SUMMARY

This report was developed with stakeholders from the commercial vehicle sector and provides an overview of the main trends regarding the commercial vehicle sector. The current and expected developments at government level, in transport and logistics and in the sector itself were identified using desk research, interviews and surveys. By keeping to this sequencing, we worked from the outside-in with regard to the sector. The description of these developments and the resulting consequences for staff in the commercial vehicle sector are the core of this report. The research was commissioned by OOMT and conducted by Innovam in cooperation with BOVAG.

Government
The policy target of the European and Dutch governments is a further reduction of CO2 emissions. In order to achieve this, the Dutch government will take a different course. The number of financial incentives will be phased out and entrepreneurship will be more actively facilitated. The government will step down and is only setting the policy frameworks. The aim is to give the sector itself more clout and reduce the market distortion caused by the government. The responsibility of the local government will increase, broadening the differentiation in municipal policy as a result. The local government will focus on a cleaner environment and on limiting the number of transport movements. The Dutch government is taking the lead in harmonising these local laws and regulations.

Transport
Dutch carriers have lost the battle for international transport to providers from Eastern European countries. They cannot compete with them at cost price level. As a result, we are seeing two developments in the Dutch transport sector:

- Carriers that wish to remain active internationally have flagged out in whole or in part and have brought (part of) their fleet with them.
- The number of carriers focusing on national distribution is increasing. This creates a surplus of suppliers on the Dutch distribution market, putting the sales and after-sales margins of truck companies under even more pressure.

A consequence of both developments is that the commercial vehicle sales in the Netherlands are declining and that carriers are focusing even more on cost control.
SUMMARY

Total Cost of Ownership
In the sales process, the importance of Total Cost of Ownership (TCO) is increasing, while the importance of brand (image) and personal relationship decreases. This development will continue further until 2030 and apply to both traditional diesel and alternative propulsion systems. Carriers are responding to this by professionalising the purchasing function and implementing a multi-brand strategy. Differences between truck dealers (purchase and maintenance) and carriers (purchase, maintenance, fuel and driver costs) over the interpretation of TCO are creating linguistic confusion.

Technology
The proportion of light commercial vehicles with different propulsion systems for urban distribution is increasing through government facilitation and the establishment of a framework. As a result, urban distribution should be cleaner by 2025 than it is now and play a significant role in the CO₂ reduction targets.
For heavy commercial vehicles aimed at long-distance transport, diesel will remain the main propulsion until 2025. The proportion of heavy commercial vehicles with alternative propulsion systems is increasing, but will not be able to reduce the prevalence of diesel.
Different propulsion systems are however appearing in heavy commercial vehicles used for urban distribution. Since the range of the vehicle is less important in urban distribution, CNG, LNG, hybrid vehicles and EVs will gain importance. National and regional governments encourage carriers to use these propulsion types.

Existing comfort and safety systems are being optimised further. Adaptive cruise control will eventually be replaced by cooperative adaptive cruise control. As a result of these modifications, software and ICT applications are used increasingly in commercial vehicles.

The number of telematics applications in commercial vehicles is rising. The main motivation is cost control. The party which has the data and the capabilities to analyse it, can reduce the vehicle’s operating costs.
Carriers, truck companies and dealers are all interested in these data. There is an important and not yet answered question: “Who owns the data?” Because of this, it is not yet clear where in the chain of importers, truck companies and carriers, the data will be analysed and whose margins will consequently increase.

**Chain integration**

Margins which are under pressure for both carriers and truck companies lead to chain integration. Carriers with their own workshop are increasingly doing maintenance work for third parties to cover the cost of the workshop. They perform complex maintenance themselves more frequently, having weighed the required investment in materials and resources against the payback time. Increase in scale through mergers reinforces this backward integration. Truck companies broaden their product and service offerings and focus on e.g. trailer maintenance, accident repair and financing and insurance services. Truck companies develop into full-service providers, which carriers call on for the maintenance of the whole combination.

**Implications for staff**

The implications for staff in the truck sector are diverse. The required level of education of both the sales staff and workshop technicians is rising. The sales manager is going to disappear to become an account manager who advises his/her customers regularly about developments in the industry and the impact this will have on the business of his/her customers. Knowledge of TCO, laws and regulations, but especially of each customer’s business model is paramount. Declining sales and the rise of Internet sales means that the need for sales staff has dropped by 20%.

For workshop technicians, these developments mean that some knowledge of and affinity with ICT is important. There is less and less mechanical maintenance, while electronic maintenance is on the rise. Maintenance costs are more transparent allowing carriers to look for savings. Since a differentiation between workshops is occurring, technicians will specialise in a particular task. The need for technical staff is declining as a result of declining sales, the reduction in maintenance costs and the increasing quality of commercial vehicles.
Summary

Reason

Conclusions

Results:
Trend 1. The withdrawal of the government’s involvement has led to a shift of risks to the sector
Trend 2. The decrease in carriers’ gross profit margins has a knock-on effect on truck dealers
Trend 3. The increasing importance of Total Cost of Ownership contributes to the further commercialisation of the sale
Trend 4. Increasing technological advances have led to changes in the working and organisation procedures
Trend 5. Emergence of chain integration in order to make the workshop as profitable as possible

Appendices:
Research report
Bibliography
REASON
In 2010 Innovam, commissioned by OOMT, conducted research into trends in the commercial vehicle sector until 2015. At OOMT and BOVAG Truckdealers management, there is an urgent need to identify the developments in the commercial vehicle sector once again and translate them into (qualitative and quantitative) effects for the workforce in 2025.

The result serves as an input:

• To raise awareness and possible sense of urgency among employers and employees concerning developments in the sector.
• To tighten policy at OOMT, BOVAG, BtG and Innovam.
• To inform the MBO on changing professional requirements for apprentices in commercial vehicle automotive technology.
• For OOMT, BOVAG and Innovam to develop support services to the sector to help it anticipate swiftly the developments identified.

OOMT commissioned Innovam to investigate the internal and external factors and their (qualitative and quantitative) impact on the workforce. This takes into account the three pillars of the business model in the commercial vehicle sector:

• Sale of vehicles
• Sale of parts
• Sale of maintenance

An advisory committee was set up to ensure the involvement of the industry and enhance the quality of the research. It is composed of:

Mr A. Verkade, BOVAG Truckdealers
Mr R. Steigenga, IVECO Schouten
Ms M.J. Rutten, Scania
CENTRAL RESEARCH QUESTIONS

The following research questions were formulated in conjunction with OOMT and the BOVAG Truckdealers advisory committee:

1. Which developments will have an impact on the commercial vehicle sector until 2025?
2. Does the commercial vehicle sector know/recognise these developments?
3. How does the sector deal with these developments?
4. What impact will the various developments and resulting actions have (qualitatively and quantitatively) on the workforce in the commercial vehicle sector of 2025?

When conducting the research, the consequences on the three pillars of the business model in the commercial vehicle sector – i.e. sales of vehicles, parts and maintenance – were taken into account for each research question.
The commercial vehicle sector is characterised by developments at three levels:

1. **External developments**:
   - The government, whether European, national or local, influences developments in the commercial vehicle sector through legislation and regulations.
   - The developments and needs of the transport and logistics sector (customer) impact future developments in the commercial vehicle sector. Primarily motivated by the business-to-business model.

