Audi 2016 1st half
Investor and Analyst Day
July 29, 2016

Axel Strotbek
Member of the Board for Finance and IT, AUDI AG
Continuous growth based on our global strategy
Car markets vs. Audi deliveries to customers in percent (1-6/2016 vs. 1-6/2015)

World

Car market

+3.1

+5.6
Continuous growth based on our global strategy

Car markets vs. Audi deliveries to customers in percent (1-6/2016 vs. 1-6/2015)

USA
- Car market
  - +1.5
  - +3.5

Western Europe
- Car market
  - +8.6
  - +8.3

China
- Car market
  - +9.4
  - +5.9

World
- Car market
  - +3.1
  - +5.6
Audi A4
Sedan & Avant

+15.3%

170,790 (148,100) cars

VS

January – June 2016
Audi Q7

+73.6%

50,352 (29,007) cars

January – June 2016
Lamborghini

2,013 (1,882) cars

January – June 2016

+7.0%
Ducati

+6.6%

34,819 (32,649) bikes

VS

January – June 2016
Audi Group revenue (IFRS)
EUR million

<table>
<thead>
<tr>
<th>Segment</th>
<th>1-6/2015</th>
<th>1-6/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive segment</td>
<td>29,784</td>
<td>30,134</td>
</tr>
<tr>
<td>Motorcycles segment</td>
<td>486</td>
<td></td>
</tr>
</tbody>
</table>

+1.2% growth from 1-6/2015 to 1-6/2016.
# Income Statement of the Audi Group (IFRS)

**EUR million**

<table>
<thead>
<tr>
<th></th>
<th>1-6/2016</th>
<th>1-6/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>30,134</td>
<td>29,784</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>-24,431</td>
<td>-23,636</td>
</tr>
<tr>
<td>Gross profit</td>
<td>5,703</td>
<td>6,148</td>
</tr>
<tr>
<td>Distribution costs</td>
<td>-2,921</td>
<td>-2,592</td>
</tr>
<tr>
<td>Administrative expenses</td>
<td>-318</td>
<td>-312</td>
</tr>
<tr>
<td>Other operating result</td>
<td>-63</td>
<td>-331</td>
</tr>
<tr>
<td>Operating profit</td>
<td>2,401</td>
<td>2,914</td>
</tr>
<tr>
<td>Special items</td>
<td>265</td>
<td>-</td>
</tr>
<tr>
<td>Operating profit adjusted for special items</td>
<td>2,666</td>
<td>2,914</td>
</tr>
</tbody>
</table>
Wave of investments in the second half of the year – Audi with strong ability to generate funds internally

Investments in capital expenditure

<table>
<thead>
<tr>
<th></th>
<th>1-6/2016 vs. 1-6/2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR million</td>
<td></td>
<td>1,238</td>
</tr>
<tr>
<td></td>
<td>(1,296)</td>
<td></td>
</tr>
</tbody>
</table>

Net cash flow

<table>
<thead>
<tr>
<th></th>
<th>1-6/2016 vs. 1-6/2015</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>EUR million</td>
<td></td>
<td>2,085</td>
</tr>
<tr>
<td></td>
<td>(1,747)</td>
<td></td>
</tr>
</tbody>
</table>

Net liquidity

<table>
<thead>
<tr>
<th></th>
<th>June 30, 2016 vs. June 30, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR million</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17,150</td>
</tr>
<tr>
<td></td>
<td>(16,668)</td>
</tr>
</tbody>
</table>
## Forecast 2016

<table>
<thead>
<tr>
<th>Deliveries of cars of the Audi brand to customers</th>
<th>Revenue</th>
<th>Operating profit/operating return on sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>moderate increase</td>
<td>moderate increase</td>
<td>within the strategic target corridor of 8 to 10 percent *</td>
</tr>
</tbody>
</table>

### Outlook

<table>
<thead>
<tr>
<th>Return on investment (ROI)</th>
<th>Net cash flow</th>
<th>Ratio of capex</th>
</tr>
</thead>
<tbody>
<tr>
<td>between 16 and 18 percent and thus significantly above our minimum required rate of return of 9 percent</td>
<td>between EUR 2.0 and 2.5 billion</td>
<td>slightly above the strategic target corridor of 5.0 to 5.5 percent</td>
</tr>
</tbody>
</table>

* adjusted for special items
Markets

Financials

Strategy

Audi. Vorsprung. 2025.
Goal achievement strategy 2020 – Audi can draw up a positive balance sheet

- Delighted customers
- Strong brand
- Attractive product portfolio
- Leading in innovation
- Worldwide production & sales network

But... increasing complexity impacts agility and efficiency
Digitalization
We are digitalizing our processes and creating a platform for integrated, connected premium mobility and digital services.

Urbanization
By working together with cities worldwide we ensure access to individual, city-friendly premium mobility.

Sustainability
We stand for sustainability in our vehicles and services throughout the entire value chain.

