



## Presentation on the acquisition of Torqeedo GmbH: On our way to becoming market leader for innovative drive systems

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Dr Frank Hiller, CEO

Dr Margarete Haase, CFO

“ The acquisition of Torqeedo is the key catalyst for our E-DEUTZ growth strategy ”



**Dr.-Ing. Frank Hiller**  
Chairman of the Board of Management

# Our E-DEUTZ strategy

- DEUTZ diesel engines are well equipped to face the future: DEUTZ is the first engine manufacturer in the world to be certified for the EU Stage V emissions directive which will apply from 2019
- Innovative diesel engines remain the instrument of choice when the requirement is for high power and high torque (off-highway applications)
- The rapid development of alternative drive systems for automotive use will play an important role in DEUTZ's core segments in future – especially for low and mid-range power requirements
- The E-DEUTZ strategy focuses on the development of hybrid and electrified drive systems for off-highway applications (such as construction and agricultural machinery, material handling equipment, and stationary equipment)
- Our electric strategy requires know-how in respect of battery management, electric motors, power electronics, software, and system integration

**→ Technology transfer from Torqeedo will speed up the entry into E-technology for off-highway applications**

# Agenda

- Torqeedo acquisition

- E-DEUTZ strategy

- Q&A

# Torqueedo transaction

## Torqueedo

**TORQUEEDO**

- DEUTZ is acquiring the global market leader in electric drive systems for boats and a specialist in integrated electric drive systems

## Strategic reason

- Torqueedo is an innovative catalyst for the E-DEUTZ strategy
- Bringing hybrid and full-electric drive systems to market more quickly than would be possible for DEUTZ alone
- DEUTZ is aiming to be the market leader in innovative drive systems in its core markets

## Funding

- Funding from available cash
- Proceeds from property sale invested in operational business
- Financial strength and ability to pay dividends remain unchanged

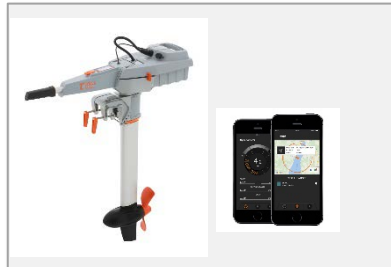
# Torqeedo – global market leader in electric motors for boats

- **No. 1 for market share:** More than 70,000 electric drive systems sold
- **No. 1 for performance:** Highest efficiency, best power to weight ratio, superior performance
- **No. 1 in technology:** Superior electric and hybrid drive systems for boats
- **No.1 in R&D:** Portfolio of patents for electric and hybrid drive systems (over 100 patents)
- **No. 1 organisation:** 130 employees, more experience than any other player in this market
- **No. 1 in market presence:** Represented in 50+ countries, export share 75 %
- **Wide range of system solutions:** 1–80 hp / 0.5–59 kW equivalent/in future 160 hp/119 kW equivalent<sup>(1)</sup>



(1) HP-equivalent means the same propulsion power as a petrol outboard motor with this horsepower rating, although the shaft power and input power of the e-outboard may be lower.