2. **Internal developments**
   - The industry itself is experiencing changes due to, for example, new technical possibilities.

3. **Staffing requirements**
   - Changes in the business model of the commercial vehicle sector are generating other requirements in terms of workforce.
SCOPE OF THE RESEARCH

The further scope of the research is:

1. The research provides a vision of the future until 2025. Developments that occur thereafter fall outside the scope of the research.
2. The commercial vehicle sector is defined as truck companies which sell, service & repair commercial vehicles.
3. Under commercial vehicles we mean the total range from delivery vans to heavy goods vehicles.
4. In the research, we distinguish between internal and external developments:
   - Developments that influence the commercial vehicle sector are external.
   - Developments which originate from the commercial vehicle sector are internal.
5. The external and internal developments are based on the larger trends.
6. Wherever possible, the direction, distance and pace of the development are described for each trend.
7. The results may provide input to policy making. However, this is outside the scope of this remit.
CONCLUSIONS
CONCLUSIONS

Government
• Trend 1: The withdrawal of the government’s involvement has led to a shift of risks to the sector

Transport & Logistics
• Trend 2: The decrease in carriers’ gross profit margins has a knock-on effect on truck dealers
• Trend 3: The increasing importance of Total Cost of Ownership (TCO) contributes to the further commercialisation of the sale

Internal
• Trend 4: Increasing technological advances have led to changes in the working and organisation procedures
• Trend 5: Emergence of chain integration in order to make the workshop as profitable as possible

Consequences of trends for staff at truck companies
# Effects on Trends and Staff at Truck Companies

<table>
<thead>
<tr>
<th>Sales staff</th>
<th>Originating from trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sales managers must be a strong sparring partner and have knowledge in the area of:</td>
<td>T1 T3 T4 T5</td>
</tr>
<tr>
<td>• Business model of the customer/deployment of the commercial vehicle</td>
<td>T1 T3 T4 T5</td>
</tr>
<tr>
<td>• Legislation and regulations</td>
<td>T1 T4 T5</td>
</tr>
<tr>
<td>• Total Cost of Ownership (TCO)</td>
<td>T2 T3</td>
</tr>
<tr>
<td>• Internet sales</td>
<td>T3</td>
</tr>
<tr>
<td>• Break-even-points for alternative types of propulsion</td>
<td>T4</td>
</tr>
<tr>
<td>• Build a business case for the purchase of clean commercial vehicles</td>
<td>T1</td>
</tr>
<tr>
<td>• Sales process is commercialised, smaller role of brand image and personal relationship; sales manager becomes account manager</td>
<td>T2 T3</td>
</tr>
<tr>
<td>• Demand for sales staff is decreasing by 20%</td>
<td>T2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>After-sales staff</th>
<th>Originating from trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demand for technical staff is dropping because of decrease in maintenance requirements by 15%-25%</td>
<td>T2 T3 T4</td>
</tr>
<tr>
<td>• Maintenance on alternative types of propulsion in light commercial vehicles is on the rise</td>
<td>T1 T4 T5</td>
</tr>
<tr>
<td>• More accountability of activities, resources, and time (transparency) of after-sales costs</td>
<td>T2 T3 T4</td>
</tr>
<tr>
<td>• Level 2: move activities to universal and own workshop</td>
<td>T2 T4</td>
</tr>
<tr>
<td>• Technicians’ specialisation by type of maintenance</td>
<td>T4 T5</td>
</tr>
<tr>
<td>• Decline in demand for Level 3 technicians</td>
<td>T4</td>
</tr>
<tr>
<td>• Technicians need to have more affinity with ICT</td>
<td>T4</td>
</tr>
<tr>
<td>• Level 4 activities go to truck dealers</td>
<td>T4</td>
</tr>
<tr>
<td>• Increase in its staff</td>
<td>T4</td>
</tr>
<tr>
<td>• After-sales and parts managers must be a strong sparring partner in order to attract maintenance for the staff.</td>
<td>T5</td>
</tr>
</tbody>
</table>

T1 = Trend 1
Trends are explained on the following pages
1. The withdrawal of the government’s involvement has led to a shift of risks to the sector

What is the government doing?

The European authorities aim to reduce the CO₂ emissions of all modes of transport by 2050.

The Dutch government’s role is shifting from financial incentives to facilitation.

Local governments are prioritising “a cleaner environment” and “fewer transport movements”

What is the impact of the development?

For light commercial vehicles, the reduction in CO₂ should be done by electrifying the vehicle fleet.

In the case of heavy commercial vehicles, the CO₂ reduction must be achieved by improving vehicle efficiency.

There are no plans for a new Euro standard, which puts the market at rest.

Frameworks for Low Emission Zones have been established and hence the guidelines that (cleaner) vehicles must comply with in order to drive in such an area. Striving to bring Low Emission Zones to zero emission by 2025 is part of Green Deal 6.

Ensure the harmonisation of municipal and provincial initiatives. This was partly motivated by the decentralisation of tasks and responsibilities.

There are no more financial incentives from the Dutch government.

Increase in clean distribution solutions by making standards and certificates compulsory.

Setting up of Low Emission Zones to allow cities to become zero emission by 2025.

Combination of ‘last-mile’ flows of goods.

Restricted resources for financial incentives.

What are the consequences for the truck company and staff?

Sales managers need to be a strong sparring partner to know what customers want to use the commercial vehicle for, which laws and regulations apply and what the developments are on the subject of zero emission.

Commercial vehicles must comply with more and more standards and certifications to drive in urban areas.

Carriers expect that truck dealers are supporting them in building a business case for the purchase of (clean) commercial vehicles.

Truck dealers will notice increasing demand for electric vehicles among light commercial vehicles. This applies to both delivery vans and light rigids.

With regard to the heavy rigids and trucks, little will change by 2030. Diesel remains the most prevalent propulsion.
2. THE DECREASE IN CARRIERS’ GROSS PROFIT MARGINS HAS A KNOCK-ON EFFECT ON TRUCK DEALERS

What is happening in the transport sector?
For the most part, the Dutch transport sector has lost the battle for international transport to Eastern European countries.
The surplus of carriers creates pressure on the gross profit margin of carriers and truck dealers.
Retention of own workshop up for discussion due to rising costs and declining servicing needs.

What is the impact of the development?
• Carriers with international operations ‘flag out’ to compete with cheaper providers from Eastern Europe.
• Those carriers which are not flagging out are shifting their focus to national distribution.
• Supply of transport on the national distribution market exceeds demand.
• (New) sales of commercial vehicles will decrease until 2025.

• Decrease in financing opportunities for the purchase of new vehicles, leading to a decline in (new) sales and an ageing fleet.
• Closer monitoring of cost of maintenance of commercial vehicles.
• Emergence of multi-brand strategy.
• Decline in brand loyalty.

• Cost-benefit analysis for carrier leads to a decrease in the number of in-house workshops and an increase in servicing at truck companies.
• Mergers and acquisitions reduce the number of carriers with their own workshop.
• Entry of intermediaries who take over fleet management and monitoring compliance with agreements resulting from repair and maintenance contracts (RMC).

