General conditions:
Enormous cost pressure on the industry, but little leeway for sustainable development.

Vehicles:
Greater demand for efficiency, but have all customer needs, including those extending beyond vehicles, already reached OEMs?

Automation:
Great potential for solutions, but is there still too much skepticism among users?

The role of the driver:
An oft-neglected group – and will they really soon be unnecessary?

Challenges:
Suppliers, OEMs, legislators, environmental specifications, competition, and product users – they do not all fit together yet.
Things to Keep in Mind
Selected thoughts for closer attention

- Do suppliers and OEMs know the pain points of the industry well enough?
- Does the industry have too little appetite for innovation or are the solutions on offer simply not yet the right ones?
- Does partial automation really make sense or does it discredit the concept?
- Has digitalization actually already arrived?
- How much sense does automation make if the infrastructure cannot keep up?
- Are we optimizing only parts of a system that is not fit for the future?
- Is Europe getting left behind?
- Are vehicles lower down the scale than trucks being forgotten in innovation?
- Careful consideration: should the topic of sustainability play a much greater role in ensuring future viability?

September 2016
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Continental Mobility Study 2016
Survey among Fleets, Drivers, and Logistics Experts

- Fleets: 127 (150)*
- Driver: 301
- Experts: 21

April 2016 to June 2016 by infas

* Fleet owners, fleet managers
Survey Overview
Modular structure with various target groups

I. Quantitative surveys:

A Logisticians, forwarding agents, fleet operators
   in Germany: First and second management levels at small, medium-sized, and large companies; 3,000 people contacted by telephone; n = 127 online interviews conducted
   in China: First management level at small, medium-sized, and large companies; 1,000 persons contacted by telephone; n = 150 telephone interviews conducted

B Long-haul drivers in Germany:
   Drivers of commercial vehicles in weight classes of 3.5 / 7.5 / 12 / 40 metric tons; n = 301 interviews via self-completed written forms; recruitment by interviewer on site at selected rest areas across Germany; questionnaires distributed and collected with incentives for the drivers

II. Qualitative surveys:
   Expert interviews via telephone with 21 managers from the areas of OEM, logisticians/forwarding agents/fleet operators, research, legislators, and associations (from western Europe – mainly Germany – and China)
Competition for highly trained drivers is growing fiercer

“Agree”, say 91%

Source: Continental Mobility Study 2016
Future of the Transport Industry
More competition for drivers and rising cost pressure

Competition for highly trained drivers is growing fiercer.

Cost pressure in the transport industry will continue to grow.

Environmental protection will play a greater role over the coming years.

The volume of transport will continue to increase over the coming years.

Automated driving is attractive to drivers.

Question: Please say how much you agree with the following statements.

1 = Agree completely
2
3
4
5 + 6 = Disagree completely

Figures are percentages; where the total is 100%, the remainder chose "Can't say" / "Rather not say".

n = 127
Transport Industry from the Perspective of Logisticians
Automation and infrastructure judged critically

Automated driving is an opportunity for the industry.
1 = Agree completely  
2  
3  
4  
5 + 6 = Disagree completely
18  27  39  13  2

The transport industry is well positioned for the future.
1 = Agree completely  
2  
3  
4  
5 + 6 = Disagree completely
45  24  23  6  3

Transport infrastructure (roads, bridges, ports, railways) is well developed.
1 = Agree completely  
2  
3  
4  
5 + 6 = Disagree completely
47  22  23  6  2

It will not be necessary to transport as many goods in the coming years as a result of new technologies (3D printing).
1 = Agree completely  
2  
3  
4  
5 + 6 = Disagree completely

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The Transport Business in the Next Ten Years
Mostly positive assessments given for own companies

Question: Finally, we would like to ask: in your estimation, how will the transport business develop for your company over the next ten years?

<table>
<thead>
<tr>
<th>Option</th>
<th>Germany</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very positively</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Somewhat positively</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Somewhat negatively</td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td>Very negatively</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Can't say / Rather not say</td>
<td>66</td>
<td>8</td>
</tr>
</tbody>
</table>

Figures are percentages; Germany: n = 127, China: n = 150

September 2016
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Logistics Market – Road Haulage
Assessments and *quotes* from the interviews with experts

- **Very fragmented market** in western Europe. Even very large companies have only very small market shares.

- **Significant differences in costs** within the European market (low-wage pressure from eastern Europe) and a lack of qualified drivers in western Europe (Germany).

- **Market continuing to grow**, but high cost pressure and considerable transparency; many similar services on offer.

*"Competition in logistics is wide open. There is intense market pressure, and in this environment, it is possible to enforce standards only if you don’t attempt to use standard solutions. In addition, as a global player, we have to deal with a variety of regulations and legislation. In a competitive situation of this type, being innovative is extremely important. The requirement to be "leaner and leaner" (as part of lean management) is a serious challenge! We tackle the challenges posed by the competition with innovative solutions such as our StreetScooter project, a mobility concept for cities and conurbations using electric transport."

*"In the transport business, the slices of the pie are distributed and the customer dictates the price."

*"Even we, at a large company, have a market share of only approximately 3% here!"
General Conditions – Competition
Assessments and *quotes* from the interviews with experts

› Manufacturer competition is tough with regard to *purchase prices* for trucks.

› The competition at European level is a *competition over costs*.

