ELECTRIP
CAPITAL MARKETS DAY
18 September 2018
COLOGNE GERMANY
Dr. Frank Hiller, CEO
DEUTZ Environment
Mega Trends in our Industry

- Gas
- Electric
- DIESEL
- Discussion
- Downsizing
- NOx
- Hydrogen
- Hybrid
- Low local emission
- Energy saving
- Noise Reduction
- Drive System Optimization
- Clean
- Paradigm shift
- Disruption
- Evolution Revolution
- Corporate Responsibility
- Sustainability
DEUTZ Strategy
We are taking action

DEUTZ completes its clean diesel technology to the full range of advanced drive systems for professionals

DEUTZ is driving the next revolution, delivering efficiency, performance & sustainability

DEUTZ has proven its emission after treatment technology at early state and therefore is well positioned for upcoming regulations as CHINA IV

DEUTZ is the leader in efficient diesel technology and holds as first manufacturer in the world a full Stage V certified engine portfolio

DEUTZ is taking action: We will make our engines more efficient and more environmentally friendly
DEUTZ Market Positioning
Advanced Drive Systems for clean Power

48V Mild Hybrid

360V Full Hybrid

Battery Electric Vehicle

Biodiesel

Multi-Fuel

Hydrogen

Synth. Fuels

renewable ELECTRICITY

renewable FUELS

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Dr. Frank Hiller, CEO / September 2018
DEUTZ Philosophy

Revive Heritage, Ingenuity & Dynamic Spirit

DEUTZ is reinventing its roots as revolutionary company & people to shape the world

DEUTZ purchases torqeedo in 2017 to benefit from internal technology transfer

DEUTZ creates A NEW DYNAMIC in the whole company; how to develop fastely serial-close prototypes for electric and hybrid systems as cooperation of DEUTZ & torqeedo Team in realtime and live via webseries

DEUTZ will provide the answer to key economical and ecological questions in our industries by heritage & ingenuity

DEUTZ also implements start-up thinking, to redesign business concepts & finding new digital services for more efficiency, performance & sustainability
DEUTZ Internationalization

Worldwide footprint

DEUTZ internationalize its production, supply chain, sales & after sales network

DEUTZ is setting up a new powerful local production in ASIA for other engine suppliers with our core competence for clean diesel & after treatment technology for China IV

DEUTZ extends its current range with electric & hybrid systems with production as new core competence in DEUTZ own facilities

DEUTZ extends its current range of clean diesel portfolio by cooperations with other engine suppliers such as for 8l segment with Liebherr & others are in evaluation phase

DEUTZ investigates in other technology paths through hydrogen and synthetic fuels with special providers

DEUTZ is positioning itself strategically as advanced system provider for professionals in all regions and applications
DEUTZ Performance
Operational Excellence

**Revenue**
- **2015**: 1.25 bn €
- **2022**: >2.0 bn €

**Unit Sales**
- **2015**: 138,000
- **2022**: >200,000

**EBIT Margin**
- **2015**: 0.40%
- **2022**: 7 – 8%

**Stock Price**
- **2015**: 3.69 €

**DEUTZ Revenue** will be stabilized by different pillars such as engine sales in OEM and distribution, clear after sales lifetime programs worldwide for deeper penetration in origin parts, liquids, labour and new eServices.

**DEUTZ Sales** with constant growth plans for engine sales into seasonal balanced industries to ensure min production capacity of 200,000 units.

**DEUTZ EBIT** to be steadily increased by optimized capacity utilization, efficient growth in core market segments, well balanced mix of engine sales & after sales, plus efficient technology portfolio development by our new cooperation network.

**DEUTZ** will also convince OEMs, distribution network & even end-customers with an outstanding CustomerXperience, via standardized customer Sales & After Sales Journeys and eServices.

**DEUTZ** strives for sustainable stock share development and value for our investors by innovation, growth and performance.

**DEUTZ** is in the fast lane…and invests in future in new business fields, technologies & experts as torqeedo.
DEUTZ is synonymous with pioneering spirit, passion and innovation culture. DEUTZ is positioning itself as the market leader in advanced drive systems.