# Torqeedo – product examples



## Travel

- 0.5–1 kW
- <50 V

## Segments:

Tenders and sailing dinghies

## Advantages:

Lighter, cleaner, quieter, more convenient



## Cruise

- 2–10 kW
- <50 V

## Segments:

Sailing boats, commercial use

## Advantages:

Lighter, cleaner, quieter, more onboard power



## Deep Blue

- 25–100 kW
- 400 V

## Segments:

Motorboats, ferries, taxis, commercial use

## Advantages:

Better TCO, regulation-compliant



## Deep Blue Hybrid

- 25–100 kW
- 400 V

## Segments:



Luxury yachts, commercial use

## Advantages:

Cleaner, less reliant on generator



# Torqueedo – expertise for E-DEUTZ projects

-  Torqueedo expertise as support
-  Torqueedo expertise for development

Integration	1	Vehicle integration (system design, application software, customer interface)
	2	Integration of hybrid system (mechanical integration, steering software, thermal management)
	3	Energy management of electric system (motor, battery, charging technology, software)
	4	High voltage technology (400V systems and components)
Components & verification	5	Electric drive (motor, power electronics, cooling)
	6	Lithium-ion battery (battery design, cell qualification, BMS Hardware and Software)
	7	Charging technology and power converter (AC/DC, DC/DC, rapid charging)
	8	Testing rigs and qualification (motor test rigs, electromagnetic compability, battery tester)



## Key financials

- Revenue of more than €30 million forecast in FY 2017/18<sup>(1)</sup> – planned doubling of revenue within 3 years
- EBIT of minus €5 million forecast for 2017/18<sup>(1)</sup> – break-even in 2 years

## Consolidation

- Consolidation of Torqueedo from 1 October 2017
- DEUTZ Group forecast for 2017 remains valid

## Potential

- Strong B2C brand for electric boat drives to be retained
- High value-adding and growth potential for alternative boats drive systems (market volume: €4.1 billion; €1.5 billion currently addressable)

(1) Financial year from 1 October 2017 to 30 September 2018

## Torqeedo ⇔ DEUTZ

## DEUTZ ⇔ Torqeedo

### R&D

- Know-how transfer and integration expertise for E-DEUTZ strategy
- Significantly accelerated development process
- Integration of DEUTZ diesel engines into Torqeedo's hybrid range
- Expansion of the component portfolio

### Procurement & manufacturing

- Use of the Torqeedo supplier network for e-technology
- Design, integration and systems expertise in hybrid and electric drive systems
- Reduction of procurement and manufacturing costs

### Market & Sales

- Hybrid engines and electric motors for the DEUTZ off-highway segment
- Downsizing of combustion engines
- Products brought to the market more quickly
- Use of the global DEUTZ distribution network
- Scaling of Torqeedo's project business

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# E-DEUTZ completes range of innovative drive systems

## Innovative drive systems

Diesel	Alternative fuels	E-DEUTZ
	<ul style="list-style-type: none"> <li>■ Liquid gas (LPG)</li> <li>■ Compressed natural gas (CNG)</li> <li>■ Synthetic fuels</li> </ul>	<ul style="list-style-type: none"> <li>■ Hybrid</li> <li>■ Partial electrification</li> <li>■ Full electrification</li> </ul> 





Additional market opportunities in the diesel segment (including outsourcing potential at OEMs)

Strong growth opportunities with low CO<sub>2</sub> emissions drive systems

# Torqueedo speeds up transformation into provider of innovative drive systems

<b>DEUTZ now</b>	Off-Highway / On-Highway		
	< 4 Ltr.	4 - 8 Ltr.	> 8 Ltr.
	Diesel	Diesel	Diesel

