Reicofil
REIFENHÄUSER GRUPPE

The Extrusioneers

Reifenhäuser Reicofil
Innovations Beyond Hygiene

09.11.2016 Hofer Vliesstofftage

Agenda

- Spunbond Nonwovens for Technical Application
- Innovations in Meltblown Technology
- R&D Technology Center

Well known application: Hygiene

REICOFIL® 4 SSMMMS line for hygiene nonwovens (baby diapers, feminine hygiene, pads)

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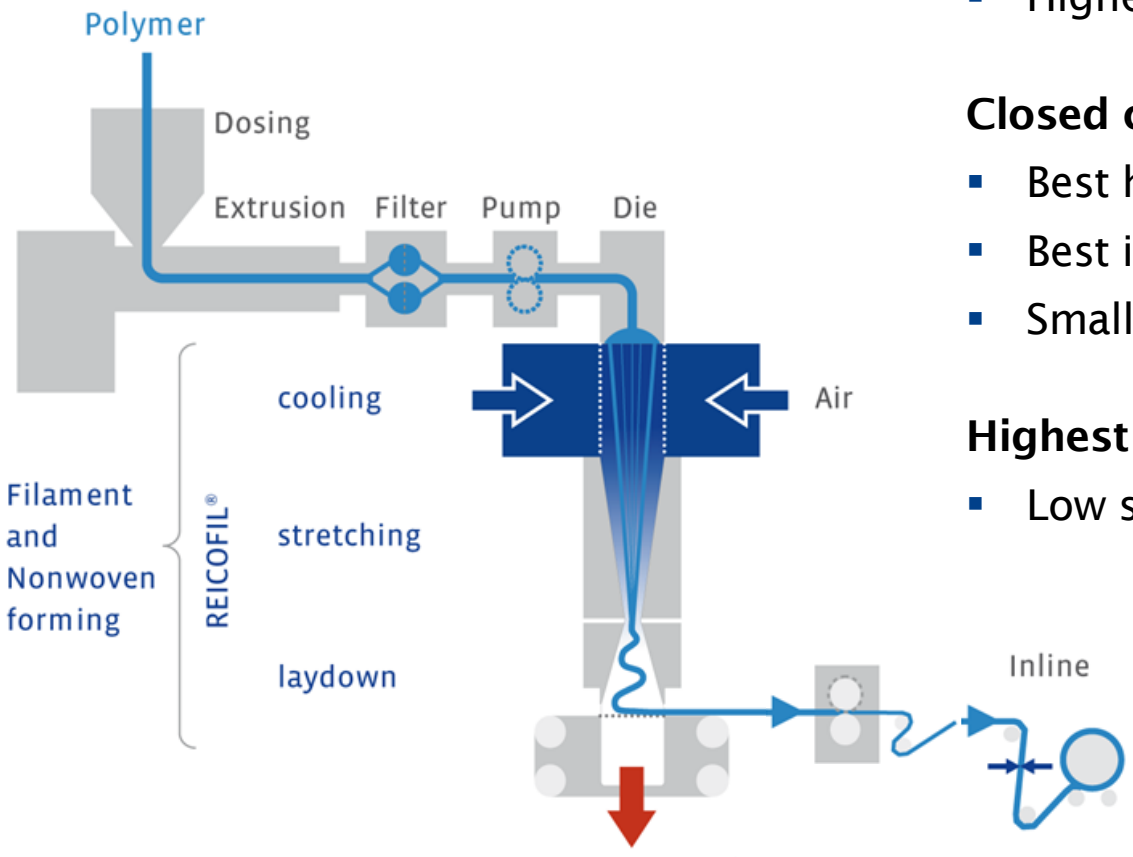
Nonwoven Works for Packaging

REICOSTAR Bag
Nonwoven + film

- Turnkey technology
- Eye-catching appearance
- Lightweight
- Easy handling
- Fully recyclable

Reicofil Spunbond Process



Extrusion system with Bico technology

- Optimized resin recipe
- Highest specific mechanical properties

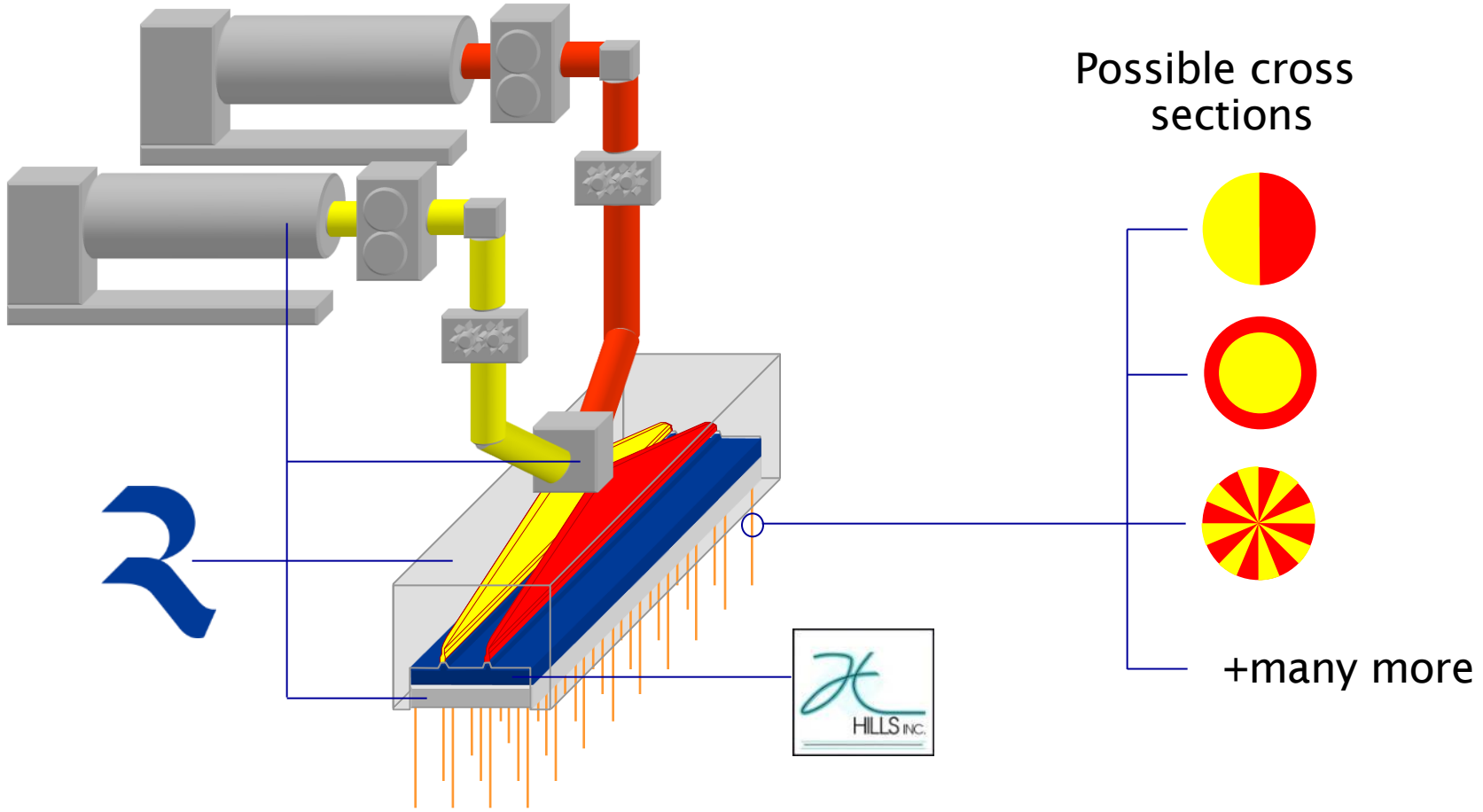
Closed cooling and stretching system

- Best homogeneity of laydown
- Best isotropy
- Smallest specific energy consumption