› End customers, both private and business, expect their wishes to be taken into account. That means *flexibly determining the time, place, and type of delivery*. In addition to transparency, integration of upstream and downstream processes can also be involved.

› Logisticians want more *competition among OEMs in terms of innovation*. With regard to electric drives, some large logistics suppliers are forging their own paths, as there are no suitable solutions provided by the OEMs.

› "Competition? We have that every day. There are a great many new developments for the final mile. Let’s talk about the alternative processing. *The main aspect here is the benefit to customers*. Customers want to intervene, and are already intervening in logistics. *They want to dictate when their packages are delivered, where they are delivered and how, and they want the whole thing to be done efficiently.*"
Advanced Driver Assistance Systems are highly regarded.

66% of the drivers praise reliability and user-friendliness of assistance systems.

72% of highly experienced drivers want more assistance systems.

Source: Continental Mobility Study 2016
# Logisticians' Satisfaction with Vehicles

**Indications of opportunities for improvement?**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>5</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Service and maintenance</td>
<td>4</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>Availability</td>
<td>4</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>Durability</td>
<td>6</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>Price/performance ratio</td>
<td>5</td>
<td>13</td>
<td>46</td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>5</td>
<td>4</td>
<td>32</td>
</tr>
</tbody>
</table>

Figures are percentages; Germany: n = 127, China: n = 150

**Question:** How satisfied are you with the following aspects?

1 = Very satisfied
2 = Satisfied
3 = Dissatisfied
4 = Very dissatisfied
5 + 6 = Very dissatisfied

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Drivers' Satisfaction with Vehicles
Reliability, service, and maintenance to the fore

<table>
<thead>
<tr>
<th>Aspect</th>
<th>1 = Very satisfied</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 + 6 = Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td></td>
<td>25</td>
<td>12</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>Service and maintenance</td>
<td></td>
<td>4</td>
<td>6</td>
<td>13</td>
<td>37</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td>4</td>
<td>9</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>Comfort and convenience of driver's cab</td>
<td></td>
<td>10</td>
<td>10</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Communication technology in the vehicles</td>
<td></td>
<td>11</td>
<td>14</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Truck as a whole</td>
<td></td>
<td>5</td>
<td>6</td>
<td>19</td>
<td>40</td>
</tr>
</tbody>
</table>

Figure are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”; n = 301

Question: How satisfied are you with the following aspects of your vehicle?

1 = Very satisfied
2 = 3
3 = 4
5 + 6 = Very dissatisfied
Drivers' Satisfaction with Assistance Systems
When the technology is present, it is judged mainly positive

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Very dissatisfied</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>User-friendliness</td>
<td>11</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Availability</td>
<td>11</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Suitability for needs</td>
<td>11</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Assistance systems as a whole</td>
<td>11</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Question: How satisfied are you with this technology (e.g. advanced driver assistance systems and automation) in terms of...?

- Reliability
- User-friendliness
- Availability
- Suitability for needs
- Assistance systems as a whole

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”.

n = 301

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High demand for innovations - but they need to pay off quickly
Investment in Fuel-Saving Driving
For logisticians, it needs to pay off rather quickly

> Germany

- After one year: 41%
- After two years: 3%
- After three to four years: 8%
- After five or more years: 8%
- None of the above: 41%
- Can't say / Rather not say: 0%

> China

- After one year: 17%
- After two years: 6%
- After three to four years: 24%
- After five or more years: 41%
- None of the above: 0%
- Can't say / Rather not say: 0%

The investment framework is somewhat longer-term for larger fleets than for smaller fleets. For the majority, investments need to give a good return within two years.

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### Drivers' Assessments of Fuel-Saving Behavior

**Broken down by distance driven and vehicle size**

<table>
<thead>
<tr>
<th>Distance driven</th>
<th>Has special incentives</th>
<th>Closely monitored</th>
<th>Referred to occasionally</th>
<th>Not a major topic for us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 150 km from the company (local/regional)</td>
<td>28</td>
<td>28</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>National long-distance haulage</td>
<td>19</td>
<td>30</td>
<td>26</td>
<td>16</td>
</tr>
<tr>
<td>International long-distance haulage</td>
<td>19</td>
<td>29</td>
<td>31</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of vehicle primarily used</th>
<th>Has special incentives</th>
<th>Closely monitored</th>
<th>Referred to occasionally</th>
<th>Not a major topic for us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vans/small trucks up to 3.5t/light-duty trucks up to 7.5t</td>
<td>47</td>
<td>13</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Medium-duty trucks up to 12t</td>
<td>26</td>
<td>30</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>Heavy-duty trucks up to 40t</td>
<td>16</td>
<td>30</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

**Question:** Which applies most often to your company with regard to fuel-saving behavior with your vehicles?

- Has special incentives
- Closely monitored
- Referred to occasionally
- Not a major topic for us

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”.

