

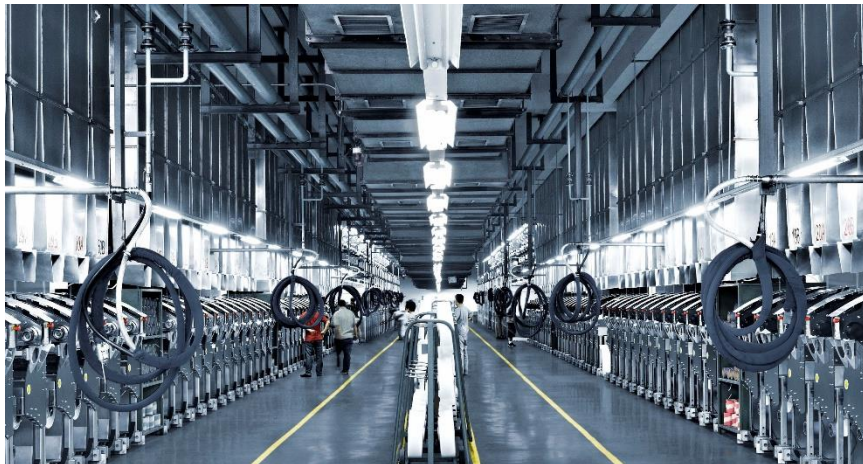
Intelligent Manufacturing Solutions for the Manmade Fiber Industry – A Future Success Factor

Lucerne, April 10, 2018

Georg Stausberg – CEO Manmade Fibers Segment



Oerlikon Manmade Fibers Segment: Serving the Growing Need for Better Functional Fibers and Apparel



MEDICAL AND FILTERS



INFRASTRUCTURE



APPAREL AND FUNCTIONAL WEAR



FLOORING



TRANSPORTATION



PACKAGING

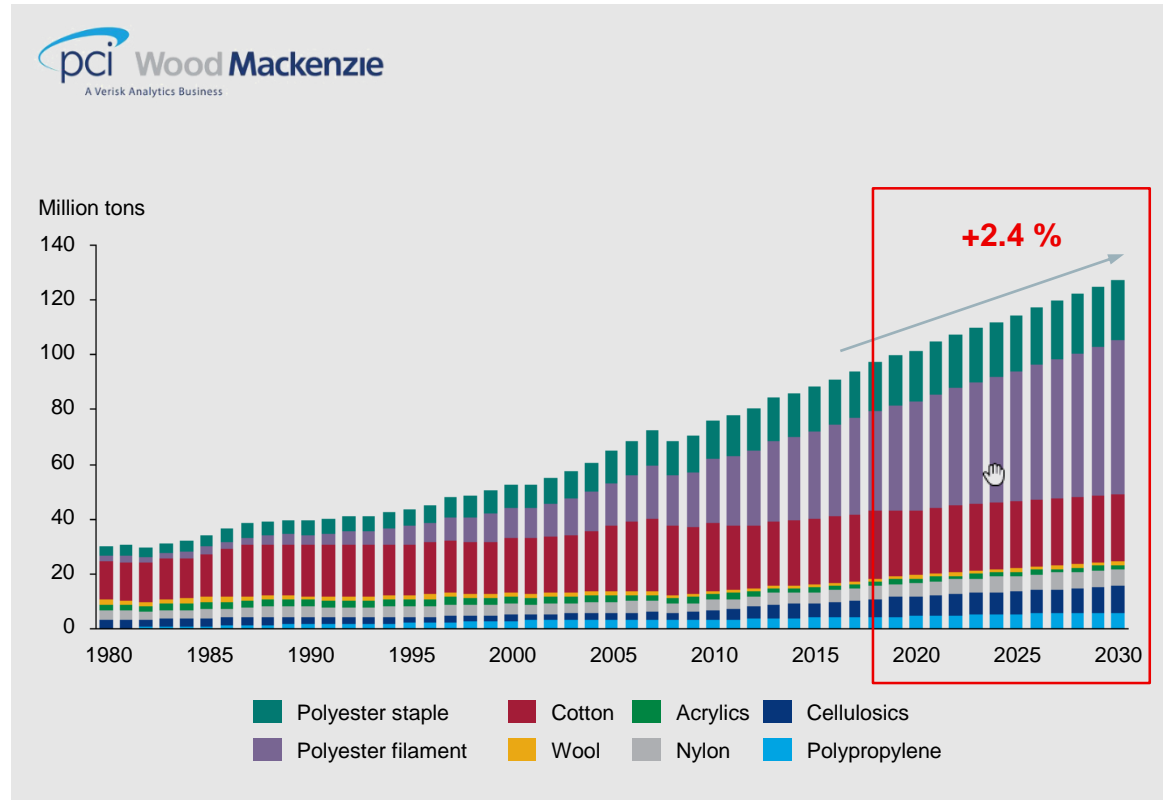
**MORE THAN
35 MILLION TONS OF
MANMADE FIBERS ARE
PRODUCED ON
OERLIKON SOLUTIONS
PER YEAR**

