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)

<table>
<thead>
<tr>
<th>Region</th>
<th>Car Market</th>
<th>Audi Deliveries to Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>+1.5</td>
<td>+3.5</td>
</tr>
<tr>
<td>Western Europe</td>
<td>+8.6</td>
<td>+8.3</td>
</tr>
<tr>
<td>China</td>
<td>+9.4</td>
<td>+5.9</td>
</tr>
<tr>
<td>World</td>
<td>+3.1</td>
<td>+5.6</td>
</tr>
</tbody>
</table>
Audi A4
Sedan & Avant

+15.3%

170,790 (148,100) cars

VS

January – June 2016
Audi Q7

January – June 2016

50,352 (29,007) cars

+73.6%
2,013 (1,882) cars

January - June 2016

+7.0%
Ducati

+6.6%

34,819 (32,649) bikes

VS

January – June 2016
Markets

Financials

Strategy

Audi 2016 1st half Investor and Analyst Day
Audi Group revenue (IFRS)
EUR million

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

+1.2%

Automotive segment
EUR 29,648 million

Motorcycles segment
EUR 486 million
## 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**
1-6/2016 vs. 1-6/2015

| EUR million | 1,238 | (1,296) |

**Net cash flow**
1-6/2016 vs. 1-6/2015

| EUR million | 2,085 | (1,747) |

**Net liquidity**
June 30, 2016 vs. June 30, 2015

| EUR million | 17,150 | (16,668) |
## 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

Promotional market expansion

D

S

U
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
Audi 2016 1st half Investor and Analyst Day

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.

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**
Strategy 2025 – Agility

**fast and flexible**

**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

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.

Audi SPEED UP!

Strategy 2025

today

2025
SPEED UP!

stop strengthen start
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
  - Audi A6 hybrid
  - Audi A8 hybrid
- **2012**:
  - Audi R8 e-tron
  - Audi A3 e-tron
- **2015**:
  - Audi Q7 e-tron
Roadmap to battery-electric vehicles (BEV): Electrification of Audi product portfolio

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

- 12 V-wiring system
- DC / DC converter
- 12 V-battery
- 48 V-battery
- 48 V-belt-driven starter generator

Extended start / stop < 25 km/h
Change of mind
Start acoustics & comfort
48 V-electric powered compressor
Free-wheel motor off “sailing”
48 V-eAWS
Recuperation
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

Rear-electric motor

Liquid-cooled lithium-Ion battery with 95 kWh
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
- Quick charging time
- > 500 km electrical range

Economies of scale in the Li-Ion technology
Reduction of charging time
Increasing the energy density PHEV BEV Roadmap
Increasing energy density:
PHEV BEV Roadmap

Energy density [%]

- PHEV forecast
- BEV forecast

Year:
- 2011
- 2013
- 2015
- 2017
- 2019
- 2021
- 2023
- 2025
Economies of scale in Li-Ion technology
Reduction of charging time

Time [min.]

Basis: Quick charge 400 km

- 2006
- 2008
- 2010
- 2012
- 2014
- 2016
- 2018
- as of 2020

- 50 kW
- 100 kW
- 150 kW
- 225 kW
- 350 kW

Combo 1
600 V / 200 A

Combo 2
1,000 V / 200 A

Forecast
0
12
20
27
37
42
80
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</th>
<th>Technologies / Products / Business models</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exciting &amp; high-yielding premium automobiles</td>
</tr>
<tr>
<td></td>
<td>Fully automated driving &amp; urban concepts</td>
</tr>
<tr>
<td></td>
<td>Digital platform, mobility concepts &amp; business models</td>
</tr>
<tr>
<td></td>
<td>Drivetrain strategies 2025 &amp; sustainability technologies</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
</table>

**ASSIST**
- Q7, A4/5
- Autopilot
- X-Piloten
- Driving Assistant Plus

**PILOT**
- A8 Traffic Jam Pilot

**Competitor 1**
- Autopilot

**Competitor 2**
- X-Piloten

**Competitor 3**
- Driving Assistant Plus
In piloted driving, a technical fallback level assumes the primary monitoring function in the task of driving.

**System concept**

- **Assisted driving**

  ![System concept schematic](Schematic)

  - Sensors
  - Fusion → Function
  - Engine
  - Brake
  - Steering

  - 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 of piloted driving system concept](image)

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

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

Assisted driving

- Driver monitors
- Driver is fallback level

In critical situations, immediate driver reaction is required

Piloted driving

- Driver can take over control at any time

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
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