*n = 301*
Fuel-saving technologies: At the top of logicians’ wishlists

Fuel-saving technologies
- Driver assistance systems 66%
- Tire-pressure monitoring systems 48%

Source: Continental Mobility Study 2016
## Technologies on Logisticians' Wishlists

More driver assistance in Germany, more software in China

<table>
<thead>
<tr>
<th>Technology</th>
<th>Germany</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver assistance systems</td>
<td>66</td>
<td>30</td>
</tr>
<tr>
<td>Fuel-saving technologies</td>
<td>57</td>
<td>66</td>
</tr>
<tr>
<td>Tire-pressure monitoring systems</td>
<td>39</td>
<td>48</td>
</tr>
<tr>
<td>Comfort/convenience functions in the vehicle interior</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Systems to improve communication with drivers</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>Fleet management software to improve logistics planning and operational efficiency</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td>Systems for automated driving</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>None of the above</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Question: Which of the following technologies are on your wishlist? Which of these would you like to have, either now or in the future?

- Tire-pressure monitoring systems
- Fuel-saving technologies
- Systems to improve communication with drivers
- Comfort/convenience functions in the vehicle interior
- Fleet management software to improve logistics planning and operational efficiency
- Systems for automated driving
- None of the above

Figures are percentages; multiple selections possible; Germany: n = 119, China: n = 70
**Technologies on Drivers' Wishlists**

Details on rest areas and Tire-pressure monitoring

*Figures are percentages; multiple selections possible; n = 301*

**Question:** Which of these would you like to have in your job as a driver, either now or in the future?

- Improved display systems showing rest areas with vacancies: 72%
- Improved navigation systems: 69%
- Comfort/convenience functions in the vehicle interior: 67%
- Tire-pressure monitoring systems: 57%
- Driver assistance functions: 53%
- Improved communication technology in the vehicle (Internet access, telephone integration, entertainment electronics): 52%
- Fuel-saving technologies: 46%
- Improved display systems showing auto repair shops: 32%
- Systems to improve communication with your company (messaging service): 27%
- Systems for automated driving: 21%
- None of the above: 7%

*September 2016*

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### Trucking Fleets & Innovation

**Wish List of Fleets and Drivers**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Fleets</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver assistance functions</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>Fuel-saving technologies</td>
<td>66</td>
<td>69</td>
</tr>
<tr>
<td>Tire pressure monitoring systems</td>
<td>48</td>
<td>67</td>
</tr>
<tr>
<td>Comfort functions in the interior</td>
<td>40</td>
<td>57</td>
</tr>
<tr>
<td>Systems for improving communication with the driver</td>
<td>39</td>
<td>53</td>
</tr>
<tr>
<td>Fleet management software to improve logistics planning and efficiency</td>
<td>25</td>
<td>52</td>
</tr>
<tr>
<td>Systems for automated driving</td>
<td>21</td>
<td>46</td>
</tr>
<tr>
<td>None of the above</td>
<td>9</td>
<td>32</td>
</tr>
</tbody>
</table>

**Figures in percent; multiple answers possible, Germany: logistics specialists: n=119, long-distance drivers: n=301**

- Better systems for displaying free service areas: 72% (Drivers)
- Improved navigation systems: 69% (Drivers)
- Comfort functions in the interior: 67% (Drivers)
- Tire pressure monitoring systems: 57% (Drivers)
- Driver assistance functions: 53% (Drivers)
- Improved communication technology in the vehicle: 52% (Drivers)
- Fuel-saving technologies: 46% (Drivers)
- Better systems for displaying workshops: 32% (Drivers)
- Systems for improving communication with your company (messaging service): 27% (Drivers)
- Systems for automated driving: 21% (Drivers)
- None of the above: 7% (Drivers)
Driver Assistance Functions

Quotes from logisticians and associations

Statements on examples of driver assistance and object detection

› Navigation systems, voice command systems, and head-up displays.
As a preliminary step, maneuvering aids with vehicle surroundings monitoring, including for the trailer (sensor solutions; this would make a lot more sense for truck operation than for passenger cars), and fully automated driving as the final step.

› We make extensive use of driver assistance functions such as lane-keeping assistants and object detection. Many passenger car technologies should be available in trucks as well. The aim should be the best possible support for the driver through technology.

› These systems are right at the top of the list. Not only that, but it should not be possible for the driver to deactivate them. Safety first!

› As a general rule, I would say that everything that is technologically possible and available in passenger cars should be possible and available in trucks as well. From radar to automated brake functions. Everything that improves road safety.

› Already standard to some extent, and not on the wishlist but on the "to do" list.
Systems for Automated Driving

Quotes from interviews with experts

› For the Ministry, yes; for the experts themselves, no. I know the drivers. They are individualists, and their motto is "I'm the king of the road."

› With regard to automated driving, the expert believes that all legal questions are as yet unresolved. There also needs to be public debate over any ethical issues that may arise (if the truck has to swerve and injuring a person is unavoidable, whom should it run over – the pensioner or the young mother?). The expert thinks that sensible solutions for automated driving are more likely to come from manufacturers working in public transport, using driverless systems such as in the subway infrastructure, or operating within similar networks.

› Get rid of the cab, then we have another three meters of cargo space.

› Absolutely on our list. The reason for this is to increase reliability and predictability in transport. Of course, it is also a response to the lack of drivers, and the trend is moving toward automated driving.

› The compulsion to save fuel and the lack of qualified drivers will continue to push this development forward.
Fuel-Saving Technology
Quotes from logisticians and OEMs

Statements on examples of side mirror substitutes and sensor systems

› I have no electric mobility whatsoever. It exists only in the form of converted vehicles. Electric mobility would make a lot more sense in the truck segment than in passenger cars.