Vorsprung is our promise.
Strategy 2025 – Clear goals, clear responsibility and clear measurability

Strategic goals

Digitalization  
Sustainability  
Urbanization

More than 40 lighthouse projects consequently controlled and directly reported to the board of management

Corporate long-term goals are the framework

1. Operating return on sales: 8 – 10%
2. Return on investment: 21%
3. Ratio of R&D: 6.0 – 6.5%
4. Ratio of capex: 5.0 – 5.5%
5. Net cash flow positive

Focus on profitability!
Strategy 2025 – Profitable market penetration

Only through **digitalization** will we be **profitable** in the future!

**CORE BUSINESS**

**NEW BUSINESS MODELS**

- **Premium business & premium return**
- **Digitalization** of core processes
- **Profit contribution of EUR 1 billion from digitalization in 2025**

**Return** before **Volume**

- Rapidly scaling up
  - substantial number of **users**

Only through digitalization will we be profitable in the future!
Strategy 2025 – Agility

**START-UP MENTALITY**

- Get to know start-up scene
- Work on own projects
- Research current state of the art technology and new business models
- Create network

**PROCESS OPTIMIZATION**

- Higher speed of strategic decisions
- Product line management and transformation of competences
- Lean and digital processes
- Virtual development
- Smart factory

**FINANCE processes**
**QUALITY assurance**
**COMPLEXITY management**

Reduce complexity!
Strategy 2025 – Corporate image

Audi surprises,
Audi simplifies,
Audi connects

Until now:
**Singular** optimized customer **touchpoints**

From now on:
**Consistent Audi Experience** integrated in the **world** of our **customers**
SPEED UP! – enabler for a quick start

SPEED UP!

is the first step

of the long-term transformation program

AUDI.

Vorsprung.

Strategy 2025

today 2025
SPEED UP!

stop strengthen start
Vorsprung is our promise.

We inspire through individual, sustainable premium mobility. Our premium vehicles are the foundation.
Audi 2016 1st half
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Dr.-Ing. Stefan Knirsch
Member of the Board for Technical Development, AUDI AG
Top innovation drivers of the automotive industry

- Connectivity
- Efficiency / Electrification
- Piloted driving and parking
History of Audi electrification

- 1989: Audi duo I
- 1997: Audi duo III

2011: Audi Q5 hybrid
2012: Audi A6 hybrid, Audi A8 hybrid, Audi R8 e-tron, Audi A3 e-tron
2015: Audi Q7 e-tron
Roadmap to battery-electric vehicles (BEV): Electrification of Audi product portfolio

- Voltage (Volt)
  - 12 V MHEV
  - 48 V electric subsystem
  - 48 V MHEV
  - High voltage PHEV (e-tron)
  - High voltage BEV (e-tron)
  - FCEV (h-tron)

» Until 2021, nearly every vehicle will be electrified.
Audi Mild-Hybrid 48 V:
48 V-energy networks

- 48 V-battery
- 48 V-belt-driven starter generator
- 48 V-electric powered compressor
- Free-wheel motor off “sailing”
- 48 V-eAWS
- Recuperation
- 12 V-wiring system
- DC / DC converter
- 12 V-battery

Extended start / stop < 25 km/h
Change of mind
Start acoustics & comfort
48 V-electric powered compressor
Free-wheel motor off “sailing”
Audi Q7 e-tron 3.0 TDI quattro

56 km range in the cycle

Electric drive power up to 94 kW

Liquid-cooled Lithium-Ion battery with 17.3 kWh

202 kg battery weight
Audi e-tron quattro concept:
Modular toolkit for electric powertrain components

- Front-electric motor
- Liquid-cooled lithium-Ion battery with 95 kWh
- Rear-electric motor
Roadmap to battery-electric vehicles: Electrification of Audi product portfolio

- **500 km** range in the cycle
- **~700 kg** battery weight
- Electric drive power up to **370 kW**
- Liquid-cooled Lithium-Ion battery with **95 kWh**
Three electric machines:
USP: Outstanding dynamics with torque control management

One electric machine in front

Two electric machines in rear

Intelligent torque vectoring for outstanding dynamics
Fuel-cell electric vehicles:
Emission-free sportiness

Audi h-tron quattro concept

Audi A7 Sportback h-tron quattro
Start of in-house development and production for BEV

HV battery in-house production
Brussels

In-house development and prototype building
Project house HV battery in Gaimersheim / Ingolstadt
Electrification: Key success factors

- **Economies of scale**
- **BEV technology**
- > 500 km electrical range
- Quick charging time

Economies of scale in the Li-Ion technology

Reduction of charging time
Increasing energy density:

PHEV BEV Roadmap

Energy density [%]


PHEV forecast

BEV forecast
Economies of scale in Li-Ion technology

Cost / kWh [%]

- PHEV
- BEV

Forecast for 2023 and 2025.
Reduction of charging time

Basis: Quick charge 400 km

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</thead>
<tbody>
<tr>
<td>Charge Type</td>
<td>Combo 1</td>
<td>Combo 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>600 V / 200 A</td>
<td>1.000 V / 200 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>50 kW</td>
<td>150 kW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forecast</td>
<td>100 kW</td>
<td>225 kW</td>
<td>350 kW</td>
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</tbody>
</table>
2nd life for battery systems:
Lifecycle of Li-Ion batteries
Vorsprung is our promise

