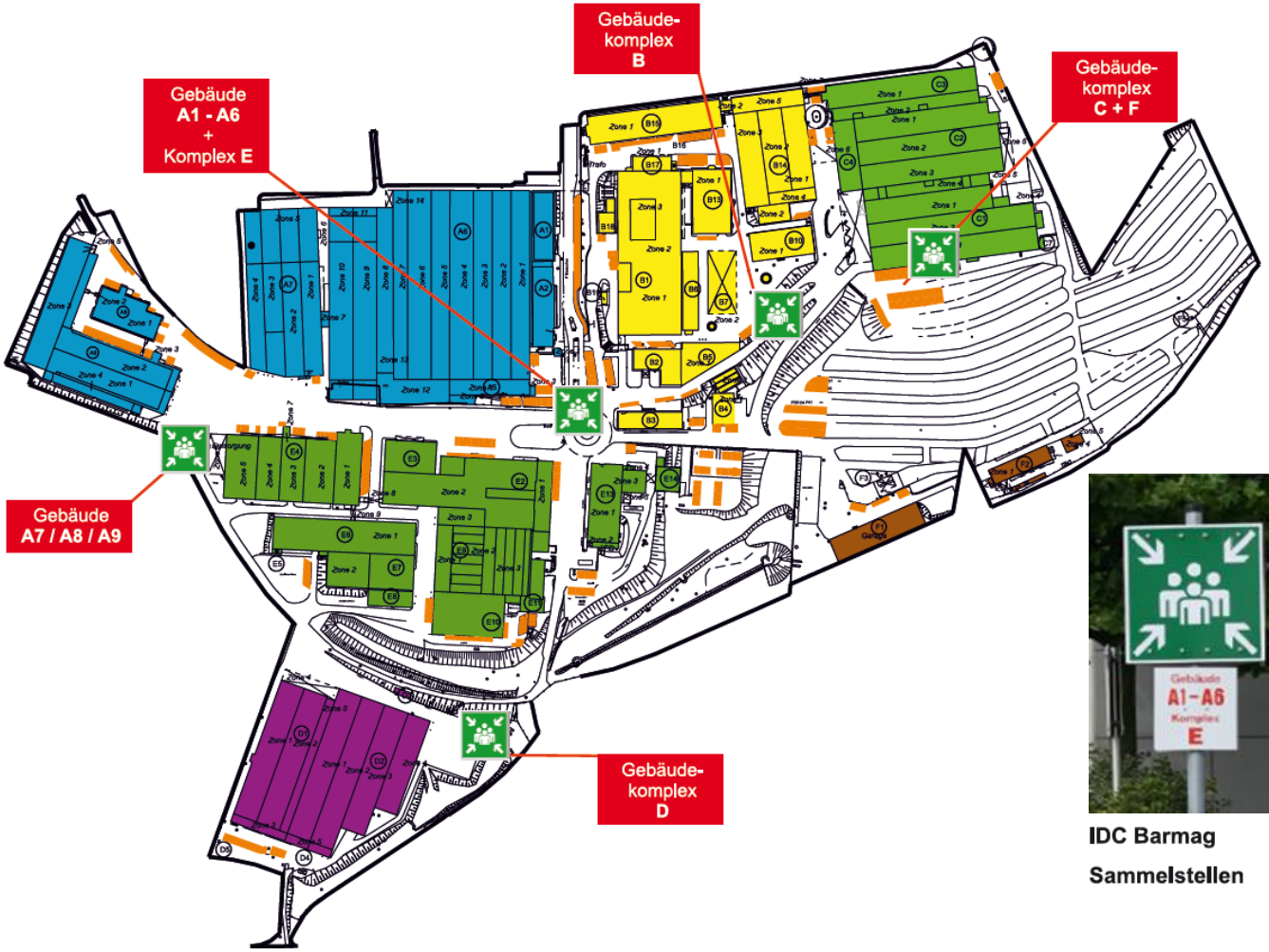
Oerlikon Manmade Fibers Segment Analyst and Media Briefing

Remscheid, September 5, 2013

Health & Safety



IDC Barmag

Sammelstellen

Agenda

1 **Introduction**

2 Group view

3 Manmade Fibers Segment

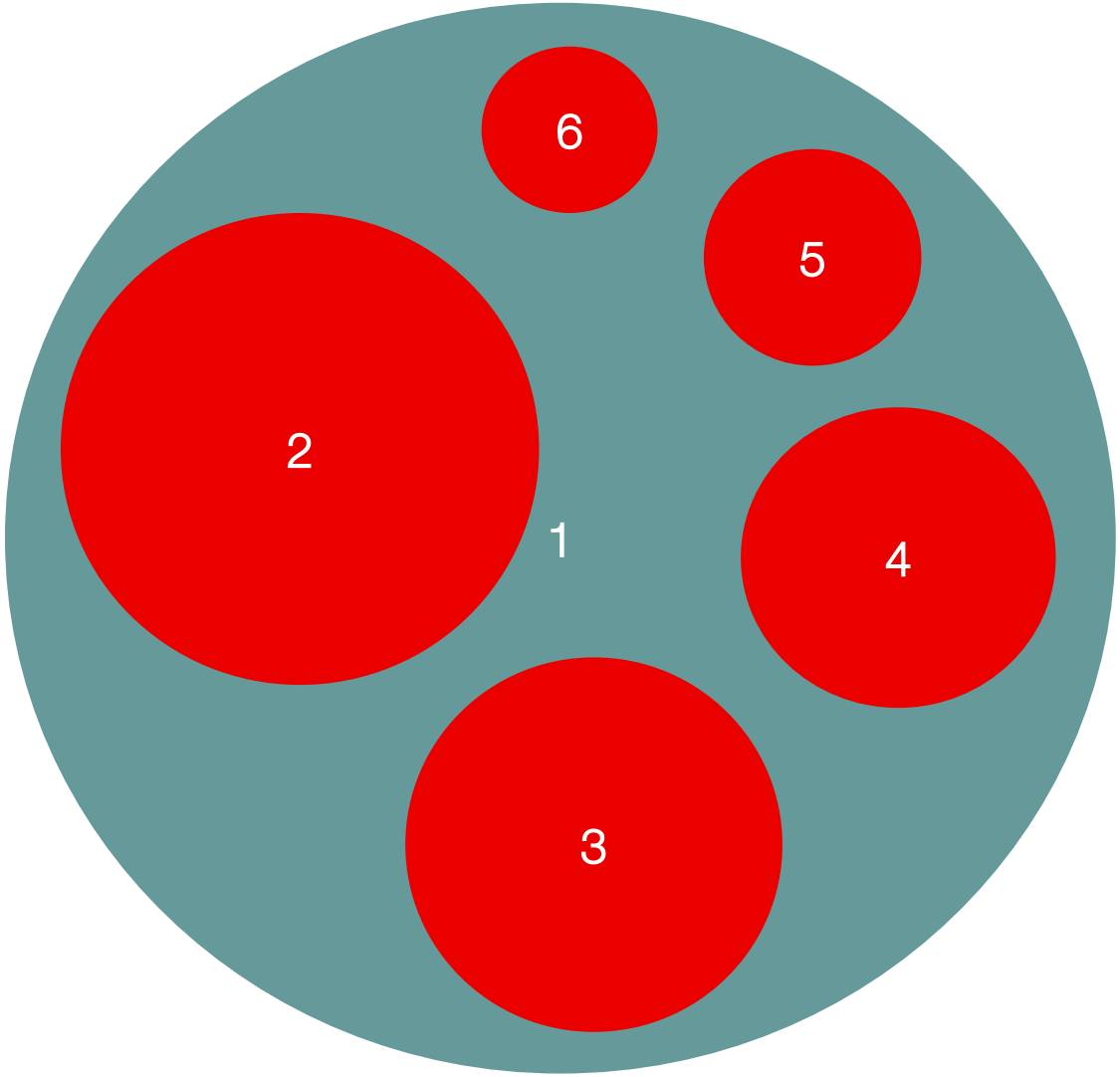
4 Lunch

5 Site visit

6 Q&A session

Oerlikon Manmade Fibers Segment
From Melt to Yarn

Oerlikon Manmade Fibers Segment
How thick is a Ø human hair?



1. Human hair
2. Wool
3. Manmade fiber
   (POY, medium titer)
4. Cotton fiber
5. Silk worm thread
6. Manmade fiber
   (FDY microfilament, fine titer)

Oerlikon Manmade Fibers Segment

Did you know?

50 % of all automobile tires benefit from Oerlikon production solutions.

A 300 ton staple fiber system produces one thousand 1 m^3 bales per day. Stacked, this results in a height of 1 000 m and exceeds the Burj Khalifa in Dubai, the world's tallest building, by 172 m.

Do you race cars? Your suit is made by Oerlikon.

The length of nylon thread on a 15 kg bobbin is 18 400 km long – the distance from Frankfurt to Hong Kong… and back.

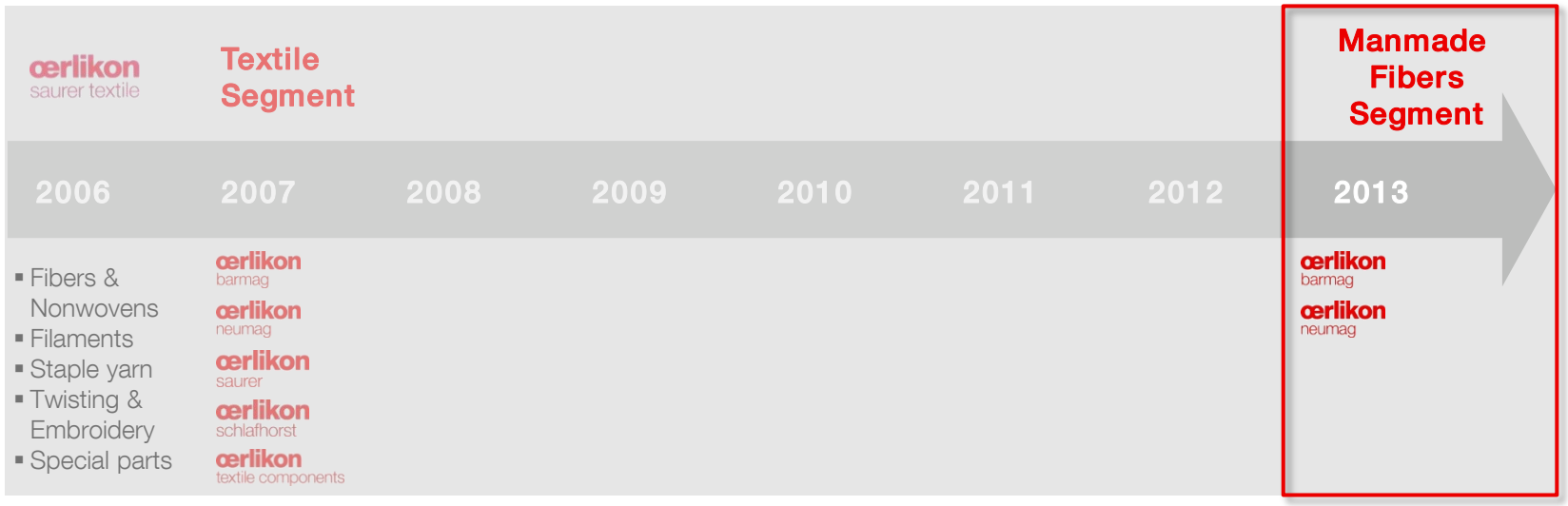
The world's largest spunlaid spinning system (from Oerlikon Neumag) produces non-woven textiles up to 7 meters wide.

Agenda

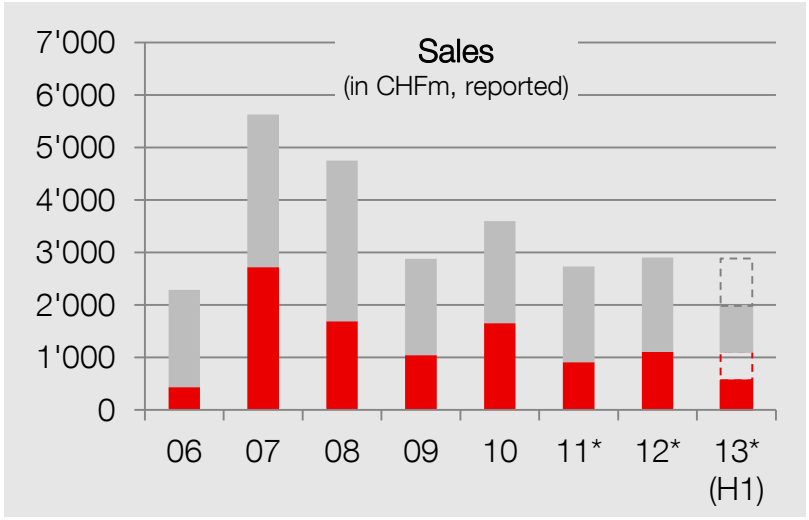
1	Introduction
2	**Group view**
3	Manmade Fibers Segment
4	Lunch
5	Site visit
6	Q&A session

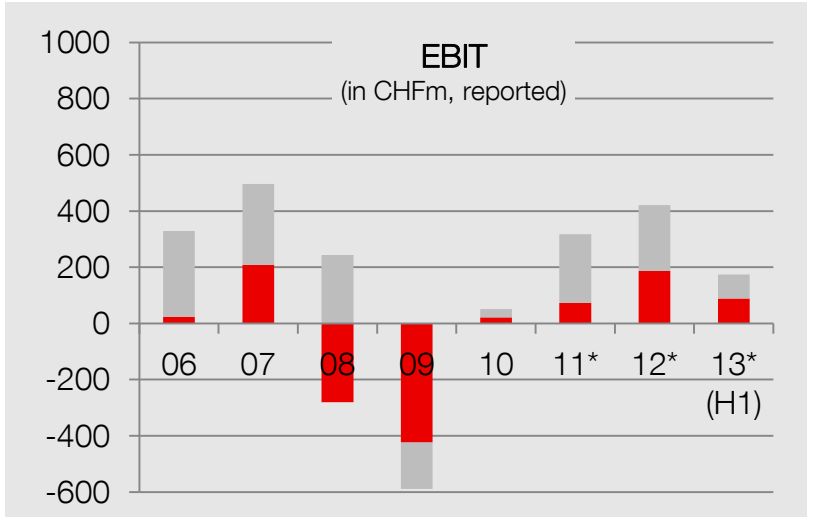
Textile/Manmade Fibers Segment in perspective