› Very high on our wishlist, because fuel costs make up roughly a third of all our costs. Platooning (slipstreaming or drafting) would also be very interesting.

› A top priority. The limits of aerodynamics have yet to be reached. For example, if the four-meter height restriction were dropped, deployable fairings on the trailer could deflect the wind better (as in places such as the UK).

› Side mirror substitutes enhance safety in cities (cornering technology). Legislators could apply requirements in this respect in the future. A general rule is that if something proves to be worthwhile, it catches on.
Comfort and Convenience Functions in the Interior
Quotes from logisticians and OEMs

Statements on examples of better seats, better infotainment systems, more space

› This is important to us because it is the driver's workplace, and a good workplace makes the job more attractive to drivers.

› Not especially desirable from a purchasing perspective, but definitely desirable for the HR department, as they want to create attractive workplaces.

› I'll take everything on offer in this respect – we're talking about someone's workplace. An attractive workplace is important to drivers, and the prestige of the truck brand also plays a role when drivers are deciding which job to take.

› Infotainment is a question of price. Systems should be open to conventional cell phones and smartphones.
Automated Driving: Information of stakeholders is necessary.
### Importance of Automated Driving for Logisticians

**Approval and skepticism at the same time**

**Question:** How important are the following topics to you with regard to the future of your company?

<table>
<thead>
<tr>
<th>Importance of…</th>
<th>Germany</th>
<th></th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vehicle networking</strong></td>
<td><img src="image1" alt="Graph" /></td>
<td><img src="image2" alt="Graph" /></td>
<td><img src="image3" alt="Graph" /></td>
</tr>
<tr>
<td><strong>Platooning</strong></td>
<td><img src="image4" alt="Graph" /></td>
<td><img src="image5" alt="Graph" /></td>
<td><img src="image6" alt="Graph" /></td>
</tr>
<tr>
<td><strong>Automated driving</strong></td>
<td><img src="image7" alt="Graph" /></td>
<td><img src="image8" alt="Graph" /></td>
<td><img src="image9" alt="Graph" /></td>
</tr>
</tbody>
</table>

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”.

Germany: n = 119, China: n = 70

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31
Approval for Automated Driving among Logisticians
More skepticism – anything to add on the subject?

<table>
<thead>
<tr>
<th>Question</th>
<th>Germany</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated driving is attractive to drivers.</td>
<td><img src="image" alt="" /></td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Automated driving is an opportunity for the industry.</td>
<td><img src="image" alt="" /></td>
<td><img src="image" alt="" /></td>
</tr>
</tbody>
</table>

1 = Agree completely          2          3          4          5          6 = Disagree completely

Figures are percentages; where the total is 100%, “Can't say” / “Rather not say”

Germany: n = 119, China: n = 70

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### Drivers' Assessments of Automated Driving
#### Low acceptance – freedom is key

<table>
<thead>
<tr>
<th>Rate of approval (top box)</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td>In my job as a driver, I would like the freedom to make decisions and have control over everything.</td>
<td>55</td>
</tr>
<tr>
<td>Importance for future work: automated driving</td>
<td>17</td>
</tr>
<tr>
<td>Importance for future work: Platooning</td>
<td>16</td>
</tr>
<tr>
<td>Automated driving is attractive to me as a driver.</td>
<td>15</td>
</tr>
<tr>
<td>I would definitely like to use automated driving</td>
<td>9</td>
</tr>
</tbody>
</table>

**Question:** How important are the following topics to you with regard to the future of your work? Would you like to use automated driving in the future? Please say how much you agree with the following statements.

Figures are percentages; combined rate of approval on the following scales: 10 = Very important to 1 = Entirely unimportant; 10 = Very much to 1 = Not at all; 1 = Agree completely to 6 = Disagree completely (top box, from 10 to 8 / 1 to 2), n = 301
Automated Driving: Quotes from OEMs and associations

› “This is a major trend and we’re investing in it; it is past the experimental stage. Platooning works and is no longer at an experimental level. The European Truck Platooning Challenge in April 2016 showed that we have already made a lot of progress – it took place on public roads. Platooning is a state-of-the-art trend. Platooning also gives us the opportunity to apply new methods of use and is profitable, saves on fuel costs, and makes vehicles safer, cleaner, and more efficient.”

› “Fully automated driving is not far off now, while we already have partially automated driving, which means considerable increases in efficiency (the expert cites GPS-assisted cruise control as an example and time slot management as a challenge). We will have platooning relatively soon. This will also lead to better use of transport infrastructure and greater road safety, and may help with the acute lack of drivers.”

› “The main focus is on platooning and automated driving, which may become a solution to the problem of "atomization" of transported loads. There is a general observable increase in standardization of transport, but also in customization. There is also general observable "industrialization" of transport, relating to scheduling and interconnections.”
"There will be an increase in automated driving, but the expert does not envisage fully automated driving within the next ten years. This is because of an array of legal problems. Technology is not the problem! Solutions could come in the form of separate truck lanes on freeways, but that would necessitate changes to a lot of infrastructure conditions. Load planning will benefit more from automation in the future. The process chains in this respect are not as neat as they could be at the moment. In the future, computers will do a better job of managing load planning. Incorrect loading is currently one of the chief causes of accidents, and awareness of this problem is growing. For example, loads shifting in the trailer could be reported to the driver more quickly and warnings could be issued. An 'intelligent trailer' does not cost that much."

