



# Thermoplastic Composite Manufacturing

Company and technology introduction

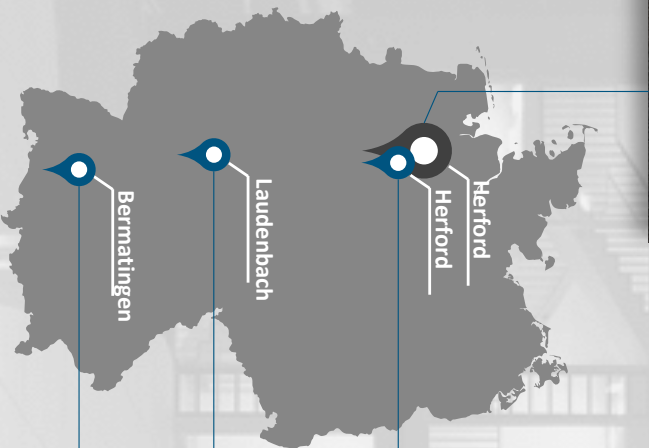
INOMETA GmbH, Herford, Germany

# AVANCCO

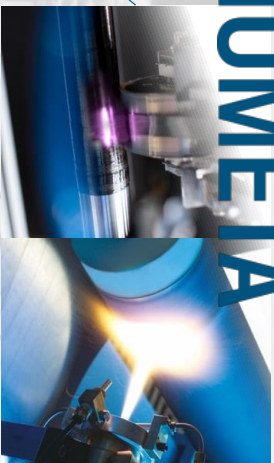
people. innovation. success.



- Parent company of INOMETA, DYNEXA and XELIS
- International player in composite part manufacturing
- Approx. 350 employees



## INOMETA



### Rollers & Tubes

Long lasting expertise in in development, manufacturing and finishing of technical lightweight products

### Thermoplastic tape winding

CFRP and GFRP parts made in laser-assisted tape winding

### Surfaces

Surface treatment and coating of alloys and composites

## DYNEXA



### Filament Winding

CFRP & GFRP component manufacturing and finishing for automotive, marine and industrial applications

## XELIS



### X-CCM®

Continuous Compression Moulding:  
Complex CFRP profiles made from thermoplastic UD-Tapes for aviation and industry applications



# PRODUCT CATEGORIES

Process automation and accuracy

enable:

„High Volume“



- e.g. Rotor Sleeves / Rotor Cans
- + automated manufacturing possible
  - + minimum cycle times
  - + fiber orientation along load paths
  - + thin shell improves drive efficiency

Material properties on application level

enable:

„Specialty Products“



- e.g. Pipes / Bearings
- + good chem. and temp. resistance
  - + advantageous abrasion behavior
  - + highly uniform layup
  - + high surface quality on inner diam.

Material properties on part level

enable:

„Functionalization“



- e.g. Hybrid IM / Thermoforming
- + material bonding
  - + process integr. w/ short cycle times
  - + fiber orientation along load paths
  - + high volume production feasible