Organization



Key figures





* Manmade Fibers Segment only

Divestment of natural fiber businesses – Transaction closed on July 3, 2013

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Rationale

- Manmade and natural fiber markets different in terms of
  - industry dynamics / investment cycles
  - technologies
  - customers and regions
  - profitability

→ limited overlap and synergies incl. manufacturing footprint

- Reduces complexity / cyclicality and overall textile exposure of Group portfolio
- Focus on technological leadership and value creation of Oerlikon Group

Impact on 2013 accounts

New positioning

Divestment of natural fiber businesses – Transaction closed on July 3, 2013

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Rationale

Impact on 2013 accounts

- Expected net cash proceeds of some CHF 500 million
- Impact of reclassification of cumulative exchange differences negative CHF 114 million (non-cash item)
- Expected loss on the disposal of CHF 97 million
- Result from discontinued operations in H1 2013 of CHF 37 million

→ Full-year 2013 result from discontinued operations expected in the amount of negative CHF 50-60 million

New positioning

Divestment of natural fiber businesses – Transaction closed on July 3, 2013

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Rationale

- Oerlikon to focus on highly attractive manmade fibers business
- More balanced and streamlined Group portfolio
- Increased earnings quality and cash generation
- Strong balance sheet and financial flexibility

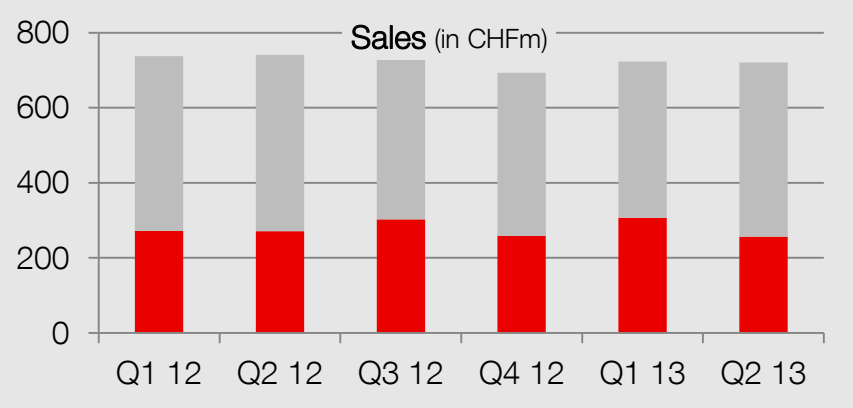
Impact on 2013 accounts

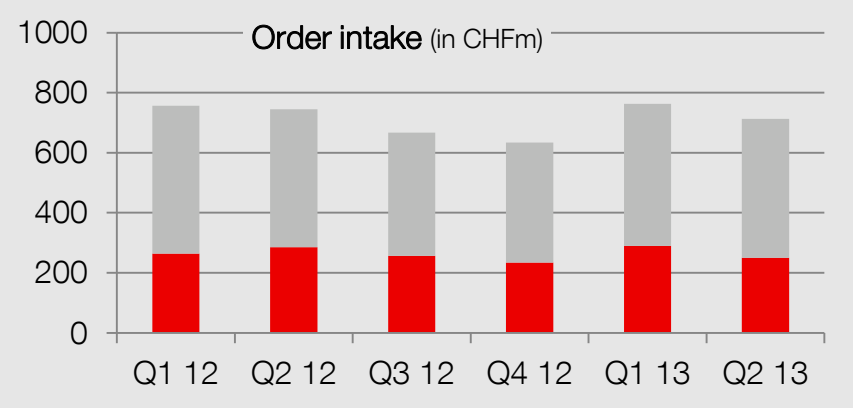
→ Re-valuation of the Oerlikon Group

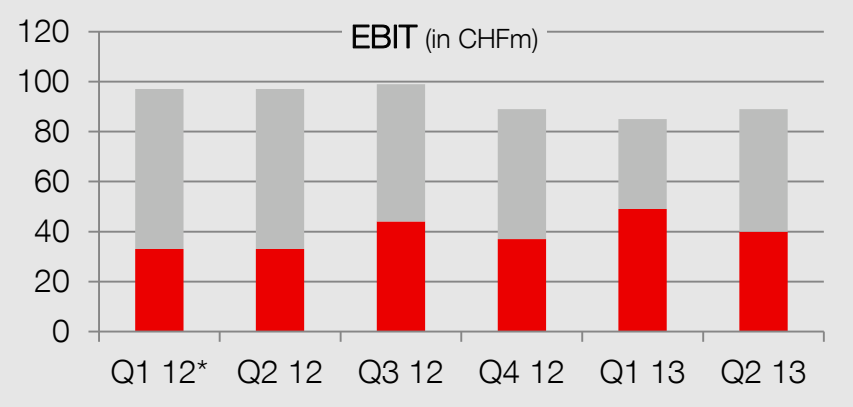
New positioning

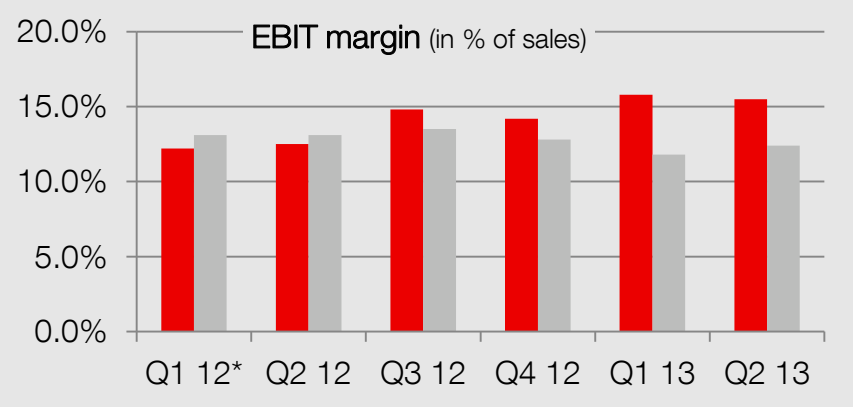
→ Pre-conditions met to focus on organic and inorganic growth opportunities

Manmade Fibers Segment as Oerlikon's biggest value driver in 2012 & 2013









Manmade Fibers Segment Oerlikon Group

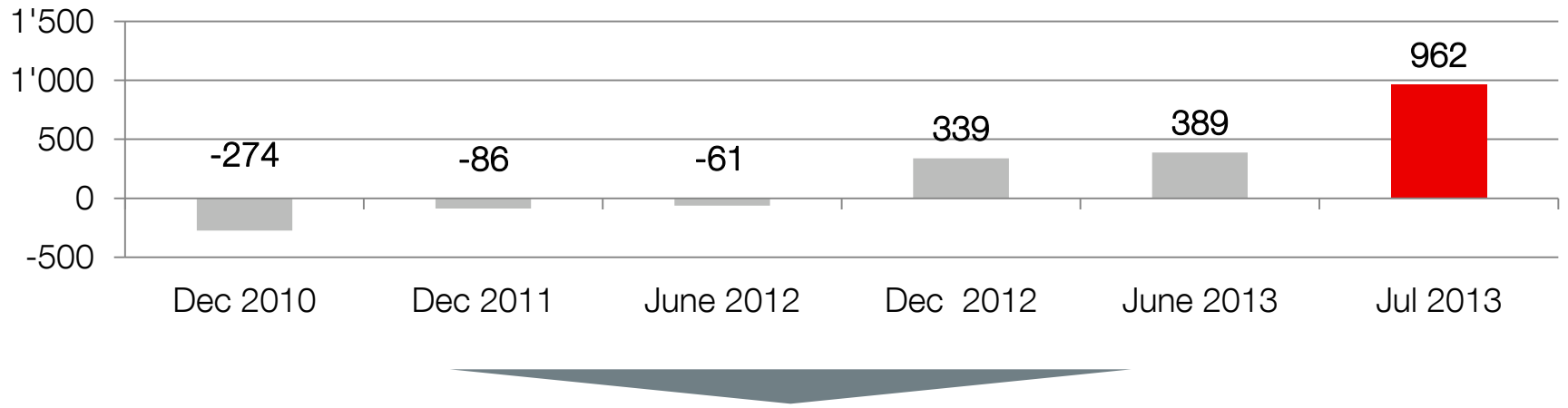
Current capacity designed for sales of ~CHF 1.0-1.1bn/year
→ EBIT margin of 14-16 %

* Excluding one-time effects

Redeployment of cash – Strong financial basis for sustainable future growth

Net debt / net cash position 2010 - 2013

in CHF million



Regional expansion (organic growth):
- New sites (e.g. new coating centers)
- Strengthening market presence in emerging markets

Expansion of value chain:
- Upstream expansion of value chain (e.g. Coating Segment with regrinding technology)

Complementary technology:
- Add complementary technology to address new applications with existent technology framework

Adjacent technology:
- Farming out in adjacent technologies to broaden technology offering to the benefit of customers

Full-year 2013 outlook confirmed

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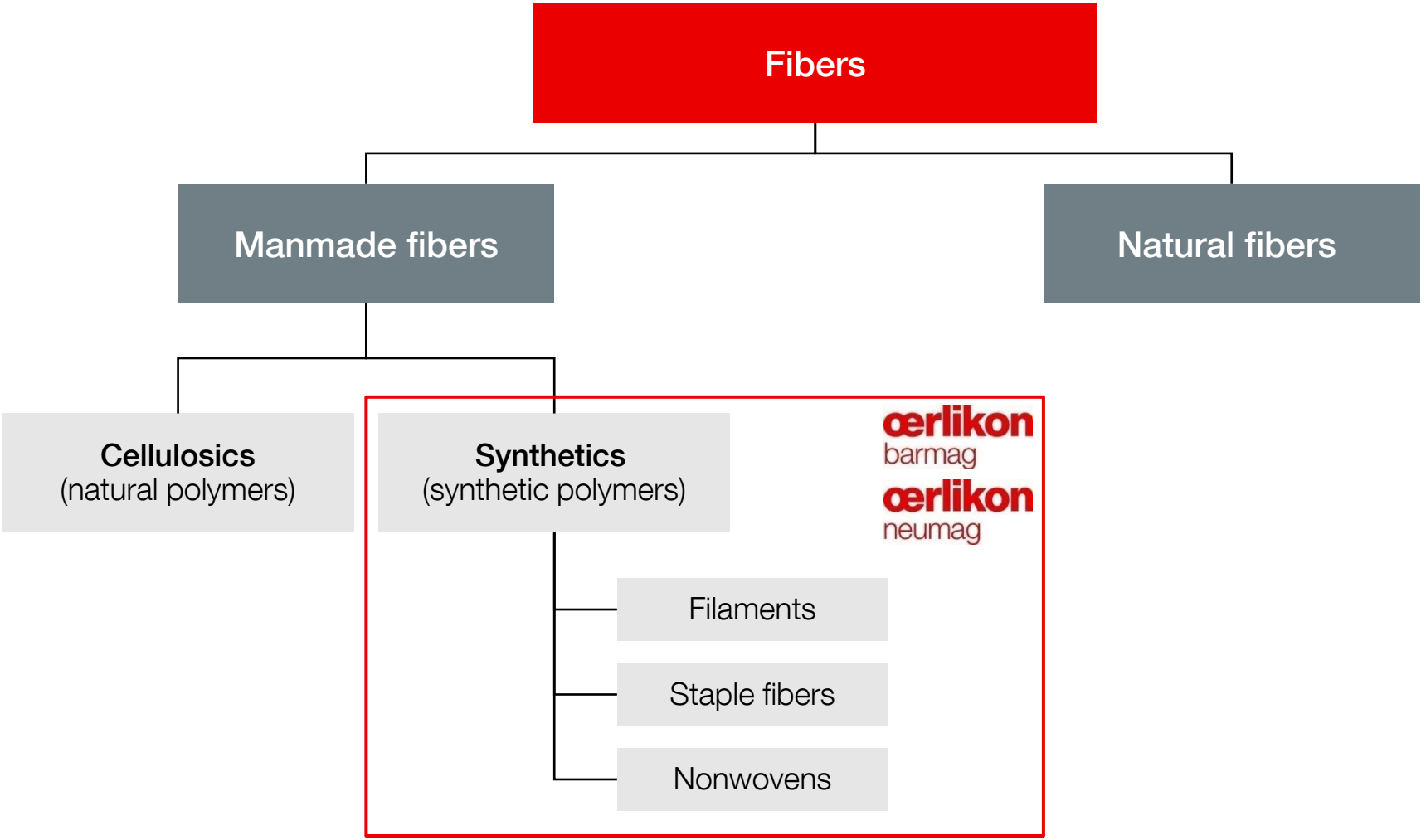
	Oerlikon Group	Manmade Fibers Segment
Global environment	▪ Global economic environment remains uncertain and difficult to assess ▪ Visibility of industries and regions have become even more limited	▪ Prolonged cycle in the manmade fibers industry ▪ Expected normalization in China ▪ India with difficult economic environment
Top line	▪ Order intake to be around the previous year's level ▪ Sales at around the previous year's level	▪ Continued high order intake and sales with some market softening ▪ High order backlog lasting until 2015 to support top line
Profitability	▪ Operational profitability around the previous year's level ▪ Temporarily impacted by the divestments in the former Textile Segment	▪ Stable underlying operating margin with some temporary impacts from disposal

