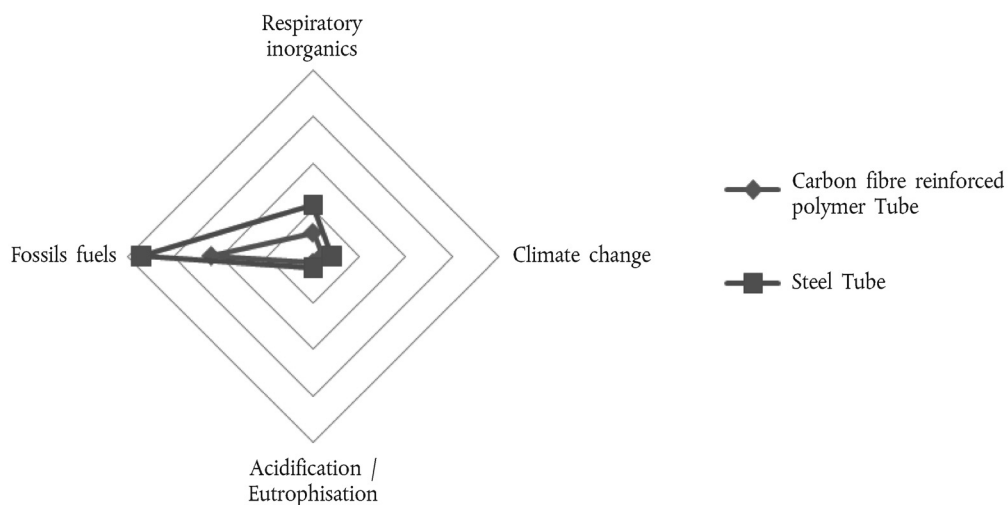
Source: Defra, 2008, Life Cycle Assessments of Natural Fibre Insulation Materials

6.2 2 Building – Water tank



Source: E. Fekka, F. Flager, N. Frieden, T. Mercer, S. Russell-Smith, 2008, LCA comparison of two aquarium tank systems: fibre-reinforced plastic and concrete.

6.3 3 Air Transportation – Structural Tube



Results given for the whole lifecycle for 10 000 km.

Source: L. Scelsi, M. Bonner, A. Hodzic, C. Soutis, C. Wilson, R. Scaife, K. Ridgway, 2011, *Potential emissions savings of lightweight composite aircraft components evaluated through life cycle assessment*, eXPRESS Polymer Letters, Vol. 5, No 3 (2011), p. 209–217.

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The President
of the European Economic and Social Committee
Henri MALOSSE