We make the future real.
e-Mobility@Volkswagen
Dr. Andreas Lassota
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Consequently, a negative impact relating to ongoing claims or investigations, any unexpected fall in demand or economic stagnation in our key sales markets, such as in Western Europe (and especially Germany) or in the USA, Brazil or China, 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 in particular relative to the US dollar, sterling, yen, Brazilian real, Chinese renminbi and Czech koruna.

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This information does not constitute an offer to exchange or sell or an offer to exchange or buy any securities.
TIMES ARE CHANGING.
Our industry lost touch with the Zeitgeist of today and the digitally driven society.
TIMES ARE CHANGING.
ICE as a core technology is under heavy regulatory pressure.

1. Legal Regulations
   - Diesel ban
   - "Zero emission cars only by 2025" - goal
   - CO₂ reduction
   - Only e-cars in inner cities
   - Noise regulations
   - Paris Agreement

2. Incentives
   - Tax reductions
   - Governmental cash incentives
   - Subventions to alternative mobility companies
   - Scrapping incentives
   - Toll-free travel for electric cars

3. Infrastructure
   - Free parking for e cars
   - Ubiquitous charging
   - Reserved lanes for e mobility

Governmental squeeze auto industry
The automotive industry currently is under pressure from national and EU law makers. New rules are on their way to hold car manufacturers accountable for emissions of traditional engines. “The industry is staring at what is at stake and finally taking responsibility,” said Alexander Dobrindt, Federal Minister of Transport. Infrastructure in the government of Chancellor since 2013.
VOLKSWAGEN STRATEGY TRANSFORM 2025+
Four radical trends set the framework.

 Connectivity
> 600 mn
number of fully connected vehicles worldwide in 2025

 Electrification
< 90g CO₂/km
Global environmental standards expected to be intensified drastically after 2020

 Autonomous Driving
> 90 minutes
Average time spent by drivers in their cars each day in Europe and the USA

 Shared Mobility
> 10%
Proportion of usage-based automobility in urban areas in 2025
HURDLES FOR E-MOBILITY SO FAR.

1. **Range**
   - 300km (NEFZ)
   - e-Golf
   - 150-200km

2. **Charging**
   - Infrastructure
   - Charging Power / Time
     - 3.6 AC
     - 50 DC

3. **Products**
   - Luxury / Sports
   - Compact & Hatch
   - Zero offer on SUV, MPV, Station Wagon

4. **Prices/TCO**
   - € € € € € €
   - € € € €
# Hurdles for E-Mobility So Far

## Range
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## Prices/TCO
- €€€€€€€€€€
DEDICATED e-PLATFORM ENABLES HIGH NOMINAL RANGES (NEDC).
Optimal usage of packaging space through dedicated e-platform MEB.
### SCALABLE RANGES.
Ranges depend on personal use cases and external factors.

<table>
<thead>
<tr>
<th>NEDC (Ø 34 kmh)</th>
<th>20°</th>
<th>35°</th>
<th>-7°</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80%</td>
<td>320*</td>
<td>70%</td>
<td>280*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HIGHWAY</th>
<th>Ø 100 km/h + 100kW DC</th>
<th>15 Min.</th>
<th>Ø 120 km/h</th>
<th>30 Min.</th>
<th>1.000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>280</td>
<td>135</td>
<td>240</td>
<td>240</td>
<td>240</td>
</tr>
</tbody>
</table>

* Heating / Air Conditioning; Fan; Lights; Radio; Navigation; Seat Heating (winter)

Ranges can be extended with short charging stops.

Schematic diagram
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- € € € € € €
CHARGING ANXIETY AS KEY CHALLENGE.
Charging infrastructure as enabler for e-Mobility.

Innovative, competitive & affordable charging technology

Fast DC charging

Charging everywhere & seamless
Charging optimized routes
Charging with a positive contribution to total cost of ownership

Charge anywhere, anytime, seamless!

Smart AC/DC Wallbox  HEMS*  Green energy  IONITY

Home  48%  Work  21%  City  25%  Highway  6%

*Home Energy Management System
JOINT VENTURE: IONITY

VOLKSWAGEN  FORD  DAIMLER  BMW GROUP

→ Station Network along Highways
→ Long-distance capability
  • High Power DC
  • CCS based
  • Up to 350 kW

→ 400 stations
→ every 120km
→ 6-10 charging points per station

125kW (up to 350kW)

45% SOC +100-150km*

80% SOC +150-260km*

100% SOC

*Real Range
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THE MEB PLATFORM.
MEB is built around the battery.
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- larger wheelbase
- short overhangs
- bigger wheel diameter
- no centre tunnel
- rear drive + 4WD
- trunk volume ~ ICE
- central computer unit
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- trunk volume ~ ICE
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More space in driver’s area and in the back; higher seating position.
MEB is built around the battery.

- Larger wheelbase
- Short overhangs
- Bigger wheel diameter
- No centre tunnel
- Rear drive + 4WD
- Trunk volume ~ ICE
- Different body shapes
- More space in driver’s area and in the back; higher seating position
- Central computer unit
I.D. LINE UP.
The first family members.

I.D.  
Character: Urban lifestyle

I.D. CROZZ  
Character: Best of SUV and BEV characteristics

Lounge-SUVe

I.D. VIZZION  
Character: Sporty & elegant

I.D. Buzz  
Character: Loving heritage meets innovation
I.D. EXTERIOR IMPRESSIONS.

New Headlight design

New Front design
I.D. INTERIOR IMPRESSIONS.

New Ambient Lightning concept

New Open Space concept

New HMI
I.D. CROZZ EXTERIOR IMPRESSIONS.

New front design

LED head & tail lights

Panoramic sunroof
I.D. BUZZ EXTERIOR IMPRESSIONS.

New front design

LED head & tail lights

Reinterpretation of the original
THE CAR OF THE FUTURE IS 100% DIGITAL.
A unique customer ID as an enabler for a digital car.

The car becomes a smart device in a Mobility-Service-Ecosystem where features and services make peoples life better.
THE NEW E-MODELS´ PRODUCT APPEAL.

<table>
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<tr>
<th>Acceleration / driving pleasure</th>
<th>Comfort: more space and calm</th>
<th>Modern HMI</th>
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<th>Online Services</th>
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AFFORDABLE PRODUCTS.
Price equal to a comparable Diesel.
MADE BY PEOPLE – FOR PEOPLE.
We are committed to make e-mobility accessible for everyone.

PRODUCT RANGE

- Affordable.
- Fully connected.
- Scalable range.
- Suitable for everyday use.
- In most wanted body styles.
THANK YOU.