



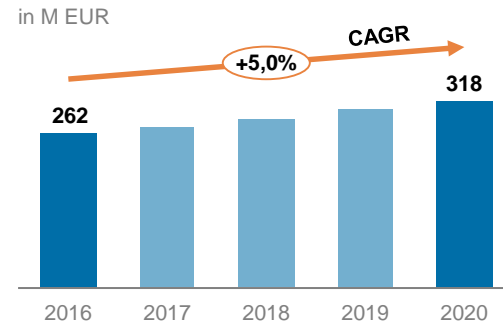
Jenoptik Capital Market Day 2018 Defense & Civil Systems

Dr. Stefan Stenzel | Feb 8th 2018

Market for civil aviation systems



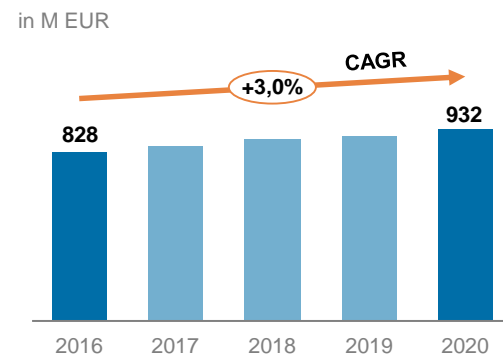
Market volumes



Latest trends

- Limited new business opportunities as very few new aircraft will be launched in the next decade
- But, growth potential for innovative products with proven maturity as well as for lightweight and energy efficient products
- Also, today's duopoly in rescue hoist market offers additional business opportunities

Market for military energy systems



- Increasing demand for maximum MTBF (operational readiness)
- Customer focus on reduction of energy consumption and integrated, smart energy systems for mobile platforms (tanks, IFV, ...)
- Additional business opportunity for high voltage energy systems in 8 to 10 years due to slow laser weapon introduction
- Many modernization activities for tank installed base:
 - Leopard I + II, Germany, Poland, Finland, Denmark, Greece
 - Challenger II, UK
 - Merkava IV, Israel

IFV= Infantry Fighting Vehicle
MTBF= Mean Time Between Failure

DCS Strategy

DCS will

- Become a **strategic supplier in the civil aviation market for heater systems and rescue hoists** for at least two aircraft and helicopter OEMs, respectively
- Become a **leading supplier of energy systems for military platforms** to improve their mobility, firing power, precision and fuel consumption
- Implement **platform strategies for COTS/ MOTS¹ products** with short delivery times, low customization costs, value adding features and low total cost of ownership
- **Actively shape the requirements for the end-user product 3 to 5 years before series production:** through strategic partnerships with OEMs/ system integrators
- **Supply several system integrators with multiple platforms** to balance order entry volatility
- **Guarantee supply & overhaul capability of 30+ years**

1: Commercial-off-the-Shelf/ Military-off-the-Shelf

New Commercial-off-the-Shelf Products (examples)



ERH

Product launch:
Q1/ 2019



FPH

Product launch:
Q4/ 2018

New Military-off-the-Shelf Products (examples)



SAM 600 Amp Generator

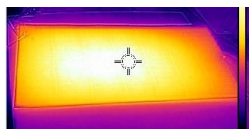
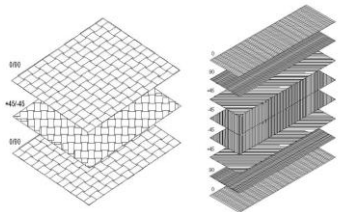
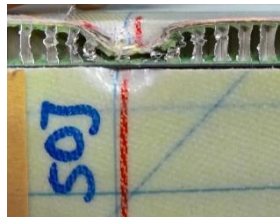
Product launch:
Q3/ 2018



Patriot Hybrid

Product launch:
Q2/ 2018

Floor panel heated for airframer...



Airbus A320



Boeing 737



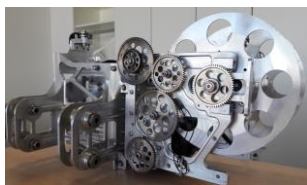
Airbus A330

... with strong USPs

Customer value:

- Mechanical robustness (especially edge and surface areas)
- Functional safety without fire or smoke emission due to positive temperature coefficient technology
- Lower weight and price than current solutions
- Uniform heat distribution

Electrical rescue hoist with innovative technology...



Airbus H145



Sikorsky S-92



Leonardo
AW-139

... and strong USPs

Customer value:

- Reduction of life cycle costs because of lower initial purchase price and reduced maintenance costs (Modular service concept)
- Capstan technology: jerk-free movement and increased operational life
- Longer hoist-cable
- 30% more load capacity (350 kg)
- Remote control operation

New air-cooled 600 A generator provides large quantity opportunities ...

... and strong USPs



FMTV

630 units. p.a.
Q4 2018



JLTV

2500 units p.a.
From 2022



HMMWV

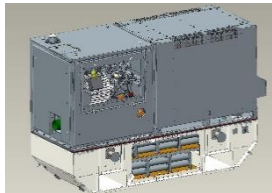
1000 units. p.a.
From 2021

FMTV = Family of Medium Tactical Vehicles
JLTV = Joint Light Tactical Vehicle
HMMWV = High Mobility Multipurpose Wheeled Vehicle

Customer value:

- High reliability due to MTBF of 6000h
- High performance in engine idle speed
- Compact design
- High efficiency: low power loss

Air defense system– worldwide in use...



Patriot Launcher



Patriot Radar



... with strong USPs

Customer value:

- Enhancement of „Operational Readiness“
- Reduction of life cycle costs by Considerable fuel savings (>50%) and mean time between failure (MTBF) 4 times better than competition
- Designed for global use, independent of local power supply
- Use of public grid power possible with integrated converter
- Optimized Human Machine Interface (HMI)
- Lower noise signature



A sharply focused DCS brand supports us in creating a stronger customer awareness for

- our competencies in power generation & energy management
- our track record of maximum reliability in aerospace & defense applications
- our commitment in 30+ years of guaranteed supply and overhaul

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