**—
THAT IS NEARLY HALF
OF THE WORLDWIDE
MF CAPACITY.**

The world's largest textile manufacturers trust Oerlikon filament spinning, texturing, BCF carpet yarn, staple fiber and nonwoven machine solutions.

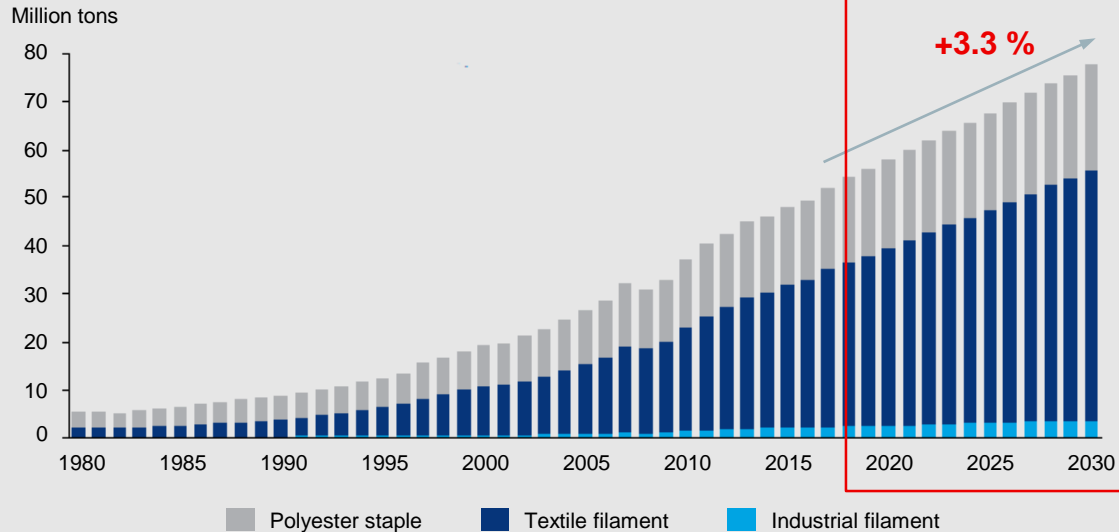
We provide systems used to manufacture manmade fibers. We offer technologies from melt to yarn for manufacturing industrial yarn, fibers and nonwovens.

Market Development: Polyester Growth Dwarfs other Fibers – Growing 2.4 % (CAGR) Overall from 2016–2030