Digitization  Sustainability  Urbanization
# Technical development strategy:
Action fields with 9-bullets program

<table>
<thead>
<tr>
<th>AF1 Technologies / Products / Business models</th>
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<tbody>
<tr>
<td>Exciting &amp; high-yielding premium automobiles</td>
</tr>
<tr>
<td>Fully automated driving &amp; urban concepts</td>
</tr>
<tr>
<td>Digital platform, mobility concepts &amp; business models</td>
</tr>
<tr>
<td>Drivetrain strategies 2025 &amp; sustainability technologies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AF2 Organization / Processes / Resources / Competencies/ Development network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization &amp; resources/competencies</td>
</tr>
<tr>
<td>Stability and digitization of TD processes</td>
</tr>
<tr>
<td>Development network</td>
</tr>
<tr>
<td>Audi Sport strategy</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>AF3 Culture / Attitude of Technical Development management &amp; employees</th>
</tr>
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<tr>
<td>Culture change</td>
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</table>
Cost and efficiency measures
Central work shop & Testing management

- Testing management TD
- Metrology
- Service functions

- Vehicle update
- Process management
- Operations management
Piloted driving as an influence on megatrends

1. Enhanced safety
2. Eco-friendly driving
3. More comfort for the customer
4. Efficient use of the transportation infrastructure
Evolutionary advanced development
driver assistance & piloted functions

Current range of
driver assistance functions

Future
driver assistance functions

- Intersection assistant
- Top View 3D
- ACA
- Maneuver assist
- Turn assist
Each evolutionary stage will relieve the driver more.

**Automation levels per SAE**

**Level 0**
- Manual

**Level 1**
- Assisted

**Level 2**
- Semi-automated

**Level 3**
- Conditional automated

**Level 4**
- Fully-automated

**Level 5**
- Autonomous

**ASSIST**
- Continual withdrawal of the driver from the task of driving

**PILOT**
- Continually growing automation of driving tasks

A6 (model year 1999) with adaptive cruise control

A8 (MY 2003) with adaptive cruise control
Each evolutionary stage will relieve the driver more.

- **Level 0 (Manual)**
  - **ASSIST**: Q7, A4/5
  - **PILOT**: A8 Traffic Jam Pilot

- **Level 1 (Assisted)**
  - **COMPETITOR 1**: Autopilot
  - **COMPETITOR 2**: X-Piloten
  - **COMPETITOR 3**: Driving Assistant Plus

- **Level 2 (Semi-automated)**

- **Level 3 (Conditional-automated)**

- **Level 4 (Fully-automated)**

- **Level 5 (Autonomous)**
In piloted driving, a technical fallback level assumes the primary monitoring function in the task of driving.

**System concept**

- **Assisted driving**

  - Driver monitors
  - Driver is fallback level

In critical situations, immediate driver reaction is required.
In piloted driving, a technical fallback level assumes the primary monitoring function in the task of driving.

System concept

- **Piloted driving**

  ![Diagram](image)

  - **Technical fallback level**
    - **Fusion**
    - **Function**
  - **Driver can assume control at any time**
  - **No immediate driver reaction is required**

  ![Diagram](image)

  - **Sensors**
  - **Engine**
  - **Brake**
  - **Steering**
Piloted driving – comfortable and safe on the road

Assisted driving

- Sensors

  > Fusion
  > Function

  Engine
  Brake
  Steering

  Driver monitors
  Driver is fallback level

Piloted driving

- Sensors

  > Fusion
  > Function

  Technical fallback level

  Driver can take over control at any time

  Engine
  Brake
  Steering

In critical situations, immediate driver reaction is required

No immediate driver reaction required
Cooperative driving behaviour that fits every situation

- Harmonious accelerating and braking
- Intelligent lane changes
- Maintaining distances (lateral)
- Recognising the intentions of other road users
- Allowing merging

Route guidance
with high proportion of route driven by piloted driving
Digital A9 Motorway Testing Area
Testing in the infrastructure of the future

Idea:
› Vehicle testing of the networked and highly automated driving in interplay with the infrastructure
› Joint testing and sharing between various automotive OEMs, suppliers to the automotive industry and the German Federal Ministry of Transport and Digital Infrastructure
› Joint effort to work out requirements for the infrastructure of the future

Goals:
Experience the functions of tomorrow today:
- Predictive actions
- Cooperative behaviour
- More efficiency and comfort
- Resource-conserving driving
Disclaimer

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Consequently, any unexpected fall in demand or economic stagnation in our key sales markets, such as in Western Europe (and especially Germany) or in China or the USA, will have a corresponding impact on the development of our business. The same applies in the event of a significant shift in current exchange rates relative to the US dollar, sterling, yen and Chinese renminbi.

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