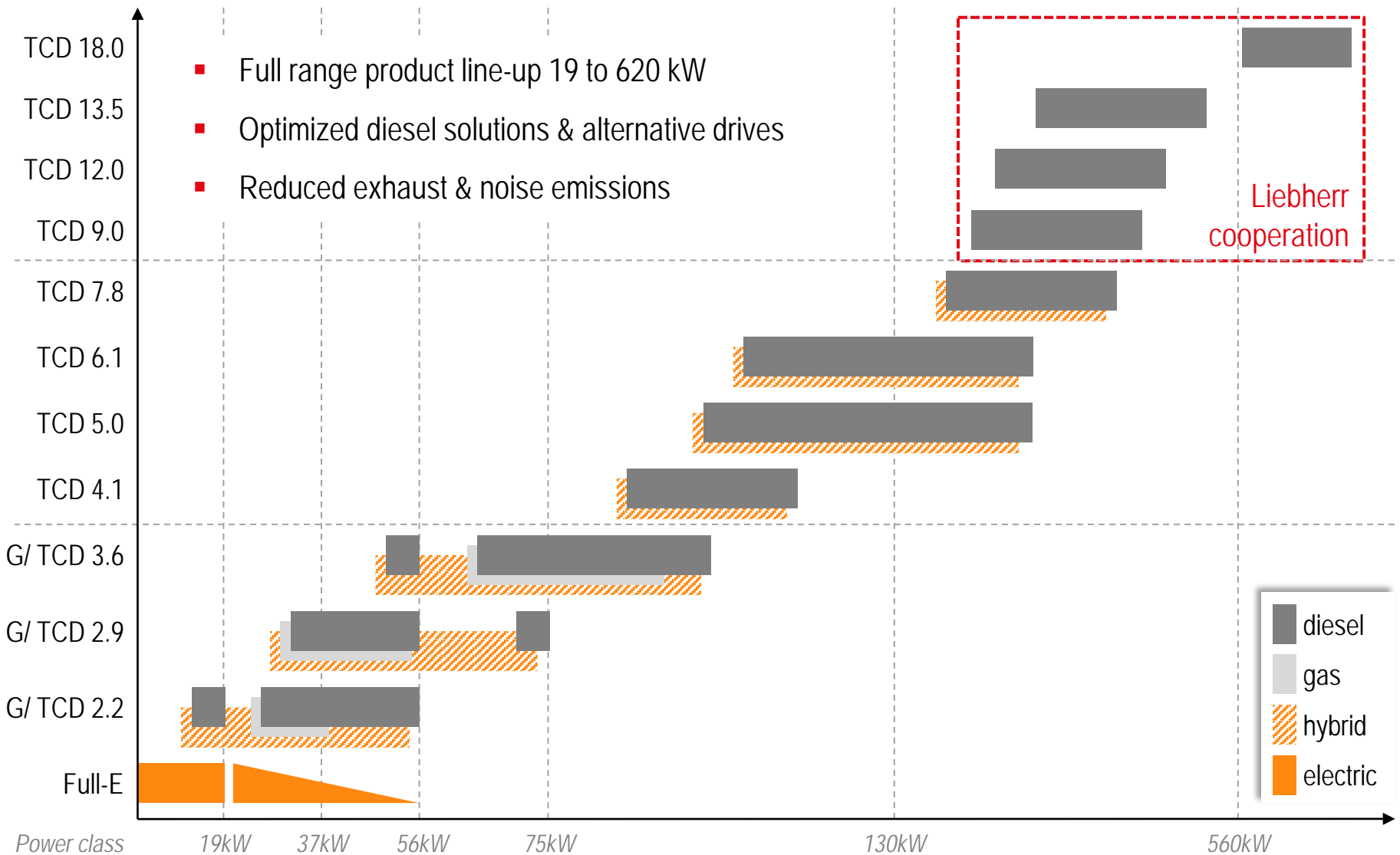


<b>DEUTZ in future</b>	Off-Highway / On-Highway		
	< 4 Ltr. 	4 - 8 Ltr. 	> 8 Ltr. <b>LIEBHERR</b> cooperation
	Diesel / gas / bi-fuel	Diesel / gas	Diesel
	Full-electric / hybrid 		