- **2017**: Acquisition of Torqeedo
- **2018**: Building up Hybrids and fully electronic prototypes
- **2019**: Modular product system
- **2020**: Marketable hybrids and all-electric products
- **2022 / 2023**: 5-10% Share of revenue
DEUTZ Strategy

New Positioning

VISION
DEUTZ builds the most advanced drive systems for professionals, providing outstanding performance to shape the world.

MISSION
Through pioneering spirit and innovation, DEUTZ shaped the industrial revolution. Now, we are driving the next revolution – delivering efficiency, performance and sustainability for our customers.

DEUTZ will play a key role in driving the next revolution

DEUTZ provides clean diesel and gas technology incl. LPG, CNG and BI-FUEL

DEUTZ extend its portfolio to alternative drive systems as hydrogen, hybrid and electric

DEUTZ presents today its brand new hybrid & electric solutions & new philosophy
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COLOGNE GERMANY
Dr. Andreas Strecker, CFO
DEUTZ Performance Program

Strategic & Operative Levers

**REVENUE** to exceed 2 bn € (cyclically adjusted)

**SERVICE REVENUE** to grow strategically for less dependency on economical downturns

**Production Volume** has to be stabilized above 200,000 units (excluding JV in Asia)

**8 Target levers** for DEUTZ Group to increase value & performance

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**TARGETS**

- **REVENUE** (bn €)
  - 2017: 1.5
  - 2022: 2.0 (+33%)

- **EBIT MARGIN** (%)
  - 2017: 2.7
  - 2022: 7 - 8 (>150%)

- **STOCK PRICE** (€ per share)
  - 2017: 7.58
  - 2022: Sustainable development

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**STRATEGIC DIRECTION**

1. **INNOVATION LEADERSHIP**
2. **OPERATIONAL EXCELLENCE**
3. **INTERNATIONALIZATION**
4. **EXPANSION OF PRODUCT AND SERVICE PORTFOLIO**
5. **COMPLEXITY REDUCTION**
6. **ACQUISITION & COOPERATIONS TO BOOST GROWTH**
7. **TRANSPARENCY**
8. **HIGH PERFORMANCE ORGANIZATION**

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Dr. Andreas Strecker, CFO / September 2018
DEUTZ Performance Program

Summary of Core Projects

INTERNATIONAL
- New Set-up in Asia, Americas and Europe
- Torqeedo stand-alone
- Full combustion engine portfolio
- Electric, Gas & Hybrid portfolio

INNOVATION
- DEUTZ with hybrid and full E-systems
- GAS with LPG, CNG and BI-FUEL
- EU Stage V and China IV
- Digital & Content Marketing, Customer Apps & eServices

OPERATIONAL EXCELLENCE
- Process speed & quality offensive
- Complexity reduction via product standardization of variants
- Product & Market strategy via core segments, critical mass & pricing
- Service revenue >400 Mio. € p.a.

HIGH PERFORMANCE
- Cultural Transformation
- Digital connected world wide
- Dynamic spirit throughout network
**DEUTZ Performance Program**

### Key figures

#### Revenue
- **H1 2017**: 734.5 Mio. €
- **H1 2018**: 877.6 Mio. €

**DEUTZ** revenue growth plans are on track.

#### New Orders
- **H1 2017**: 803.0 Mio. €
- **H1 2018**: 1,096.5 Mio. €

**DEUTZ** order backlog indicates strong 2nd half-year 2018 and good start for 1st half-year 2019.

#### EBIT Margin (%)
- **H1 2017**: 3.0%
- **H1 2018**: 5.4%

**DEUTZ** core projects and levers will improve profitability.

#### Unit Sales
- **H1 2017**: 79,599
- **H1 2018**: 105,201

**DEUTZ** EBIT margin for 2018 grow to ≥ 4.5%.
DEUTZ Group

Performance Program DEUTZ

DEUTZ unit sales increased over the last 3 years

DEUTZ sales volume has to ensure capacity utilization above 200,000 units for stable profitability even if markets slow down