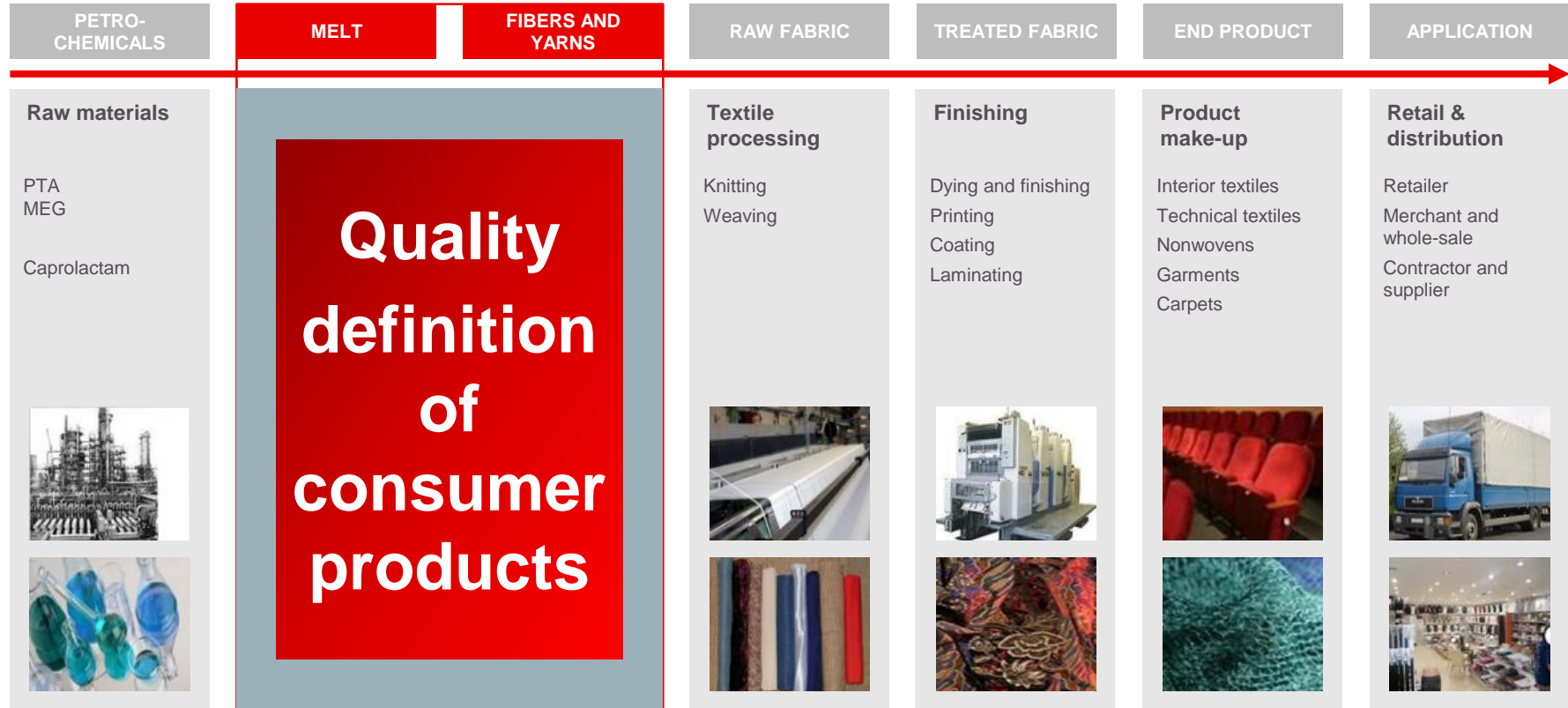
◀ Oerlikon will continue to **benefit above average** from the market growth and the shift of market shares from cotton to manmade fibers.

Textile Filament (PET) is Experiencing Much Greater Growth than Industrial Filament or Staple



Growth 2016–2030 (CAGR)	
All polyester	+ 3.3 %
Staple	+ 2.1 %
Filament	+ 3.8 %
▪ Industrial	approx. +100 ktpa
▪ Textile	approx. +1 500 ktpa

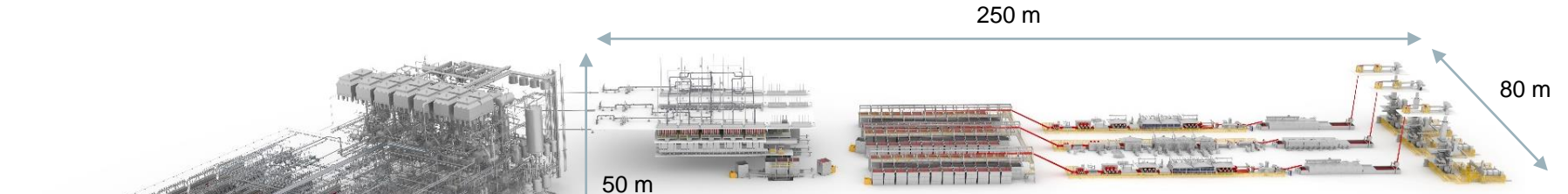
Our Technologies Define the Quality of Each Consumer Product – Every Textile Product is Based on Fibers and Yarns



