Opportunities and Business Strategies in Textiles: The Role of Man-made Fibres

Colin Purvis

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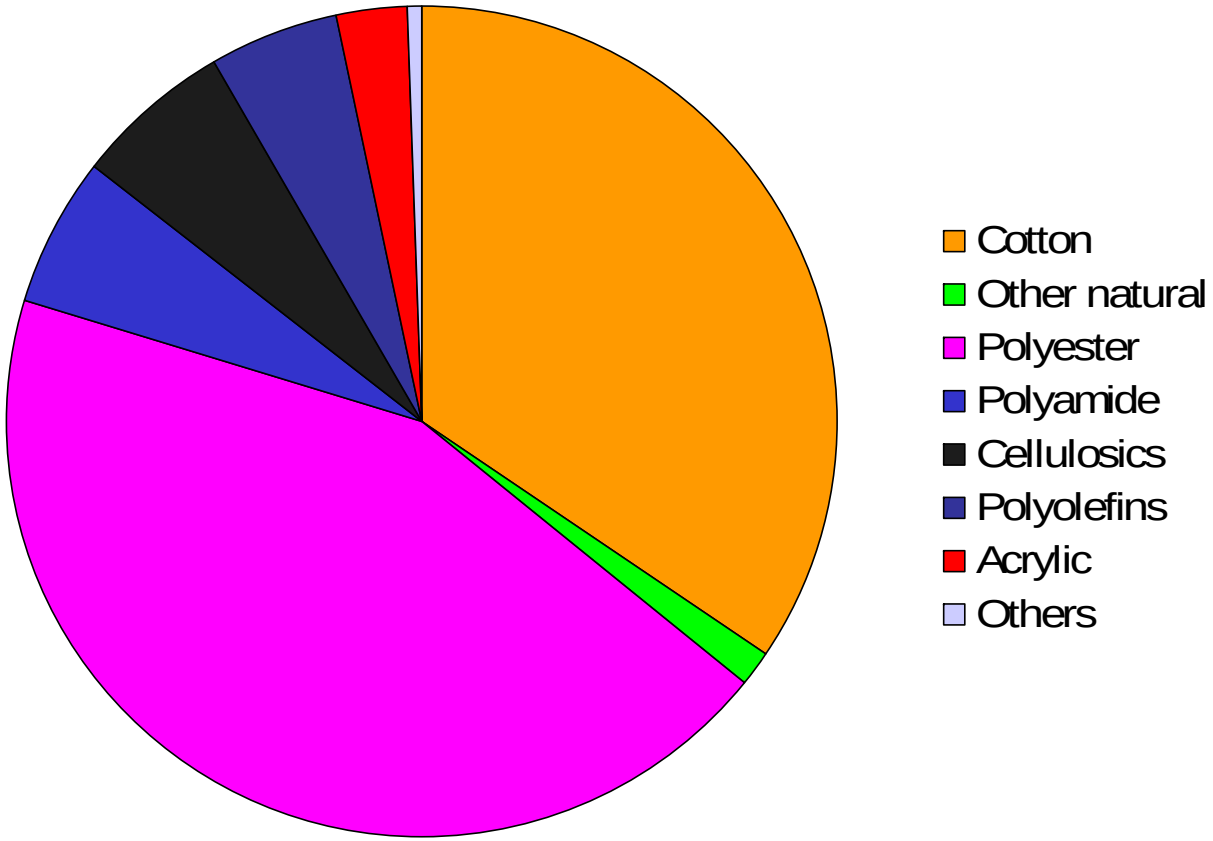
Textiles Begin with Fibres

- 73 million tonnes of fibres were used in textiles in 2010
- Polyester, at 34 million tonnes, led in world consumption, and its lead is widening in 2011
- Cotton retains a large (but declining) market share
- Other natural fibres have a niche role
- Globally, 64% of all fibers are man-made
- Cellulosics, polyamide, acrylic and polyolefins have strong positions – but much smaller than polyester
- Specialist man-made fibres – like spandex, aramid and a wide range of technical fibres – have growing importance

Fibre Usage in Textiles 2010

73 million tonnes



Natural Fibres Will Keep a Market

- **Over 26 million tonnes of natural fibres – mainly cotton - are currently used in textiles**
- **Cotton has many desirable characteristics but high prices and resource limitation are threats**
- **Wool has defendable niche positions – provided that prices do not move too high**
- **Silk has its own small place in luxury textiles**
- **Natural fibres with technical uses – like jute and sisal – will decline further**
- **« Natural » origin appeals to some customers – but approach with care!**

But Man-made Fibres will Dominate Globally: Why?