"Platooning with an electronic towbar: I can't imagine that in practice. For example, a truck loaded with 15 metric tons of paper is driving at a distance of 15 m ahead of one of its colleagues when a tire catches fire or a passenger car comes into the space between them. I have more questions than answers on this subject. The liability issues are totally unresolved! The underlying legal structure has yet to be thought out. Legal structures are also important for the new relationship that will develop between the driver and the truck and the legal relationships between the automated vehicles themselves. What sort of legal relationships will arise from the vehicle software, which is essentially programmed instructions, and who is liable for these instructions? What are the risks to insurers and how can insurers assess these risks?"
The Role of the Driver
Challenges concerning Drivers
Tougher competition and more qualifications expected

Question: Now, a question on your assessment of challenges in the transport business and your expectations for the future of the industry. In your opinion, what is the scale of the future challenges? Please say how much you agree with the following statements.

- Competition for highly trained drivers is growing fiercer.
  - Rate of approval (top box)
  - Germany: 91%
  - China: 74%

- Future challenges relating to drivers and their qualifications.
  - Rate of approval (top box)
  - Germany: 88%
  - China: 72%

Figures are percentages; combined rate of approval on the following scales: 10 = Enormous to 1 = Minimal; 1 = Agree completely to 6 = Disagree completely (top box, from 10 to 8 / 1 to 2); Germany: n = 119, China: n = 70

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Drivers' Assessments of Professional Qualifications
Majority very important

Question: Now, a question on your assessment of challenges in the transport sector and your expectations for the future. In your opinion, what is the scale of the future challenges in the following areas?

- 10 = Enormous to 8
- 7 to 4
- 3 to 1 = Minimal
- Can't say / Rather not say

Figures are percentages; where the total is 100%, the remainder chose "Can't say" / "Rather not say"; n = 301

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## Logisticians' Satisfaction with Drivers

Availability and labor costs are the biggest problems

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very satisfied</th>
<th>Rather not say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>34%</td>
<td>32%</td>
</tr>
<tr>
<td>Flexibility</td>
<td>38%</td>
<td>20%</td>
</tr>
<tr>
<td>Qualifications</td>
<td>36%</td>
<td>19%</td>
</tr>
<tr>
<td>Availability</td>
<td>33%</td>
<td>15%</td>
</tr>
<tr>
<td>Labor costs</td>
<td>31%</td>
<td>8%</td>
</tr>
<tr>
<td>Drivers overall</td>
<td>40%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Question:** Now to your company's drivers. How satisfied are you with the following aspects?

1 = Very satisfied
2 = Rather not say
3 = Can't say
4 = Rather say
5 + 6 = Very satisfied

*Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say".*

*n = 119*
Driver Topics from the Logisticians’ Perspective
Many aspects are more relevant in Germany than in China

<table>
<thead>
<tr>
<th>Importance of…</th>
<th>Germany</th>
<th></th>
<th>China</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attractiveness of the job of driver</td>
<td>2 10</td>
<td>3 41</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Comfort and convenience for drivers</td>
<td>15 85</td>
<td>2 35</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Communication technology in the vehicles</td>
<td>7 24</td>
<td>2 23</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Software to be used by your drivers</td>
<td>13 21</td>
<td>6 25</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Software for road performance</td>
<td>14 25</td>
<td>1 30</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

Question: Please indicate how important the following aspects of the transport segment are to you in your day-to-day work.

- 10 = Very important to 8
- 7 to 4
- 3 to 1 = Entirely unimportant

Figures are percentages; where the total is 100%, “Can't say” / “Rather not say”
China: n = 70

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Reasons for Choosing to Work as a Driver

Enjoying driving dominates

- Enjoying driving: 75%
- Getting to know different places: 52%
- Independence: 44%
- Interest: 43%
- A job with responsibility: 37%
- Pay: 31%
- Family tradition: 16%
- Lack of alternatives: 15%
- Other reasons: 5%

Question: There can be various reasons for choosing to work as a driver. What about you? Which of the following reasons apply to you?

Figures are percentages; multiple selections possible; n = 301
**Drivers' Satisfaction with Working Conditions**

Most satisfied with some aspects, but not with pay

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very satisfied (1)</th>
<th>Satisfied (2)</th>
<th>Dissatisfied (3)</th>
<th>Very dissatisfied (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breaks and rest periods</td>
<td>6</td>
<td>11</td>
<td>18</td>
<td>32</td>
</tr>
<tr>
<td>Contact with colleagues</td>
<td>4</td>
<td>10</td>
<td>27</td>
<td>41</td>
</tr>
<tr>
<td>Working hours</td>
<td>9</td>
<td>15</td>
<td>23</td>
<td>33</td>
</tr>
<tr>
<td>Contact with family and friends</td>
<td>9</td>
<td>11</td>
<td>27</td>
<td>32</td>
</tr>
<tr>
<td>Predictability of the working day</td>
<td>10</td>
<td>13</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Salary</td>
<td>13</td>
<td>18</td>
<td>33</td>
<td>21</td>
</tr>
<tr>
<td>Shower and toilet facilities at rest areas</td>
<td>23</td>
<td>22</td>
<td>29</td>
<td>19</td>
</tr>
</tbody>
</table>

**Question:** Now, let's move on to your working conditions as a driver. How satisfied are you with the following aspects?