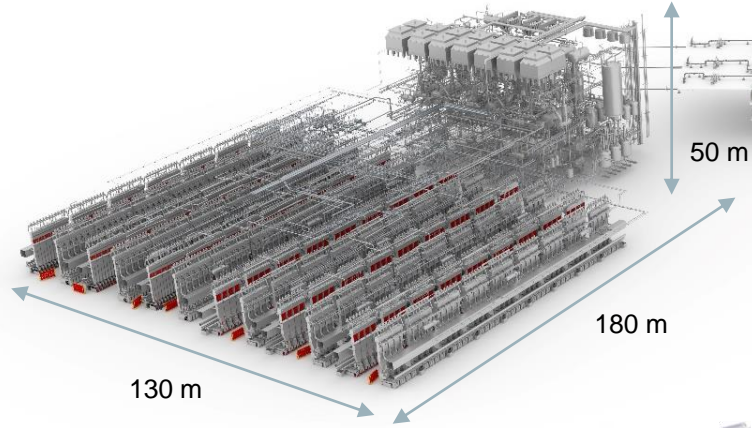
Our Promise of Performance: Engineered Plant Solutions as a One-Stop Service

FROM MELT ...

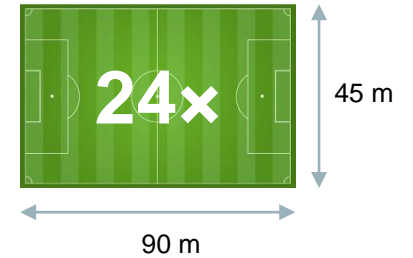
... TO FIBERS



3 × 225 TONS PER DAY
2 700 staple fiber bales at 250 kg each

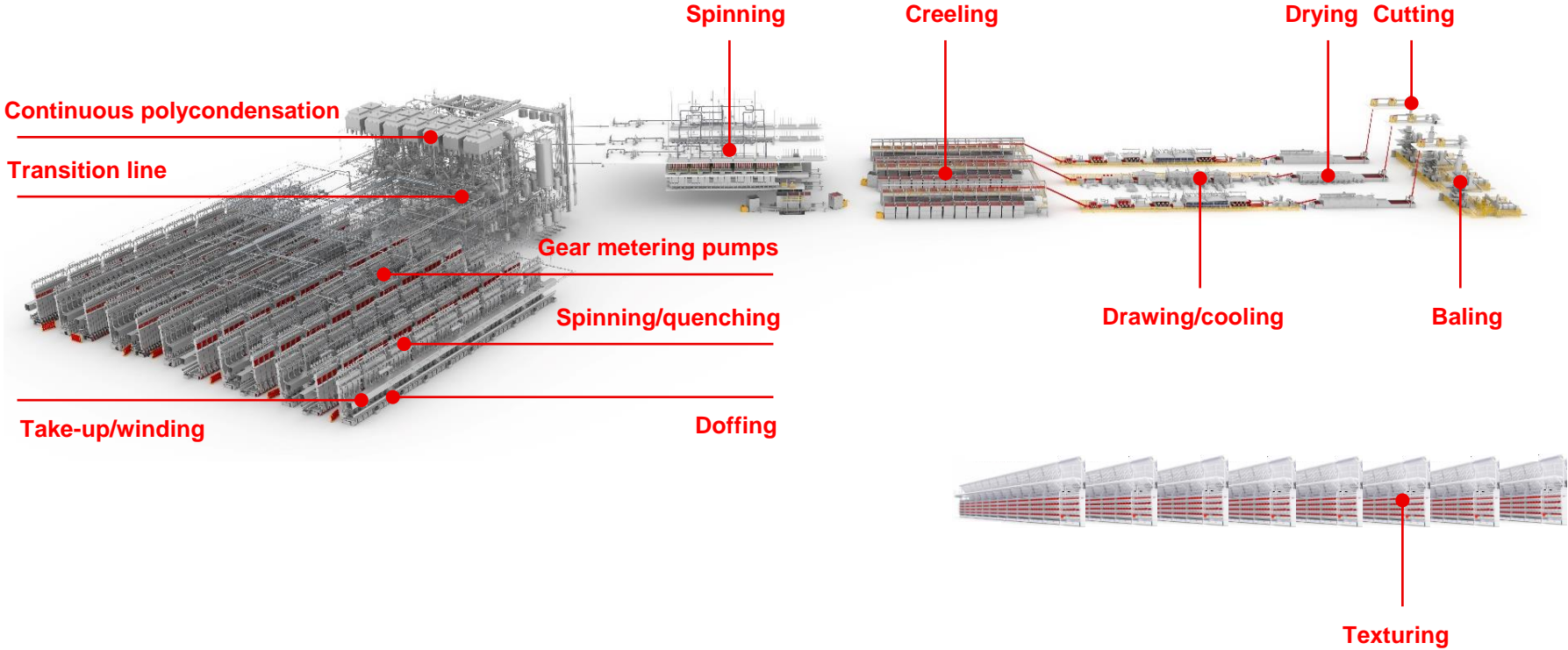


... TO TEXTURED YARN
120 × DTY HQ 576 machines

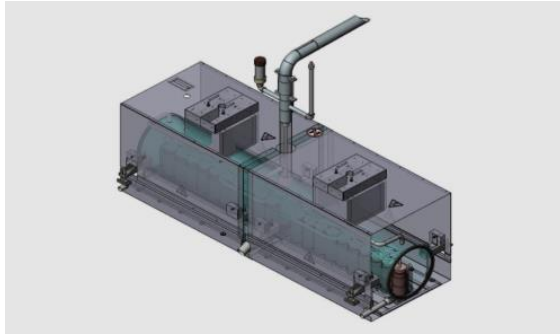


600 TONS PER DAY
40 000 bobbins at 15 kg each

The Main Steps that Influence the Quality of Fibers and Yarns – All Controlled by Oerlikon Technology Solutions



Three Innovative Examples of Energy-Efficient and Environmentally Friendly Production



SAVINGS