Agenda

Manmade vs. natural fibers – Two different businesses

	Manmade Fibers	Natural Fibers
(Main) Raw material	Polyester, polyamide (oil based raw material) → Unlimited availability → Cannot be substituted → Environment friendly (recyclable)	Cotton, wool → Limited availability → Dependency from cultivable land and crop
Pricing raw material	▪ Cost-efficient alternative to natural fibers ▪ Oil price not critical	▪ Price driven by spread between cotton and yarn price
Type of business	▪ Plant engineering and construction ▪ Project business ▪ "High tech"	▪ Machine building ▪ Multi unit machines
Value chain	▪ Upstream integration to secure raw material, improve value adding	▪ Vertically integrated (spinning and weaving) ▪ Focus on end market
Customers	▪ Concentrated customer base ▪ Mainly big key players	▪ Highly fragmented ▪ From big to small customers
Regions	▪ China (main market) ▪ India, Rest of Asia ▪ US, EU, Turkey	▪ China, India, Turkey, US

Manmade vs. natural fibers – Oerlikon Barmag & Oerlikon Neumag focused on synthetics



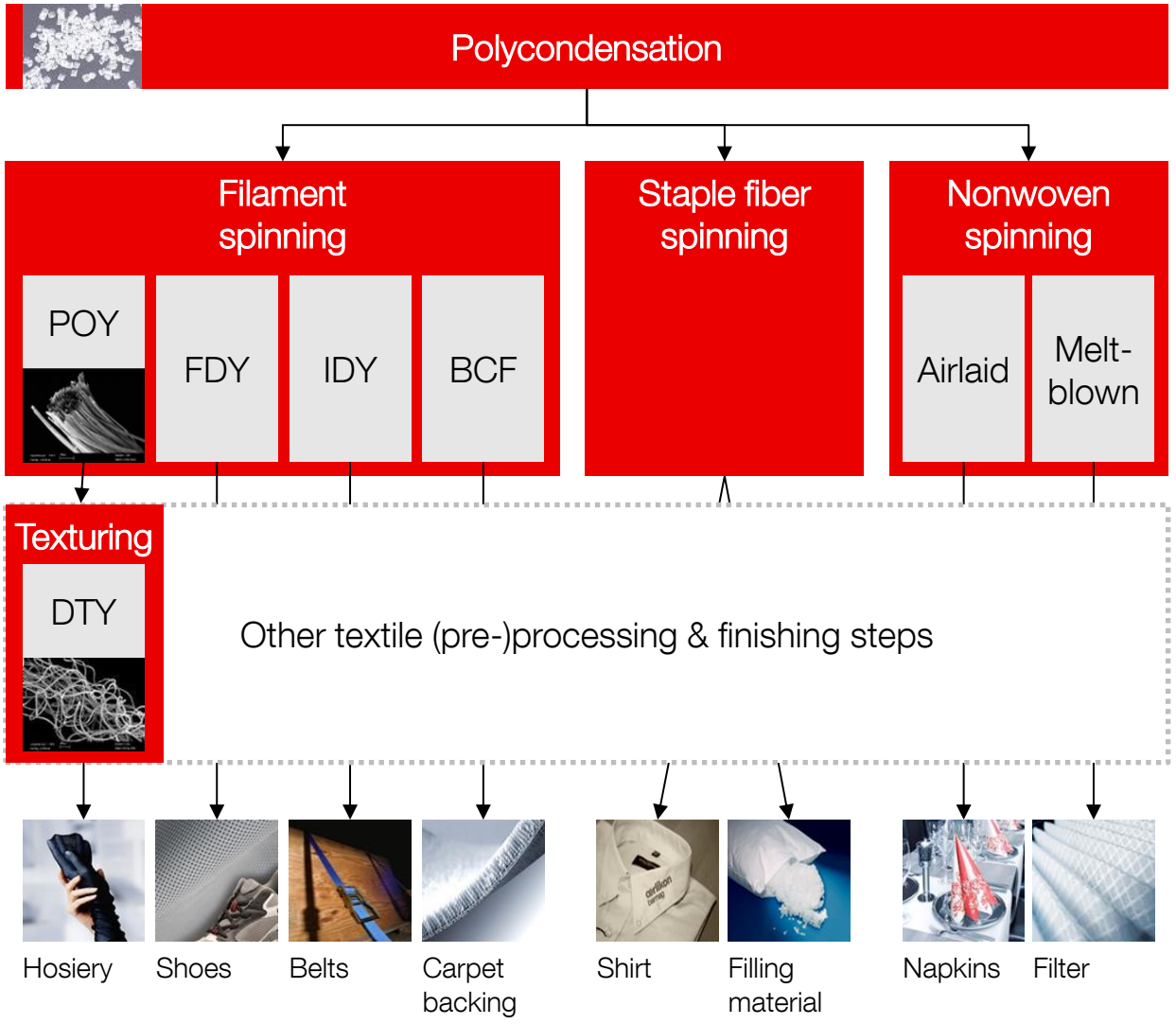
3 different manmade fiber processes – Filament spinning machines are the main business

1st step:
Raw material processing
(from oil to polymer)

2nd step:
Spinning
(from polymer to yarn)

3rd step:
Textile preprocessing
(change structure of yarn)

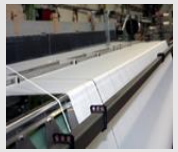
End application
(examples)



Oerlikon covers two processes of the entire value production chain

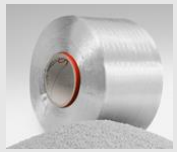
Petrochemicals	Melt	Yarn	Raw fabric	Treated fabric	End product	Application
Raw material	Polymer Processing (CP)	Spinning	Textile Processing	Finishing	Product Make-up	Retail & Distribution
PTA MEG Capro-lactam	Polycon-densation Poly-merization	POY/DTY FDY IDY BCF Staple fiber Nonwoven	Knitting Weaving	Dying and Finishing Printing Coating/ Laminating	Interior Textiles Technical Textiles Nonwovens Garments Carpets	Retailer Merchant & Wholesale Contractor & Supplier

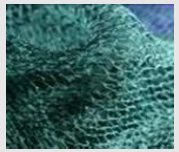









Oerlikon Manmade Fibers Segment
Mastering the entire polycondensation process

CP solutions

- Upstream integration from melt to yarn
- Total solution provider on EPC* basis
- Full responsibility for process success

Market success

- Several plants already in operation for direct spinning (POY / FDY)
- Several plants under construction
- Growing number of projects in offer phase
- Bottle grade CP projects in operation and under construction

Benefits

- Total process know how through production chain
- Complete business; using OMF** international network for best quality / price

* EPC: Engineering purchasing construction; ** OMF: Oerlikon Manmade Fibers

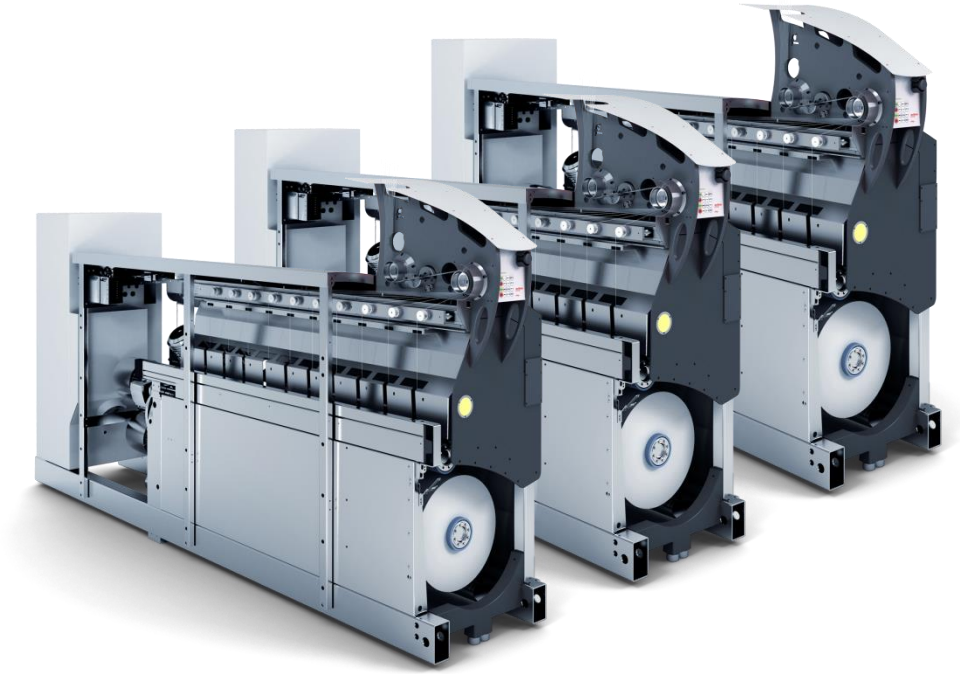
Oerlikon Manmade Fibers Segment
Mastering the entire POY production process

WINGS POY*

- A compact, floor-operated POY machine
- Winder integrated godets
- Proven components in a plug and play unit

Market success

- Introduction at ITMA 2007
- Spinning positions sold for CHF 1.4 bn
- >12 000 spinning positions to deliver from 2012 to 2015
- More than 50 WINGS POY-projects worldwide



Benefits

- Highly productive, efficient and environment friendly
- Less operators needed
- Excellent yarn/bobbin quality

* POY: Pre-oriented yarn

Oerlikon Manmade Fibers Segment
Mastering the entire DTY production process

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DTY* solutions

- Catering both manual and automatic yarn processing
- Range of variants and options for the most economic texturing of all filament yarn types

Market success

- Global market leader manual machines; more than 9 000 machines delivered
- eFK (2008) last decades most successful product launch with more than 1 000 delivered machines
- Global market leader automatic machines; more than 1 000 machines delivered

Benefits

- Machine & energy efficiency
- Operator and maintenance friendliness
- Modular design flexibility

* DTY: Draw-textured yarn

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Oerlikon Manmade Fibers Segment
Mastering the entire FDY production process

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WINGS FDY*

- Value generating FDY package with an outstanding e-save approach
- Create no.1 position in FDY market with a new breakthrough technology

Market success

- Introduction at ITMA 2011
- First installation of 144 positions in Dec. 2011
- > 1 000 positions running in operation
- e-save even higher than expected (power, waste)
- Released operation window proved, all guarantee figures reached

Benefits

- Substantially reduced OPEX**
- Green FDY technology reduced CO_2 footprint
- Benefits of entire WINGS-platform strategy

* FDY: Fully-drawn yarn; ** OPEX: Operational expenditure

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Oerlikon Manmade Fibers Segment
Mastering the entire IDY production process

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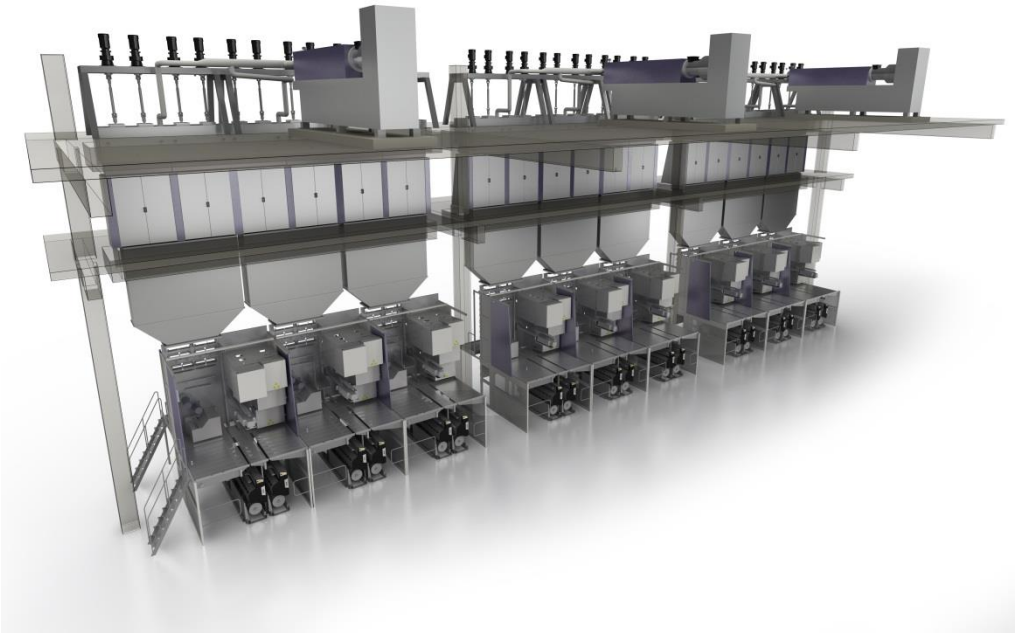
IDY* solutions for

- Tire-cord
- Geotextile
- Mechanical rubber goods
- Safety belts
- Airbags

Market success

- Oerlikon Barmag systems are installed at all leading IDY producers worldwide
- Long standing expertise in IDY production systems processing all polymers (PET, PA, PP, PEN)
- Successfully operating IDY solutions for direct spinning



Benefits

- Energy saving by high frequency heating & multi-end technology (up to 24 ends)
- Reliable processes & long-life components → low OPEX**

* IDY: Industrial yarn; ** OPEX: Operational expenditure

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Oerlikon Manmade Fibers Segment
Mastering the entire carpet yarn production process