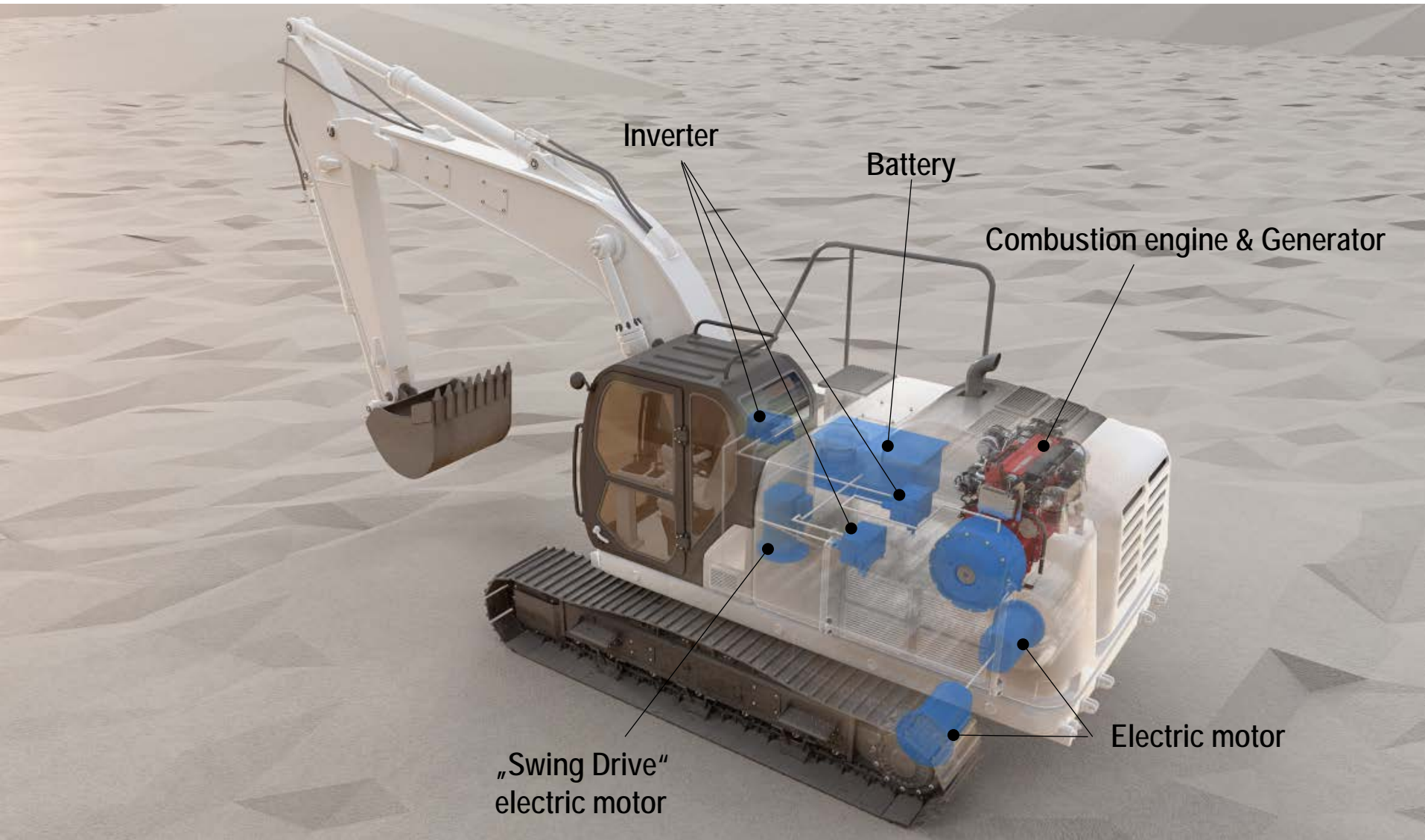
Know-how-transfer →

# Future product portfolio

- Full range product line-up 19 to 620 kW
- Optimized diesel solutions & alternative drives
- Reduced exhaust & noise emissions



# E-DEUTZ strategy – hybrid drive system



## Indicative applications



## Features

- Increased torque
- Engine downsizing (hybrid) – same interfaces
- CO<sub>2</sub> reduction
- TCO reduction (total cost of ownership)

