
schunk
Schunk Carbon Technology
Maximum usability.
Optimum protection.
EXPLORE
NOW

Are you interested in

HIGH-PERFORMANCE MATERIALS

APPLICATIONS

SCHUNK AS YOUR PARTNER

Core competence – high-performance materials

Schunk Carbon Technology delivers material solutions that redefine boundaries – specially developed for the most demanding military requirements

- Extreme heat (up to 3,000 °C) and resilience
- Maximum lightness and dimensional stability
- Radar-transparent and EMC-compatible

Greater range, longer service life, maximum system reliability.

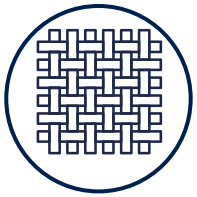
LEARN MORE

HIGH TEMPERATURE

LIGHTWEIGHT CONSTRUCTION

High temperature applications

Our materials for the most extreme operating conditions:
Carbon Reinforced Carbon (CFC), Carbide (SiC, C-SiC), Durafox Oxide Fiber Composites (OFC)



High strength and rigidity
due to the use of different carbon fibers depending on customer requirements

High temperature range
up to 3,000 °C

Resistant to abrasion and corrosion
due to various coating processes such as PyC or CVD

Low density –
reduction of weight and thermal mass

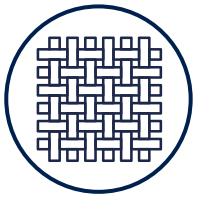
Excellent thermomechanical properties

APPLICATIONS

- **Rocket**
  Propulsion systems, nozzle assemblies, combustion chambers, hot gas guiding structures
- **Hypersonic**
  Outer cladding, propulsion systems, wing structures, radomes for high temperature

Lightweight construction

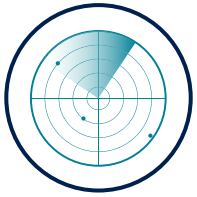
High weight reduces range, mobility and payload. Schunk offers the optimal solution: tailor-made fiber-reinforced plastics – for maximum performance on land, at sea and in the air.



Fiber-reinforced plastics
unlimited selection of fibers according to customer requirements (e. g. carbon, glass, aramid, ...)

High temperature range
up to 300 °C

Weight saving potential
of up to 80 % compared to steel and 40 % compared to aluminum



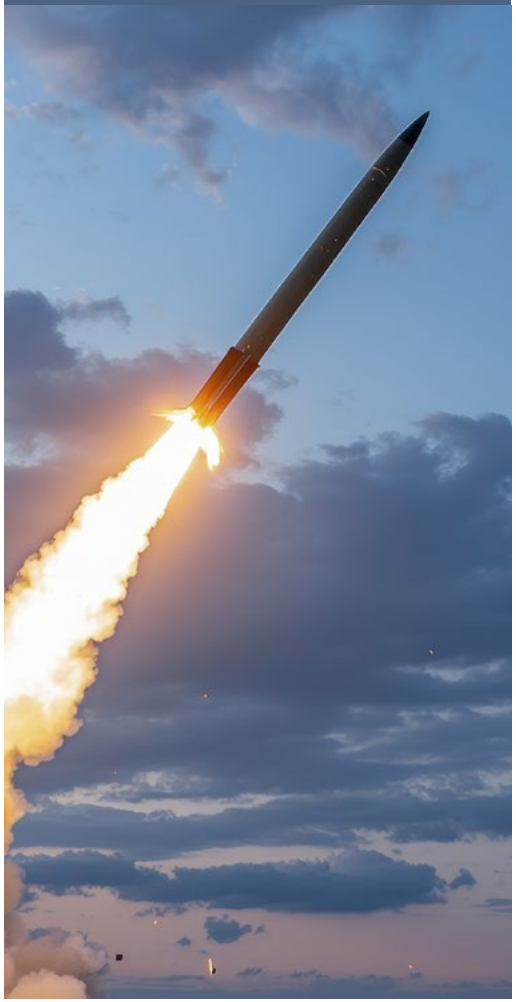
Radar transparency

APPLICATIONS

- **Rocket**
  Wing structures, combustion chambers, radomes
- **UAVs**
  Housings, support structures, wings, radomes
- **Land vehicles**
  Housings and support structures without ballistic properties, radomes