DEUTZ sales has to compensate business seasonality by harmonized mix of industries, segments & sales channels

DEUTZ will optimise production planning to improve efficiency

DEUTZ pushes further in after sales business, by expanding parts sales, liquids, life time warranties, customer uptime programs & dense network
torqeedo is a dynamic growth story

torqeedo production is already partly integrated in DEUTZ facilities to raise synergies

torqeedo extending the current B2C to also bigger B2B activities such as inner city transport for key cities

torqeedo delivering a huge technology transfer to eDEUTZ
DEUTZ Group

Investing in Companies’ Future & Financial Health

**DEUTZ** invests in Torqeedo, in know how transfer of electric motors, batteries and software applications to expand DEUTZ’ business

**DEUTZ** invests in China IV technology to win business with OEMs in Asia.

**DEUTZ** invests in strategic cooperations like Liebherr to continuously expand product portfolio

**DEUTZ** invests in Gas with LPG, CNG, BI-FUEL & hydrogen technology

**DEUTZ** invests in people, start-up mentality, new cooperation models & efficient work places

**DEUTZ** invests in digital processes, speed, scale & IT infrastructure

**DEUTZ** will invest in new business development, cooperations and new segments
DEUTZ – A NEW DYNAMIC

Sales & After Sales Performance Program

DEUTZ Group 2017
Revenue split
€ million

Today

DEUTZ Group
Engine
Service
1,479
1,170
309

2022+

DEUTZ Group
Engine
Service
2,000+
1,600+
400+

DEUTZ strives for >2 billion Euro Sales through 4 equalized sales regions for well balanced diversification

DEUTZ becomes a significant player in Construction, Material Handling, Agriculture, and Stationary Equipment in every region

DEUTZ will represent significant market share in its target applications

DEUTZ achieves that by innovations with a modular customized drive portfolio and service supported by digital solutions
DEUTZ – A NEW DYNAMIC

Regional Growth Strategy

Off-Highway Market 2017 in Tsd. units

China biggest market worldwide => growth potential through IC technology at CN4

ASIA Japan/Korea further OEM penetration with innovation drives with diesel & full electric

EMEA further development of OEMs, market penetration with innovative drive systems such as full electric & hybrid

Americas further growth potential will full electric, hybrid, gas and BIFUEL drives

Attainable market: Non-captive engine supply, CE / AG / MH / Ste segments, 19-620 kW, emission level >= Tier 3 (based on PSR 2017 database)

DEUTZ Target Market share will be 15% long term
**DEUTZ – A NEW DYNAMIC**

Key actions on Service Business

- **DEUTZ** improve further the order to delivery by digital connection in ordering, warehousing and spare parts delivery

- **DEUTZ** develop the distribution network for best in class field service quality and response time

- **DEUTZ** enable the distribution to enlarge the scope of business with warranty extension, bonuses on genuine parts and fluid usage

- **DEUTZ** is connecting engines in operation by digital services to avoid downtime and reduce repair costs

- **DEUTZ** Connect users to distribution workshops, for fast repair, maintenance & preventive measures, spare parts supply and documentation

**DEUTZ** Service Business to grow >400 Mio. EUR
DEUTZ – A **NEW DYNAMIC**

DEUTZ offers Advanced Drive Systems

1999 - 2019

- **NO_x**
  -95.7%
- **Particels**
  -97.9%

48V Mild Hybrid

360V Full Hybrid

Battery Electric Vehicle

Biodiesel

Multi-Fuel

Hydrogen

Synth. Fuels

Easy configuration of the individual advanced drive solution!

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Michael Wellenzohn, CSO / September 2018
DEUTZ is targeting 5-10% electric drives for 2022.

DEUTZ is transferring synergies of Torqeedo’s system know how in E-drives for off road applications.

DEUTZ has developed a modular product kit for full electric & hybrid drives with focus on 48V and 360V solutions for hybrid and electric solutions.

DEUTZ offers modular kit solution for customer specific drive specifications.