1 = Very satisfied

2 = Satisfied

3 = Dissatisfied

4 = Very dissatisfied

Figures are percentages, where the total is 100%, the remainder chose “Can’t say” / “Rather not say.”

*n = 301*

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43
### Drivers' Satisfaction with Working Conditions

Extremely low in respect of infrastructure in particular

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Can't Say / Rather not say</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety on the road and at rest areas</td>
<td>15</td>
<td>23</td>
<td>39</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Provision of food and drink at rest areas</td>
<td>33</td>
<td>26</td>
<td>24</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Leisure opportunities on long journeys</td>
<td>30</td>
<td>27</td>
<td>19</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Condition of roads</td>
<td>18</td>
<td>29</td>
<td>40</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Condition of parking spaces at rest areas</td>
<td>32</td>
<td>24</td>
<td>27</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Number of parking spaces at rest areas</td>
<td>58</td>
<td>20</td>
<td>16</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Overall working conditions</td>
<td>6</td>
<td>15</td>
<td>42</td>
<td>25</td>
<td>7</td>
</tr>
</tbody>
</table>

**Question:** Now, let's move on to your working conditions as a driver. How satisfied are you with the following aspects?

1 = Very satisfied  
2  
3  
4  
5 + 6 = Very dissatisfied

Figures are percentages; where the total is 100%, the remainder chose “Can't say” / “Rather not say”, n = 301

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### Drivers' Assessments of Statements on the Profession

Modern trucks are considered more reliable

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 + 6</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trucks are more reliable today than they used to be.</td>
<td>25</td>
<td>14</td>
<td>27</td>
<td>50</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>New technology in and on the vehicle has reduced my workload.</td>
<td>10</td>
<td>7</td>
<td>36</td>
<td>25</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>I enjoy my work as a driver.</td>
<td>7</td>
<td>9</td>
<td>22</td>
<td>36</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>I feel well prepared to meet the future requirements of the driving profession.</td>
<td>2</td>
<td>9</td>
<td>26</td>
<td>36</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td>In my job as a driver, I would like the freedom to make decisions and have control over everything.</td>
<td>7</td>
<td>9</td>
<td>27</td>
<td>23</td>
<td>32</td>
<td>100</td>
</tr>
<tr>
<td>The most important part of my work is the pay.</td>
<td>6</td>
<td>12</td>
<td>30</td>
<td>24</td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>

---

**Question:** Please say how much you agree with the following statements.

1 = Agree completely  
2  
3  
4  
5 + 6 = Disagree completely

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”.  

n = 301

---

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---

+ Femfahver
+ Continental
+ infas
Drivers' Assessments of Statements on the Profession
Free labor market viewed as a risk – and automation?

| Statement                                                                 | 1 = Agree completely | 2 | 3 | 4 | 5 + 6 = Disagree completely |
|---------------------------------------------------------------------------|----------------------|--|--|--|--|-----------------------------|
| The pressure on me in my work as a driver has increased significantly.     | 18                   | 15| 19| 24| 21                          |
| Driving is a career with a future.                                        | 22                   | 13| 20| 22| 15                          |
| I am happy to accept limitations on my freedom when driving in exchange for better safety through technology. | 26                   | 18| 23| 16| 11                          |
| I would recommend my job to others.                                       | 34                   | 14| 16| 14| 12                          |
| I feel constrained as a driver by requirements imposed by my company.     | 28                   | 20| 23| 16| 7                           |
| Automated driving is attractive to me as a driver.                        | 49                   | 14| 15| 7 | 8                           |
| A free labor market without borders offers more opportunities for me than risks. | 37                   | 18| 18| 9 | 5                           |

Question: Please say how much you agree with the following statements.

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”; n = 301
Driver Support and Monitoring Using Software Quotes from interviews with experts (logisticians)

› "I have some experience with an automatic geography-based cruise control system. Development is very far along – it is possible to reach a level of driving efficiency of almost 99%, were there not other road users preventing it. I think that the technique trainers and eco-trainers are also a good development, as trucks are becoming increasingly complex."

› "There are various providers of training systems (grading and trainer support), with mixed results in our experience."

› "Platooning is one issue; a sort of autopilot for slipstreaming at standard speed. However, software must be standardized for various vehicle types and manufacturers."

› "More intuitive solutions, graphics or signals that show how I could drive more effectively, and simultaneously provide encouragement for the driver to do so as well."

› "It is important to us to monitor a vehicle’s consumption. We are concerned not with keeping an eye on the driver as a person but with tracking the driving situation. Bear in mind also that in many countries, the trade unions have to give their consent."

› "We are on the lookout for suitable systems, A) from a financial perspective and B) considering environmental aspects."

› "What is required is the human-machine interface. A high level of functionality is required here, along with intuitive operability."

› "Companies have become more aware of the issue of road performance and some have already reduced their maximum speeds."
Digitalization: Most companies are worried about being left behind when it comes to digitalization.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>16%</td>
</tr>
<tr>
<td>27%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Source: Continental Mobility Study 2016
Future Challenges from the Perspective of Logisticians
Primarily competition and environmental specifications

› Germany

Competition
- 2%
- 14%
- 84%

Environmental specifications
- 3%
- 16%
- 82%

New players in the transport business
- 35%
- 39%
- 27%

› China

Competition
- 19%
- 79%

Environmental specifications
- 11%
- 24%
- 62%

New players in the transport business
- 17%
- 32%
- 44%

Question: Now, a question on your assessment of challenges in the transport business and your expectations for the future of the industry. In your opinion, what is the scale of the future challenges in the following areas?