## Torqueado know-how-transfer

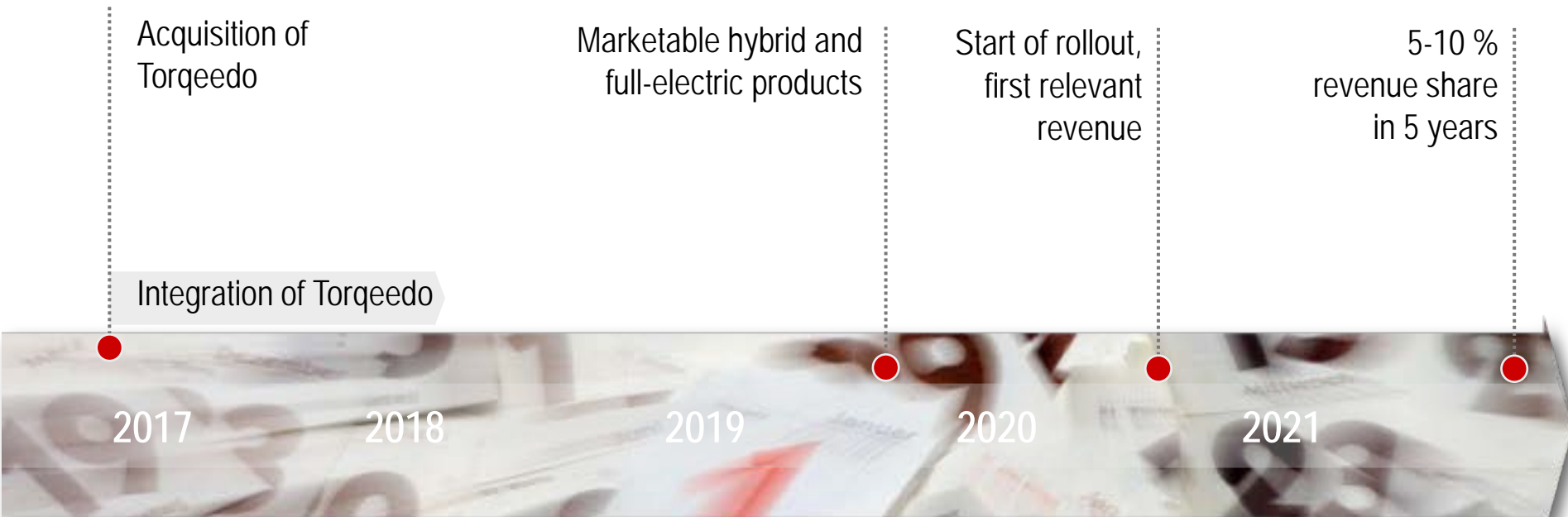
- System architecture E-drive
- Steering competence
- 48 and 400 volt know-how
- Battery expertise – lithium-ion technology
- Power electronics and battery management systems expertise
- Accelerated R&D process
- Earlier market launch





**On our way to becoming market leader  
for innovative drive systems in the off-highway sector**

# E-DEUTZ strategy – roadmap



- ➔ Initial capital expenditure of approx. €100 million (incl. acquisition of Torqeedo)
- ➔ 5-10 % revenue share from E-DEUTZ in 5 years
- ➔ EBIT target margin for E-DEUTZ high single-digit / low double-digit percentage range

# Torqeedo as catalyst for E-DEUTZ strategy

*TORQEEEDO*



■ Expansion of expertise in hybrid and e-technology



■ Electrification of off-highway applications



■ Best-fit technology depending on application and power requirement



■ Strategic addition to the range of engines



→ Torqeedo will accelerate the implementation of the E-DEUTZ strategy

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# Disclaimer

Unless stated otherwise, all the figures given in this presentation refer to continuing operations.

The details given in this document are based on the information available at the time it was prepared. This presents the risk that actual figures may differ from forward-looking statements. Such discrepancies may be caused by changes in political, economic or business conditions, a decrease in the technological lead of DEUTZ's products, changes in competition, the effects of movements in interest rates or exchange rates, the pricing of parts supplied and other risks and uncertainties not identified at the time this document was prepared. The forward-looking statements made in this document will not be updated.

Thank you very much.