- A wide range of fibres, each with its own characteristics
- High performance/cost ratio
- Versatility
- No land or water resource blockages
- Ability to engineer specific properties
- Durability, and resistance to degradation
- Strong innovation effort
- Good environmental story

Cotton

- Cotton has lost its global textile leadership to polyester, but is a strong number 2
- It retains its textile lead in many cotton-growing countries
- Appreciated for its comfort and, in many countries, for its « natural » origin
- Supply and price factors are a threat
- Water usage is likely to become a major issue






Opportunities and Challenges for India in Cotton

Opportunities

- Long cotton tradition
- Local supply
- Strong Indian spinners and weavers
- Building on good perception of cotton in world markets: comfort and « natural » origin

Challenges

- Global supply and price trends
- Competition in India for available arable land
- Limited uses in high-growth technical applications
- Limited applications in nonwovens
- Competition from man-made fibres

Polyester Fibres

- **Polyester is the world market leader in fibres – 47% volume share**
- **India is the second largest producer – but a long way behind China**
- **Staple has strong positions in apparel, household and nonwovens – and is perfect for blending with cotton**
- **Filament has wide uses: apparel, household, automotive, technical, carpets**
- **Technical uses and nonwovens have big opportunities in India, on top of established position in apparel and household**

Opportunities and Challenges for India in Polyester Fibres

Opportunities

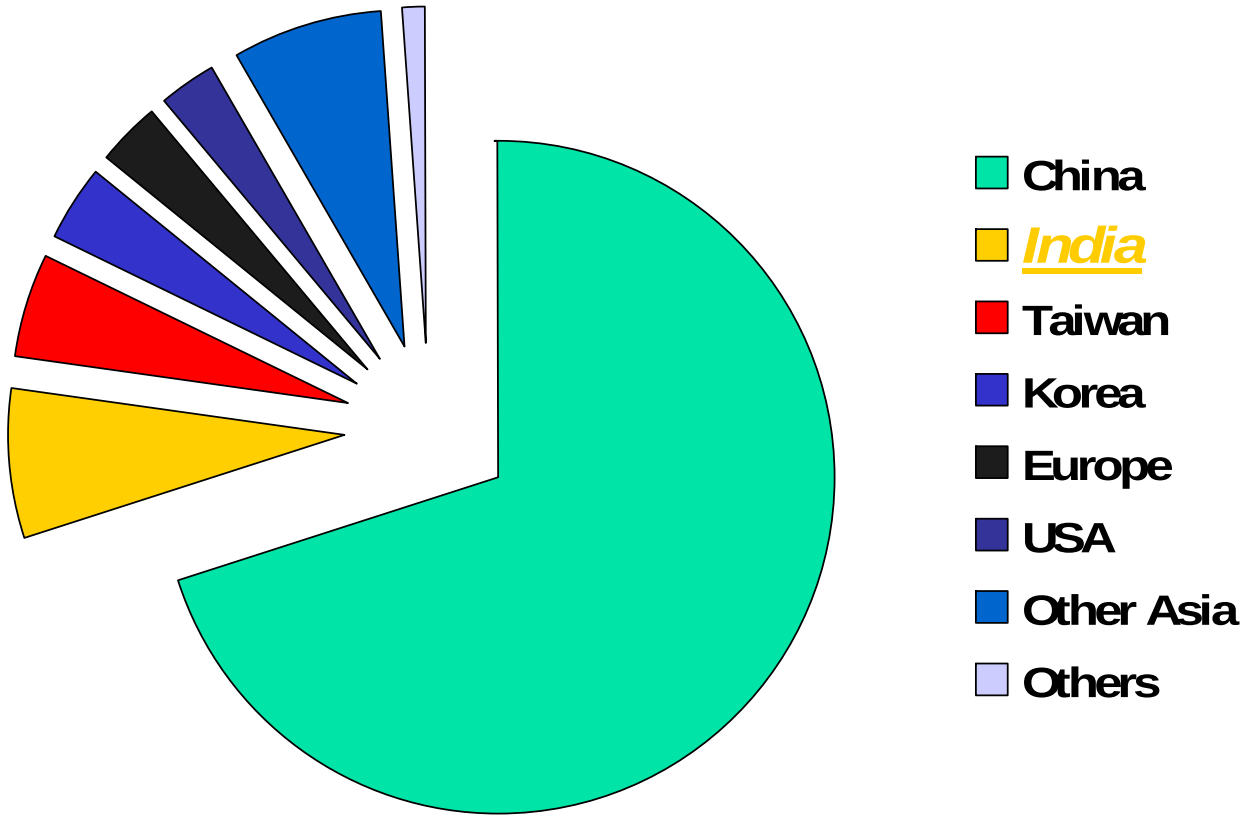
- High market growth in India
- Polyester is versatile
- Price/performance ratio is outstanding
- Blendability with natural fibres
- Untapped opportunities in technical and nonwoven applications
- Polymer modification gives additional properties
- Strong Indian producers
- Recycled PET in some applications (sustainability)