Highest line availability in the market

- Low specific production cost

Reicofil BiCo Technology

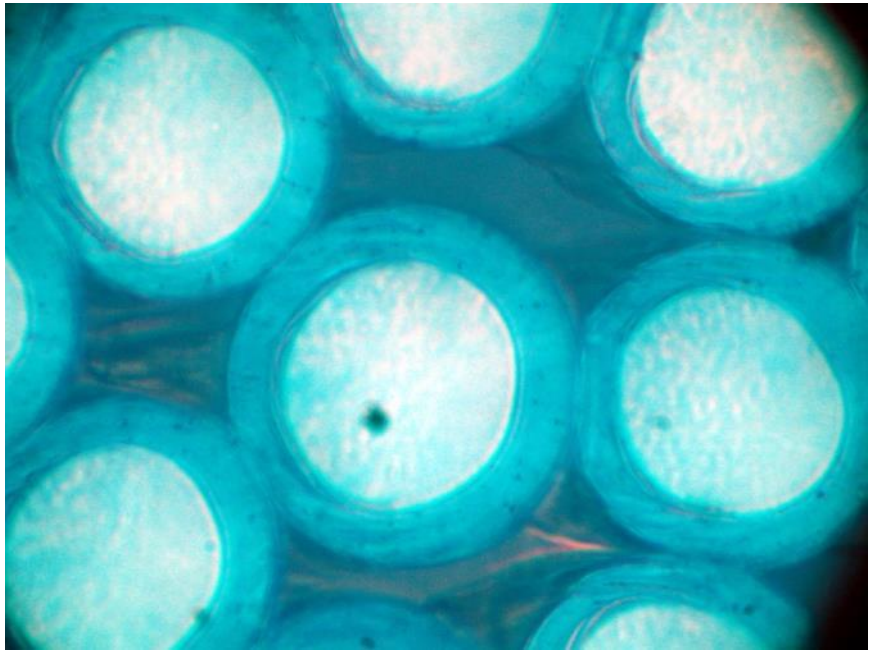


Reicofil BiCo Technology
Cross Section: Core Sheet

Strong Core

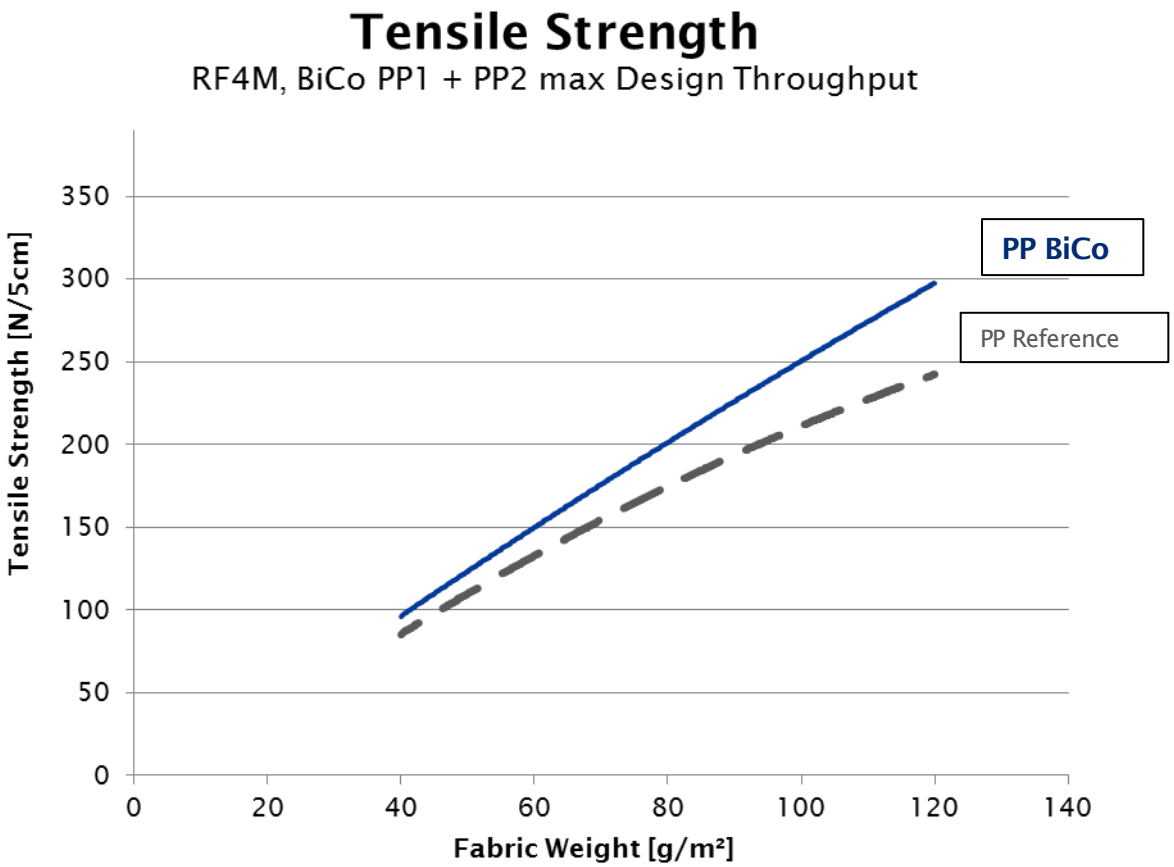
+

Ductile Sheet