Oerlikon Barmag SP8x spin beam

40 %



Rectangular spin beam

Spin beam guarantees uniformity and saves energy



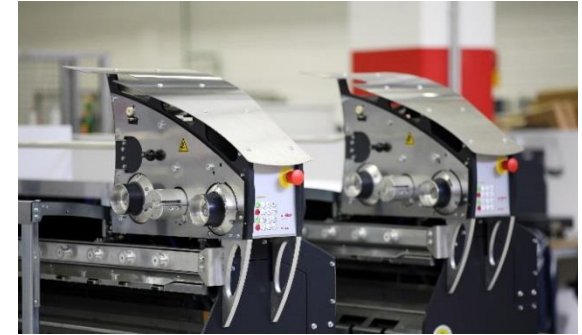
SAVINGS

EvoQuench

80 %

X-flow

Quenching – uniform yarns and much less energy required



Conventional POY

Efficiency gains

20 %

Energy reduction

25 %

Waste reduction

30 %

Space reduction

35 %

Take-up and winding – less waste and more savings in OPEX



The Next, More Decisive Step: Oerlikon Industry 4.0 Solutions

oerlikon



Melt

Spinning

INDUSTRY 4.0 SOLUTIONS

Take-up

Drawing

Winding

Crimping

Texturing

Cutting

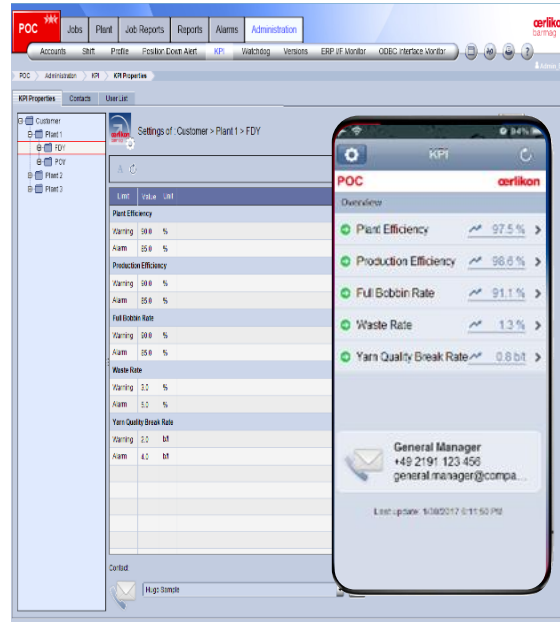
Digital Transformation – Explore a New World