BCF* solutions

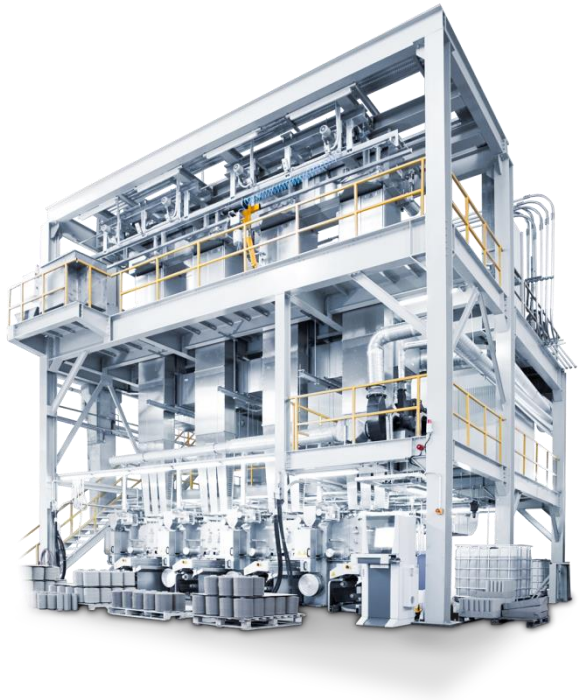
- BCF plants for the production of carpet yarns of all polymers: S+, Sytec One, S5

Market success

- Market share of approx. 80 %
- Installed production capacity within the last 10 years: ~ 1 236 000 tons/year ⇨ 2 060 km²
- S+: 80 % market share within 12 months
- Large order for recycled polyester in 2013: 96 positions Sytec One

Benefits

- High product quality & competitive OPEX**
- Up to 99 % efficiency
- Customized solutions and turnkey plants



* BCF: Bulked continuous filament; ** OPEX: Operational expenditure

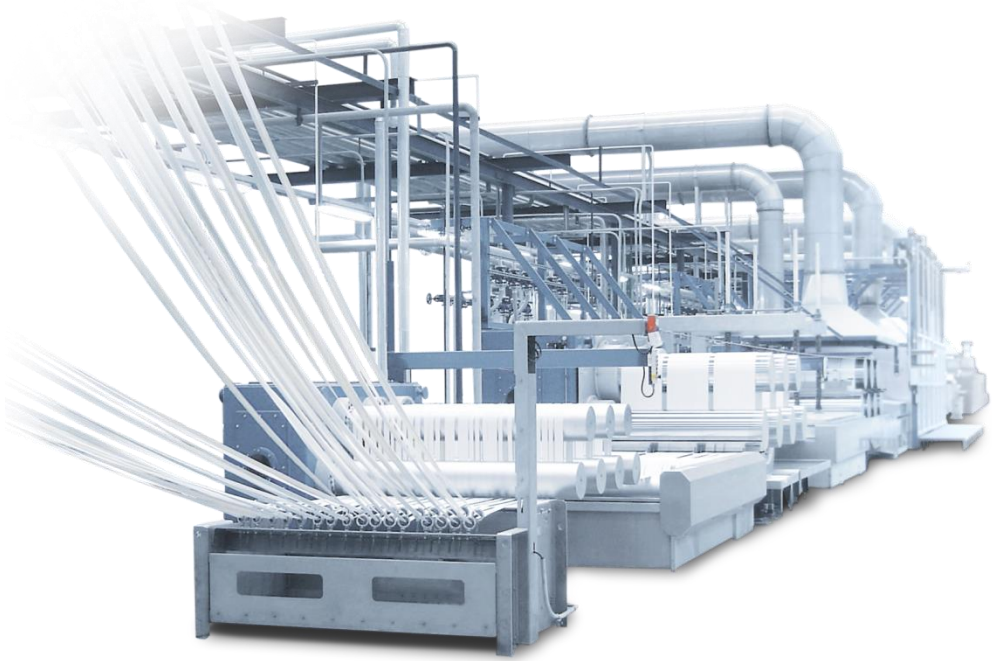
Oerlikon Manmade Fibers Segment
Mastering the entire staple fiber production process

Staple fiber solutions

- For technical applications
- For specialties such as cement reinforcement, geotextiles and hygienic

Market success

- Market share of approx. 40 %
- Worldwide production capacities of Oerlikon Neumag plants: ~ 11 000 tons/day
- Installed high capacity plants: 32



Benefits

- Highest capacities up to 300 tons/day for textile appl.
- Economic production for specialty fibers in high end niche markets

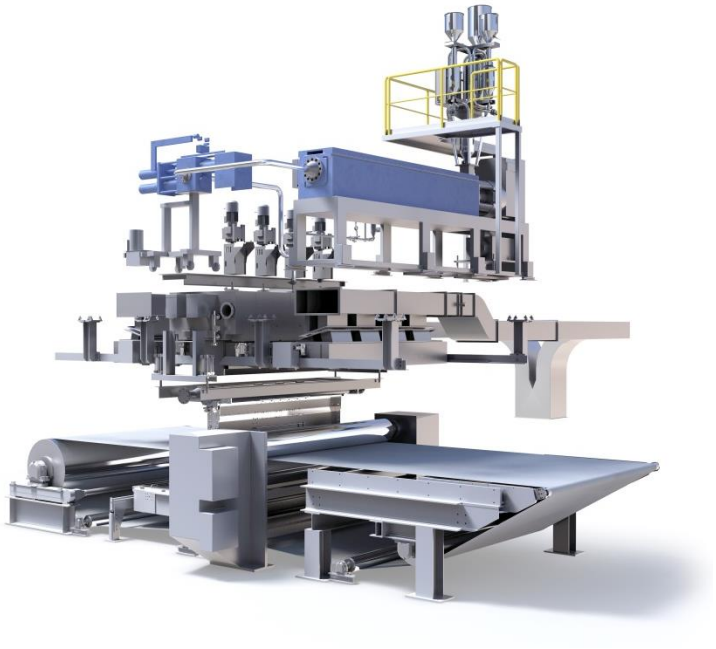
Oerlikon Manmade Fibers Segment
Mastering the entire nonwovens production process

Nonwovens solutions

- Spunbond: technical nonwovens
- Meltblown: filtration, insulation or sorbent layers
- Airlaid: medical, hygiene and household applications

Market success

- Market leader in airlaid and meltblown technology
- Global players preferred supplier
- Successful market introduction for technical nonwovens at Techtextil 2013
- Successful commissioning of world's largest line for nonwovens up to 7 meters in width



Benefits

- Full scope supplier offering total solutions
- More than 50 years competence in engineering
- High quality fabrics

Oerlikon Manmade Fibers Segment
Controlling the production processes with POC

POC* solutions

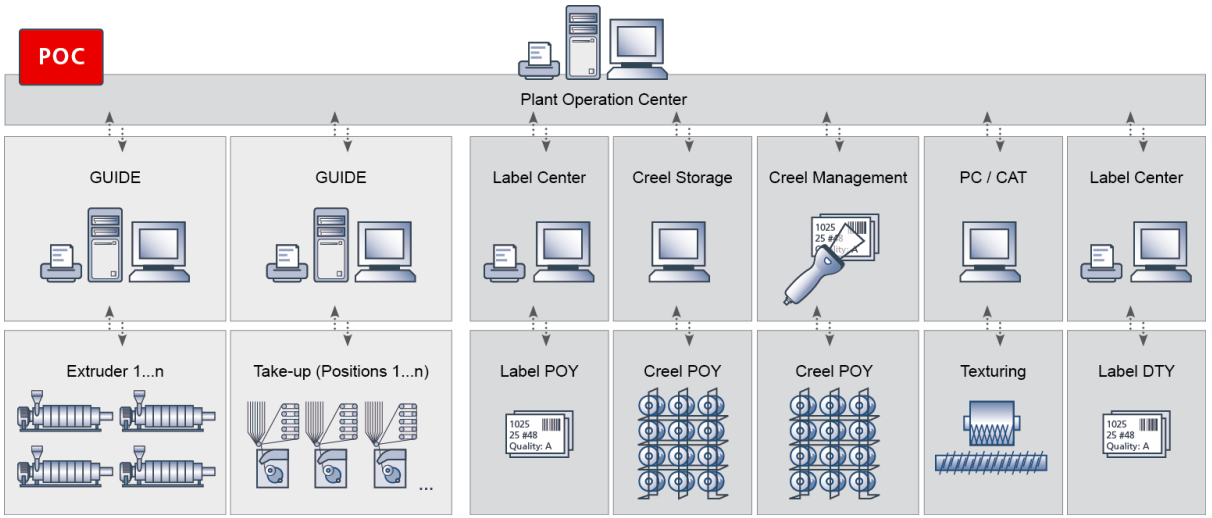
- Tailored workflow solutions
- Modularity and scalability
- Consistent StyleGuide
- Desktop / web / mobile UI's**
- Remote support

Market success

- More than 150 installations worldwide
- From process step to process chain
- Simple start-up with remote support
- Continuous upgrading and retrofitting
- Integration of all elements of a process chain

Benefits

- Transparency thus control
- Total quality management
- Total workflow solutions
- Workflow and job oriented



* POC: Plant Operation Center; ** UI: User interface

Strong position in volume business with growth potential in plant engineering and services

Spinning Plants (54 % of sales)

- POY, FDY, IDY spinning plants produce endless multifilament yarn for textile and technical applications

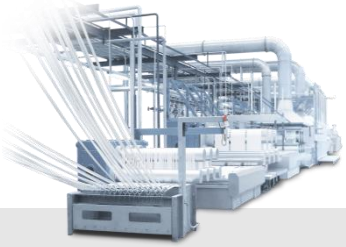
Texturing Machines (16 % of sales)

- DTY texturing machines crimp the pre-oriented yarn (POY) to give a cotton-like touch

BCF Carpet/Tape/Mono (11 % of sales)

- BCF plants produce endless multifilament yarn for home textile and carpet applications
- Tape & Monofilament

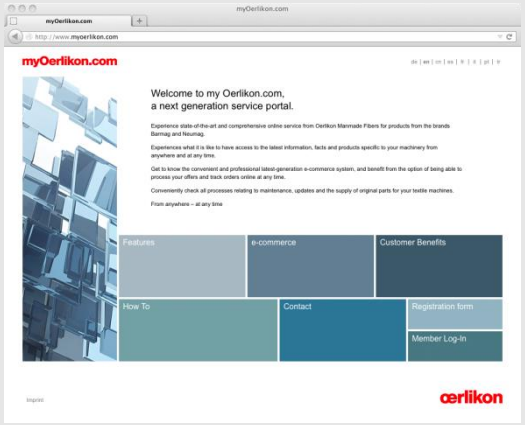
Plant Engineering (11 % of sales)



- Continuous Polycondensation (CP)
- Staple Fiber Plants (SF)
- Spunlaid, Meltblown and Airlaid solutions

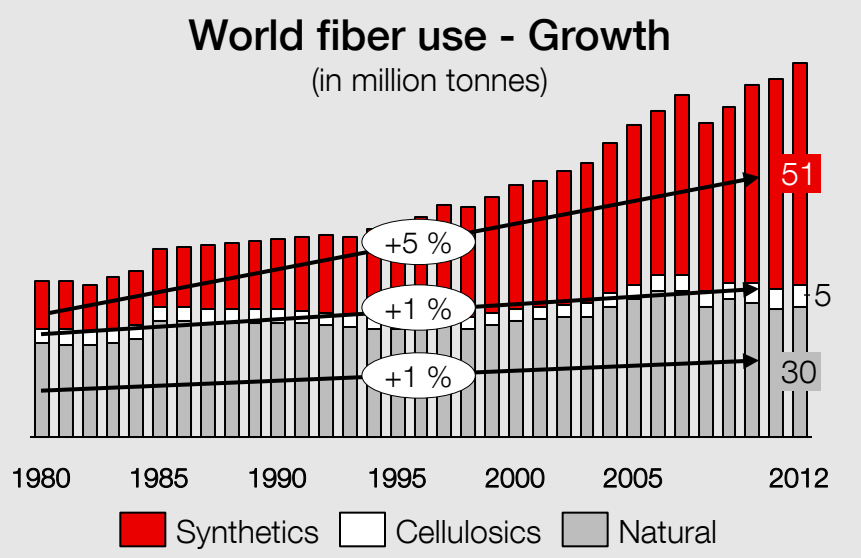
Customer Support: Partnering for Performance (8 % of sales)

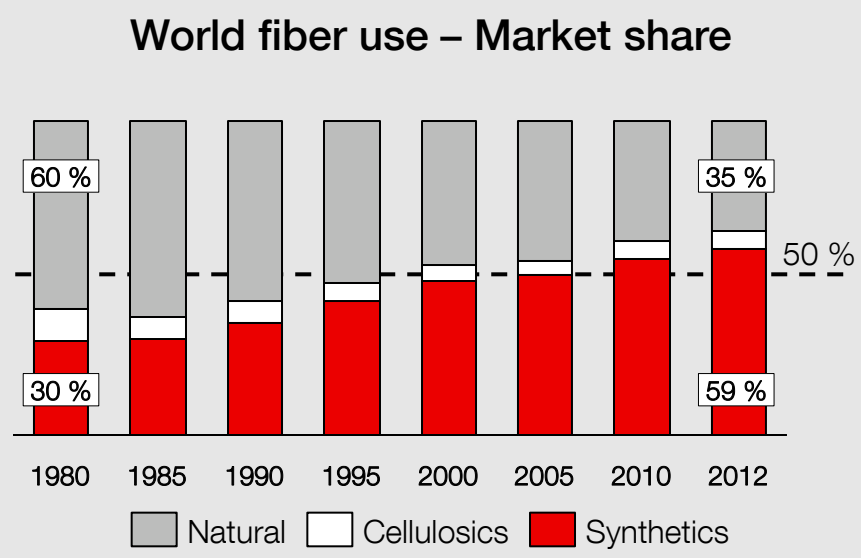
- Original Parts
  - myOerlikon.com
  - Logistics
  - Warehousing
- Installed base
- Installation
- Training
- Surface & Material Testing Lab
- R&D Center