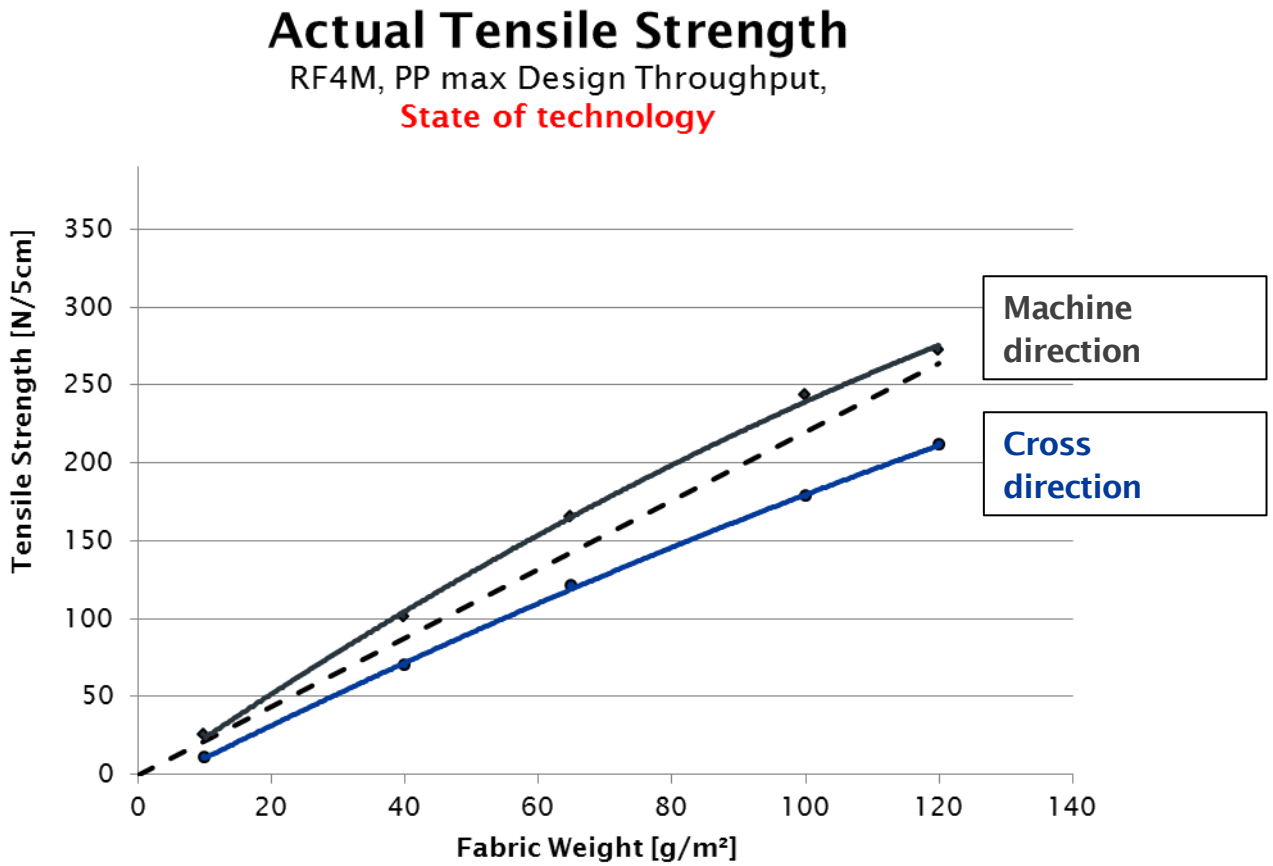
- Combination of high filament strength (core material) and good bonding behavior (sheet material)

Optimized Resin Recipe using BiCo for PP



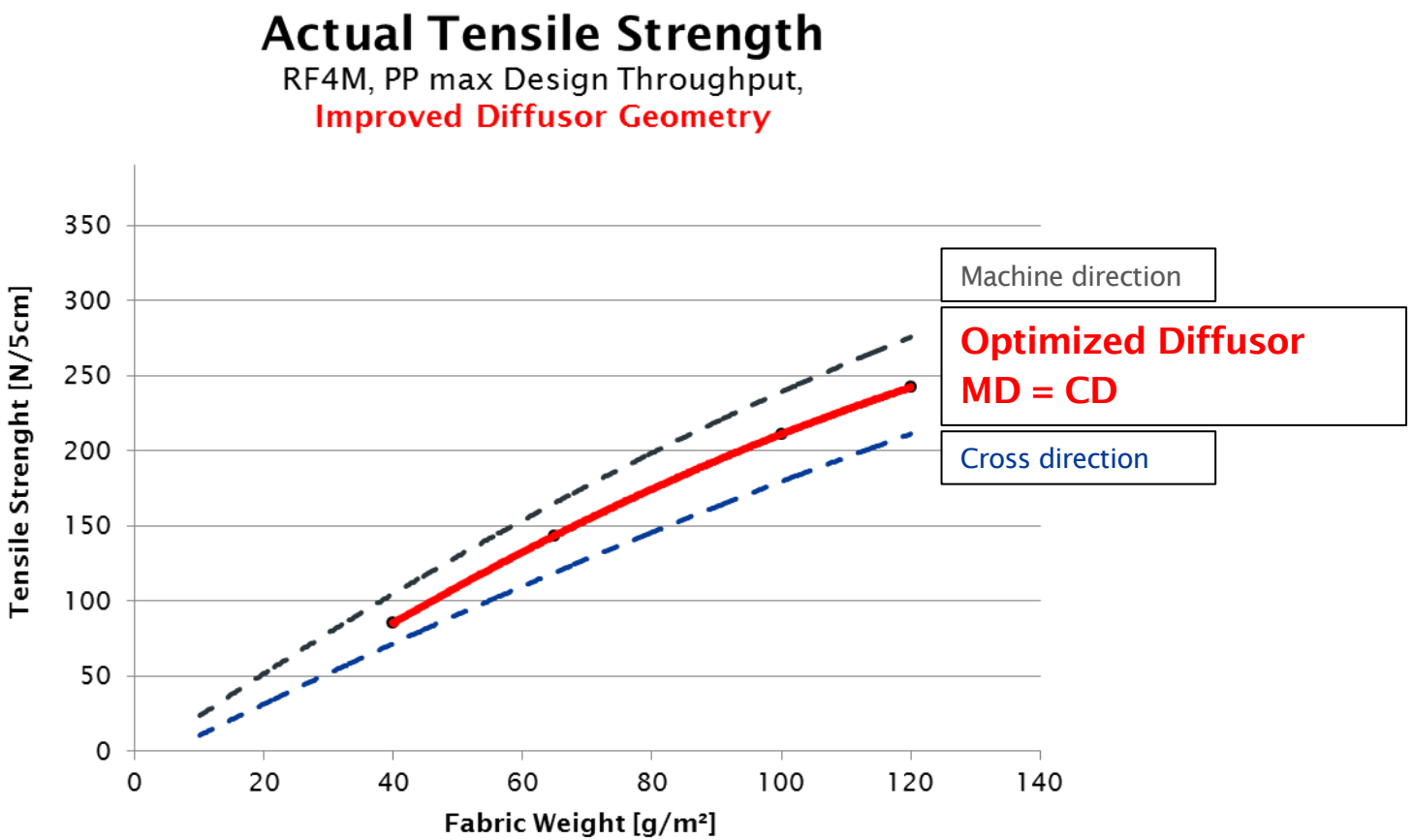
- Significantly increased tensile strength + ~15 %