- 10 = Enormous to 8
- 7 to 4
- 3 to 1 = Minimal

Figures are percentages; where the total is 100%, the remainder chose "Can't say" / "Rather not say".

Germany: n = 127, China: n = 150

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### Future Challenges from the Perspective of Drivers

Primarily competition and qualifications

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Score 5</th>
<th>Score 10</th>
<th>Score 15</th>
<th>Score 20</th>
<th>Score 25</th>
<th>Score 30</th>
<th>Score 35</th>
<th>Score 40</th>
<th>Score 45</th>
<th>Score 50</th>
<th>Score 55</th>
<th>Score 60</th>
<th>Score 65</th>
<th>Score 70</th>
<th>Score 75</th>
<th>Score 80</th>
<th>Score 85</th>
<th>Score 90</th>
<th>Score 95</th>
<th>Score 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition</td>
<td>5</td>
<td>20</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional qualifications for drivers</td>
<td>5</td>
<td>35</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental requirements</td>
<td>8</td>
<td>37</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New players in the transport business</td>
<td>33</td>
<td>33</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question:** Now, a question on your assessment of challenges in the transport sector and your expectations for the future. In your opinion, what is the scale of the future challenges in the following areas?

- **10 = Enormous to 8**
- **7 to 4**
- **3 to 1 = Minimal**

Figures are percentages; where the total is 100%, the remainder chose "Can't say" / "Rather not say", n = 301
# Importance of Future Topics for Drivers

Many still a long way off?

### Question:
How important are the following topics to you with regard to the future of your work?

<table>
<thead>
<tr>
<th>Topic</th>
<th>10 = Very important</th>
<th>8</th>
<th>7 to 4</th>
<th>4 to 1</th>
<th>1 to 3</th>
<th>3 to 1 = Entirely unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle networking</td>
<td>23</td>
<td>36</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated driving</td>
<td>40</td>
<td>28</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platooning</td>
<td>41</td>
<td>24</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figures are percentages; where the total is 100%, the remainder chose “Can’t say” / “Rather not say”; n = 301

---

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Trucking Fleets & Digitalization
Opportunities still to discover

- **59%** say they have an idea what digitalization in transport industry means.
- **54%** expect an impact on their business.
- **52%** are concerned about the risk to fall behind the development.
- **38%** see digitalization as already taking place in transportation industry.
- **32%** see a lot of opportunities in digitalization.

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Digitalization: The Perspective of the Logisticians
Most are worried about getting left behind!

<table>
<thead>
<tr>
<th>Question</th>
<th>1 = Agree completely</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 + 6 = Disagree completely</th>
</tr>
</thead>
<tbody>
<tr>
<td>We need to take care not to get left behind when it comes to digitalization.</td>
<td>5</td>
<td>16</td>
<td>27</td>
<td>34</td>
<td>18</td>
</tr>
<tr>
<td>Digitalization has already changed the transport industry significantly.</td>
<td>4</td>
<td>11</td>
<td>45</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>Digitalization offers many opportunities for the transport industry.</td>
<td>2</td>
<td>18</td>
<td>48</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Digitalization will have no effect on our transport business.</td>
<td>34</td>
<td>20</td>
<td>16</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>I can't think of anything relating to digitalization of the transport industry happening yet.</td>
<td>43</td>
<td>16</td>
<td>32</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

Figures are percentages; question asked only in Germany; n = 44

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Environmental Specifications on the Rise and Somewhat Underestimated

Quotes from logisticians

› We are looking at all aspects of the issue of the environment, i.e. not just those relating to vehicles but also those involving buildings and warehouses. We have a strategic corporate goal: improving CO₂ efficiency by 30% by 2020! That applies globally – not just to us, but to our subcontractors as well. Monitoring our success in achieving this goal is certainly not especially easy, but we have developed our own systems to do so.

› Oil is a finite resource. With regard to the Euro 6 standard, half of me is smiling and half is crying. Smiling, because fewer emissions are produced. Crying, because the soot particles produced and emitted into the environment are becoming ever smaller, which means that they are absorbed much more quickly and end up in the bloodstream.

› The Euro standards are growing ever more rigorous, while low-emission zones present problems for us, but requests from our customers for environmentally friendly services are intensifying. In the long term, environmental specifications such as those applicable in Norway and the Netherlands can no longer be fulfilled without electric vehicles.

› We are expecting regulations (e.g. imposed by the government)! These regulations will amplify the necessity to move toward alternative drives. Manufacturers should work quickly to develop these drives!

› Environmental specifications are certainly a good idea, but engine development over the past decade has focused more on operating within limits than on developing suitable vehicle drives, even though taking this route would enable environmental progress to be made.
Software
Vehicle Management Software is still not used very frequently.

48% don't use vehicle management software

52% software in use

48% no software in use

Source: Continental Mobility Study 2016
### Satisfaction with Vehicle Management Software

If used, Software tends to be rated positively

**Question:** How about the software for vehicle management at your company? How satisfied are you with this software in terms of...?