Agenda

Synthetics continue to replace natural fibers





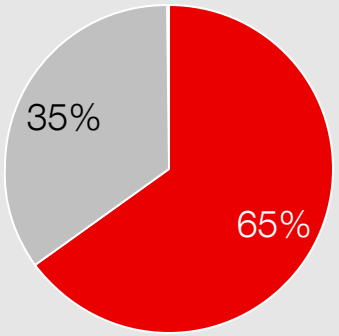
- Steadily rising textile demand
- Increasing per capita consumption; 85.8m tonnes in 2012 ~12.2 kg per head (vs. 8.0 kg per head in 1980; +53 %)
- Strongest growth in synthethics industry (growth p.a. of 5 %)

- Synthetics share continued to increase (30 % in 1980 to 59 % in 2012)
- Synthetics substitute natural fibers because:
  - almost unlimited availability
  - no dependency on weather/climate
  - cost-efficient
  - broader range of applications
  - environmentally friendly (recyclable)

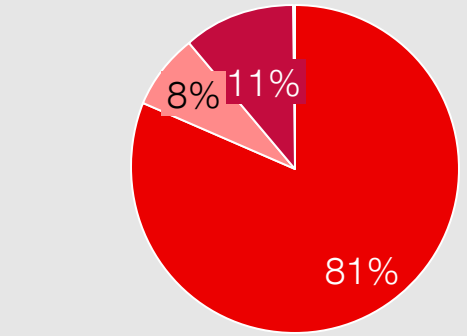
Source: The Fiber Year 2013

Synthetics market – It‘s all about polyester filament

Synthetics market 2012 - Differentiation by fibers



Synthetics market 2012 – Differentiation by material



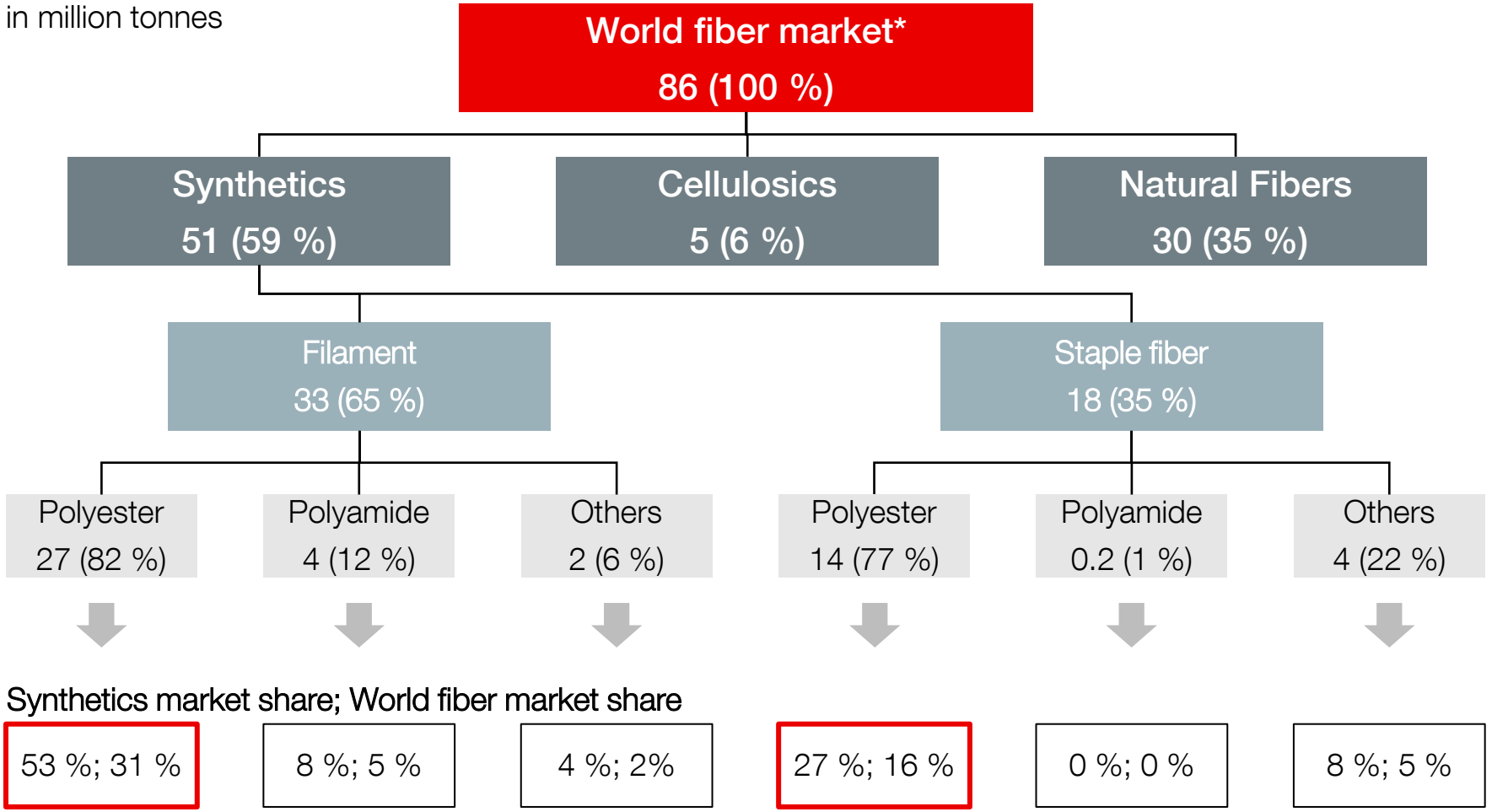
- 51 million tonnes of synthetic fibers produced in 2012
- Filament accounts for~2/3 of synthetic fiber production

- A tremendous concentration in the synthetics industry with about 80 % allotted to polyester fibers
- Polyamide fibers with second largest market share of (only!) 8 %

Source: The Fiber Year 2013

2012 world fiber market – Polyester account for nearly half of the world fiber market

in million tonnes



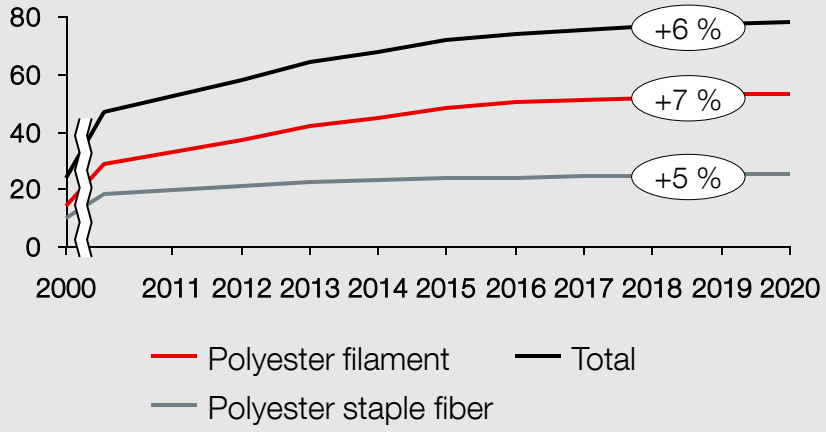
* World fiber market; excluding nonwovens

Source: The Fiber Year 2013

Synthetics market outlook – Continuous growth in polyester filament

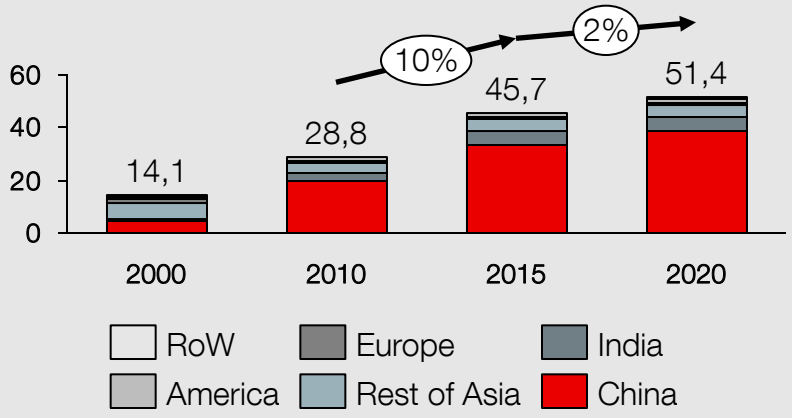
Polyester capacities*

(in million tons)



Polyester filament yarn capacities*

(in million tons)



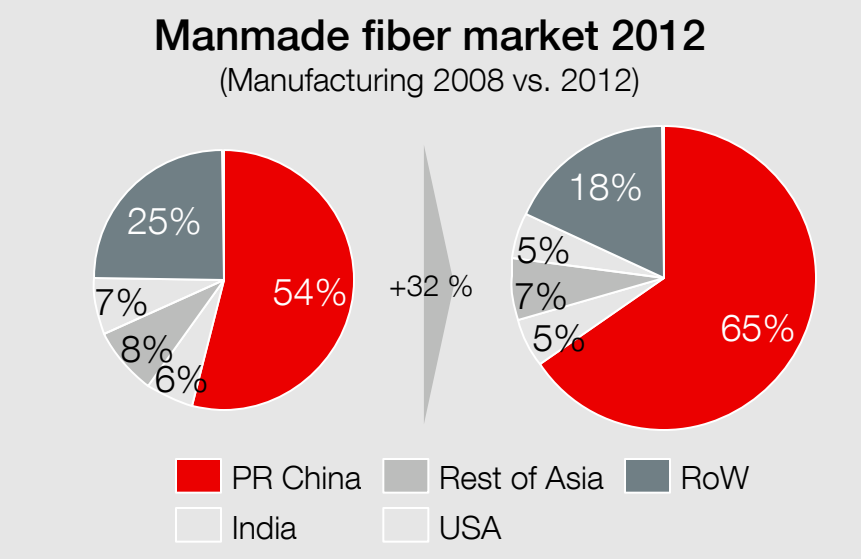
- Sustainable growth in polyester fibers from 2000 - 2020
- Polyester filament will continue to increase market share (at the expense of staple fibers)

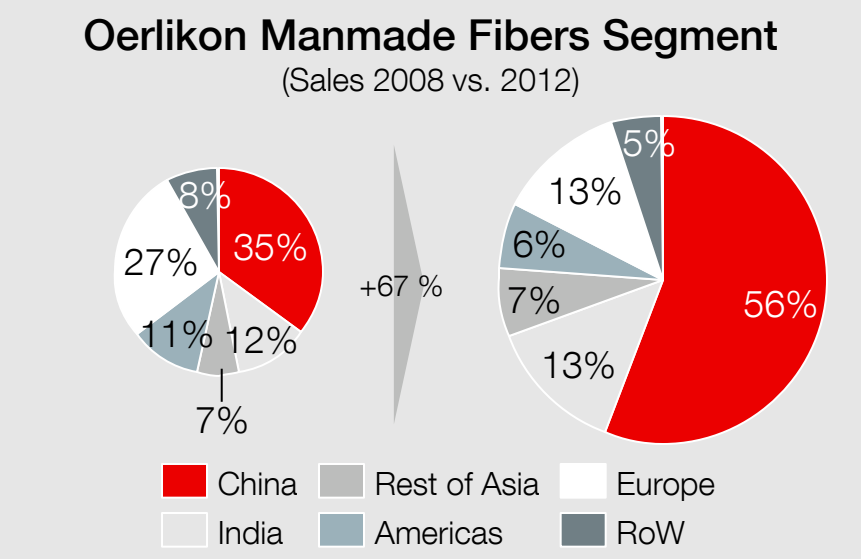
- Strong capacity increase until 2015, expected market normalization from 2015-2020
- China with biggest installed capacity, driven i.e. by Chinese 5-year plan

* Textile, industrial & other filament

Source: PCI World Synthetic Fibers Supply/Demand Report 2012

China is the main driver in the manmade fiber market



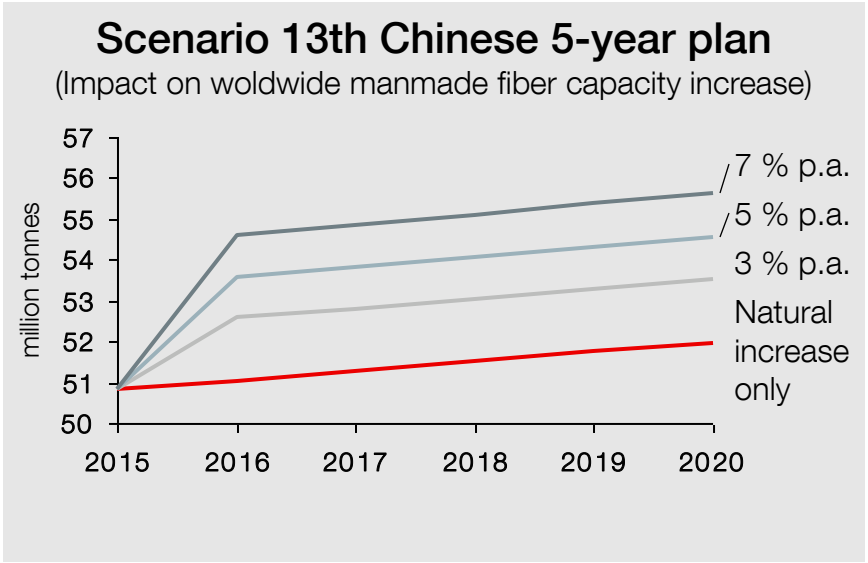


- China as main growth driver of global production volume:
  - 2008: China: 22.7 m tonnes; RoW 10.5 m tonnes
  - 2012: China 36.1 m tonnes (+60 %); RoW 10.6 m tonnes (+1 %)
- China accounts for ~2/3 of worldwide manmade fibers production, driven by export and local consumption

- Oerlikon active in China since 1965
- China is the most important market for Oerlikon with a market share of 56 % in 2012

Source: The Fiber Year 2013; Oerlikon Annual Report 2008 & 2012

12th Chinese 5-year plan – Focus on filament growth and energy reduction



12th Chinese 5-year plan:

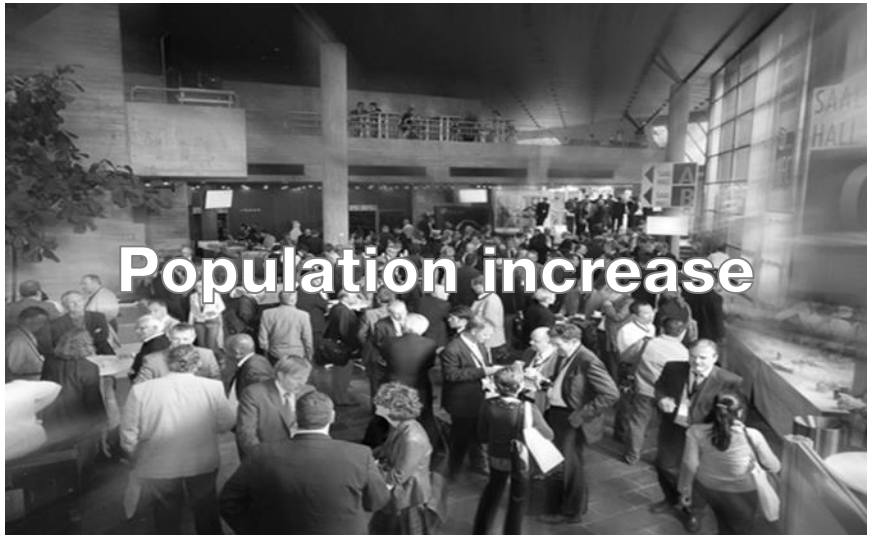
- Main targets for manmade fibers:
  - PES filament 2015: 21.5 m tonnes
  - Annual growth 2011-2015: 6 %
  - Energy reduction: -20 % (250 kg coal/tonnes yarn)
- Development targets:
  - New polyester types (e.g. PTT, PEN)
  - New functional fibers (fire retardant, anti-static, anti-bacterial et al.)