Typical Tensile Characteristics vs. Fabric Weight



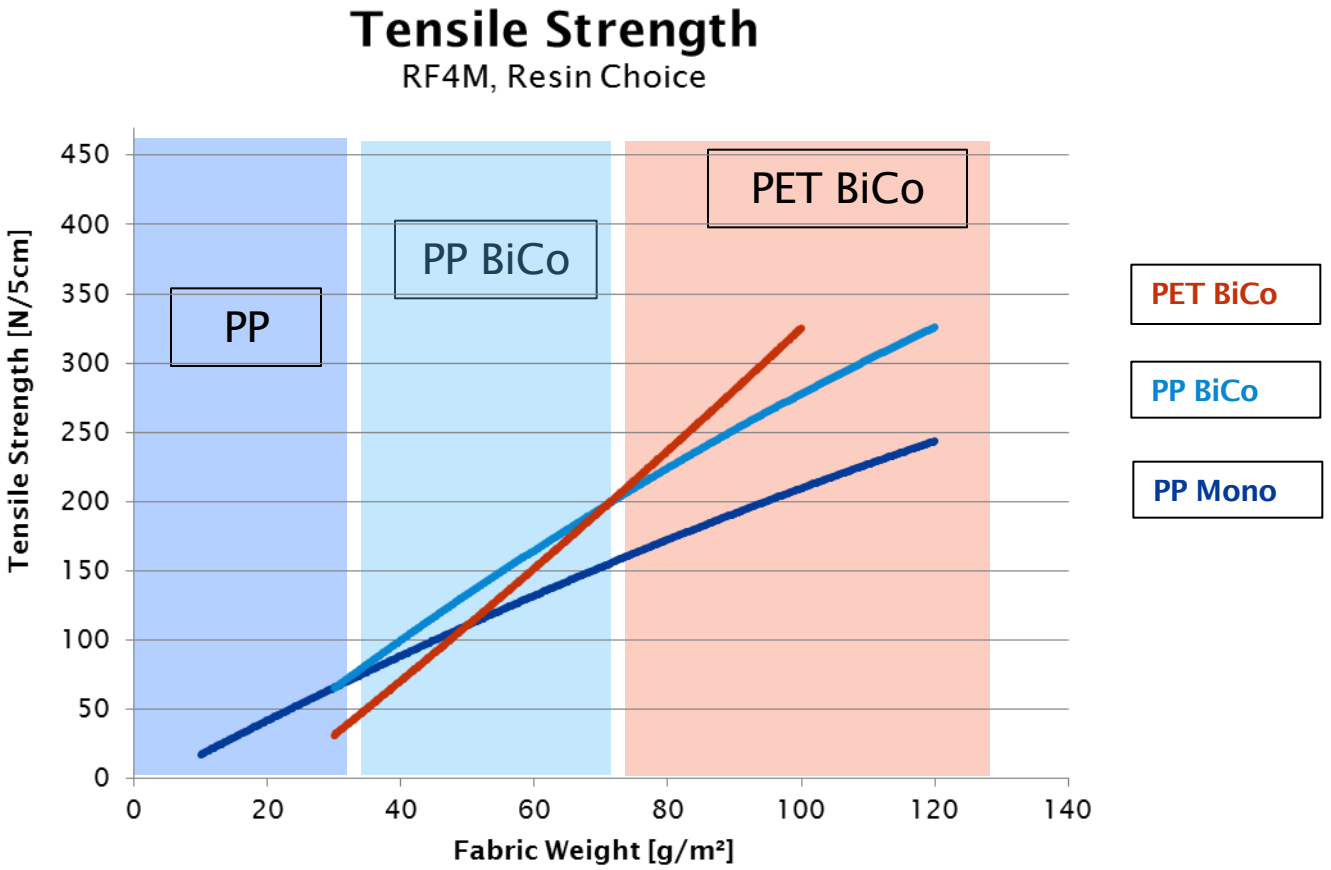
- Anisotropy: Actual tensile strengths in machine and cross direction
  MD/CD ≠ 1

Improved Diffusor Geometry: Best Isotropy



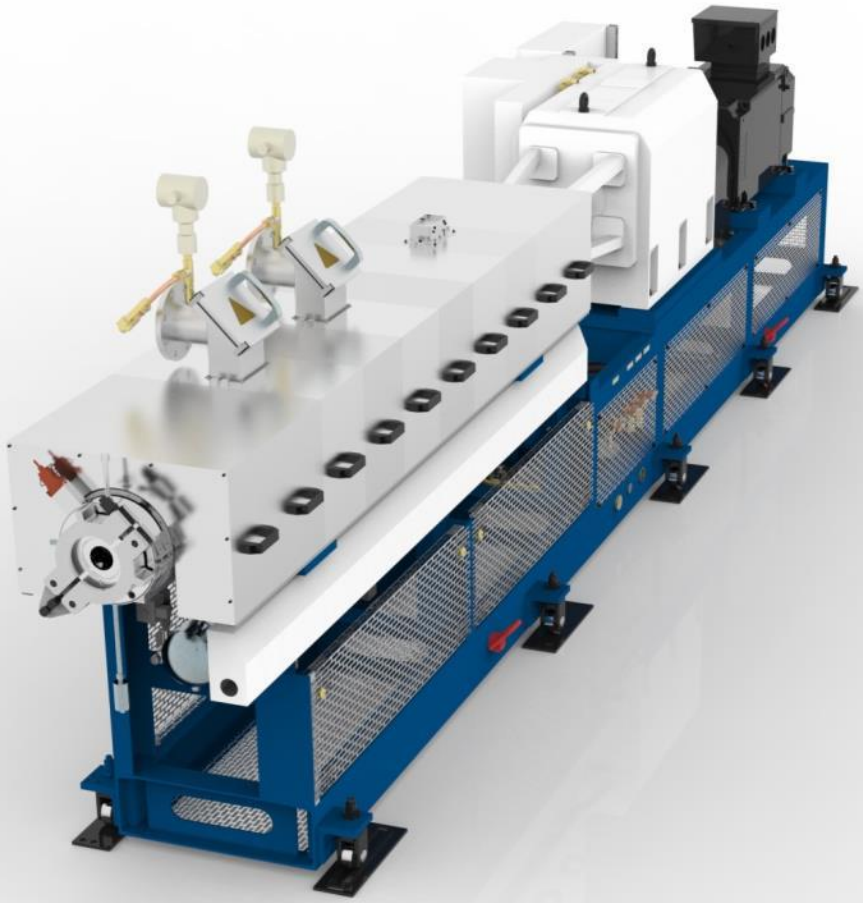
- **MD = CD** for fabric weight >40g/m² achieved!
  ➔ Significantly improved tensile strength in CD