Challenges

- Dominance of China
- Global over-capacity, long-term trend of low margins for fibres in world markets
- Will Indian textile exporters achieve breakthrough?
- How much will the Indian market for speciality and technical polyester textiles grow?

China Dominates in Polyester Fibres

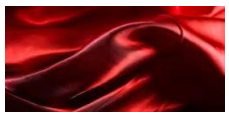
34 million tonnes



Cellulosic Fibers

- Viscose staple has same comfort characteristics as cotton – absorbency is positive factor
- Good for blending with cotton or synthetics in apparel and household uses
- Applications in technical textiles are growing – especially in technical nonwovens,
- Lyocell has increasing uses
- Cellulosic textile filament retains niche positions
- Cellulosic technical filament has outstanding properties for specific uses (India is global No. 2)



Opportunities and Challenges in India for Cellulosic Fibres

Opportunities

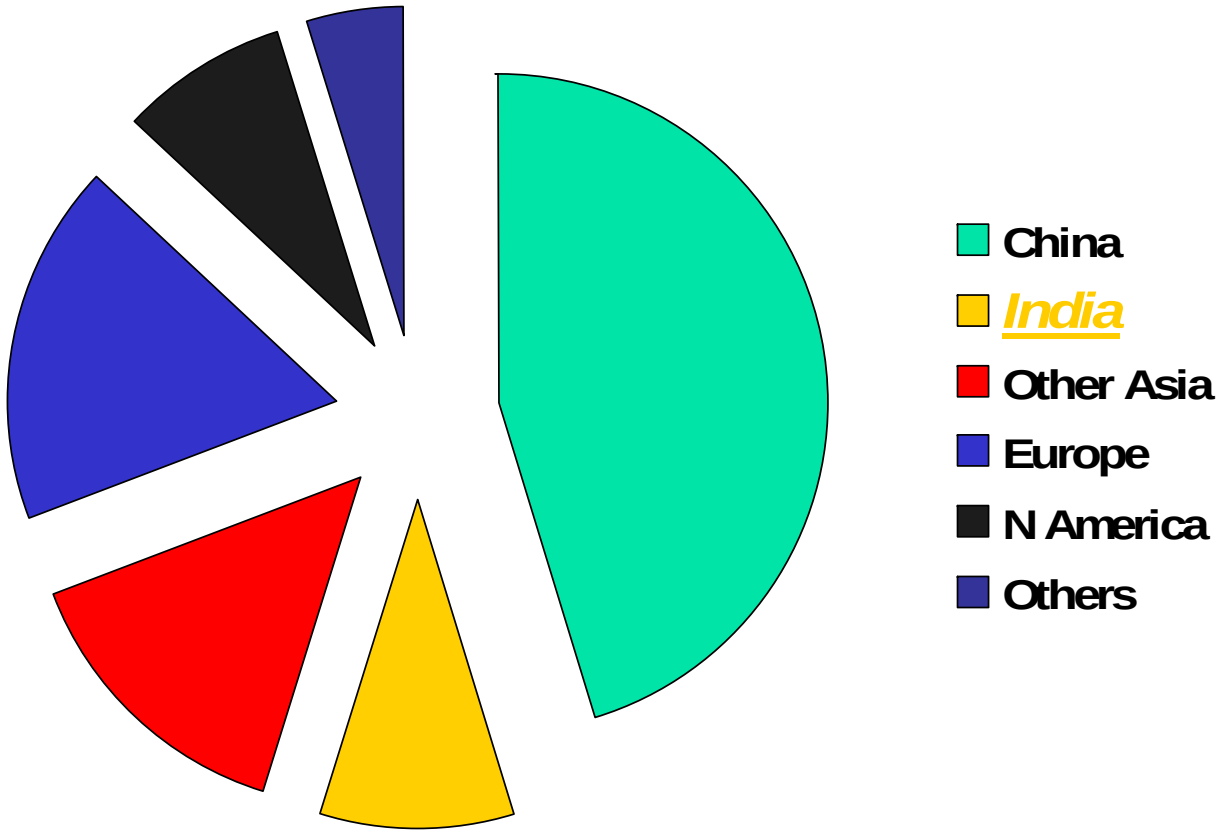
- Versatile
- Non-thermoplastic
- Comfort
- R&D strength of major global producers
- Strong Indian producer
- Polymer modifications possible
- Natural raw material source, biodegradeable