Applications

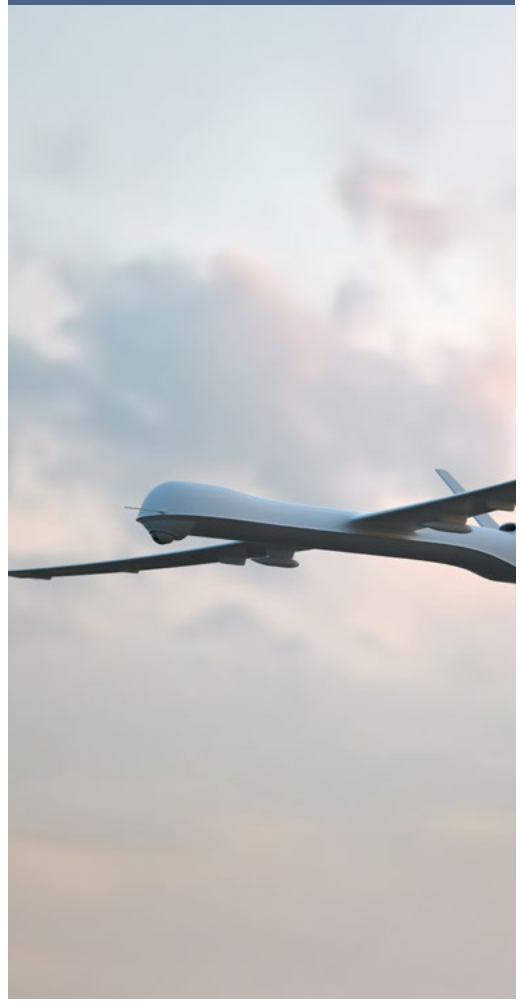
ROCKETS AND MISSILES



ANTI-TANK SYSTEMS

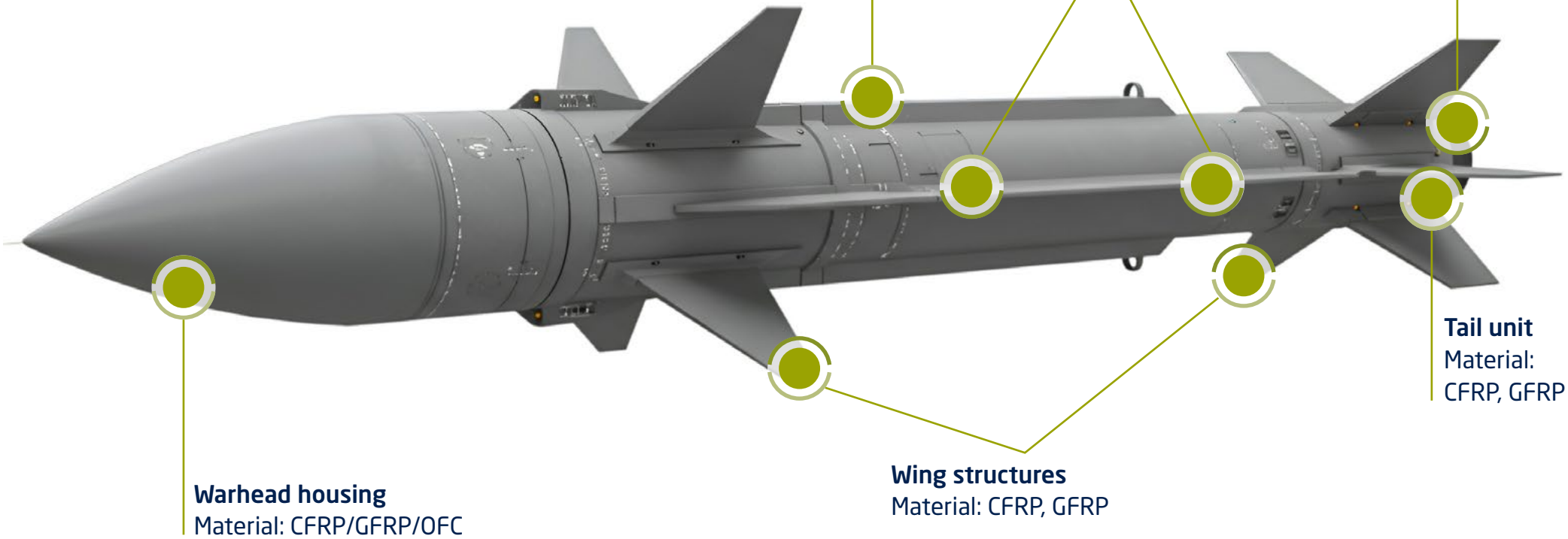
LAND VEHICLES

UAVS



Solutions for rockets and missiles

DISCOVER ADVANTAGES!

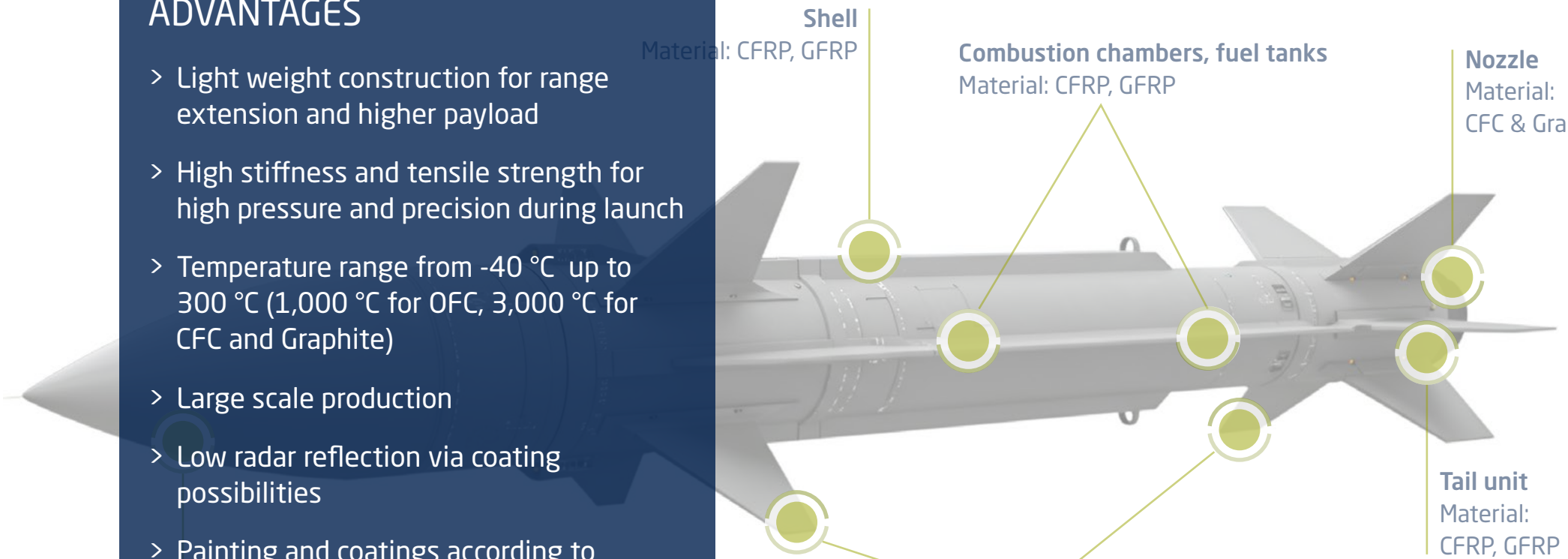


Solutions for rockets and missiles

ADVANTAGES

- Light weight construction for range extension and higher payload
- High stiffness and tensile strength for high pressure and precision during launch
- Temperature range from -40 °C up to 300 °C (1,000 °C for OFC, 3,000 °C for CFC and Graphite)
- Large scale production
- Low radar reflection via coating possibilities
- Painting and coatings according to NATO-MIL-STD & SPEC