DEUTZ will also extend the product portfolio to alternative fuels.

DEUTZ presents to you today:
- Electric and hybrid drive systems
- Clean diesel & Gas solutions
- Outlook on hydrogen opportunities
**torqeedo** is world market leader in electric boating

**torqeedo** has more than 80,000 E drive systems based on Li-Ionic Batteries in the field

**torqeedo** growth opportunities are ahead

**torqeedo** helps to speed up the electrification of DEUTZ engine portfolio by fast engineering services

**torqeedo** will build up clean concepts for alternative city transportation on water

**torqeedo** is realizing synergies joining DEUTZ Group in industrialization and purchasing

**torqeedo** uses sales synergies through DEUTZ distribution network
April 2018
**DEUTZ** announced to focus on advanced drive systems and presenting first eDEUTZ concept at INTERMAT with invitation to “MORE” to come

May 2018
**DEUTZ** starts digital marketing for drive integration & electrification by agile engineering of demonstrators via live videos on youtube

May – August 2018
**DEUTZ** invites customers, dealers, press, investors & public to this Event to demonstrate its full program of clean advanced drive systems

August 2018
**DEUTZ** already achieves high focus of OEMs, distribution & press for electrification efforts by >750.000 clicks online for total campaign

September 2018
**DEUTZ** shows built up hybrid and full electric functional demonstrators, being planned, designed and implemented within 6 months

**DEUTZ** gained new opportunities and already e-prototypes orders

**DEUTZ** will handover the first electrified prototype this week
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Dr. Christoph Ballin, CEO torqeedo

DEUTZ®
Who we are

- We build the best electric and hybrid propulsion systems for boats worldwide.
- Our products capture by far the highest market shares in electric and hybrid boating.
- We are known for
  - Superior overall efficiencies
  - Fully integrated systems (low-voltage and high-voltage)
  - High-tech and industrial approach to design, manufacturing and branding
Key facts

- Global #1 in electric mobility for boats
  - #1 in volume: > 80,000 electric propulsion systems in the field.
  - #1 in performance: Best performance in addressed segments
  - #1 in technology: Latest technologies, largest patent portfolio for electric and hybrid boating
  - #1 in capabilities: >150 employees, largest organization in electric boating, longest experience and benefits from learning curve
  - #1 in innovation: no other company in the marine industry with as many credentials for electric boating
- Power classes equivalents from 0.5 to 100 kW on motor level (up to 200 kW on system level)
- Last year sales volume 25 EUR millions
Strategic rules for success in e-mobility

1. **Sustainability**
is always one element in the value proposition – but never the only element

2. **Segments**
e-mobility attractiveness varies greatly among segments. It is important to focus on segments that can be successful today

3. **Great Products**
are the core of everything

Source: Torqeedo
Addressed market volume by focus segments

- Total marine propulsion market for boats amounts to approx. 4 EUR billions.

- **Torqeedo is currently taking electric mobility into pure combustion engine segments – driving growth & marine sustainability**

- Addressed segments today include
  - Tenders
  - Sailing
  - Ferries & Taxis
  - Selected niche segments (e.g. kayak fishing, green lakes, rescue/life-saving)

- Objectives: Secure market shares in currently addressable segments and drive technological development to address even more market segments over time

**Market segment sizes in EUR billions**

<table>
<thead>
<tr>
<th>Segment</th>
<th>Market Size (EUR billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Torqeedo</td>
<td>0.25</td>
</tr>
<tr>
<td>Recently entered segments</td>
<td>1.0</td>
</tr>
<tr>
<td>Technological progress</td>
<td>2.7</td>
</tr>
</tbody>
</table>

- x 5 for recently entered segments
- x 16 for technological progress required to address segments successfully
Segment example: Kayak fishing

**Why electric**
- Motors enable kayak fishermen to catch more fish
- 2.5 mln registered kayak fishermen in North America

**Why Torqeedo**
- Best solution in the market
  - Weight incl. battery from 7 kg
  - Speed up to 11 km/h
  - Range up to 100 km
  - On-board computer
  - Solar charging
  - Professional safety