What are the consequences for the truck company and staff?
• The number of truck dealer sales and service points will decline because of falling (new) sales. The need for sales staff will decrease by 20% and the maintenance requirements by 15% to 25%.
• Further commercialisation of the sales process with a smaller role for brand loyalty and personal relationships. The sales manager must have the profile of an account manager: acquisition, relationship management, business communication and knowledge of the customer’s business.
• Universal garages are seeing increasing demand for maintenance because of the ageing fleet and expired RMCs.
• Increased transparency of workshop costs under pressure from carriers. Gross profit margins will be pressured as a result.
• Closure of in-house workshops provides opportunities for posting staff and/or for truck companies to take over maintenance activities.
3. THE INCREASING IMPORTANCE OF TOTAL COST OF OWNERSHIP CONTRIBUTES TO THE FURTHER COMMERCIALISATION OF THE SALE

What is the role of TCO?

The TCO of commercial vehicles is already an increasingly important factor in the sales process.

The importance of the TCO of commercial vehicles will keep increasing until 2030.

The absence of a definition for TCO leads to varying frames of reference for truck companies and carriers.

What is the impact of the development?

• The commercialisation of the sales process stems from the emergence of procurement departments and tendering on the part of carriers.
• Loyalty to the commercial vehicle brand is decreasing.
• Purchasing on the basis of like-know-like is losing ground.
• Emergence of sales of trucks and delivery vans over the Internet

• Up to 2030, TCO will play an even more significant role in the negotiations.
• The carrier will pay more attention to TCO as a tool for cost control.
• The dialectics of lead predicts a lock-in. No truck brand wants to price itself out of the market. This explains why innovations keep pace with the competition.
• ‘Working in consultation with the customer’ is even more important.

• Carriers may find it hard to compare the TCO of various truck companies in a tender.
• An overview of TCO agreements does not give the truck company any insight into the carriers’ need for services.

What are the consequences for the truck company and staff?

• Further commercialisation of the sales process with emphasis on the lowest possible TCO. The role of brand loyalty and personal relationships is reduced in this process.
• TCO is customization, which requires the account manager to know how the commercial vehicle will be deployed and the customer’s business.
• TCO is boosting the sales of trucks and delivery vans over the Internet. Truck companies should structure their organisation to that effect and adapt their workforce to this.
• Truck companies which provide maintenance activities reduce the impact of TCO on the sales process.
4. INCREASING TECHNOLOGICAL ADVANCES HAVE LED TO CHANGES IN THE WORKING AND ORGANISATION PROCEDURES (1/2)

What is technology doing?

For light commercial vehicles, different ‘mature’ types of propulsion are created to meet government guidelines for urban distribution.

For light commercial vehicles, different ‘mature’ types of propulsion are created to meet government guidelines for urban distribution. Truck dealers will segment their customer base according to urban, regional and (inter)national distribution in order to offer the most suitable commercial vehicles. In sales and maintenance, different propulsion systems are being introduced for light commercial vehicles. The number of light commercial vehicle configurations is increasing.

Carriers which will have to meet a zero emission target from 2025 are asking for distribution vans with a hybrid or electric vehicle (EV) drive. The sales of petrol and diesel propulsion systems will decrease in favour of hybrid, CNG, LNG and EV drives.

Heavy commercial vehicles will continue to run on diesel until 2030.

Heavy commercial vehicles will continue to run on diesel until 2030. Heavy commercial vehicles that also drive in urban areas will be equipped with a hybrid or LNG propulsion system. Selected dealers will experiment with hydrogen-powered and electric heavy commercial vehicles. The efficiency of heavy commercial vehicles will increase further.

What is the impact of the development?

• The configuration of the distribution vehicles is determined by the carrier’s end user.
• Truck dealers will segment their customer base according to urban, regional and (inter)national distribution in order to offer the most suitable commercial vehicles.
• In sales and maintenance, different propulsion systems are being introduced for light commercial vehicles.
• The number of light commercial vehicle configurations is increasing.
• Carriers which will have to meet a zero emission target from 2025 are asking for distribution vans with a hybrid or electric vehicle (EV) drive.
• The sales of petrol and diesel propulsion systems will decrease in favour of hybrid, CNG, LNG and EV drives.

What are the consequences for the truck company and staff?

• Sales managers need to be a strong sparring partner to know how the customers and end customers (department stores, catering, etc.) are planning to use the commercial vehicle in order to determine the proper configuration.
• Sales staff need to be experts in the break-even points of various configurations and must communicate changes in this respect.
• Sales staff have to know which laws and regulations apply and monitor developments on the subject of zero emissions.
• There is a need, in after-sales, for technicians who are knowledgeable in different propulsion systems and related rules, regulations and work structures.
• Highly skilled technicians capable of handling increasing complexity are more and more in demand. By 2025 almost 90% of the workshops will have one or more highly skilled technician.
• The introduction of multiple types of propulsion systems will lead to workshop specialisation.
### What is technology doing?

- Safety and comfort systems are updated or further optimized.
- Telematics applications give a 360° overview of the use of the commercial vehicle which is itself always ‘connected’.

### What is the impact of the development?

- Advanced technology is more prevalent: e.g. cruise control (cc) -> adaptive cc-> adaptive cooperative cc-> platooning (after 2025).
- Full implementation of new transport directives leads to new passive safety systems.
- ‘Accident free transport’ is a trend where brands can make a difference with new technology.
- Extension and improvement of safety systems leads to more electronics.
- Development of different software/apps making it possible to record data from commercial vehicles.
- Truck dealers also have an advisory role in the use of the commercial vehicle.
- Transparency of maintenance activities increases.
- Targeted (planned) maintenance increases the commercial vehicle’s up-time.
- Diagnoses are performed remotely, which in turn reduces the workshop time.

### What are the consequences for the truck company and staff?

- Sales and after-sales managers must have a current knowledge of all technological developments and applications.
- Sales managers must be a strong sparring partner in order to know how customers plan to use the commercial vehicle, whether safety is an issue in the customer’s business model, or which safety systems are interesting.
- Truck companies must employ technicians who have an affinity with ICT.
- Technicians have more contact with customers about malfunctions and driving behaviour.

### What are the implications for truck dealers?

- Activities: complex (electronic) maintenance for new propulsion systems, safety systems and telematics.
- Staff: level 4/5, function specialisation, continuous retraining, affinity with ICT, young/middle age.

### What are the implications for universal and in-house workshops?

- Activities: simple (mechanical) maintenance on wear components.
- Staff: level 2, all relevant activities, sometimes retraining, affinity for technology, middle/older age.
5. EMERGENCE OF CHAIN INTEGRATION IN ORDER TO MAKE THE WORKSHOP AS PROFITABLE AS POSSIBLE

What is happening in the chain?
Rising costs force carriers with their own workshop to perform backward integration

Changed customer needs and new entrants are forcing truck companies to perform forward integration

What is the impact of the development?
- The possibility of recouping investments (e.g. equipment) is increasingly considered.
- In-house workshops carry out increasingly more and more complex maintenance operations themselves.
- In-house workshops carry out more and more maintenance for third parties.
- The expansion of the fleet, through mergers and acquisitions, gives an in-house workshop legitimacy.
- In-house workshops are exploring the possibilities of servicing EURO VI commercial vehicles and other types of propulsion.

- Truck companies broaden their product and service offerings, e.g. accident repair, trailer maintenance, and financing and insurance services.
- Engaging in wholesale initiatives which involve supplying their own workshops.
- Sales of subscription services for telematics applications in order to realise cost savings.
- Development of full-service workshops where customers can bring different brands, trailer configurations, accident damages, etc.
- Repair and Maintenance Contracts (RMCs) for specific components such as transmissions and exhaust systems.