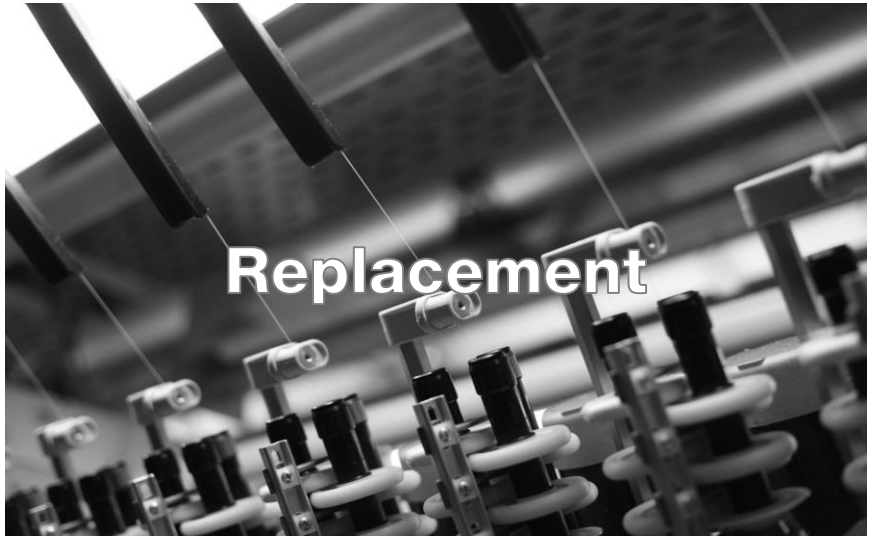
13th Chinese 5-year plan:

- Scenario 1: Natural increase only
  - Population growth
  - Per capita demand growth
  - Scrapping, new applications, etc. not accounted for
- Scenario 2: Additional capacity increase due to Chinese 5-year plan (3 %-7 % p.a.)

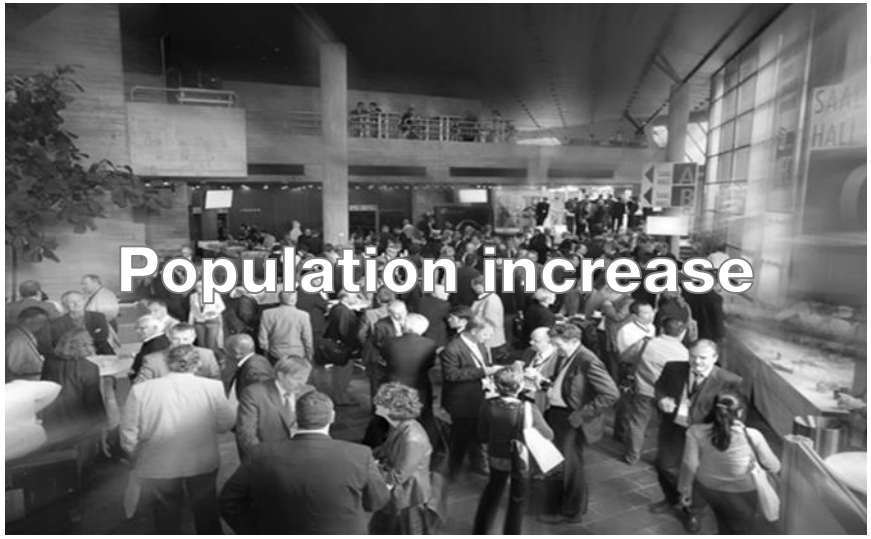
Source: Oerlikon estimates

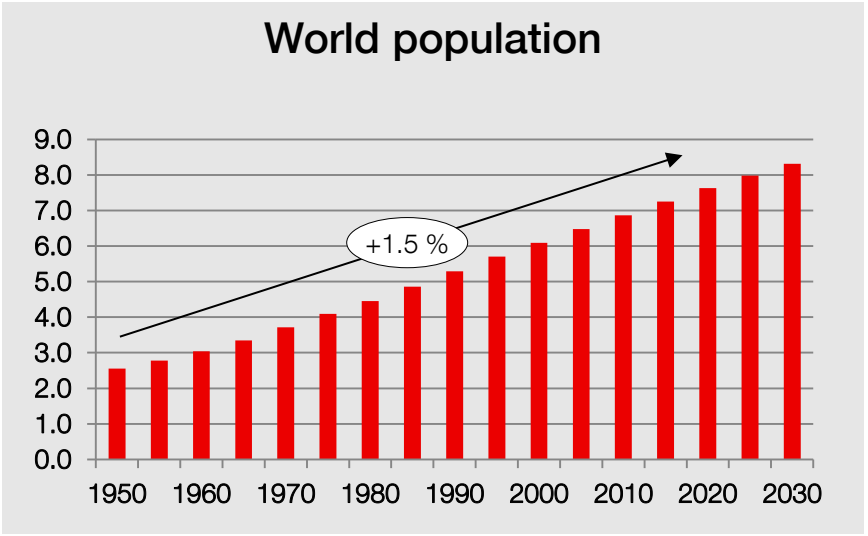
4 growth drivers in worldwide fiber market





World population will increase by 1bn by 2030



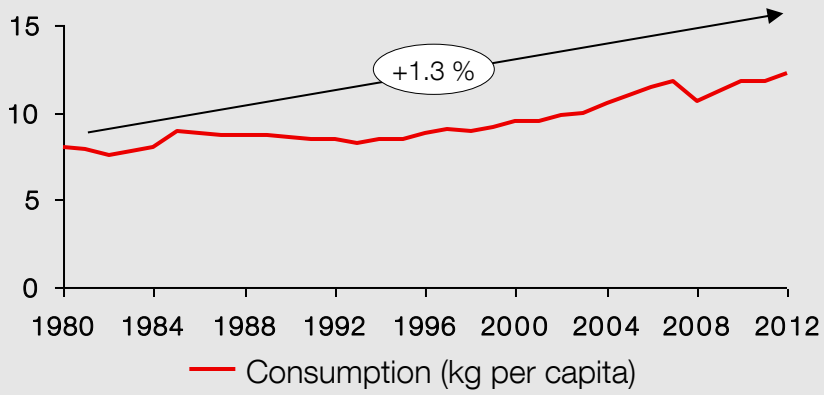


- Growth mainly in less-developed, lower-income nations, mostly in Sub-Saharan Africa
- In countries like Nigeria, Uganda, the Democratic Republic of the Congo and Afghanistan, women are still averaging more than 5 children per family, while many high-income nations in Western Europe and elsewhere are having fewer than 2 children per woman

Source: The Fiber Year 2013; US Census Bureau

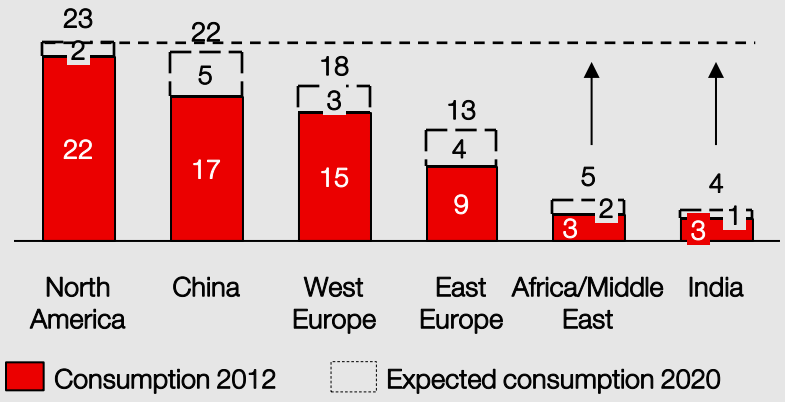
Significant differences in per capita consumption worldwide; growth potential in China & India

Growth per capita consumption



Per capita consumption 2012 vs. 2020

(total manmade fibers in kg per head)

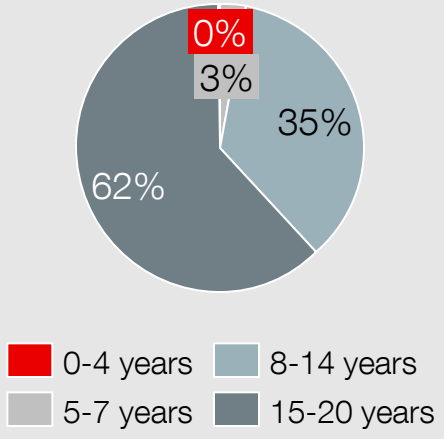


- The population is growing and moving to urban regions → cities are growing larger (e.g. India and China +265m urban residents by 2020). Investments in infra-structure will be required for urbanization in these regions
- A growing middle class will want clothing like in western regions for different occasions (e.g. sports, work, leisure). The demand for textile machinery will increase

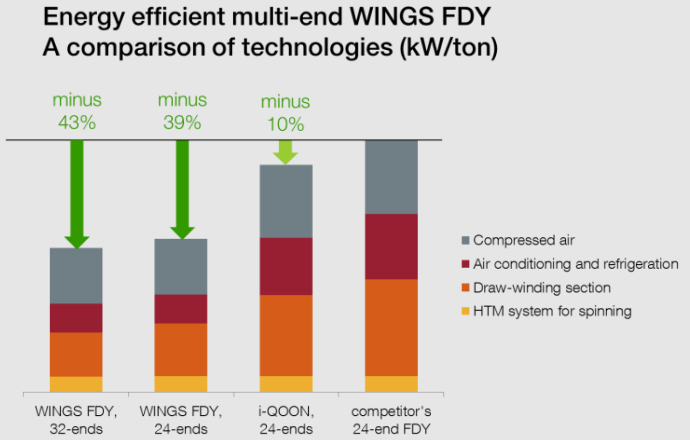
Source: The Fiber Year 2013; PCI World Synthetic fibers Supply/Demand Report 2012; UN

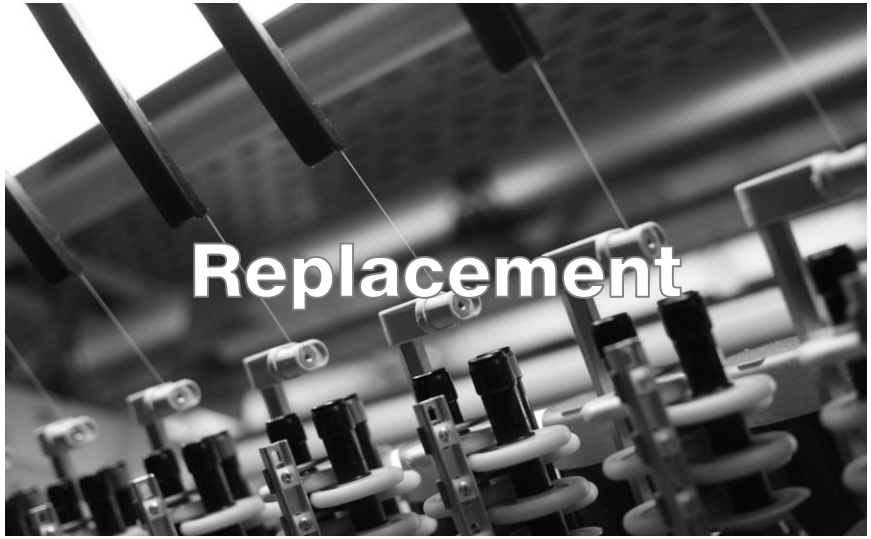
Innovation & energy efficiency drive capacity replacement