Challenges

- Cost
- High pulp price
- Supply challenge for dissolving pulp
- Challenge from polyester in some markets
- Need for strict and costly environmental controls for viscose

China Less Dominant in Cellulosics

4.5 million tonnes



Polyamide Fibres

- Polyamide has large and defendable global market position, but little growth
- In speciality apparel (legwear, sportswear…), carpets and technical uses
- Strong position in automotive uses (tyres, airbags…)
- Applications are based on performance, not price
- Loss of market share to polyester has slowed, despite price difference







Opportunities and Challenges for India in Polyamide Fibres

Opportunities

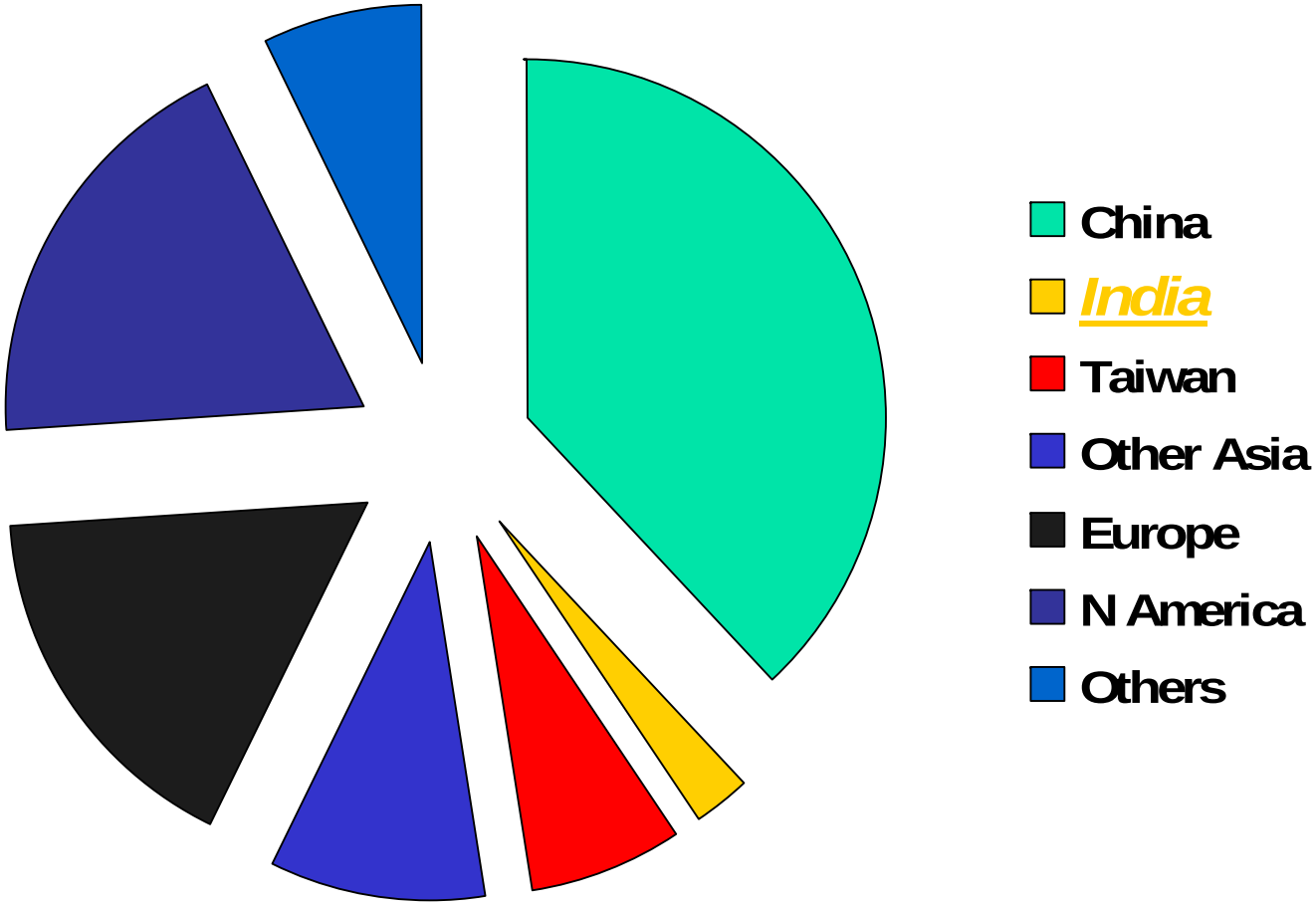
- Versatile
- Good technical performance: tenacity, melting point, moisture transmission…
- Less concentration by China than in polyester
- R&D brings innovation opportunities
- Business less commoditised than polyester
- Indian market under-served

Challenges

- Slow global market growth
- Price difference with polyester
- Risk of polyester expansion in airbag market
- Limited Indian raw material supply
- Few global raw material suppliers (especially 66)

Global Distribution of Polyamide Fibres

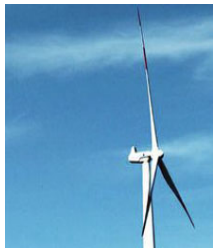
4.2 million tonnes



Acrylic Fibres

- Outstanding warmth and comfort properties
- Bulk without weight
- Sweaters, blankets, furnishings, rugs
- Ideal for outdoor uses
- Technical uses are a small part of the total market – but a growing one
- Acrylics are the precursor for carbon fibres