Our Industry 4.0 Solutions – Intelligent Plant Control – IPC 4.0

oerlikon



ONLINE SERVICE
with innovative apps

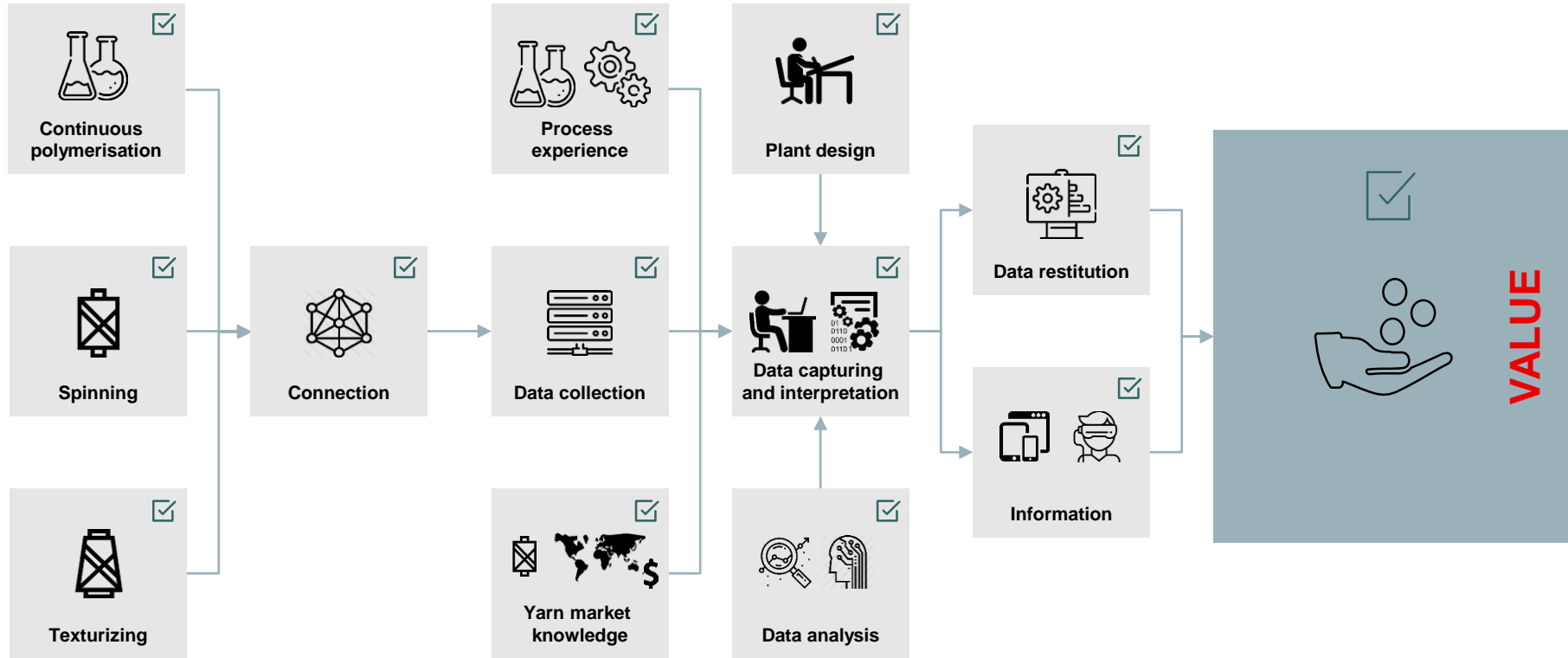


PLANT OPERATION CENTER
POC 4.0



REMOTE SERVICES
with Microsoft HoloLens

As an Innovation and Technology Leader, Oerlikon Creates Value for Its Customers in the Manmade Fiber Industry



Thank you.