"Aging" of installed capacity



Innovation - Oerlikon e-save



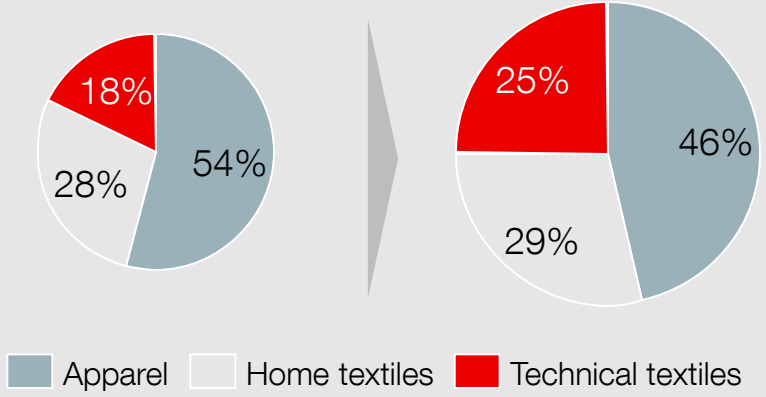


- 2 reasons for replacement:
  - Scrapping: Replacement of old equipment due to scrapping →estimated service life of investment ~5-20 years
  - Innovation: Replacement of cost intensive equipment by resource saving innovative equipment → accelerate replacement with innovations

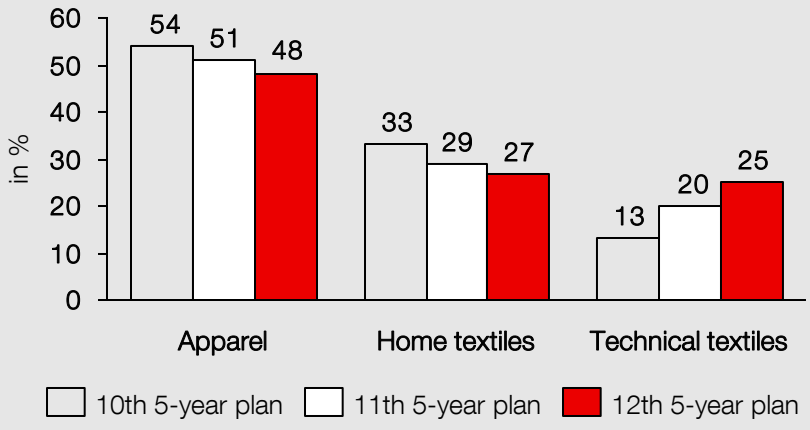
Source: Oerlikon estimates

Significant increase in share of technical textiles by 2030

Manmade fibers end-uses 2012 vs. 2030



Chinese fiber consumption



- All market segments expected to grow
- Highest growth rate (absolute and %) for technical textiles
- Technical textiles are enablers in other industries and will substitute traditional materials as steel, cement and wood e.g. light weight, flexible, durable, cost effective, multi-functional
- New technologies with less manufacturing steps will improve cost competitiveness of nonwovens compared to woven textiles

Source: The Fiber Year 2013; PCI Dornbirn Conference 2011

Oerlikon Manmade Fibers Segment at home in growth markets and applications

oerlikon

Apparel



Other applications:
- Outer wear
- Sports wear
- Hosiery & socks
- Protective apparel

Home textiles



Other applications:
- Seat covers
- Upholstering

Technical textiles (Filament)


Other applications:
- (Seat) Belts
- Tarpaulin
- Ropes
- Nets
- Sewing threads

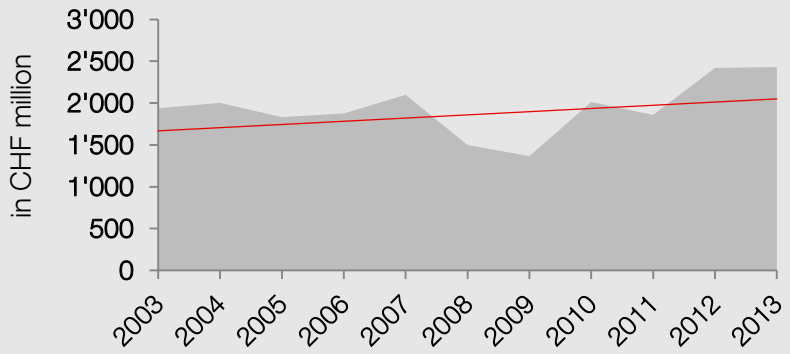
Technical textiles (Nonwovens)



Other applications:
- Agrotextiles
- Medical

Manmade fiber market cyclicality – Stable growth despite a volatile market environment

Cyclicality of investments in manmade fibers market



How to manage the cycle?

Asset light Strategy	▪ Investment in state of the art production technologies ▪ Outsourcing concept ▪ Focus on differentiating key technologies
Improve efficiency	▪ Consequent rollout of operational excellence initiatives ▪ Standardization of components ▪ Modularized product structure
Optimized footprint	▪ One product – One location ▪ Flexible interlinked production network ▪ Production capacity Asia / Europe 50 % / 50 %
World class procurement	▪ Best cost country sourcing ▪ High localization rate ▪ Group synergies by corporate WCP initiatives
Best fit organization	▪ Optimized structural costs ▪ Flexible workforce ▪ Continuous investment in R&D

Global network for production, R&D, sales and service with 11 sites in 4 countries

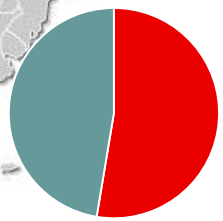
Germany
- Production
- Remscheid
- Neumünster
- Chemnitz

China
- Production, Sales, Service
- Beijing
- Shanghai
- Suzhou
- Wuxi
- Hong Kong

USA
- Sales & Service Site
- Charlotte

India
- Sales & Service
- Mumbai
- Vadodara

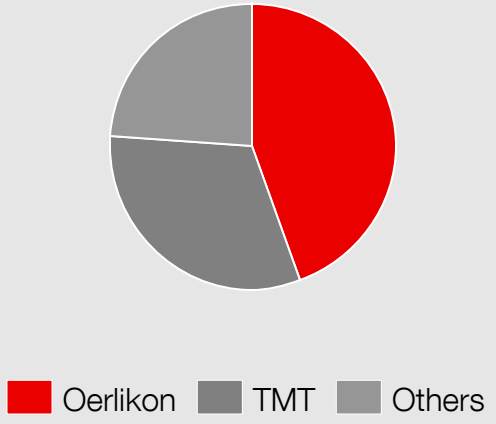
production hrs.



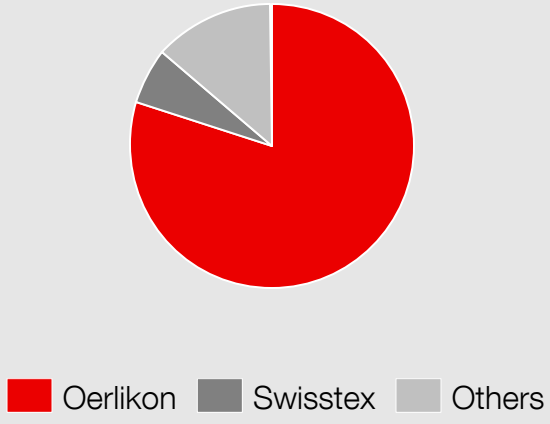
Agenda

Oerlikon is the market leader in growing and technologically demanding areas

Spinning Filament - ~45 % market share



BCF Carpet Yarn – ~80 % market share



- TMT: strong R&D as shareholders may serve as trial platform; market leader in HMLS*
- Others: CTAMP as big player, Zhenzhou (Hi-Tech Group) to speed up, various small local competitors, all with limited R&D, no international sales and service

- Oerlikon has a particularly strong position for R-PET BCF in the US
- Re-appearance of Swisstex (taken over by Fleissner/Trützschler)
- Van de Wiele as new competitor expected (2014)

* HMLS: High Modules Low Shrinkage

Source: Oerlikon estimates

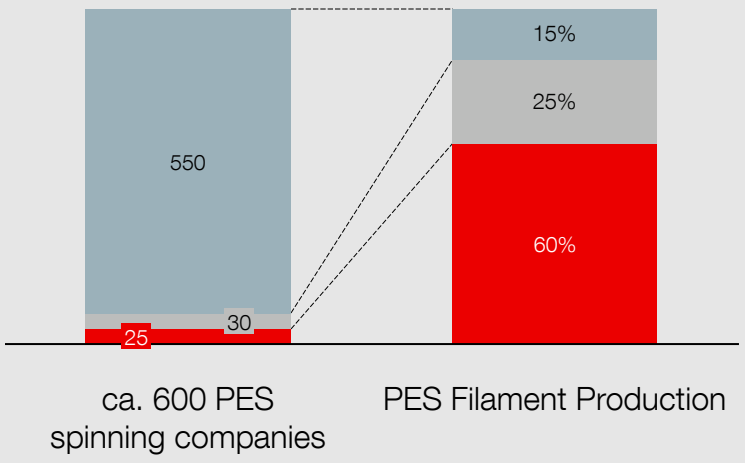
Competitive environment filament spinning – Oerlikon's technological leadership and process orientation

	oerlikon barmag / oerlikon neumag	TMT MACHINERY, INC.	CTAMP
Production			
Core market segments	▪ POY/DTY, FDY, IDY ▪ BCF ▪ Staple fibers	▪ POY/DTY, FDY, IDY	▪ POY, FDY, IDY
Competitive position	▪ Technological leadership ▪ Strong key account partnership ▪ Made by Barmag/ Neumag	▪ Good machine technology ▪ Strong position in texturing (DTY) ▪ Preferred second source	▪ Supported by Chinese government ▪ Technological gap - limited R&D ▪ No international projects
Focus	▪ Process orientation ▪ Solution approach ▪ e-save	▪ Component orientation	▪ Component orientation

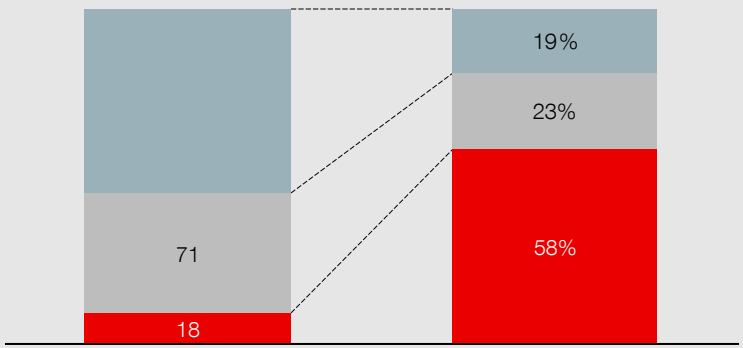
→ Local competitors in texturing, staple fibers, nonwovens

Concentrated customer base, but: Oerlikon is preferred supplier of leading producers

~44 million t in 2015 (e)



18 customers = 58 % of 2012 sales



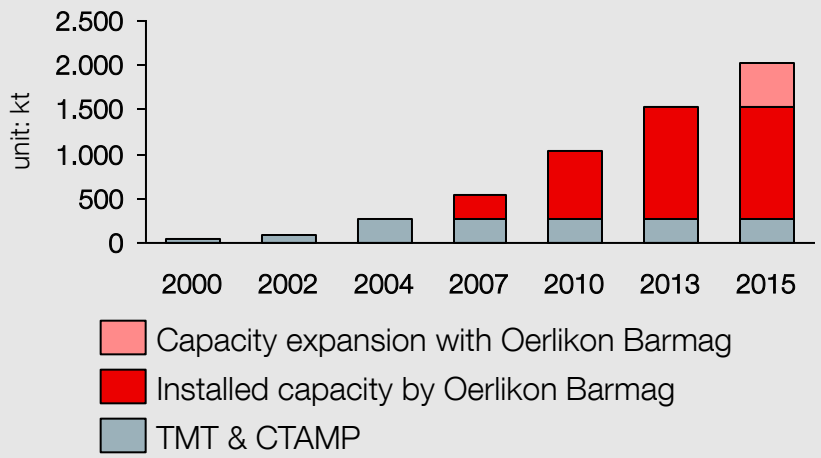
- 25 leading companies will produce 60 % of world demand
- Strong upstream integration of leading players
- 22 of the TOP 25 players are Oerlikon customers – sucessfull key account partnership

- Lean and efficient sales team
- Long term partnership with leading players

Source: Oerlikon estimates

Customers ramp up capacity significantly to become a leading player

Customer example



Drivers for investments

- Be a top 20 player under the 5-years plan
- „Grow or die“ – philosophy
- New technologies
  - Modernization / automatization
  - Energy saving
  - Improve total cost of ownership
- Portfolio expansion / back integration

- Within 15 years ramp up of capacity to reach 2 million tons per year
- Investment in Oerlikon technology of over CHF 550 million
- 7 700 winders in various lots
- In addition investment in upstream capacity

To give you an idea…

- 2 million tons per year
- Production every day = 365 000 bobbins (15 kg each)
- 1 train with 275 wagons = total length 4 km leaving the customer’s facilities every day!