Opportunities and Challenges for India in Acrylic Fibres

Opportunities

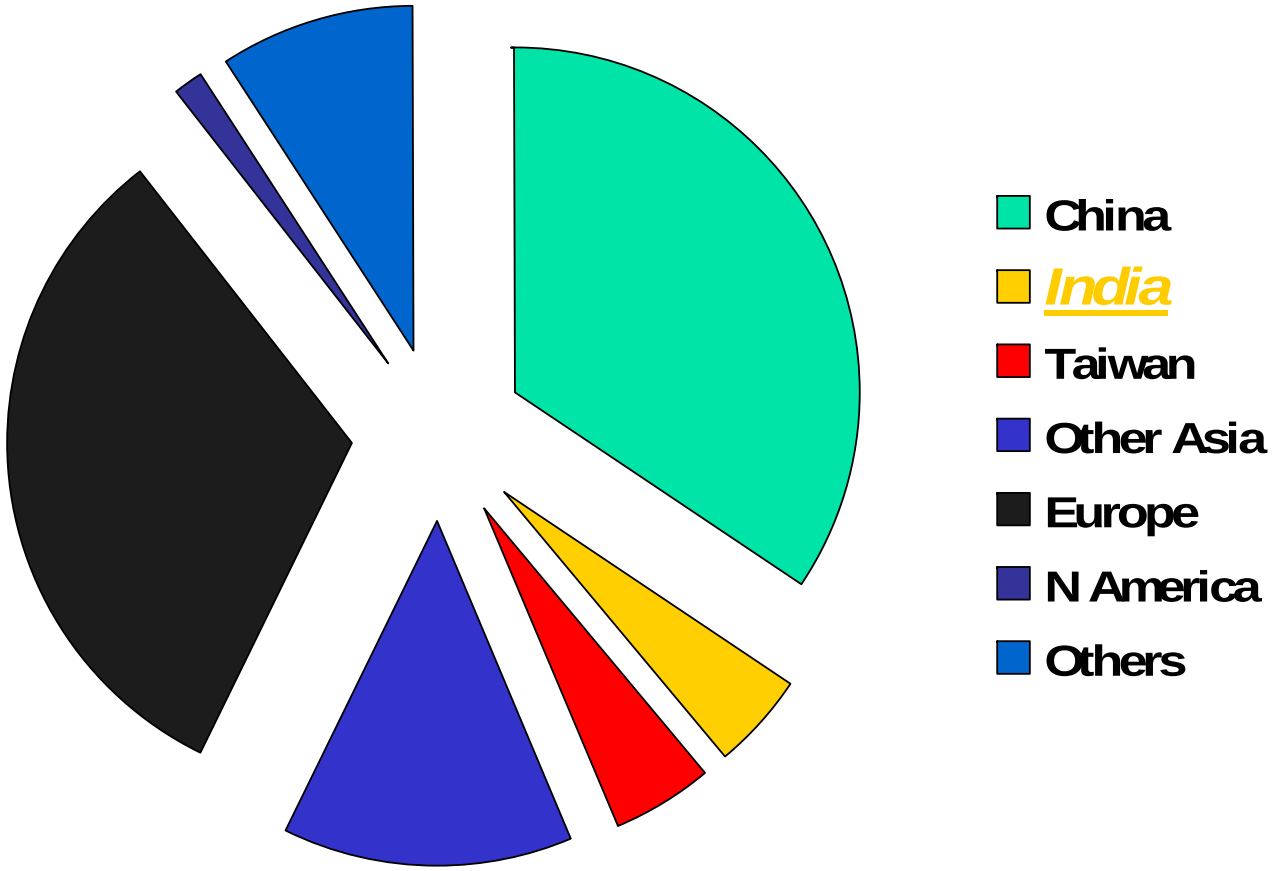
- Some chance of wool replacement?
- Opportunities in outdoor applications (resistant to weather and fading)

Challenges

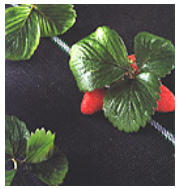
- No growth in world market
- Small market in India
- Expensive raw material, with limited supply base
- Competing globally: Indian producers are very under-scale
- Apparel exports often need fibre types only met by imports

Global Distribution of Acrylic Fibres

2.1 million tonnes



Polyolefin Fibres



- Mainly polypropylene – polyethylene has more limited applications
- Globally, main uses are technical, especially packaging textiles – FIBCs and small bags
- In Europe and USA, extensive uses also in carpets, nonwovens, agrotextiles, geotextiles, wipes, synthetic turf…
- Also applications in sportswear – good moisture transmission
- Often unfairly seen as cheap alternative to other fibres – no longer true

Opportunities and Challenges for India in Polyolefin Fibres

Opportunities

- Lightweight, durable, resists chemicals and rot
- Simple fibre processing
- Large R&D effort by polymer producers
- Limited competition in Asia
- Capabilities in textiles not yet fully exploited
- Agrotextiles and synthetic turf ideal for Indian weather
- Geotextiles can help Indian infrastructure investment

Challenges

- Structural increase in raw material costs (propylene)
- Low melting point
- Difficulty in winning share in Asia against « polyester culture »
- No strong fibre producers

