Managing the transition to driverless road freight transport

UNECE Working Party on Transport Trends and Economics Trends in the road transport sector
Geneva, 4-6 September 2017

iru.org
Founding members in 1948
Governments, vehicle manufacturers, transport operators and trade unions join forces.
<table>
<thead>
<tr>
<th>Level</th>
<th>Name</th>
<th>Steering, acceleration, deceleration and Signalling</th>
<th>Monitoring and responding to driving environment</th>
<th>Failback performance of dynamic driving tasks</th>
<th>Context (operational design domain)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>No automation</td>
<td>limited</td>
<td>limited</td>
<td>limited</td>
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<tr>
<td>1</td>
<td>Driver assistance</td>
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<td>limited</td>
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<td>2</td>
<td>Partial automation</td>
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<tr>
<td>3</td>
<td>Conditional automation</td>
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<td>limited</td>
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<td>4</td>
<td>High automation</td>
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<td>unlimited</td>
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<tr>
<td>5</td>
<td>Full automation</td>
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<td>Unlimited</td>
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</table>
Why will driverless trucks be taken up?

- Labour costs / addressing labour shortage
- Decarbonisation of transport
- Improvement of road safety
- Digitalisation of transport operations
- Operating times
Driverless trucks - adoption scenarios

Long distance road freight

- Baseline scenario
- Conservative scenario
- Disruptive scenario
- Regulated scenario

% 2016 2020 2024 2028 2032 2036 2040
0 10 20 30 40 50 60 70 80 90
Potential scale of truck driver job losses

• Automated trucks could reduce the demand for drivers
• Up to 4.4 million professional trucking jobs could become redundant
Truck driver labour force snapshot

US

Europe

[Diagram showing education levels of truck drivers and the employed population in the US and Europe]
Truck driver labour force snapshot

![Graph showing trends in truck drivers and employed population (excluding truck drivers)]
Where do we go from here?

Certainty...
- Only a very few will keep their jobs in the transport industry
- New qualifications will be needed
- New trained professionals will be needed

And...
- Who will pay for the transition?
- Will a gradual introduction of innovation solve the issue (permit systems)?
- Is new taxation on innovation a solution?
Report recommendations – measures to be taken

• Establish a transition advisory board to advise on labour issues

• Set international standards, road rules and vehicle regulations for self-driving trucks

• Start with pilot projects to test vehicles, network technology and communication protocols
Other open questions

- Security risks
- Road safety
- Acceptability of driverless vehicles
- Data ownership
Thank you!