# MANUFACTURING CAPABILITIES

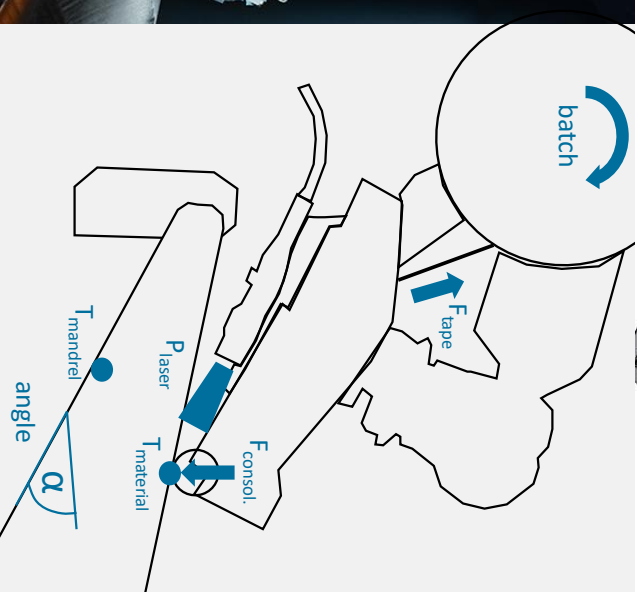
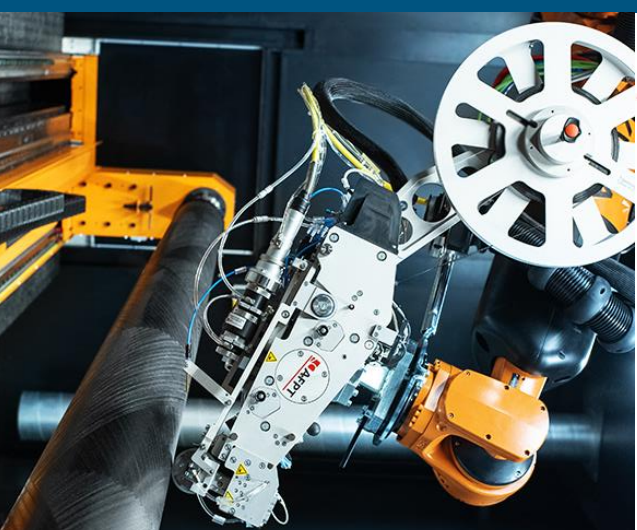
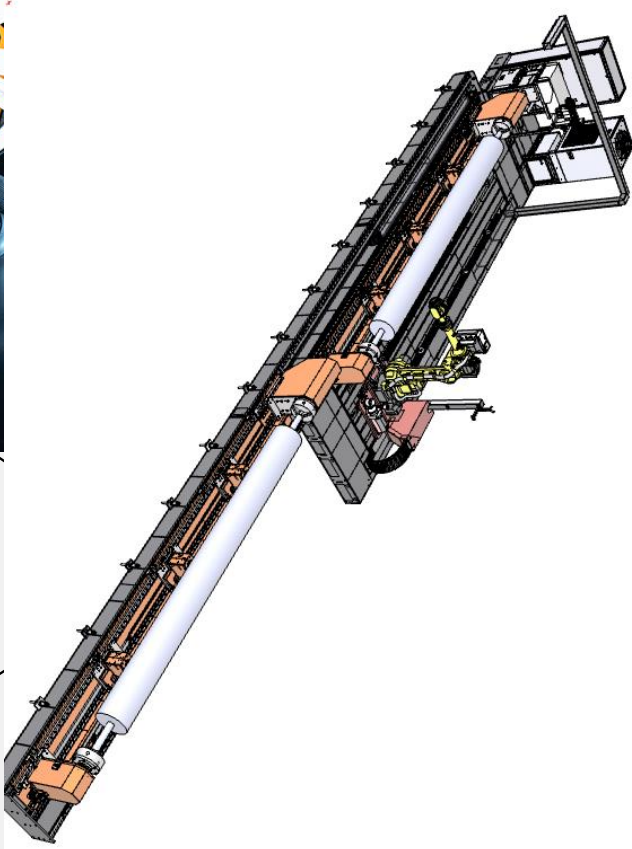
- Fully Automated manufacturing of thin shells ( $\geq 0,2$  mm wall thickness) feasible
- Process technology suitable for large-scale production  
→ high volumes over 100,000 pcs. p.a.
- Flexible system technology for components from 2 to 4,400 mm in length and 10 to 400 mm in diameter
- Wide range of materials processible (PP, PA, PPS, PEEK, ...)
- Long-time experience in surface coating and mechanical processing of composite materials





# PROCESS INDUSTRIALIZATION

- Integration of preheating and stripping into production cell, automated cutting of thin-walled parts possible
- Two winding axes enable continuous component manufacturing processes
- Continuous recording of quality-relevant process parameters, data-based component analysis based on customer-specific acceptance criteria
- Compilation of component-specific reports (layer structure, production order number, temperature limits, tape batch, ...)





# INOMETA THERMOPLASTICS

*Link between technological offer and industrial user...*

## Consulting



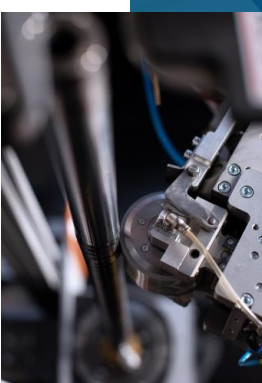
- Materials
- Economic efficiency

## Component and process design



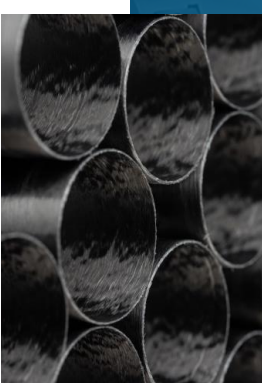
- Part design
- Production concept
- System integration

## Prototype production



- Feasibility study
- Test sample
- Small series

## Serial production



- Contract manufacturing
- Automation

## Post-Processing



- Mechanical processing
- Coating

*...from idea to serial production*

The logo for INOMETA, featuring the word "INOMETA" in a bold, blue, sans-serif font. A blue arc is positioned above the "O" and "M", resembling a stylized "D" or a protective shield.The logo for the "WirtschaftsWoche" award. It features a red square icon with a white grid pattern to the left of the text "WirtschaftsWoche". Below this, the text "WELT MARKT FÜHRER" is written in large, bold, black letters. Underneath, it says "Future Champion 2021" and "AVANCO GmbH". At the bottom, it lists "Technische Leichtbauprodukte aus Aluminium- und Faserverbundwerkstoffen".

**WirtschaftsWoche**  
**WELT  
MARKT  
FÜHRER**  
Future Champion  
2021  
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Technische Leichtbauprodukte  
aus Aluminium- und  
Faserverbundwerkstoffen

Logos for ADMI (Association of German Mechanical Engineers) and the University of Applied Sciences (Hochschule) in Gießen.

ADMI  
Hochschule  
Gießen

The logo for the "TOP 100" award. It features the word "TOP" in a large, gold, serif font, with two black silhouettes of people standing on the top bar of the "P". Below "TOP" is the number "100" in a large, bold, black font. To the right of the "100" is the website "top100.de".

**TOP**  
**100**  
top100.de

**top innovator**  
**2020**

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