Lower Volume Fibres

- Spandex is an essential part of a growing proportion of textiles – stretch, comfort, appearance
- PBT, PTT, PLA also have a place in the market, on a smaller scale
- Aramid and ultra-high molecular weight polyethylene dominate the high performance fibres market globally
- They are winning market share from non-textile materials, thanks to strength and lightness
- Many high performance polymers – like PPS, PEN, PI, PTFE, LCD, MF… - can be spun into fibres, but not all achieve a significant market
- Carbon fibres are achieving a market breakthrough

Opportunities and Challenges for India in Lower Volume Fibres

Opportunities

- High global growth rate
- Unique fibre properties
- Under-developed market in India
- Some markets are less price-sensitive and higher-margin than high volume fibres
- Opportunities in Indian infrastructure investment and in textiles for export

Challenges

- High cost
- Huge investment requirement
- In many cases, limited market size
- Many technologies are difficult
- Fierce competition from other fibres, at lower cost
- Strong market position of established global producers – India is a latecomer
- Huge government-led capacity expansion by China

Innovation is a Key Driver for Fibres

- Technical progress is constant in the man-made fibres market
- At a global level, R&D expenditure by man-made fibre companies exceeds $2 billion a year
- This is the main driver for advances in fibres and textiles
- R&D is also done in machinery, polymer and chemical concerns, and in universities and institutes
- All of this comes together every year at the world's largest technology conference for man-made fibres
- China is every year more present at this conference – why not India?

50TH DORNBIRN MAN-MADE FIBERS CONGRESS, AUSTRIA 14 - 16 SEPTEMBER 2011

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- Man-made Fibers – The next 50 Years
- New Developments in Fibers
- Functional Textiles (Sports- and Active Wear, Medical Textiles)
- Fibers for Technical Textiles (Civil Engineering)
- Sustainability (Reuse, Recycle, Energy Saving)
- Finishing (Processability, Functionality)
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Sustainability Will Drive Business Too

- Environmental responsibility will be even more an essential part of doing business in the future
- Every fibre supplier will be expected by governments, communities and customers to show its respect for laws and health of the planet
- Not only with marketing statements, but with proof
- Fibre producers should show: low energy and water usage in processing and use, emission controls, recycling, durability and safety of product
- Responsible man-made fibre producers can demonstrate this!

A European Man-made Fibres Plant: In Harmony with Nature

China will also Drive Development

- China is giving strong encouragement in new 5-year plans to expansion of man-made fibres, especially for technical uses
- With mobilisation of banks, petrochemical industry, universities, institutes, associations, entrepreneurs
- Objective is to expand out of commodity fibres and textiles into even the most high-tech products…
- …partly for local use, partly for exports
- Experience in other sectors shows risks involved: building excess capacity, rapid export growth, commoditisation of high value markets
- Some Chinese industry leaders understand the risk – but can they avoid it?

China's Growth May Change Global Dynamics

- Growing Chinese exports, and commoditisation, will reduce margins for all other fibre and textile producers
- Local producers may still get a premium for service – but the base price will be lower
- R&D expenditure may be cut back, hitting innovation and product development
- Some local suppliers may be forced out
- But such a negative scenario is not inevitable: strategies of go-ahead companies worldwide are evolving to meet the challenge
- What impact on India?

Strategies for Success

- Every fibres company will have a different strategy, which may include…
- Production efficiency, scale and integration, to make it the lowest cost producer
- Even more concentration on innovation, to create value for itself and its customers
- Even more focus on customer service, including quick delivery and often joint development work
- Leveraging competitive advantage globally, even including investment and JVs worldwide
- It can be done! And textile producers allied to these fibre companies will benefit

Some Pointers for the Future

- **The global man-made fibres market will continue to grow, more quickly than the world economy**
- **Main drivers will be rising population, economic growth, consumer aspirations, new applications, growing car ownership, infrastructure projects…**
- **Competition in fibres – and in textiles – will be even more intense than now**
- **Success will be achieved by the fibre producers which best understand their textile customers' needs, and meet them effectively by innovation, service and efficiency**
- **Close relations in the supply chain are positive for everyone**
- **India will be one of the winners!**

Thank you

Colin Purvis