

technical textiles
e x e c u t i v e

COMMERCIALISING INNOVATION

Releasing the potential
of the UK Technical Textiles Industry

September 2004

CONTENTS

	Page
TECHNICAL TEXTILES EXECUTIVE	2
EXECUTIVE SUMMARY	3
INTRODUCTION	4
PROCUREMENT	5
TECHNOLOGY	6
SMEs	7
REGIONAL	8
INTERNATIONAL	9
SKILLS	10
REGULATION	11
THEORETICAL CASE STUDY	12

TECHNICAL TEXTILES EXECUTIVE

The Technical Textiles Executive is a results driven organisation formed by industry leaders to increase the sales of and add value to the UK technical textile industry

The objective of the Technical Textiles Executive is to increase the profits of its members and in so doing to grow UK technical textiles into a robust industrial sector

The Technical Textiles Executive is a non-profit making, independent body founded on the principle of collaboration in a spirit of mutual self-interest.

EXECUTIVE SUMMARY

A technical textile is a product in which function and performance are the prime properties. The industry embraces all market segments from extreme sports apparel to aerospace. The materials are already a major part of our lives.

The size of the technical textiles market in Western Europe is approximately £12 billion and £50 billion world wide¹. It has grown at approximately 10% per annum for the last decade and is predicted to continue growing at this rate for the next ten years driven by new and evolutionary market challenges.

Pressure on manufacturing in Western Europe will continue as China and others become increasingly important as the suppliers of low cost commodities into our supply chain. Manufacturers of the future will have to manage the route to market by combining product research and capital investment with outsourcing and local production.

Despite the extraordinary growth and range of opportunities, the UK requires nurturing if it is to catch up with the rest of Western Europe in technical textiles development. The UK technical textiles industry is currently unprepared for the changes that need to be made. The support provided by government is wasted on a fragmented industry and its true potential remains unrealised.

The Technical Textiles Executive believes that the barriers to future growth could be actively overcome if:

- * The industry works with government to identify the global sales opportunities that suit its SET² base, using them to form the basis of an industry business plan with the target of doubling the current UK technical textiles turnover of £1 billion within the UK in 5 years
- * DTI resources are targeted at a Premier Group of the technical textile companies (large or small) most likely to succeed in innovating and supporting this growth
- * The "Premier Group" works together alongside universities on R&D projects linked to UK procurement through the Technology Strategy
- * Capital investment grants and allowances are directed towards companies capable of driving costs down by investing in technology that allows them to move up the supply chain from importer to manufacturer

¹ Source: Techtexsil

² SET: Science Engineering Technology

INTRODUCTION

The Department of Trade and Industry has prioritized seven areas that will require innovative products and services in the future, namely:

1. Healthcare in an Ageing Society
2. A more Secure Environment
3. An Intelligent, Connected World
4. Sustainable Production and Consumption
5. Environmentally friendly Transport Systems
6. Renewable and Sustainable Energy Supply
7. The Modern Built Environment

The Technical Textiles Executive has considered how these future market needs can be satisfied by implementing the strategy outlined in the Innovation Report. The Report focuses on seven key business areas in which investment must be made: procurement, technology research, international sales, SMEs³, skills, funding through the regions and regulation.

The aim of our report is to bring these elements together into a co-ordinated, results - driven, commercial strategy that adds value and grows the industry while at the same time reducing government costs by targeting resources more effectively.

Our views and recommendations are contained in the pages that follow.

³ SME: Small to Medium Enterprise. EC Definitions (Effective 1st Jan 2005) : Medium – Headcount <250 and/or Turnover of <£50million; Small – Headcount <50 and/or Turnover <£10 million; Micro – Headcount <10 and/or Turnover <£2 million

PROCUREMENT

Public spending should be used to stimulate innovation. However, the process should be managed in order to consider 'whole life costs' and not just price in order to deliver better value.

Public bodies need to be 'intelligent customers'. In order to ensure that UK innovation is driven by procurement and that high technology, high value manufacturing jobs are created in the UK, it is necessary that procurement officers are provided with the necessary training and skills.

It is important that, for its own products, the technical textiles industry remains the main supplier to the public sector although we recognise that many products can now be sourced at a lower cost from low wage economies. Fortunately, since industry already sources raw materials and finished products globally it can function as distributor and manufacturer.

The aim of the technical textiles industry should be to add value on behalf of UK tax payers. The aim of the procurement sector should be to work with the industry to identify areas of product development worthy of government support through the Technology Strategy. The end result should be new products that benefit the UK tax payer and provide further export sales opportunities for the industry.