What are the consequences for the truck company and staff?
- Sales managers must be a strong sparring partner for customers with their own workshop in order to pinpoint what the needs of different customer segments are.
- After-sales and parts managers must be a strong sparring partner for in-house workshop managers in order to attract maintenance work.
- New products and services have to be developed by sales, after-sales, and parts managers to meet customer demand.
- The diversity of functions will increase at truck companies, with the arrival of painters, sheet metal workers, financial and telematics specialists.
- The differentiation among, and specialisation of technicians is increasing as a result of the development of location-based products and services.
RESULTS
TREND 1.

THE WITHDRAWAL OF THE GOVERNMENT’S INVOLVEMENT HAS LED TO A SHIFT OF RISKS TO THE SECTOR
The government is having an impact on the commercial vehicle sector in a variety of ways.

Three main issues play a role here:

1.1 The European authorities aim to reduce the CO₂ emissions of all modes of transport by 2050. The objectives are:

   1. 60% CO₂ emissions reduction (baseline year 1990) by 2050,
   2. 20% CO₂ emissions reduction (baseline year 1990) by 2020,

1.2 The Dutch government’s shifting role from financial incentives to facilitation

1.3 Local governments (provinces and municipalities) are prioritising “a cleaner environment” and “fewer transport movements”.
1.1 CO₂ REDUCTION EFFORTS ARE FOCUSING ON THE ELECTRIFICATION OF THE PROPULSION SYSTEM AND IMPROVING VEHICLE EFFICIENCY

- The European Commission is targeting: 60% CO₂ emissions reduction for all sectors by 2050, compared to the level of 1990 (Innovam, 2010). The Netherlands are committed to this Directive. For 2020, the target is: 20% CO₂ emissions reduction.
- The deployment of electric and biogas powered vehicles is necessary to achieve the 60% CO₂ emissions reduction by 2050 (MIM, 2014). Driving electrically with batteries delivers the most energy efficient form of propulsion.
- Around 3 million electric cars and vans with 0% CO₂ emission are needed by 2030 (MIM, 2014) in order to achieve these objectives.
- In the Netherlands there are currently more than 37,500 electric vehicles (EV) on the road, including just over 750 commercial vehicles.
1. The withdrawal of the government’s involvement has led to a shift of risks to the sector

1.1 CO₂ reduction efforts are focusing on the electrification of the propulsion system and improving vehicle efficiency

- The government has outlined a different path for passenger transport and freight transport in order to reach a 60% CO₂ emissions reduction by 2050.
- The focus is primarily on passenger transport. Here a 44% reduction must be reached by 2030 (MIM, 2014).
- For light commercial vehicles, there must be a 33% abatement by 2030 and for heavy commercial vehicles, a 10% reduction (MIM, 2014).
- For commercial vehicles, until 2030 the focus will be on efficiency improvements and alternative propulsion systems.
- Experience has shown that targeted policy is required to stimulate the use of more fuel-efficient models.
- Until 2030, this transition will be based primarily on strengthening the current trend. The transition outline between 2030 and 2050 is more uncertain.

![Reduction of CO₂ emissions in road transport (maximum scenario)](image)
1.2 THE ROLE OF THE DUTCH GOVERNMENT IS BECOMING MORE FACILITATIVE THAN STIMULATING THROUGH FINANCIAL INCENTIVES

- To achieve the EU targets the Dutch government is using three different instruments:
  - **Obligation:**
    The European/national government imposes rules on the commercial vehicle sector to force certain developments. For example Euro standards, PIEK certificates and blind spot mirrors.
  - **Incentive:**
    The government offers incentives in the form of grants. For instance, the purchase of a Euro VI commercial vehicle was subsidised until December 2013. Carriers receive tax benefits when purchasing a commercial vehicle with an alternative propulsion system. There are currently no plans for a new Euro standard.
  - **Facilitation:**
    The facilitating role of the government is seen, for example when new infrastructures are installed such as electric recharging stations and authorisation for LNG garages. This task also includes the harmonisation of local and international regulations.

- The transport and logistics sector and hence the commercial vehicle sector is noticing that the government is leaving it up to the market more:
  1. The government does not decide which propulsion system is the best alternative. That is determined by the business case and the entrepreneur’s daring.
  2. The government does not determine where the filling stations will be located, that is a decision for the investors and their customers.

- The government wants to limit market disruption due to subsidies and encourage companies to achieve a viable business case independently. The trend is therefore fewer incentives in the form of subsidies and more tenders and facilitating ideas and proposals. It encourages and accelerates the development of for example an LNG tank infrastructure for commercial vehicles. It also matches local legislation with national standards.
1. The national government’s stepping back ensures that local governments (regions and councils) get more and more responsibility.

Due to growing urbanisation, local authorities are facing two challenges for which they have to find their own solutions:

1. How do I make my town a healthy living environment?
2. How do I restrict the number of polluting transport movements in my town?

Local governments are increasingly working with standards and certification for commercial vehicles in a bid to encourage carriers. In addition, they foster and facilitate ‘last-mile’ solutions. The question that is prevalent in the transport sector is: How can we meet these requirements?
1.3 Local governments apply standards and certificates to bring about a cleaner environment

Local authorities have a key role in developing and promoting clean distribution solutions. In several cities, efforts are made to promote cleaner trucks. Other measures include: extended time windows, low emission zones, tenders including CO₂ emissions. Here are some practical examples:

- Electric refuse collection vehicles of the municipality of Rotterdam (Truck of the Future Symposium, 2014)
- Euro VI trucks which are allowed to use the bus lane (City of Utrecht, 2014)
- Expanded loading and unloading times for PIEK certified trucks and trailers (HAN, 2014). Exact times depend on the dB(A) of the propulsion system and body.
- Subsidy processes for clean trucks initiated by provinces. These regulations exist in Overijssel, Gelderland, Haaglanden, etc. However, there are major differences between the provinces when we look at the grant amount, the conditions imposed and the duration of the grant (HAN, 2014).
- Low emission zones established by municipalities. There are now 13 municipalities and regions that have established a low emission zone. However, the conditions for admission to the low emission zone are different. There is no clear policy yet in this respect.
- The expectation is that cities with a low emission zone will achieve a zero emission city centre by 2025 (Green deal 6). This means that a Euro VI or LNG/CNG commercial vehicle is not allowed in either. The number of sold hybrid commercial vehicles will therefore increase in the 2020-2025 period. Half (49%) of the truck dealers expect that more than 16 cities will have a low emission zone by 2025.
1.3 LOCAL GOVERNMENTS ARE SEEKING A REDUCTION OF POLLUTING TRANSPORT MOVEMENTS

- Local governments are looking at better ‘last-mile’ solutions to reduce the number of polluting transport movements. It is particularly important to combine the flow of goods to achieve this.

- Councils distinguish two different distribution flows, each of which is encouraged in a different way:
  - Supermarkets and department stores themselves realise the financial benefits of efficient transport. Councils encourage them to use clean trucks above all. Supermarkets in turn are using these as a marketing tool.
  - Various alternatives have been developed to combine the flow of goods for shops with smaller loads. For instance Cargohopper in Amsterdam, Maatwerk distributie in Delft and Linx in Nijmegen.