BiCo Spunbond: Optimal Resin Choice



- Different fabric weights require different resins for optimal tensile strength

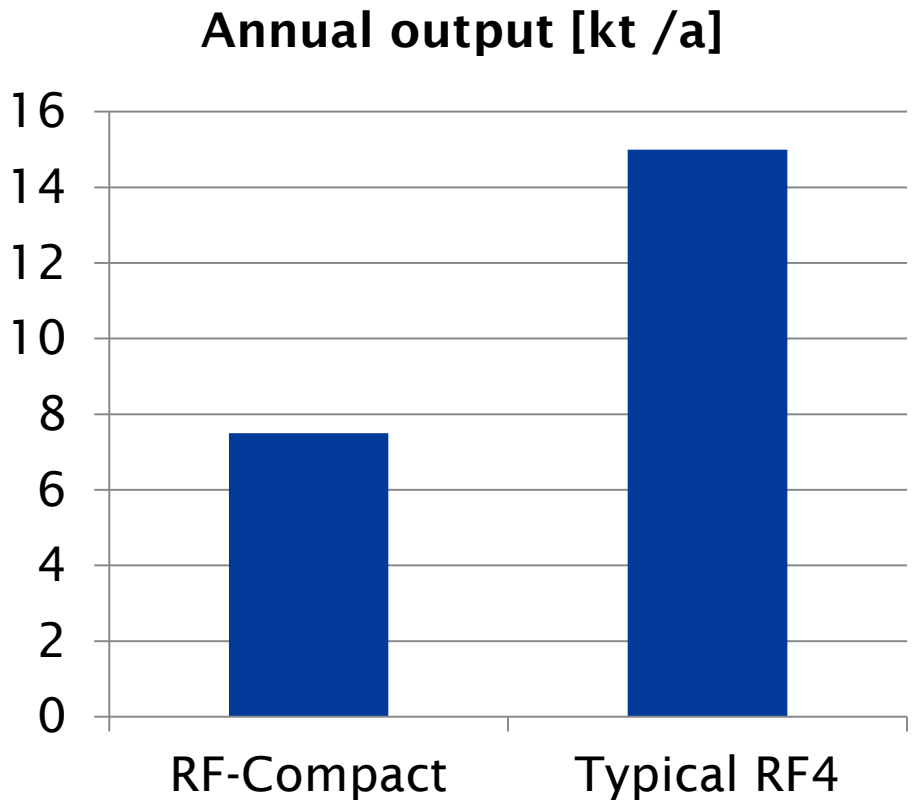
Highest Resin Flexibility in one Line



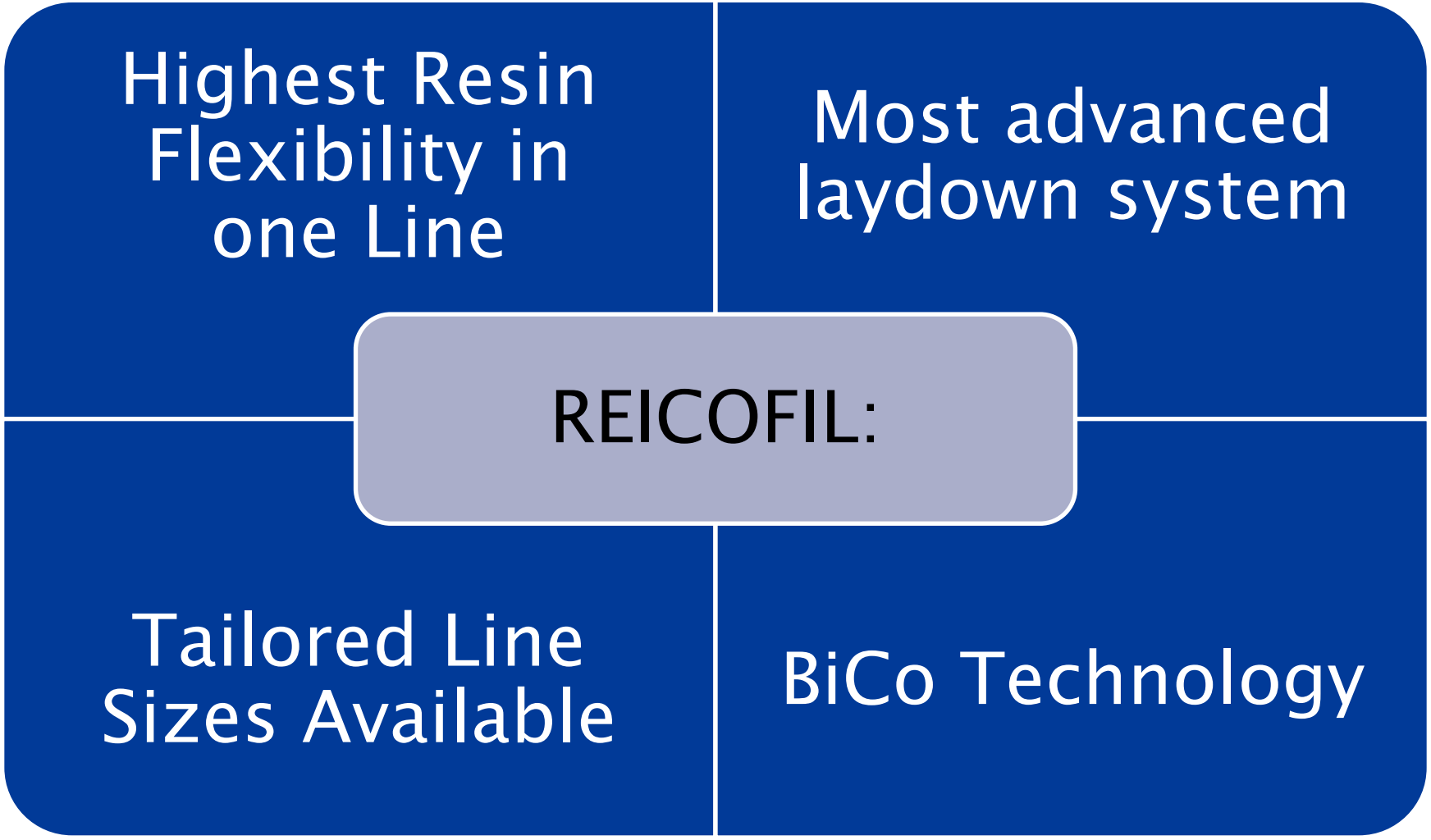
- Reifenhäuser Reitruder: Twin screw extrusion
- Direct processing of post-consumer PET bottle flakes
- No energy and time consuming predrying necessary
- **Reicofil lines suitable for PP, PET and PET flakes available**

RF-COMPACT: Reduced Invest, moderate Output

- Serve small volume markets with local production at moderate capacity
- Reicofil's standard system reliability (above 7200 h/year) with performance guarantees
- Specifications:
  - No basement necessary
  - State of the art RF4 Bico technology
  - Output: 7.5 kt/year