//BACK TO OVERVIEW//



Anti-tank systems – launchers and missiles

Anti-tank systems – launchers and missiles


Example Tail unit

Missile
Material: CFRP – Tail unit | Wings | Housing | Combustion chambers
GFRP – Shell
CFC & Graphite – Nozzles

Launcher
Material: CFRP/GFRP

ADVANTAGES

- Light weight construction for range extension and higher payload
- High stiffness and tensile strength for high pressure and precision during launch
- Temperature range from -40 °C up to 300 °C (3,000 °C for CFC and Graphite)
- Large-scale production
- Low radar reflection via coating possibilities
- Painting and coatings according to NATO-MIL-STD & SPEC

//BACK TO OVERVIEW//

Components for land vehicles

Components for land vehicles

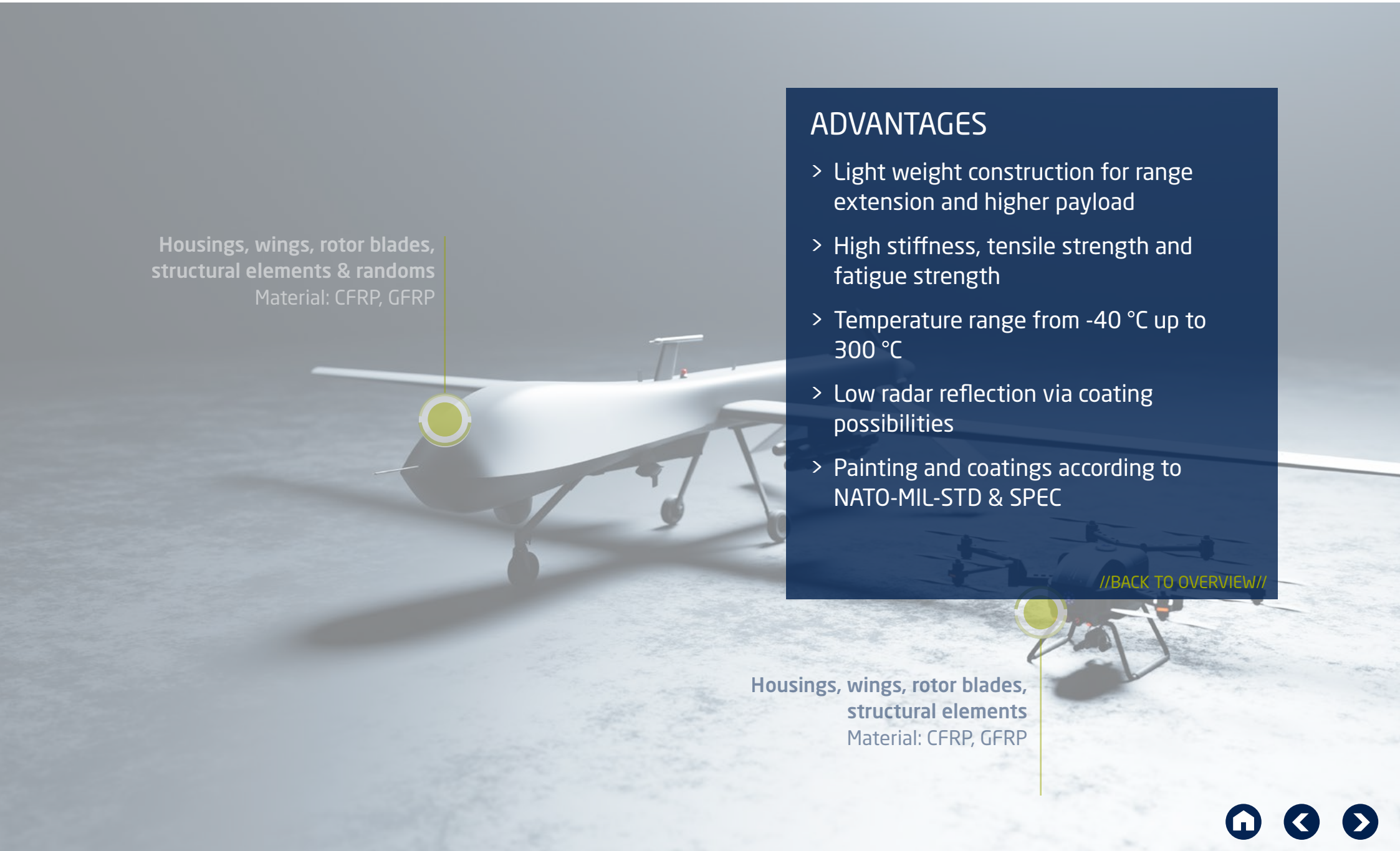
ADVANTAGES

- Light weight construction for range extension and higher payload
- High tensile strength, stiffness and impact strength
- Temperature range from -40 °C up to 300 °C (3,000 °C for CFC and Graphite)
- Large scale production
- Low radar reflection via coating possibilities
- Painting and coatings according to NATO-MIL-STD & SPEC

//BACK TO OVERVIEW//

UAV technology

UAV technology



Housings, wings, rotor blades, structural elements & randoms
Material: CFRP, GFRP

ADVANTAGES

- Light weight construction for range extension and higher payload
- High stiffness, tensile strength and fatigue strength
- Temperature range from -40 °C up to 300 °C
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//BACK TO OVERVIEW//

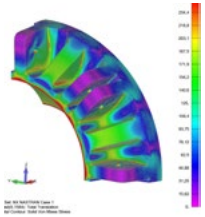
Housings, wings, rotor blades, structural elements
Material: CFRP, GFRP

Schunk offers maximum supply reliability

- **Fully European supply chains**
  (independent of geopolitical risks)