- These ‘last-mile’ solutions often use a (B-Train) transhipment point outside urban areas and CNG/LNG/EV powered vehicles within urban areas. Urbanisation has increased the demand for these vehicles. This will continue until 2030.
IMPACT OF GOVERNMENT’S DEVELOPMENTS FOR TRUCK DEALERS

Sales

• Need to keep up with developments in the field of zero emission and low emission zones. An increase can have a positive effect on sales of LNG/CNG and hybrid commercial vehicles.
• Light commercial vehicles (<3.5 tonnes) will be electrically powered more often.
• Knowledge of efficiency improvements and being able to advise the customer on this with the aim of reducing costs for the customer.
• Knowledge of the three instruments applied by governments and of which ones are applicable to the business case of your customer. Need to walk in the customer’s shoes more for that: where and what for do you want to apply the commercial vehicle?

After-sales

• Until 2025, alternative propulsion types will hardly play a meaningful role in the heavy truck segment.
• If alternative propulsion types are introduced around 2020, servicing will first be on light commercial vehicles with alternative propulsion systems.
TREND 2.
THE DECREASE IN CARRIERS’ GROSS PROFIT MARGINS HAS A KNOCK-ON EFFECT ON TRUCK DEALERS
The Dutch transport and logistics sector is the main customer and partner of the truck dealers. The emphasis here is on the transport sector and the most important developments taking place within it.

2.1 Developments in the Dutch Transport and Logistics (T&L) sector
2.2 Consequences of developments in T&L on sales (now)
2.3 Consequences of developments in T&L on after-sales (now)
2.1 **THE SURPLUS OF CARRIERS LEADS TO PRESSURE ON MARGINS**

- Due to the accession of Eastern European countries to the EU and the associated market liberalization, the Dutch transport sector has largely lost the battle for international transport to these new Member States. These carriers are able to charge a lower cost per kilometre through lower costs, e.g. labour costs (Romania - 60%). Large and medium Dutch carriers will often have made a strategic choice:
  1. Maintain international transport in margin-rich markets and operate from these markets (flagging out). And phase out the activities in markets with lower margins. Large transport companies often opt for this, causing these companies and their trucks to disappear abroad (ING 2014). Another option for major carriers is to seek acquisition candidates in order to achieve economies of scale.
  2. Shift international transport activities to national transport. Medium-sized firms often go for this option, resulting in a surplus of carriers in the stabilising domestic market (ING 2014). Medium-sized carriers are therefore faced with the choice of whether they want to grow through acquisitions, or position themselves as a takeover candidate.

- The remaining 60% of the domestic market consists of smaller carriers (TIC, 2014). A relatively large number of licence revocations and bankruptcies occur in this segment and there are many start-ups. These companies have less investment capital and less funding opportunities. They are therefore increasingly looking for other options besides bank loans. Otherwise, they postpone their investments (ING, 2014).
2. The decrease in carriers’ gross profit margins has a knock-on effect on truck dealers

2.1 Margin pressure leads to ageing fleet and increasing quality differences

- Postponing investments results in an ageing fleet (see figure). This increases quality differences between carriers.

![The Dutch truck fleet by age](image-url)

(Source: CBS, 2014, Innovam version)
Developments in the transport sector have different implications for truck dealers:

- The transport sector is increasingly requesting an account manager.
- The flagging out of international transport companies is leading to a drop in sales of commercial vehicles in the Netherlands.
- The number of trucks that are now sold with ‘white plates’ (not visible in the registered numbers) is decreasing while foreign dealer networks are improving.
- The increasing market share of (inter)national fleet owners is putting pressure on sales margins. In the future, sales will have more to do with the purchasing department of carriers.
- Carriers will drive multiple brands to spread risks and be able to purchase with more acumen. This puts pressure on sales margin.
- Brand loyalty is declining in favour of the lowest possible TCO (see also Section 3).

- The rationalisation of the dealer network will continue.
- These effects are also evident in the data provided by TLN. This shows that the van market has displayed declining new sales since 2010. The number of trucks sold and registered is now at the level of 2003-2005.
2.2 TRUCK DEALERS FACED WITH DECREASING DEMAND FOR MAINTENANCE AND LOWER MARGINS

- Because of the pressure on their margins, carriers are more critical of maintenance costs. They expect more transparency with respect to the actual work performed and costs.
- The professionalization of the procurement function at (inter)national fleet owners is putting additional pressure on the after-sales margin.
- The flagging out of international transport companies does lead to sales with ‘white plates’, but often without a maintenance contract.
- The declining number of new commercial vehicles sold will result in a lower number of repairs and maintenance contracts (RMC).
- Also, less maintenance is required due to:
  - The rising quality standards of commercial vehicles
  - Declining average mileage (TIC, 2014)
  - Increasing preventive maintenance
  - Increasing number of telematics applications
  - The overcapacity of service centres and technical staff is growing because of the drop in maintenance needs.

- 87% of truck dealers are predicting a decrease in the maintenance of commercial vehicles by 2025. This decrease will be between 15% and 25%.
- Truck dealers expect that lighter commercial vehicles will gain a larger share of the company fleet at the expense of the heavier trucks and trailers. This is expected to remain stable for trailers.

1. 50% to 60% of new sales are combined with an RMC (ING, 2014)
2.3 Truck dealers expect the workforce to remain constant despite declining sales, decreasing maintenance and lower operating margins.

- Truck dealers expect that the average number of technicians will decline slightly until 2020 and will increase again from then on (orange line).
- Truck dealers also predict that maintenance will decrease by 15% to 25% (green and red line).
- The above points can be called paradoxical.

- Truck dealers expect that the number of employees in a sales position between now and 2025 will decline slightly (yellow line).
- Declining (new) sales and the rise of Internet sales will reduce the need for sales staff. The number of sales staff in truck companies is expected to decrease by 20% (blue line).
2.3 IN-HOUSE WORKSHOPS FACED WITH DECLINING DEMAND FOR MAINTENANCE AND RISING COSTS

The maintenance that carriers perform with their own workshops is also decreasing. Meanwhile, costs are increasing. The reasons for this are:

- Carriers that implement a multi-brand strategy in their own fleet. This requires them to keep an inventory of various brands and thus leads to an absolute increase in stock.
- The purchase of the latest diagnostic equipment, for which more licences are mandatory when driving multiple brands.
- Pursuing a multi-brand strategy also implies training and instruction in all those brands.
- In addition, the costs for the outsourcing of maintenance to truck dealers are declining precisely because of overcapacity at truck dealers.

It is expected that the number of in-house workshops will decrease. The reasons for this are:

- For the large group of small carriers, a workshop is hardly profitable due to lack of rolling stock.
- Due to bankruptcies and takeovers, the number of medium-sized carriers and, consequently, the number of (profitable) in-house workshops is falling.
- Due to the flagging out of a number of large (inter)national carriers, the number of (inter)national carriers in the Netherlands is decreasing and, consequently, the number of (profitable) own workshops.

