



# LIGHTWEIGHT FOR TOMORROW

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**Innovations in  
Injection Moulding and Additive Manufacturing**

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SENIOR SALES MANAGER LIGHTWEIGHT

Lightweight-Forum Industrial Supply  
Hannover, 1.4. – 5.4.2019



**ARBURG**

## FACTS AND FIGURES

- Headquarters in Germany on approx. 171,000 m<sup>2</sup>
- Consolidated turnover  
2017: EUR 698 million  
2018: EUR 750 million
- Export share ~70 %
- ~3,000 employees worldwide



## MODULAR PRODUCT PORTFOLIO

Modular  
Injection moulding  
machines  
Industrial additive  
manufacturing systems



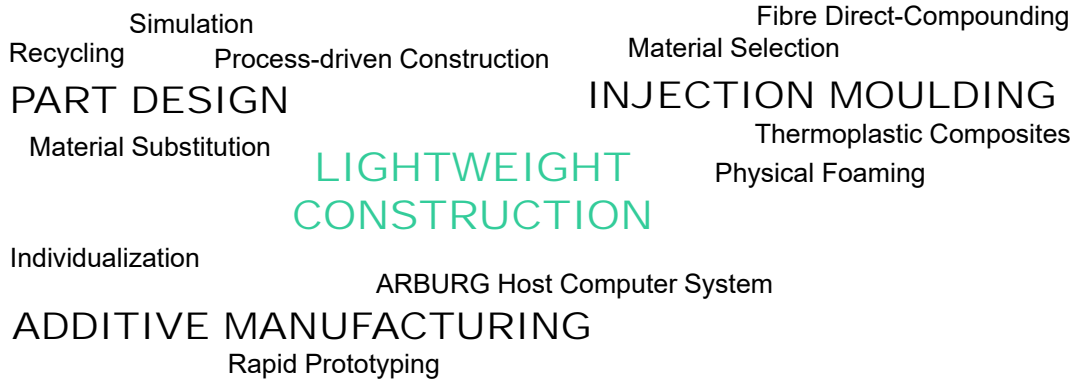
Flexible  
robotic systems  
Turnkey production  
cells

Integrated  
Machine control system



Efficient production  
management

## INDIVIDUAL SOLUTIONS



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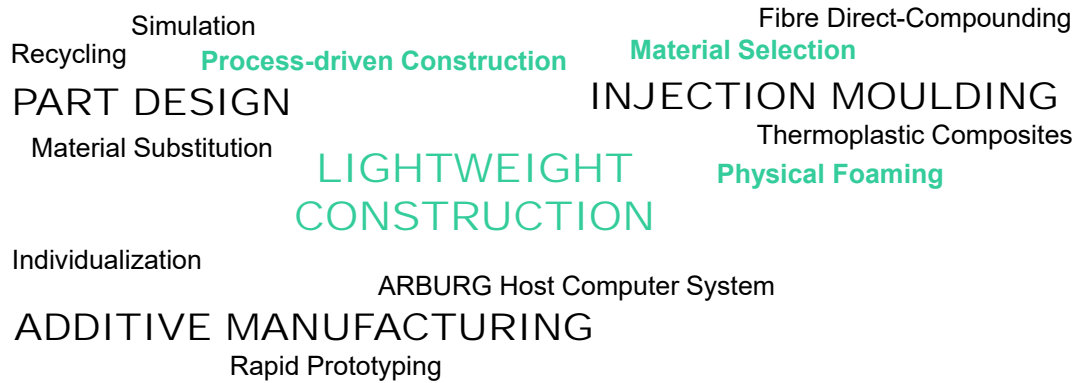


## HOLISTIC APPROACH TO FIBRE REINFORCED PLASTICS

MATERIAL	CUSTOMER BENEFIT
PBT substituted with PP- LGF	Parts 30% lighter Shortened cycle time
PROCESS	CUSTOMER BENEFIT
Standard LGF-process substituted with fibre-direct compounding (FDC)	Better mechanical properties Material cost savings Flexible material selection Lower CO <sub>2</sub> -footprint