Source: Torqeedo
Segment example: Sailing dinghies & tenders

Why electric
- Low power requirements
- Low range requirements

Why Torqeedo
- Compares to 3 HP petrol outboard in terms of speed, power and range
- Advantages vs. petrol outboards
  + Lighter
  + More convenient
  + Cleaner
  + Quieter
  + Waterproof IP 67
  + Onboard computer
  + Solar chargeable
  + Smartphone App
Segment example: Luxury sailing

Why electric

- Better user experience
  + Quieter, less generator run-time
  + Clean
  + Abundant energy on board
- Sustainable

Why Torqeedo

- Only professional solution available

Source: Torqeedo
Segment example: Ferries & taxis

Why electric
Economically superior
+ Save up to 80% on operating costs
+ Typical break-even point of 3 to 4 years
+ Long-term battery capacity warranty
Ecologically superior
+ Each diesel ferry emits pollution equivalent to 45 diesel buses *
+ Each diesel ferry emits CO2 equivalent to 7,500 cars **

Why Torqeedo
- Plug & Play system off the shelf up to 200 kW available

* Pollution defined as emissions of the relevant Criteria Air Pollutants (CAP): CO, HC, NOx, and PM.
** Assuming approx. 29,000 kilometers travel per ferry per year (10 km per route, 8 routes per day, 365 days per year) and assuming 12,000 km travel per average passenger car. CO2 emission of 40 ferries is equivalent to CO2 emissions of 300,000 cars.

Segment example: Rescue / life saving

**Why electric**

- Rescue / life segment undergoing change to improve safety and economics
- Electric solutions suited better for a range of rescue / life saving applications
- Projects underway but not finalized

Source: VIKING Life Saving Equipment
Joining forces with the DEUTZ Team since October 2017
LIVE EXPERIENCE
ON WATER
powered by DEUTZ
DEUTZ – A NEW DYNAMIC

DEUTZ offers Advanced Drive Systems

1999 - 2019

48V Mild Hybrid

360V Full Hybrid

Battery Electric Vehicle

Biodiesel

Multi-Fuel

Hydrogen

Synth. Fuels

The path to CO₂ neutral future with Advanced Drive Systems

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Dr. Markus Müller / September 2018
ELECTRIP on Ground

E-DEUTZ Roadmap 2018

April
Intermat Paris

May
1. Start HEV

August
1. Start BEV

September
customer event
ELECTRIP on Ground

E-DEUTZ Team

Interdisciplinary team of electronics, software, hardware, purchasing and product management was founded in January 2018 with DEUTZ and Torqeedo colleagues.
ELECTRIP on Ground

Motivation: CO2-neutral future
## ELECTRIP on Ground

### Strategy – Markets/Segments/Applications

<table>
<thead>
<tr>
<th></th>
<th>Today</th>
<th>2-10 year horizon</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hybrid</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starters &amp; selective replacement of attachments</td>
<td>Diesel downsizing for small equipment &lt;56kW (fork lift truck, telehandlers, etc.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full replacement of mechanical attachments (e.g. tractor, etc.)</td>
<td>Diesel downsizing for larger equipment &gt;160kW</td>
</tr>
<tr>
<td><strong>Full-Electric</strong></td>
<td>Compact equipment and material handling &lt;37kW wheelloader, etc. Small rollers, Forklifts, etc.</td>
<td>Small construction and residential equipment &lt;56kW Lawn, Mowers, etc. Compact utility tractor, etc.</td>
</tr>
<tr>
<td></td>
<td>Small construction and agricultural equipment &gt;56kW Telehandler, small tractors, excavators etc.</td>
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</tr>
</tbody>
</table>
ELECTRIP on Ground

INTERMAT 2018 Paris – Trade Show Prototype

High voltage hybrid system
TCD 2.9 stage V (55.4 kW without SCR)
Intermediate flange gear with integrated clutch
Electric motor and power electronics
High voltage battery package

Features
boost
battery charging
pure electric operation
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Thank you for your attention