Maintaining an in-house workshop is threatened by the renewed focus on core business and cost-benefit analysis. This leads to three possible outcomes:

- Maintaining a profitable in-house workshop;
- Closing the in-house workshop and choosing an RMC under which variable costs become fixed costs.
- Entry of intermediaries who take over fleet management and monitoring compliance with RMC agreements.
IMPLICATIONS OF PASSING ON THE COST OF DEVELOPMENTS AT CARRIERS TO TRUCK DEALERS

**Sales**

- Increasingly commercial approach due to:
  - increase in number of professional buyers employed by carriers
  - declining brand loyalty: customers’ multi-brand strategy requires knowledge of specifications and finances of competing brands
  - purchasing based on financial considerations (including tenders) instead of ‘like-know-like’
  - requirement for cost transparency

- Due to the relative increase in the number of small customers (fleet 1-10):
  - increase in costs of sales
  - greater financial risks
  - more knowledge of alternative forms of financing needed

- Declining demand for sales staff because of 20% drop in sales until 2025.

- Sales staff must have a profile of account manager: acquisition, relationship management, business communication, knowledge of the customer’s business, know what the customer is planning to use the commercial vehicle for and show genuine interest in this.

**After-sales**

- Declining demand for technical staff due to:
  - fall in the number of RMCs sold
  - decrease in the maintenance need for new commercial vehicles

- Increasing cost transparency / disclosure of maintenance activities performed is required

- Increasing maintenance requirements because of older fleet, but difficult to access for truck dealer since RMC expires after seven years on average.

- Increase commercial pressure on after-sales manager due to:
  - renewal of expiring RMCs
  - sale of spare parts and other workshop supplies to in-house workshop
  - devising actions to service the ageing fleet
  - customers’ expanding multi-brand strategy which means that fewer parts of a specific brand are required
  - Opportunities in after-sales with customers considering the possibility of divesting their own workshop. For example, taking over maintenance or posting technicians. This requires more knowledge about the financial business case of an in-house workshop.
TREND 3.
THE INCREASING IMPORTANCE OF TOTAL COST OF OWNERSHIP CONTRIBUTES TO THE FURTHER COMMERCIALISATION OF THE SALE
There are still many different interpretations of what TCO is or is not, or should be. The result is that many different definitions are being applied for TCO. In this research we use the specific definition below:

*Total Cost of Ownership includes all costs associated with the acquisition, financing, insurance, maintenance, repairs, fuel usage, up-time, grants, taxes and residual value of the vehicle.*

Three topics should be distinguished in the TCO discussion:

1. Truck dealers consider TCO to be the main trend
2. Truck dealers look differently at TCO than carriers and private carriers
3.1 TRUCK DEALERS CONSIDER TCO TO BE THE MAIN TREND

- According to truck dealers, TCO is the most important trend and it affects the pillars: sales, parts & after-sales. The sale of each pillar comes with its own questions.
  1. Sales: How much does the vehicle cost? What is the consumption, and what is the payback?
  2. Parts: How much do parts cost and how long will they last?
  3. After-sales: How much does the maintenance of this vehicle cost?

- TCO is an important parameter in the increasing number of tenders.
- The procurement department of carriers and private carriers will purchase more commercially (and therefore with more acumen).
- Brand loyalty is declining and policies based on two or more brands are becoming standard.
- Automatic purchasing decisions based on personal relationships ('like-know-like’) are declining. At the same time, where the TCO is equal, the personal relationship such as having the right X factor, is becoming increasingly important.
- Increasingly, carriers are considering cost per km structures. Truck dealers above all concentrate on the risks because ownership remains with them, which requires sound financial knowledge.

<table>
<thead>
<tr>
<th>Reason</th>
<th>% Top-2-Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>from the sale of commercial vehicles to TCO sales</td>
<td>78</td>
</tr>
<tr>
<td>further reduction in fuel consumption &amp; emissions</td>
<td>67</td>
</tr>
<tr>
<td>shift of maintenance in the chain</td>
<td>31</td>
</tr>
<tr>
<td>expansion of comfort &amp; safety systems (Smart Mobility)</td>
<td>13</td>
</tr>
<tr>
<td>increase of several distribution chains</td>
<td>10</td>
</tr>
</tbody>
</table>

(n=47)
3. The increasing importance of Total Cost of Ownership contributes to the further commercialisation of the sale

3.1 THE IMPORTANCE OF TCO AS A TREND WILL RISE UNTIL 2030

- CE Delft (2013) has the same opinion as truck dealers: Until 2030, TCO will increase in all situations/scenarios:
  - The TCO of diesel vehicles (reference scenario) will increase till 2030 due to the rising prices of fossil fuels and additional taxes.
  - The TCO of vehicles powered with alternative fuels such as biofuel, EV and hydrogen (the other scenarios) will increasingly be able to recoup the development costs.
  - A carrier will have to recoup a commercial vehicle’s higher purchase price via lower consumption costs. In this respect, TCO has become an important tool in monitoring a company’s own margins.

- The customer-carrier-truck dealer chain will enable the faster road deployment of alternative vehicles. Carriers cannot or can hardly pass on the higher TCO associated with alternative propulsion types to customers.

- There is the danger of a lock-in. Nobody wants to price themselves out of the market, implying that innovations keep pace with the competition.

- The government can play an important role in encouraging and facilitating these innovations. It is, however, withdrawing further (see Section 1).

---

[Graph showing future evolution of TCO for road transport in the 2010-2050 period]

Source: CE Delft, 2013

---
3. TRUCK DEALERS ARE ACTIVELY TRYING TO COMMUNICATE AN ACCEPTABLE TCO

- Most truck dealers ensure a TCO that is acceptable as possible and emphasise it during the sales process.
- Nearly a quarter of truck dealers emphasises the quality of their own product to shift the focus away from TCO.
- Ways truck dealers cope with the increasing pressure on TCO include: ‘working together with the importer’, ‘offering excellent prices with 100% up-time’ and ‘looking at your own costs to lower your RMCs’. The provision of driver training is also mentioned often.
- A large majority of truck dealers (65%) believes that in 2025 trucks will be sold by the sales manager as well as over the Internet. This proportion is 78% in the case of delivery vans. Sales of rigids over the Internet will stay behind at/by 22%.

Dealing with TCO

<table>
<thead>
<tr>
<th>Reason</th>
<th>Top-2-Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>We offer very flexible maintenance contracts that ensure customer-specific cover and thus an acceptable TCO</td>
<td>89%</td>
</tr>
<tr>
<td>We emphasise the TCO of our product</td>
<td>83%</td>
</tr>
<tr>
<td>We offer modular maintenance contracts that provide the best package at an acceptable TCO</td>
<td>81%</td>
</tr>
<tr>
<td>We keep our TCO as low as possible</td>
<td>81%</td>
</tr>
<tr>
<td>We avoid TCO by focusing on the quality of our product</td>
<td>23%</td>
</tr>
<tr>
<td>We do not participate in tenders which are targeting the lowest possible TCO</td>
<td>14%</td>
</tr>
</tbody>
</table>

(n=47)
3.1 EMPHASIS ON AN ACCEPTABLE TCO REQUIRES NEW KNOWLEDGE OF SALES

• When asked about the impact of the trends, including repercussions in terms of technology, truck dealers responded that “knowledge of the business model of my customer” and “knowledge of tablets and presentation techniques” are important for sales functions. In addition, truck dealers expect that the key qualities of a sales function must be ‘chain thinking’ and ‘imagining the needs [of the customer]’. Selling on the basis of personal contacts remains important, but is surpassed in importance by other factors.