<table>
<thead>
<tr>
<th>Availability</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5/6</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>2</td>
<td>7</td>
<td>11</td>
<td>27</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reliability</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5/6</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>14</td>
<td>16</td>
<td>24</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User-friendliness</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5/6</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>16</td>
<td>16</td>
<td>24</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suitability</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5/6</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>8</td>
<td>13</td>
<td>24</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software for vehicle management as a whole</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5/6</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>7</td>
<td>14</td>
<td>24</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

*Half of small fleets do not use any software for vehicle management. Non-users make up only 14% of fleets with more than 50 vehicles. The software evaluation does not depend on fleet size.*
Satisfaction with *Road Performance Software*

Mediocre ratings – and a third do not use any

<table>
<thead>
<tr>
<th>Question</th>
<th>Availability</th>
<th>Reliability</th>
<th>User-friendliness</th>
<th>Suitability</th>
<th>Software for road performance overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>How satisfied are you with this software in terms of...?</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Availability</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Reliability</td>
<td>18</td>
<td>23</td>
<td>22</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>User-friendliness</td>
<td>31</td>
<td>30</td>
<td>29</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Suitability</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Software for road performance overall</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Approximately 40% of small fleets do not use software for managing road performance. Non-users make up only 7% of fleets with more than 50 vehicles. The software is evaluated more poorly by smaller fleets with fewer than 50 vehicles in particular.

Question: Next, software for managing road performance. How satisfied are you with this software in terms of...?
Satisfaction with *Driver Deployment Software*

Many do not (yet) use any; those that do tend to be satisfied

<table>
<thead>
<tr>
<th></th>
<th>1 = Very satisfied</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 + 6 = Very dissatisfied</th>
<th>No such software used</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability</strong></td>
<td>40</td>
<td>25</td>
<td>18</td>
<td>30</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>40</td>
<td>25</td>
<td>22</td>
<td>26</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Suitability</strong></td>
<td>40</td>
<td>3</td>
<td>8</td>
<td>18</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td><strong>User-friendliness</strong></td>
<td>40</td>
<td>2</td>
<td>8</td>
<td>20</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td><strong>Software for driver deployment overall</strong></td>
<td>40</td>
<td>2</td>
<td>7</td>
<td>22</td>
<td>26</td>
<td>3</td>
</tr>
</tbody>
</table>

Approximately 40% of small fleets do not use software for driver deployment planning. Non-users make up only 21% of fleets with more than 50 vehicles. The software is evaluated somewhat more poorly by smaller fleets with a maximum of 50 vehicles.

Question: How about the software for deploying your drivers used by your company? How satisfied are you with this software in terms of...

Figures are percentages; n = 119
Mobility Study 2016

Summary

The transport industry is locked in hard-fought competition. The volume of transport will continue to rise in the future and new players from other sectors are setting up their own logistics chains (Amazon, Alibaba). Meanwhile, the small market shares of even the large companies and especially the anticipated environmental specifications are increasing the cost pressure. The future of the industry is eyed critically, although this is countered by optimism regarding respondents’ own companies.

There is little leeway for innovation; investments need to pay off within just two years. As a result, there is more of a focus on small, evolutionary products, due partly to skepticism regarding innovation. Fuel-saving, driver assistance, and tire-pressure monitoring are intended to make workflows more efficient. Drivers would like solutions that improve comfort and convenience. Apart from wage costs, they are satisfied with their jobs; despite this, there are few well-trained drivers.

Automated driving appears "a long way off" for the industry. Partial solutions such as platooning are greeted with mixed opinions. There is fear of being left behind in progress toward digital connectivity, but the purpose of digitalization / automated driving is unclear. The freedom to make decisions and be in control is important to drivers, even at the expense of safety. Accordingly, they harbor little desire for automated driving.

Existing software solutions are not used, for the most part. Divergent interfaces and the "software jungle" come in for criticism. Nonetheless, there is a desire for solutions directly relating to drivers in particular. When software is used, it is also rated positively.
Continental Mobility Study 2016 shows: Only 20 percent (21 percent China) of fleet operators desire automated driving but especially drivers with long experience want driving assistance systems.

Because Platooning based on automated driving offers great advantages for security and efficiency of road traffic, the industry must readjust: Information of the stake holders is necessary.

Satisfaction is the best base for new technologies: The majority (66 percent) is satisfied with reliability and user-friendliness of today's driving assistance systems.

A quick amortization of investments is important for the business characterized by costs and environmental standards (82 percent (D), 65 percent (CHN) of fleet operators want amortization within 1-2 years)

The potential of fuel saving technologies is far from exhaustion: Less than 50 percent of the drivers are encouraged to drive fuel-efficient. Incentives are given only for 16 (small trucks 20) percent. To 47 percent of small truck drivers this topic isn’t even mentioned.
How reacts Continental to the results of the study?

With all of our innovations, we look at the direct benefits for fleet operators. For them, it all comes down to increasing efficiency and cutting costs. For example, current technologies help us to reduce fuel consumption in the heavy vehicle category by up to 6 liters per 100 kilometers. At the same time, the necessity to make savings forms the basis of our efforts, at all levels, to bring automated slipstream driving – also known as platooning - into production as quickly as possible. We are working on the technical aspects of this. Now no time must be wasted in establishing the legal framework.

(Dr. Elmar Degenhart, IAA fair magazine 2016)