It is most important that government lays out the various supply routes into the procurement process and also how research and procurement are linked through the Technology Strategy. SMEs, who have historically been excluded, should be brought into the procurement process as members of "Prime Vendor" groups with membership conditional on their formal commitment to collaborate and share knowledge.

TECHNOLOGY

In order to compete successfully in global markets, UK manufacturers must concentrate on high technology and high value markets. There are opportunities for innovation in process technologies, materials science and incremental product development.

Collaboration is poor between industry and academia as well as between competing university departments. Often incremental research could be helped by reference to previous publicly funded research, currently unavailable. Dissemination of information through conferences and seminars rarely covers incremental research.

It is most important that industry-driven research is linked to procurement and procurement should be linked to international sales. SMEs need to be brought together to collaborate in large research projects that are linked to procurement. Patent pools should be created to defend against competition that threatens innovation.

Day to day informal links should be created between industry and academia as the first building blocks for nation-wide collaboration. Whilst incremental research should be conducted by industry, the major research process should be linked to the Technology Strategy as well as directed at producing more scientists and technologists for the future. Funding of both industry and university research should be co-ordinated nationally.

SMEs

SMEs are key innovators and yet they are largely excluded from the procurement and major research processes. Whereas the companies most likely to grow and innovate are medium to large organisations (£2 million - £50 million), DTI resources are directed at start ups and small SMEs. The effectiveness of the resource is reduced further by being available equally to all companies irrespective of their growth potential.

Officers in Business Link who we talked to were excellent, committed individuals. However, they were confused about the message they were taking from government to industry. Most saw themselves as responsible for job creation, were confused about what the Innovation Report meant for them and were often recommending support packages that no longer exist.

Support should be available to good businesses irrespective of size. Leading companies should be selected on the basis of GVA and formed into a Premier Group. That group will become the core of the industry and subsequently expanded to include rising start-ups and the like. The Technical Textiles Executive should lead collective bids for procurement business and research funding on behalf of that group of companies. DTI support packages should be available to this group with the minimum of paperwork. Deliverers of these packages such as Business Link should be clear about their function in adding value and growing the industry nationally. UK Trade and Investment should help SMEs with both their sales and purchase requirements. It is important that UK manufacturers are not disadvantaged by regulation in relation to our EC competitors.

Business Link and Skillfast should work with SMEs to establish a national skills strategy for the industry. A small grant system should be created to allow SMEs to undertake incremental research.

Technical textile companies with more than 250 employees will help small companies grow and should not be excluded from the process of growing the industry. Support should be available to all companies within the Premier Group irrespective of size. SMEs are isolated from commercial and academic knowledge transfer networks. SMEs require a national and local system of information exchange that will enable individuals to apply best practise, solve problems, source products and exploit opportunities.

Government policy should ensure that the delivery of support services to SMEs should not be weighted regionally. Firms with growth potential should be the principle focus of the DTI when delivering their support.

REGIONAL

Technical Textiles is a national rather than a regional industry. This is true in terms of both manufacturing technology and research and development expertise.

In order to manufacture a product that will satisfy a market need, it is often necessary to use a number of manufacturing technologies or research facilities located in different regions.

We recognise that RDAs are key drivers of industrial development. However, due to the differences between regional policies, Technical Textiles is not always a priority. Distribution of funding is regionally based and often draws geographical boundaries that bear no relation to the needs of the industry. As the Technical Textiles industry is based UK wide it would benefit from regional support being available as equally as possible to companies that are members of national groups whatever the region in which they are located.

RDAs should pool funding for international projects such as trade missions, exhibitions, market research, promotional activities. They should also ensure that skills policy is applied equally throughout the regions.

The Technical Textiles Executive will work with RDAs and devolved DAs to co-ordinate activity and support for the Technical Textiles Industry. Where possible, this will include the co-ordination of procurement and working with industry clusters across a number of different RDAs and DAs where such collaboration will add value for all parties.

INTERNATIONAL

Government market research, PR and exhibition resources are provided on an ad hoc basis with no overall strategy for developing or maintaining the technical textiles sector. There is no reference to industry strengths and weaknesses and how these link back to procurement, research and our skills base. This needs to become a market-driven process that establishes the basis for investment decisions by both industry and government.