Source: Oerlikon estimates & customer information

A successful history of trendsetting innovations of Oerlikon Barmag & Oerlikon Neumag key technologies

WINGS POY

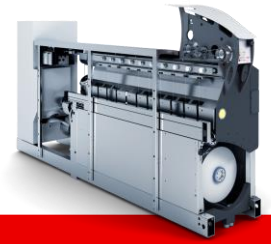
For spinning polyester filament

WINGS FDY

For spinning flat polyester yarns

WINGS POY

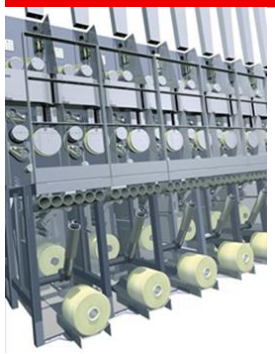
12-end system for polyamide 6



WINGS FDY

32-end system

2007 2008 2009 2010 2011 2012 2013



Sytec One

One yarn end per position for BCF spinning

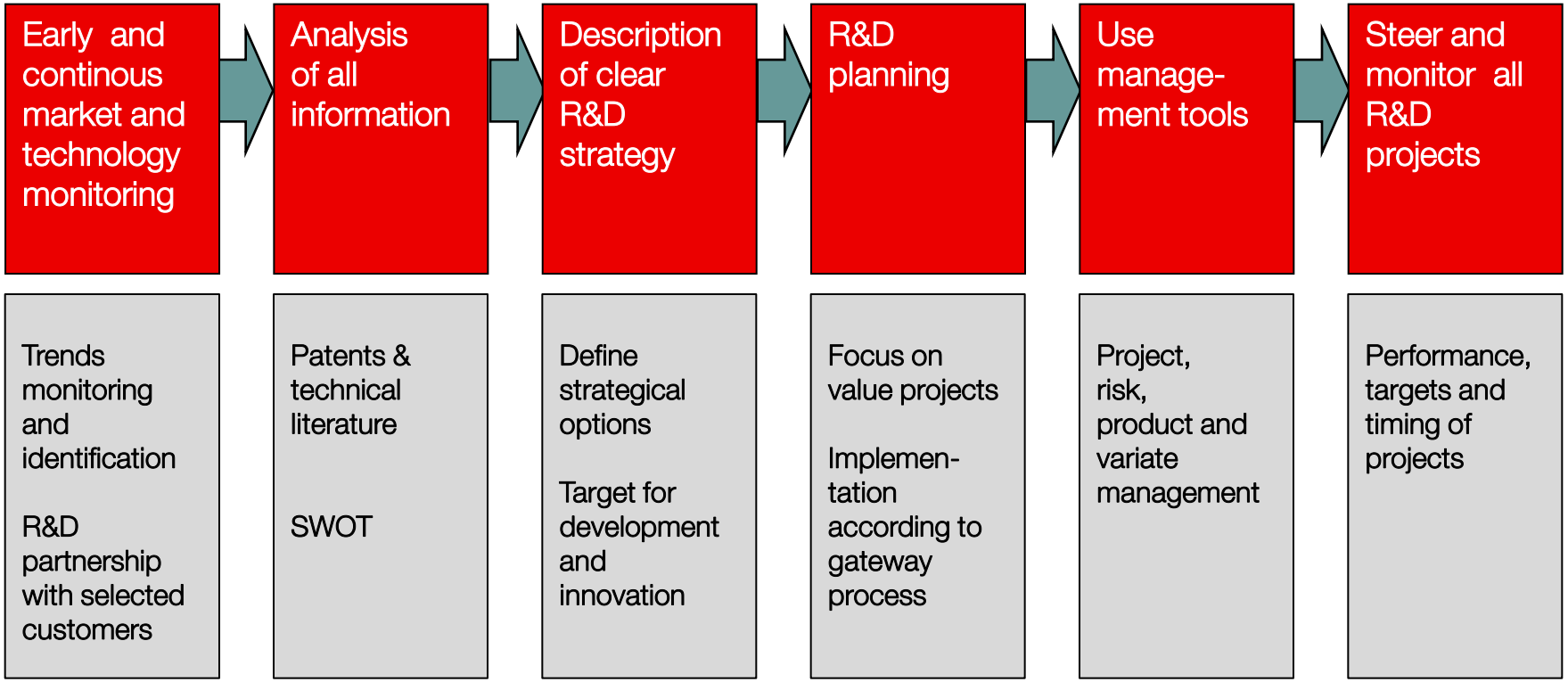
eFK

Manual texturing machine for polyester and nylon filament yarns

BCF S+

A 3-end BCF machine, combines advantages of S5 and Sytec One

Competitive advantage: Innovation
“Creation and management of innovations”



Competitive advantage: Innovation
World largest technology center in Remscheid

Spinning R&D center

- 6 modules displaying the filament spinning processes for textile and industrial yarns
- R&D and testing center for POY, FDY and IDY processes and components

Key data

- High tech on 6 753 m²
- 40 engineers and technicians developing and testing new spinning processes and components
- 2 modules for IDY, 1 for FDY, 1 for POY, 1 for WINGS POY/FDY, 1 for winder development POY/FDY

Benefits

- Strong R&D competence with the world's largest technology center
- Testing center for customer trials and processes

4 key growth opportunities

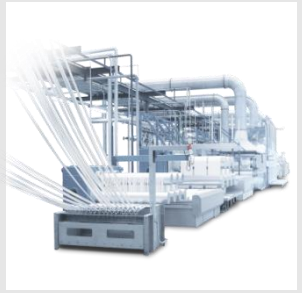
Upstream expansion

- Polycondensation plants for textile and bottle grade solutions
- EP* and EPC** engineering business

Value service

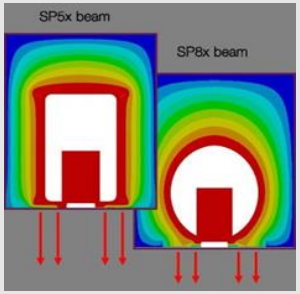
- New service products (total service packages incl. operation services)
- Increasing of installed bases
- Consulting

Range of applications



- Technical nonwovens (geo- and agrotextiles)
- Staple fiber (extended product portfolio)
- Recycling applications

Innovation



- Energy efficiency (e-save)
- Melt to yarn process solution
- Productivity increase

* EP: Engineering purchasing; EPC: Engineering purchasing construction

Key take-aways

Manmade Fibers Segment

- Focus on growing and profitable manmade fibers business
- Plant engineering and construction → "high tech" from melt to yarn
- Large-scale project business
- Strict cycle management

Manmade fibers

- It's about polyester, polyamide, polypropylene fibers and filament
- Plants and machines for filament spinning & texturing is Oerlikon's main business
- Polycondensation, value service, staple fibers & nonwovens provide future growth opportunities

Market

- Sustainable growth in global manmade fibers market driven by world population growth and wealth increase
- Asia (China) is the market today and tomorrow
- Strong growth in technical application

Customers & Innovation

- Concentrated customer base with long-term investment horizon
- Strong customer relation based on technological leadership and continued innovation
- Proven track record of groundbreaking innovations

Questions & Answers Session

Agenda

1	Introduction
2	Group view
3	Manmade Fibers Segment
4	**Lunch**
5	Site visit
6	Q&A session

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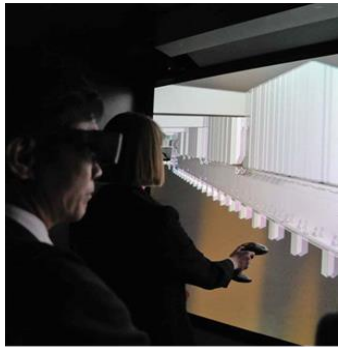
Site visit –
Roundtrip with 3 stopps à 30 minutes

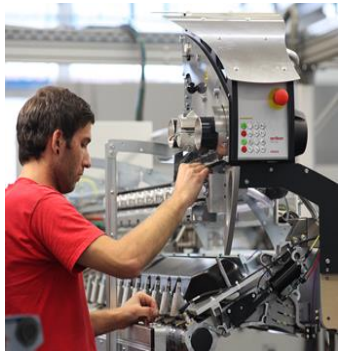


Virtual Reality and POC

- Experience the world of Oerlikon's Manmade Fibers Segment in a virtual show – from Melt to Yarn with total control via Plant Operation Center (POC)

Technology Center

- Visit the world largest technology center for manmade fibers and get in touch with the experts of Oerlikon's Manmade Fibers Segment



Assembly & Production

- Visit of the WINGS FDY and POY assembly and production lines in Remscheid

Agenda

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Questions & Answers Session

Thank you.

Your hosts

- **Jürg Fedier** (1955; Swiss citizen) was appointed Chief Financial Officer of Oerlikon effective January 1, 2009 and acts as Chief Executive Officer since March 2013. He joined the Dow Chemical Company in Horgen (Switzerland) in 1978. Over the following years, he held various managerial positions in Europe, the Middle East, Africa, Asia and the U.S. In March 2006 he returned to Switzerland as Head of Finance of Dow Europe and a member of the Executive Board. In March 2007, he took over as CFO of Ciba in Basel (Switzerland).

- **Stefan Kross** (1955; German citizen) is CEO of Oerlikon's Manmade Fibers Segment since July, 2013. He joined the Oerlikon Group in 1990 and held various positions at Schlafhorst and Saurer (Oerlikon's former Natural Fibers Business Units) before he was appointed CEO of Oerlikon Barmag in 2008. Stefan Kross holds a diploma in Mechanical Engineering from RWTH Aachen (Germany).

- **Michael Korobczuk** (1959; German citizen) is Head of Sales of Oerlikon's Manmade Fibers Segment since 2007. He joined Barmag in 1984 as sales engineer and held various positions within Barmag and the former Textile Segment. Michael Korobczuk has a diploma in Industrial Engineering from FH Köln (Germany).

- **André Wissenberg** (1970; German citizen) is Head of Marketing, Corporate Communications and Public Affairs of Oerlikon's Manmade Fibers Segment (former Textile) since 2007. He joined the company already in 2001 as Schlafhorst Marketing and Communications Director and Advisor to the former Textile Segment Management. Before he worked as journalist and consultant in PR and Change Communication. André Wissenberg has a Master of Arts in German Linguistics, Economics and Geography from the University Duisburg-Essen (Germany).

Glossary (1/2)

Acrylic Fibers (PAN: Polyacrylnitrile): Type of polymer. Acrylic fibers are wool-like, lightweight and warm.

Agrotextiles: Textiles used for agricultural applications such as ground covers, anti-bird netting, windbrakes, shade nets.

Airlaid: Nonwovens, made from fluff pulp (natural cellulose) combined with super-absorbent powder or bicomponent fibers for hygiene, medical and cleaning products, wherever extreme absorbency and great strength are essential.

BCF (Bulked Continuous Filament): Yarn for carpet production, usually polypropylene, polyester or nylon.

Bobbin: Take-up package in a textile process (Spule).

Carpet yarn: For the production of carpets, a textile floor covering. Usually carpets are tufted or woven.

Cellulosics: Fibers made from wood pulp, brand names Rayon, Modal, Licocell (Cellulosefasern).

Dtex: The dtex measurement unit provides information regarding how many grams 10 000 meters of a filament or a yarn must be.

DTY (Draw-textured yarn): Texturing is the process in which POY is durably crimped. This increases the elasticity and the heat retention. At the same time, it reduces the heat conductivity.

EPC: Engineering Purchasing Construction.

e-save: Energy saving label of Oerlikon's Manmade Fibers Segment.

FDY (Fully-drawn yarn): Following quenching, this yarn is fully drawn and wound between so-called godets.

Filament: Filament is an endlessly spun and wound manmade fiber. Filament yarn comprises as many filaments as the spinneret has holes.

Geotextiles: Permeable fabrics used for separation, filtration, reinforcement, protection or drainage, applied with soil related works (Geogrid, nonwoven, Geonets).

Godets: Godets are fast-rotating, cantilevered bearing, cold or heated rollers over which manmade fibers are guided. They are normally used to draw the yarn at various speeds.

HF Heating: High Frequency Heating, electrical heating system.

Home textiles: Textiles used in home applications, such as carpets, curtains, upholstery etc.

IDY (Industrial Yarn): Particularly tear-resistant and low-shrinkage fullydrawn filaments used for automotive tires, seat belts, airbags, ropes etc.

Manmade Fibers: Other word for chemical or synthetic fibers.

Meltblown: Nonwovens, made from polymers with extremely fine fiber diameters for hygiene, medical and technical applications.

Natural Fibers: Fibers from natural sources like cotton plants or sheeps.

Nonwoven: Fabrics made of fibers, filaments or yarns which are bonded to a web and neither woven or knitted.

OMF: Oerlikon Manmade Fibers.

OPEX: Operational Expenditure.

Glossary (2/2)

POC (Plant Operation Center): Workflow management system by Oerlikon's Manmade Fibers Segment optimizing production processes.

Polyamide (PA): Polymer made from caprolactam. Polyamide fibers are highly elastic, dimensionally stable and highly resistant to wear and tear.

Polycondensation (CP = continous polycondensation): Production process to manufacture plastic material from monomers to polymers, molecular chain formation.

Polyester (PET): Polymer made from Purified Tereftalic Acid (PTA) and Monoetylen Glycol (MEG). Polyester fibers are tear proof, light and crease resistant, and don't shrink.

Polymer: Macromolecular substances composed of single molecules (monomers) by polymerization, polyaddition or polycondensation.

Polypropylene: Polymer used for plastic material.

POY (Pre-oriented yarn): The spun yarn is not completely drawn. It is used in textiles, e.g. after being finished using Oerlikon Barmag draw-texturing machines.

Spinning: Forming filaments from polymer melt. The melt is squeezed through a spinning head and are then cooled and dried in the subsequent quenching unit.

Spunbond: Nonwovens, made from polymers for hygiene, medical and technical applications.

Staple fiber: Fibers of defined lengths created by cutting filaments, applied in the most varied areas, such as textiles, filling materials or reinforcing fibers. Also processed into synthetic nonwovens and can be used as geotextiles, insulation materials or in medical and hygiene applications.

Synthetic fibers: Other word for manmade or chemical fibers.

Tape & Mono filament: Course flat or round filaments made from polymers.

Technical textiles: Textiles used in technical applications such as seatbelts, airbags, fishnets, ropes, filtration, roofing etc.

Texturing: Mechanical modification of flat filament yarns (POY) to achieve a bulky structure. Imitating a natural fiberlike structure.

Titer: Measurement for determining the thickness of filaments and filament yarns, e.g. dtex.

Tufting: Type of textile weaving in which a thread is inserted on a primary base.

Twisting: Plying of two or more yarn strands by turning around each other.

Weaving: Textile process to produce a fabric out of yarn.

Winder: Take-up machine to form packages (bobbins) at the end of the spinning process.

WINGS: Winding INtegrated Godet Solution (brand name of the latest winder technology by Oerlikon Manmade Fibers).