## INDIVIDUAL SOLUTIONS

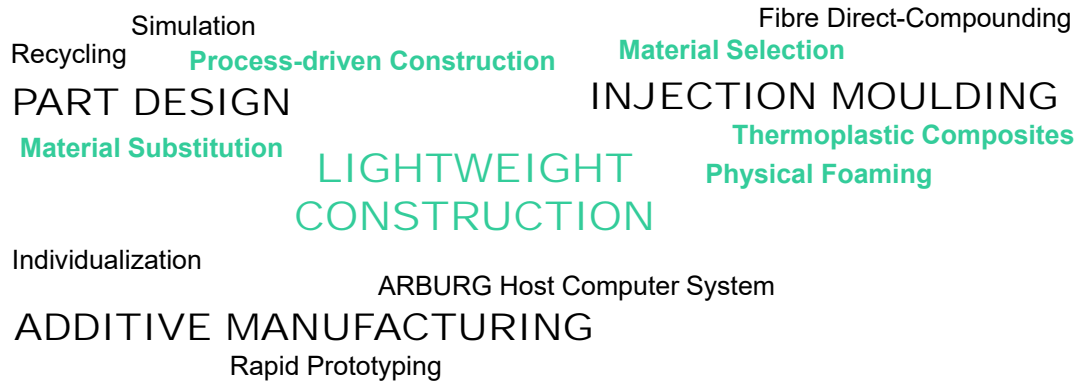


## HOLISTIC APPROACH TO FOAMED PLASTICS

MATERIAL	CUSTOMER BENEFIT
Compact PC substituted with foamed PC (ProFoam)	Parts 30% lighter Lower CO <sub>2</sub> -footprint
PART DESIGN	CUSTOMER BENEFIT
Process allows part design optimization	Reduced wall thickness Higher part quality (sink marks)
PROCESSES	CUSTOMER BENEFIT
Dynamic mould heating	Good surface quality



## INDIVIDUAL SOLUTIONS

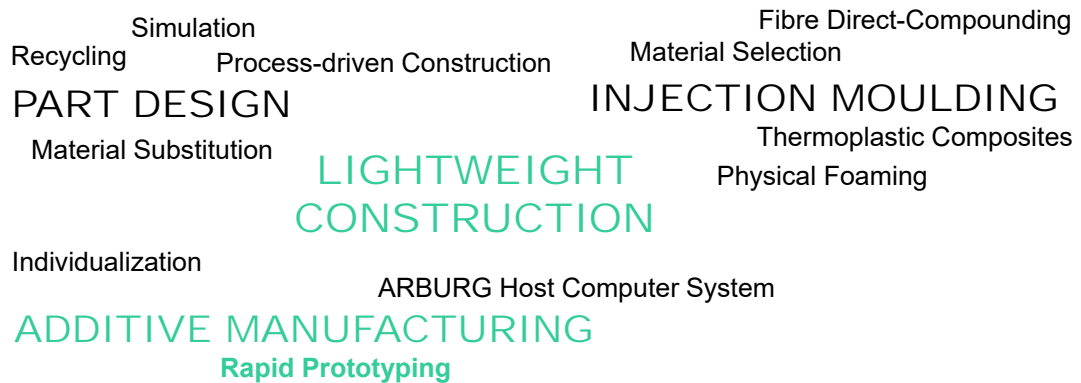


## HOLISTIC APPROACH TO HYBRID PARTS

MATERIALS	CUSTOMER BENEFIT
Foamed PP-LGF + TCS	Hybrid lightweight part Lower CO <sub>2</sub> -footprint
PART DESIGN	CUSTOMER BENEFIT
Process allows part design optimization	Reduced wall thickness
HYBRID PROCESSES	CUSTOMER BENEFIT
Substitution of thermoplasts with TCS	Maximal weight reduction Part strength adjustable to work load



## INDIVIDUAL SOLUTIONS



## OPTIMISING PART DESIGN FOR LIGHTWEIGHT PARTS

- Lightweight structures are possible
- Design and process optimised for weight and materials
- Stability and strength at the same time