<table>
<thead>
<tr>
<th>Top-2-Box expected changes in sales function concerning knowledge in the field of ....</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>My customer's earnings model</td>
<td>98</td>
</tr>
<tr>
<td>Tablets &amp; presentation techniques</td>
<td>95</td>
</tr>
<tr>
<td>My customer's customer</td>
<td>87</td>
</tr>
<tr>
<td>Legislation and regulations</td>
<td>75</td>
</tr>
<tr>
<td>Intensity of use of commercial...</td>
<td>68</td>
</tr>
<tr>
<td>Technique</td>
<td>64</td>
</tr>
<tr>
<td>My customer's destinations</td>
<td>62</td>
</tr>
</tbody>
</table>

(n=47)

<table>
<thead>
<tr>
<th>Expectations of sales function in the areas listed below?</th>
<th>Top-2-Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain thinking with other suppliers</td>
<td>87%</td>
</tr>
<tr>
<td>Imagining the customer’s needs</td>
<td>85%</td>
</tr>
<tr>
<td>Internal sales by approaching new customers digitally</td>
<td>79%</td>
</tr>
<tr>
<td>Importance of seller’s sectorial network</td>
<td>72%</td>
</tr>
<tr>
<td>Segmentation according to customer groups</td>
<td>70%</td>
</tr>
<tr>
<td>Field sales by visiting new customers</td>
<td>68%</td>
</tr>
<tr>
<td>Sales based on social contacts</td>
<td>47%</td>
</tr>
</tbody>
</table>

(n=47)
3. The increasing importance of Total Cost of Ownership contributes to the further commercialisation of the sale

3.2 TRUCK DEALERS LOOK DIFFERENTLY AT TCO THAN CARRIERS AND PRIVATE CARRIERS

- The growing importance of TCO and the lack of a clear definition of TCO has created an undesirable situation for carriers and truck dealers. Carriers want to use TCO to make a fair comparison between various dealers. Dealers have to know which costs do or do not belong in the TCO. However, carriers and dealers have a different perspective on TCO (see diagrams on the right). Carriers take all the acquisition and operational costs into consideration. Truck dealers base their calculations only on purchase-related costs. Thus they are losing out on about 75% of the carrier’s concept.

- TCO also offers opportunities:
  1. For truck dealers TCO is a tool to organise the business model according to customers’ needs (Nevi, 2009).
  2. Together with the customer, the truck dealer tries to limit those activities which do not add any value.
  3. Based on the TCO and the RMC (50% - 60%) sold, the truck dealer can estimate its staffing needs.

---

**TCO according to carrier**

- Fuel
- Driver
- Purchase & residual value
- Other (financing, maintenance, repair, etc.)

**TCO according to truck dealer**

- Purchase & residual value
- Other (financing, maintenance, repair, etc.)

\[2 \text{ When selling an RMC or providing financing}\]
EFFECTS OF INCREASING IMPORTANCE OF TCO FOR TRUCK DEALERS

Sales

• Increasingly commercial approach due to:
  – increase in number of professional buyers employed by carriers
  – declining brand loyalty: customers' multi-brand strategy requires knowledge of specifications and finances of competing brands
  – purchasing based on financial considerations (including tenders) instead of 'like-know-like', but X factor continues to play a role
  – requirement for cost transparency
  – increasing transparency in the sales through online sales of commercial vehicles

• More knowledge of the customer’s business necessary. Knowing what the customer wants to use the commercial vehicle for in order to supply tailored TCO advice.

• More knowledge of alternative propulsion systems necessary.

• Increasing need for knowledge and qualifications at university level (account manager).

After-sales

• Increasing cost transparency / disclosure of maintenance activities performed is required to reduce the impact of TCO on the sales process.

• Knowledge of components and value-for-money dimension is necessary in order to sell A-brand parts.
TREND 4.
INCREASING TECHNOLOGICAL ADVANCES HAVE LED TO CHANGES IN THE WORKING AND ORGANISATION PROCEDURES
Technological developments are taking place in the field of propulsion, safety and comfort systems, and telematics applications. These developments have already influenced the working and organisation procedures in the truck company.

4. Increasing technological advances have led to changes in the working and organisation procedures

4.1 Propulsion
4.2 Safety and comfort systems
4.3 Telematics
4.4 Other technological developments

Increasing technological advances have led to changes in the working and organisation procedures
4. Increasing technological advances have led to changes in the working and organisation procedures

### 4.1 Different Propulsion Types with Their Own Characteristics Are Emerging

<table>
<thead>
<tr>
<th>Pros 3</th>
<th>LNG</th>
<th>CNG</th>
<th>Hybrids</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 5 to 20% CO₂ reduction</td>
<td>- 5 to 15% CO₂ reduction</td>
<td>- 5 to 20% CO₂ reduction</td>
<td>- 100% CO₂ reduction</td>
<td></td>
</tr>
<tr>
<td>- 5 to 15% NOₓ reduction</td>
<td>- 5 to 15% NOₓ reduction</td>
<td>- 100% NOₓ reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 to 15% particulate matter reduction</td>
<td>- 5 to 15% particulate matter reduction</td>
<td>- 100% particulate matter reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 10 dB noise reduction</td>
<td>- 10 dB noise reduction</td>
<td>- 10 dB noise reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 24h delivery in city centre</td>
<td>- 24h delivery in city centre</td>
<td>- 24h delivery in city centre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- access to all international low emission zones</td>
<td>- lower maintenance costs</td>
<td>- lower maintenance costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- lower maintenance costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cons³</th>
<th>LNG</th>
<th>CNG</th>
<th>Hybrids</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>- methane slip</td>
<td>- limited range</td>
<td>- 2 km range of electric motor</td>
<td>- time-consuming refuelling</td>
<td></td>
</tr>
<tr>
<td>- hardly any filling stations</td>
<td></td>
<td>- added weight of batteries</td>
<td>- 280 km range</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- charging stations not everywhere</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- high purchase price</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact on activities in workshop</th>
<th>LNG</th>
<th>CNG</th>
<th>Hybrids</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>- refuelling method</td>
<td>- high pressure fuel tank</td>
<td>- electric motor</td>
<td>- electric motor</td>
<td></td>
</tr>
<tr>
<td>- safety requirements during refuelling</td>
<td>- Otto engine</td>
<td>- fewer mechanical malfunctions</td>
<td>- fewer mechanical malfunctions</td>
<td></td>
</tr>
<tr>
<td>- Otto engine</td>
<td>- pressure regulator</td>
<td>- more electrical faults</td>
<td>- more electrical faults</td>
<td></td>
</tr>
<tr>
<td>- heat exchanger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In the workshop</th>
<th>LNG</th>
<th>CNG</th>
<th>Hybrids</th>
<th>Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Now increasing with further introduction of Euro VI LNG</td>
<td>- n.b.</td>
<td>- now sporadic</td>
<td>- now rare</td>
<td></td>
</tr>
<tr>
<td>- 10% to 15% in 2025</td>
<td></td>
<td>- introduction from 2020</td>
<td>- introduction from 2020</td>
<td></td>
</tr>
</tbody>
</table>

Other propulsion types such as dual fuel and biofuel have limited impact on the activities, since these are diesel powered. Hydrogen-powered commercial vehicles are not expected before 2030. It is true for all propulsion systems that technological breakthroughs can speed up developments. This is to be expected in the field of battery technology in particular. The different configurations have different break-even points, which should be included in the business case. 