UK Trade and Investment should develop a sales strategy with the technical textile sector that matches the industry's range of products and processes with the available routes to market. Preference should be given where links to procurement and the technology strategy are made. UK Trade and Investment should also help SMEs source lower cost raw materials and generally drive the cost of the supply chain down.

A national brand identity is required for the industry that reflects the technological advantages offered by UK manufacturers over their competitors. The industry should establish a web-based information exchange to improve best practise in international trading. Overall budget control and strategic planning for the overseas marketing of the technical textile industry should be the responsibility of a single agency.

SKILLS

The UK educational system does not currently produce the science and technology graduates required by the technical textile industry. There is a need to increase both the number of science and technology graduates and also the number which have the required combination of skills. The UK industry is also managing the change in the skills it requires. Large companies replacing commodities with added value products, need to implement a cultural change and introduce the skills associated with innovation. In contrast to this, young innovative companies already have the necessary skills in place but lack management and production systems.

The level of skills available in many SME's is lower as a result of the demise of large companies such as Coats Viyella who were responsible for training managers who would leave to start their own companies. As a result many SMEs under-perform. Ideas are exploited weakly with little 'out of the box' thinking.

Manufacturing industry may not be perceived as an attractive career choice. We need to improve and promote its image to the technology and commercial graduates it needs.

Government has already declared its interest in UK manufacturing industry and we need to ensure that we attract well qualified young people into our industry. With this in mind, we will support government's own efforts to attract skilled young entrants into manufacturing. We will continue to work with our Sector Skills Council in drawing up a Sector Skills Agreement.

Whilst working to create a Sector Skills Agreement, we will review existing NVQ qualifications and consider how these may be improved in order better to reflect the qualifications and skills required by the industry.

The technical textiles industry needs highly skilled people able to create wealth through innovation. For this they should be highly rewarded which will in turn draw people into the industry.

Peer group information exchanges should disseminate knowledge and encourage best practise quickly and cheaply.

Leadership training should be available to small and medium sized companies. Middle management would benefit from local peer group networks and there should be assistance for bringing shop floor operators into management.

REGULATION

In order to create a level playing field, the UK should interpret and apply EU legislation in a manner that is equal to the manner in which it is interpreted and applied by other member States.

Industrial countries with the least level of regulation are most likely to succeed as regulation can severely limit the rate of innovation. The problems thrown up by particular areas of employment law combined with an increasingly litigious culture are an example. The effect of European standards being adopted in the UK but not elsewhere is another example although some, such as CE marking, can be helpful as a barrier to competitors and enable companies to recoup innovation costs.

SMEs do not currently have a voice in the legislative process. It is therefore important that technical textile SMEs, through a representative body, should be consulted on legislation affecting the workplace and represented on textile-related quality standard bodies.

THEORETICAL CASE STUDY

The NHS wishes to procure hospital theatre and ward apparel.

A “Premier Group” of leading innovative companies under the umbrella of “Prime Vendor” win a substantial NHS contract for the supply of hospital theatre and ward apparel. Some products they manufacture themselves whilst others they have made under their direction in low wage economies. The group bid is awarded on the basis that they have persuaded the NHS that their package will provide best value for money.

One of the factors playing in the favour of the group is the fact that they are leading technology companies who, together with a number of universities, have applied for a Healthcare in an Ageing Society Technology Strategy grant to undertake a project to eradicate the problem of cross-infection in hospitals via textiles. Their access to the NHS as suppliers will enable them to work with hospitals as part of the project which could save the NHS a large sum of money.

The Premier Group have retained UK Trade and Investment to study the market for “bug resistant” fabrics in overseas markets. The research indicates that there is an excellent opportunity for UK manufacturing.

Impressed by the commercial opportunity, potential savings, and the number of SMEs and universities (over 50) involved in the project, the Technology Strategy Board awards the grant.

It is a challenging piece of research work that interests the graduates involved in the textiles industry. The number and variety of companies and universities participating leads to regular meetings between the parties and the setting up of a virtual information exchange. The work leads to a number of patents.

At the conclusion of the project, industry and academia have developed materials that reduce or eliminate cross-infection. Through working with the NHS, industry has improved its knowledge of the needs of this customer and will be a better supplier in the future.

The new materials have reduced hospital costs and added value to the procurement process. As a result substantial markets are found for these materials internationally. Predators are managed through “cross-infection” patents and also the wider knowledge pulled together within patent pools. The skills in our SET base have been enhanced. The international community recognises the UK as a centre of excellence for finding practical solutions in technical textiles through the application of science.