Best solution for technical nonwovens…



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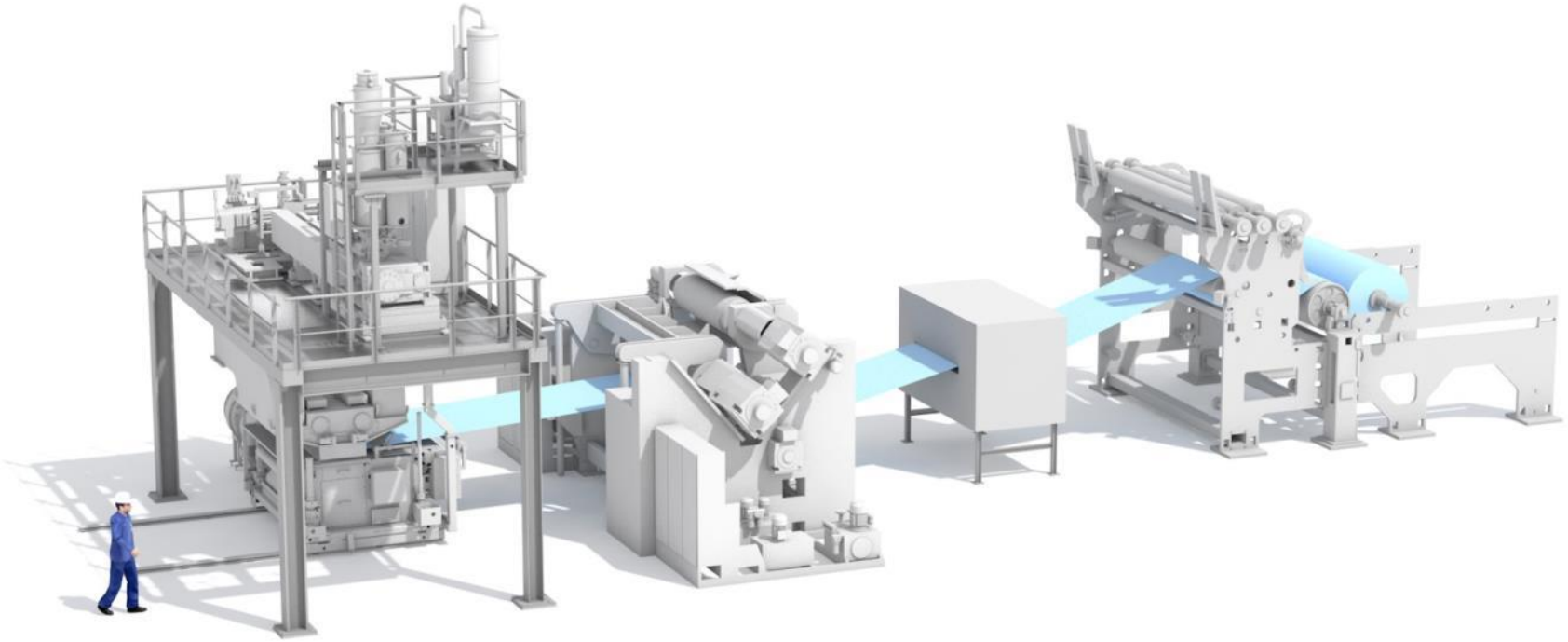
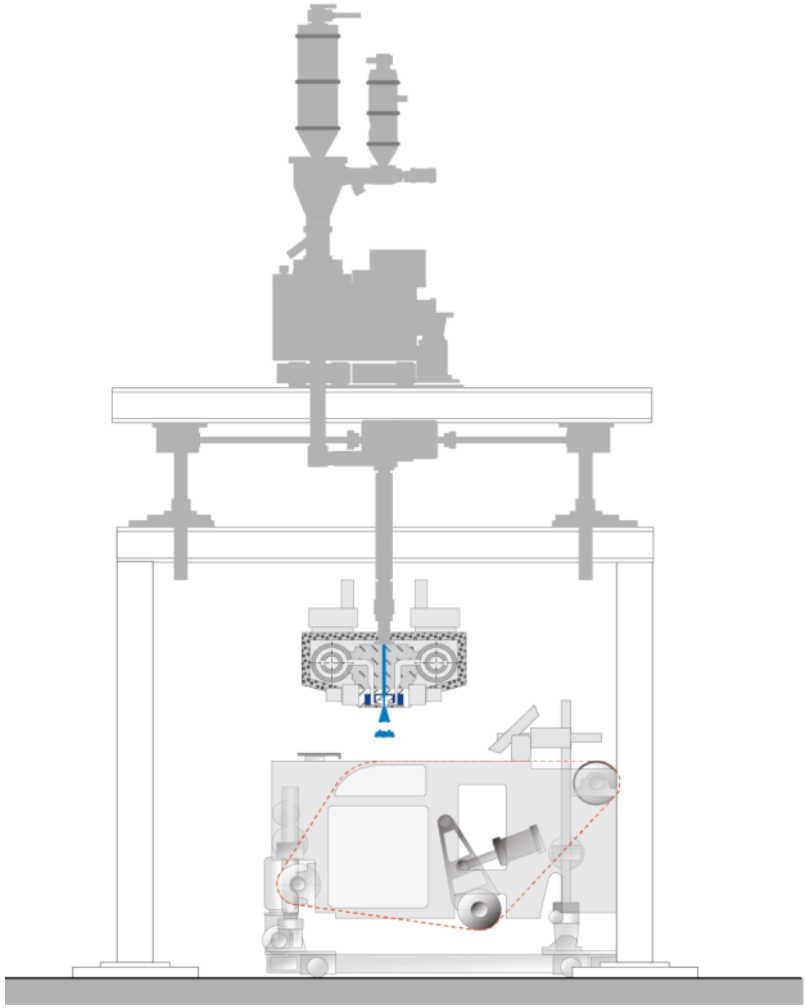
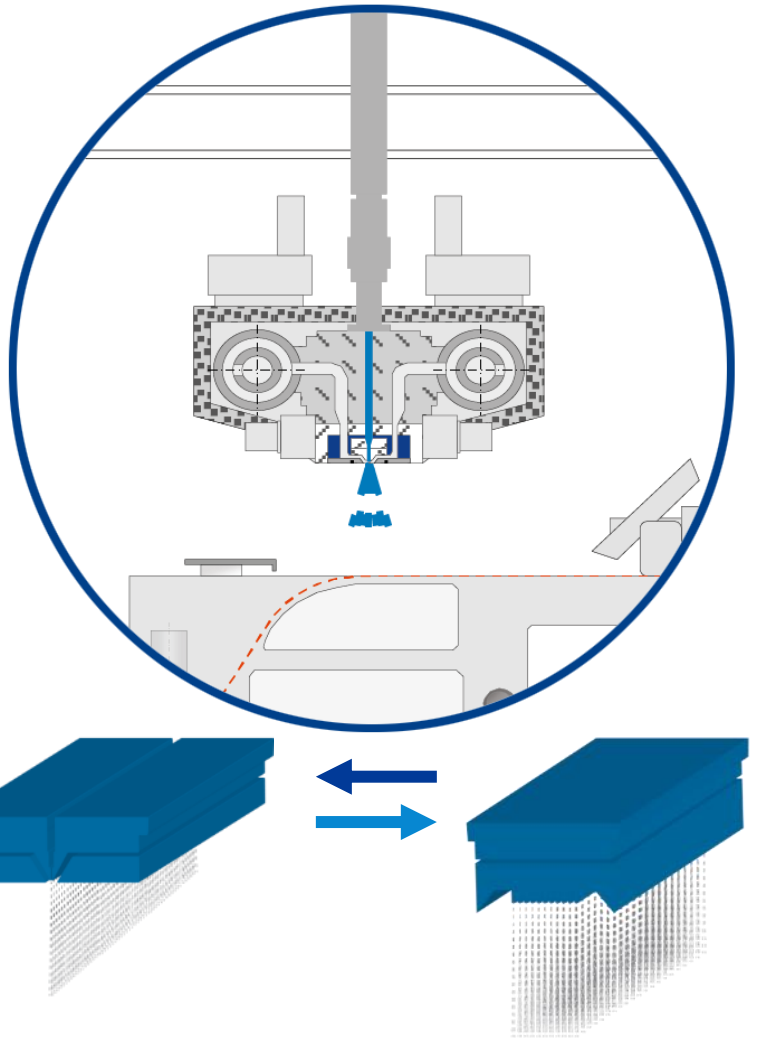
Reicofil Stand-alone Meltblown Technology