**ARBURG freeformer**  
Integrated Lightweight Plaza  
Halle 5, Stand B18

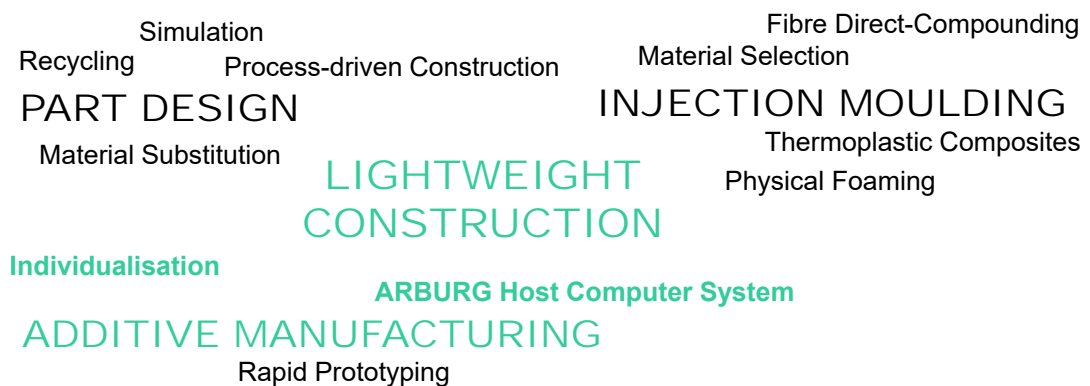


## PROTOTYPES – FAST TRACK TO MARKET MATURITY

- Magura GmbH und Co. KG
- Material
  - PA 10
  - Desmopan
- Speed up the development process
- Functional testing with prototypes



## INDIVIDUAL SOLUTIONS





## ORDER-BASED PRODUCTION OF EQUIPMENT – SINGLE-UNIT BATCHES

- Individually adapted gripper systems
  - Tailored to product properties
  - Manufactured directly on anodised metal plate
- Integrating freeformer into automated production cell

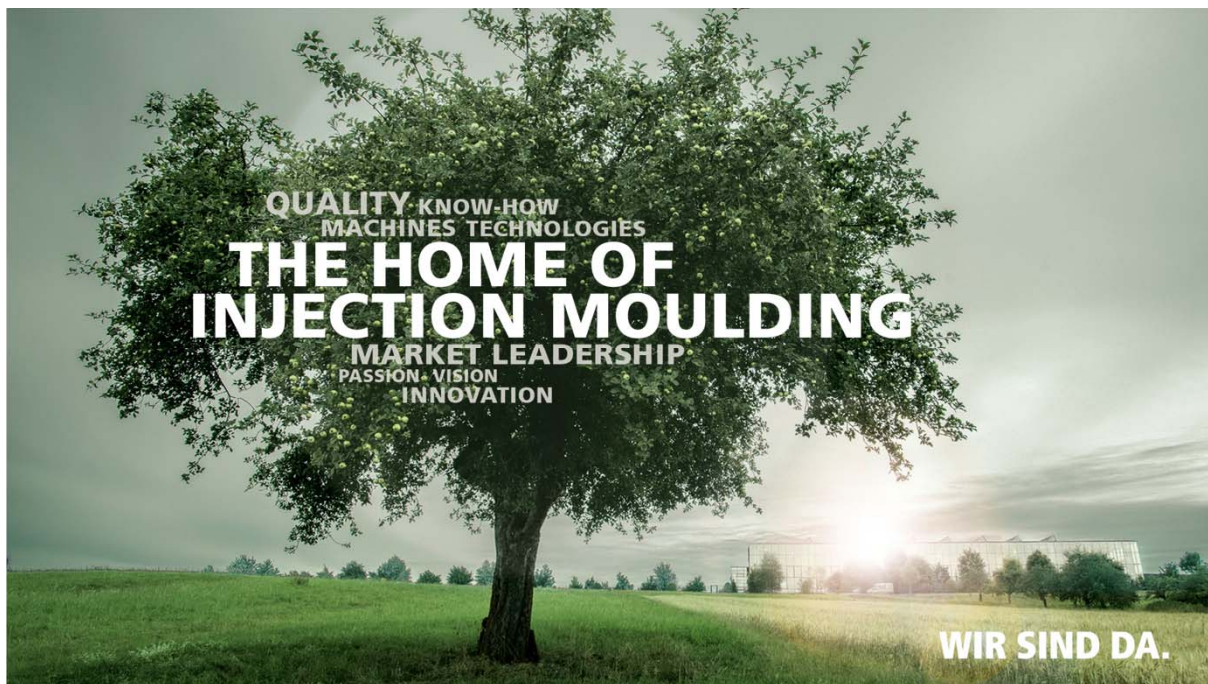


**ARBURG AM Factory**  
Halle 6, Stand J10

## LIGHTWEIGHT – NEW PATHS OF INNOVATION

- **Cost-effective lightweight construction** – intelligent choice of material and process
- **Holistic approach** – targeted optimization of the whole process
- **Your partner** – ARBURG constantly develops new solutions
- **Requirement** – get involved with the technologies





QUALITY KNOW-HOW  
MACHINES TECHNOLOGIES  
**THE HOME OF  
INJECTION MOULDING**  
MARKET LEADERSHIP  
PASSION VISION  
INNOVATION

**WIR SIND DA.**