Disruption as chance

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The Netherlands seen through the eyes of an average foreigner...
We do however also have a long history of innovations...

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>Microscope</td>
<td>1590</td>
</tr>
<tr>
<td>Crankshaft</td>
<td>1594</td>
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<tr>
<td>First submarine</td>
<td>1620</td>
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<tr>
<td>First electric vehicle</td>
<td>1835</td>
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<tr>
<td>Electrocardiographygraph (ECG)</td>
<td>1903</td>
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<tr>
<td>Artificial kidney</td>
<td>1943</td>
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<tr>
<td>Automatic transmission (CVT)</td>
<td>1958</td>
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<tr>
<td>Compact disc</td>
<td>1979</td>
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<tr>
<td>Wifi</td>
<td>1991</td>
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<tr>
<td>Bluetooth</td>
<td>1994</td>
</tr>
<tr>
<td>Tom Tom navigation</td>
<td>2004</td>
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</tbody>
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Actual performance Topsector High Tech Systems & Materials:

- Export: 50 Billion
- Production: 150 Billion
- Workforce: 500,000
- Private R&D Expenses: >4 Billion

Getallen in Euro’s, stand 2015
How does disruption start?
Or more recent...

Global market share:
2007: 50%
2013: 3%
2015: 0%
Classic development automotive industry
Different types of innovation

**Sustaining**
Next year’s car

**Adjacent**
Electric car, same dealer

**Disruptive**
On-demand, app-based car service
Disruptive challenges in automotive industry

![Diagram illustrating disruptive challenges in automotive industry](image)

- **Maturing powertrain technologies**: Battery and fuel-cell electric vehicles offer higher energy efficiency, lower emissions, greater energy diversity, and new vehicle designs.
- **Lightweight materials**: Stronger and lighter materials are reducing vehicle weight without sacrificing passenger safety.
- **Rapid advances in connected vehicles**: New vehicles are being outfitted with vehicle-to-infrastructure (V2I), vehicle-to-vehicle (V2V), and communications technologies, so every car can know precisely where every other car is on the road.
- **Shifts in mobility preferences**: Younger generations are leading the way toward pay-per-use mobility in place of owning a car; nearly 50% of Gen Y consumers like using a smartphone app for transport and already plan travel so they can multitask.
- **Emergence of autonomous vehicles**: Autonomous-drive technology is no longer a case of science fiction; the question is *when and how* will it become more mainstream and widely adopted?

Graphic: Deloitte University Press | DUPress.com
Where will the disruption come from:

2006 top 20 manufacturers
- Japan: 8
- EU: 6
- US: 3
- Korea: 1
- Russia: 1
- India: 1

2016 top 20 manufacturers
- Europe: 6
- China: 6
- Japan: 5
- US: 2
- Korea: 1

11.3% of electric vehicles are now sold in China

Tesla Model S outsells German luxury flagships in Europe

50% of all electric vehicles are now sold in China
Place to be according to Roland Berger

Country ranking

#1 The Netherlands

A winning combination: The Netherlands has comparatively high electronic vehicle sales, a very good EV charging infrastructure and a strong interest in autonomous driving.

Roland Berger automotive disruption radar

Holland High Tech
Global Challenges, Smart Solutions
The Netherlands have a long tradition in public private partnerships
Which are needed for very complex and interlinked challenges

- Government
- ICT companies
- Energy distribution companies
- Car/Truck/Bus companies

Cross sectoral cooperation is a prerequisite for the solution
so let’s join forces in the Netherlands...

...where there is no dominant existing industry player
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