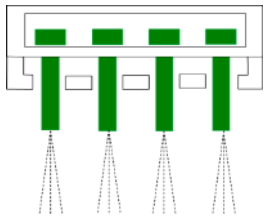
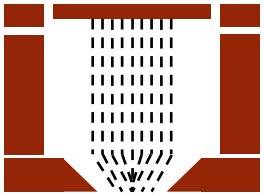
Reicofil® Single Meltblown line with calender, electrostatic charging and winder

Reicofil Stand-alone Meltblown Technology
Integration Concept: Two in One

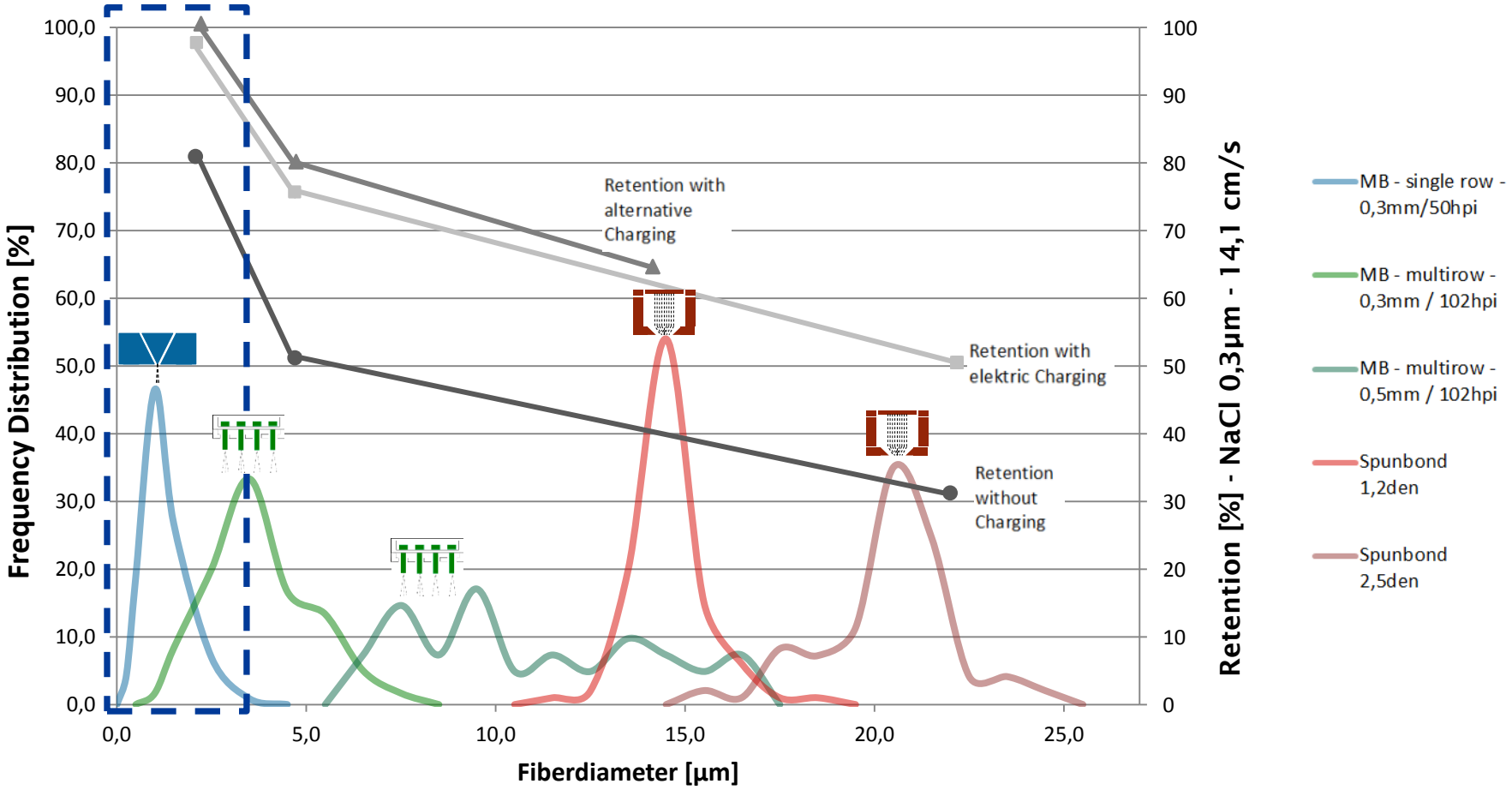




Reicofil Toolbox
Characteristics of Reicofil® Technologies

	Singlerow	Multirow	Spunbond
			
Throughput [kg/h/m]	10 – 100	40 – 150	150 - 300
Mean Fiber diameter [µm]	<0.5 - 5	3 – 15	10 – 30
Fiber diameter distribution	Narrow	Broad	Narrow
Filament strength	Minor	Medium	High

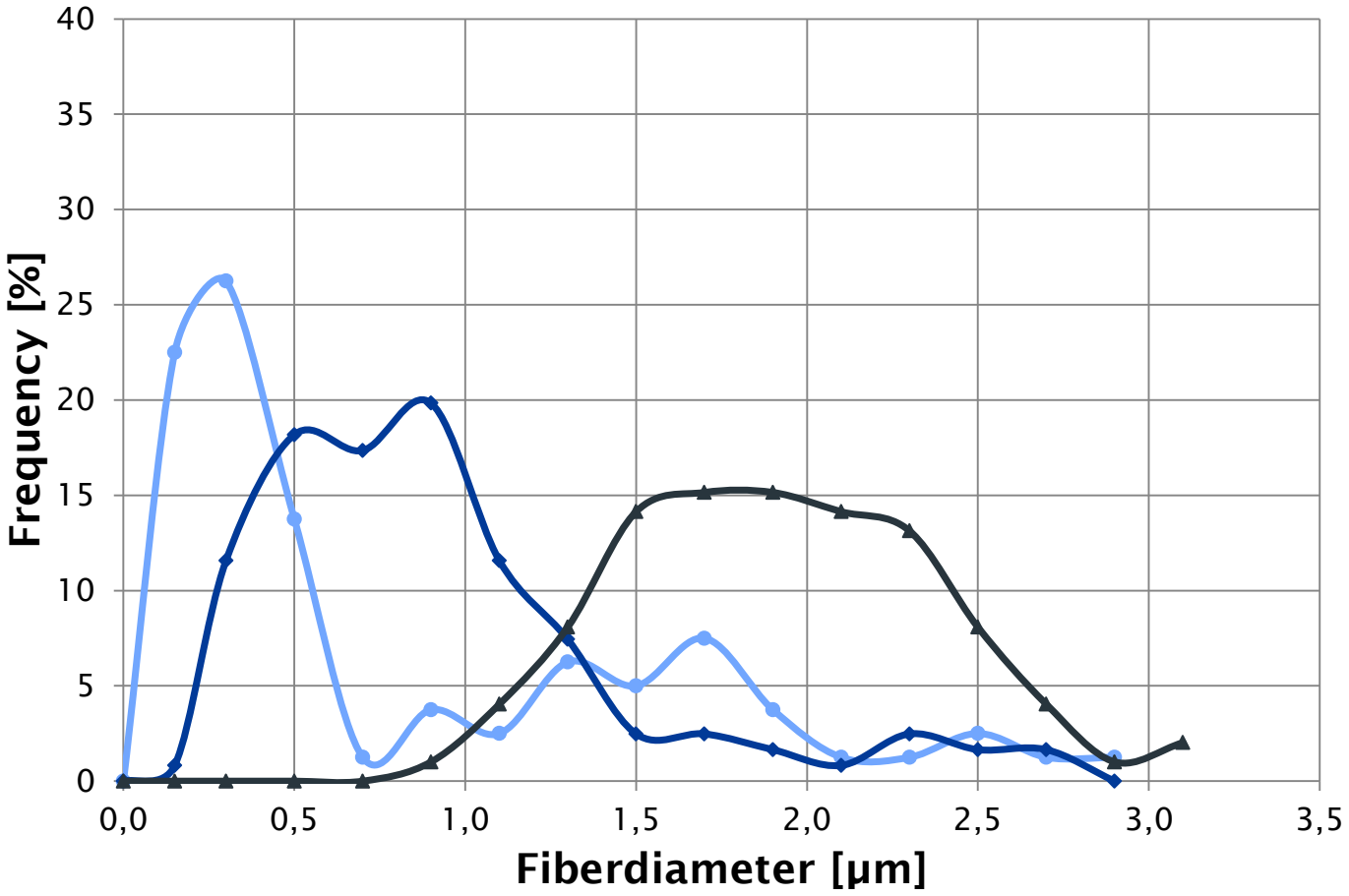
Reicofil Filter Development
Filament diameter vs. retention