- Reliable spare parts supply and maintenance
  over the entire product life
- **High-temperature processes** (carbonization, graphitization) and **state-of-the-art coatings** (CVD, PyC)
- **Fiber composite processes:**
  - Wet filament winding
  - Laser-assisted tape laying and winding
  - Autoclave process
  - Hot and wet pressing
  - Resin transfer molding (RTM)
  - Sheet molding compound (SMC)
  - Vacuum infusion (VI)
  - 3D printing

Development expertise – from prototype to series

We shorten development times and ensure product quality.



Finite element analyses (FEA)

Modern **laboratories and measuring rooms**

Flexible and scalable production processes (small to large series)

High development expertise

100+ years – your partner for innovation and quality

Long-term **INVESTMENTS**
without short-term profit targets

Decades of **PLANNING SECURITY**
for military procurement

Guaranteed **SECURITY OF SUPPLY**
over the entire product service life

Our key figures

26
countries

64
locations worldwide

10,400+
employees

1.8 Mrd. €
sales in 2024

162 Mio. €
investments in 2024

69%
equity ratio

∞
active in all industries

Are you looking for the right solution for your problem? Feel free to contact us!

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THE SCHUNK GROUP

The Schunk Group is an international technology group with more than 10,000 employees in 26 countries. The company is a leading supplier of products made of high-tech materials – such as carbon, technical ceramics and sintered metal – as well as machines and systems – from environmental simulation to air conditioning technology and ultrasonic welding to optical machines.

schunk-group.com

10.000+ employees

26 countries

€1.8 billion in 2024

02.10e/2025