Reicofil Filter Development

Feasible filament diameter MB SR

50+X hpi: PP only



Quelle: STFI – REM Aufnahmen Mik160_15//P20152636

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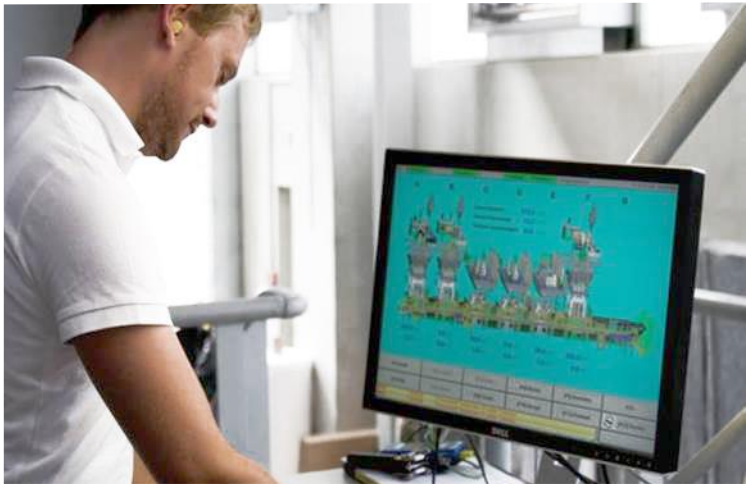
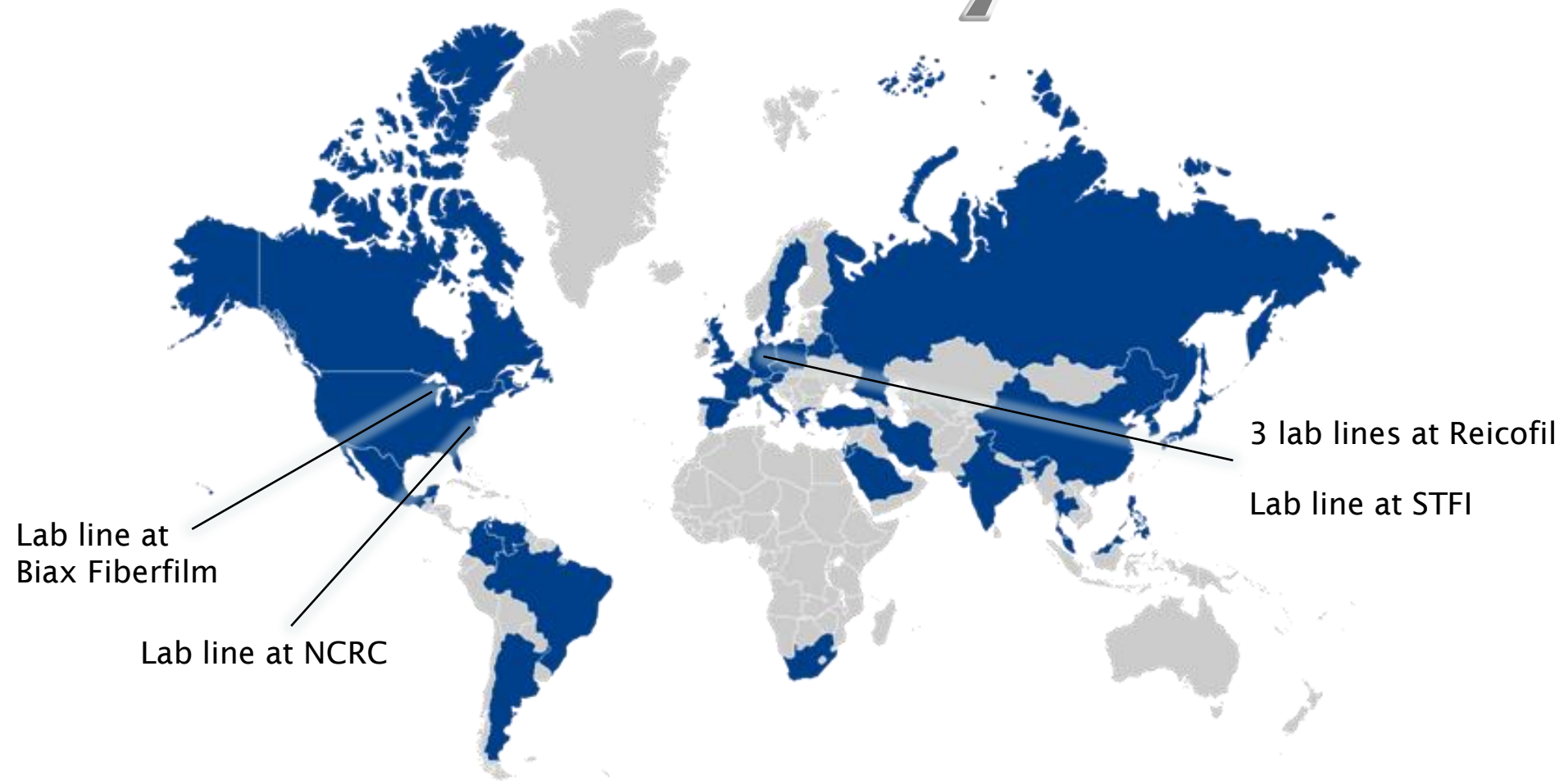
Reicofil Nonwovens Technology Center
Exploring present – shaping future



Thank you


3 lab lines at Reicofil
Lab line at STFI
Lab line at
Biax Fiberfilm
Lab line at NCRC