³ – compared with a Euro VI diesel

(HAN, 2014)
4.1 UNTIL 2025, DEVELOPMENTS IN ALTERNATIVE PROPULSION TYPES MAINLY EXPECTED IN LIGHT COMMERCIAL VEHICLES

- Up to 2030, the government will be working on encouraging the light commercial vehicle market and facilitating all alternative fuels to replace diesel.
- A deviation from the trend towards hydrogen and electric propulsion systems is expected around 2030.
- All propulsion types based on a conventional internal combustion engine are to be discouraged after 2030.

- Long-distance transport
  - Conventional diesel technology will remain the standard for a long time. LNG is the best alternative.
  - A deviation from the trend towards hydrogen will be around 2030. The proportion of Biodiesel and Bio-LNG replacing diesel will continue to grow.
- Urban distribution
  - It will be possible to use alternative propulsion systems by 2030. Especially LNG, CNG and hybrid powered vehicles are suitable for 'last-mile' distribution.
  - The trend towards hydrogen and electricity will change around 2030. Without this deviation from the trend, the EU’s climate objectives are not attainable.

Source: MIM, 2014
4. Increasing technological advances have led to changes in the working and organisation procedures

4.1 Government encourages fleet development but diesel remains trendsetter in heavy commercial vehicles

- The development of alternative propulsion systems is different for heavy and light commercial vehicles.

- Heavy commercial vehicles
  - The government is stimulating the introduction of various types of alternative propulsion. Especially CNG and LNG have experienced a steep growth (see also graph).
  - Although the number of commercial vehicles with alternative propulsion is growing, the total proportion is only 1%.
  - Diesel is the preferred propulsion system.

- Light commercial vehicles
  - The government is stimulating the introduction of various types of alternative propulsion. Especially CNG and electric have experienced a steep growth (see graph).
  - LPG, petrol and especially diesel are the preferred propulsion systems.

- The impact of subsidies is visible in the irregular increases in the number of vehicles powered by alternative fuel. Both the government and truck dealers experience this as positive and negative:
  - Positive: it stimulates innovation/sales
  - Negative: it contributes to market distortion and inhibits the development of independent, long-term business cases.
4. Increasing technological advances have led to changes in the working and organisation procedures

4.1 Diesel remains the main propulsion type until 2025 for regional and (inter)national transport

Urban distribution
- Truck dealers appreciate the potential of diesel, hybrid and electric commercial vehicles above all.

Regional transport
- Truck dealers appreciate the potential of diesel, hybrid and LNG propulsion above all. LNG is presented in both a dual fuel configuration and only LNG.

(international) transport
- Truck dealers do not yet see an alternative for diesel. There is no established government policy either.
4.1 FUTURE URBAN DISTRIBUTION VIA TRANSHIPMENT POINTS AND SPECIALISED COMMERCIAL VEHICLES

- In the future, urban distribution will increasingly go through transhipment points outside the city. For supermarkets and department stores, there is still room for truck combinations. In addition, there are great expectations for transhipment points with specialised vehicles. For smaller chains, such as sporting goods stores, this is also the most likely distribution chain.
- Truck dealers expect private retailers and catering companies to be the first to combine the flow of goods themselves. Later, they will move to transhipment points with rigids and delivery vans.
- The financial feasibility of transhipment points outside the city is a question mark. This financial responsibility lies with carriers and retailers. In consultation with their urban distribution customers, truck dealers must determine the potential and vehicle specifications.
4. Increasing technological advances have led to changes in the working and organisation procedures

4.2 EXPANSION OF ADVANCED PASSIVE AND ACTIVE SAFETY AND COMFORT SYSTEMS

- Safety has long been a top priority for the government. Because of the focus on safety, the number of drivers injured in crashes has been halved since the 1970s (TIC, 2012). An achievement mainly attributable to passive safety systems.

- As a result of (active) safety systems, the number of truck-related road fatalities has decreased by 60% between 2003 and 2010 (TIC, 2012).

- Passive safety systems, i.e. crumple zones, airbags and ‘under run protection’, will be further optimized in the coming years. This spring (2014) the EU agreed with Transport Directive 96/53/EC in part. This enables longer and thus safer cabins equipped more comfortably (TLN, 2014). Aerodynamic improvements are possible as a result of changes in the permitted dimensions.

- Truck dealers meet the need for active safety systems by delivering ‘lane departure warning’ and adaptive cruise control systems, and, further in the future, cooperative adaptive cruise control and platooning.

- The self-driving truck will be on the roads from 2025. Both legislation and society are not yet ready for that. In the meantime, current systems will be expanded and improved, which will further increase the amount of on-board electronics.

- Investments in passive and active safety systems are only increasing because there is a trend among carriers towards ‘accident free transportation’ (Roland Berger, 2013).
4.3 Telematics applications are focused on cost reduction

- Modern commercial vehicles are equipped with comprehensive telematics applications. The main motivation behind telematics is to reduce costs by monitoring the three highest transport costs:
  - Driver: tachograph, driver behaviour related fuel consumption, and driving and rest periods
  - Fuel: current, average and total fuel consumption
  - Maintenance: wear, operating temperature, engine management

- The advantages of telematics which can be perceived:
  - The carrier can see in real-time where his vehicles are and whether the transport will reach the customer on time.
  - When the carrier takes on a subscription, the truck dealer can monitor remotely. The maintenance interval of the truck is extended as a result.

- The use of telematics creates transparency because the customer, too, is able to see if a repair was necessary.

- The up-time is increased, because the truck dealers schedule more targeted maintenance and vehicles end up in the workshop less frequently as a result.
4.3 THE USE OF TELEMATICS WILL INCREASE EVEN FURTHER BUT THE IMPACT ON THE TRUCK INDUSTRY IS STILL UNCERTAIN

At present, a third of all carriers use telematics. For large transport companies, this proportion is about 90% (TIC, 2014). The overall use of telematics is expected to rise rapidly. Communication with the vehicle will soon be essential to ensure incorporation in the retailer’s entire supply chain. The development of the 4C system (TU/e, 2013) is such an example. In this configuration, the transportation management systems (TMS) of different parties exchange information. This makes sure a retailer always knows when and which truck will be unloading which goods.

In the future, the truck’s telematics is expected to be integrated into the carrier’s TMS.

Answers to a number of key questions have to be found in the short term:
• Who owns the data: the user or the supplier?
• How do you analyse the data: at the importer’s or the dealer’s level?
• How does the dealer make this analysis profitable for hours?
• Will manufacturers keep developing both hardware and software or will the software soon be in the hands of specialists? (Roland Berger, 2013)
4.4 NOTICABLE EFFECTS OF TECHNICAL DEVELOPMENTS ARE RAPIDLY INCREASING…

Developments in the field of propulsion systems, safety and comfort systems and telematics applications are poised to play an even greater role in the future, but already affect truck dealers **now**. A few examples:

- The number of configurations is increasing, in propulsion systems, safety systems, as well as in telematics subscriptions.
- The interplay between sales and after-sales is more important in determining the RMC and the associated TCO.
- Workshops range from repairs to the time-consuming replacement of parts.
- More and more workshops are specialising in maintenance. This is caused, among other things, by the limited occurrence of mechanical breakdowns and the fact that special knowledge, tools and adaptations to the workshop are required for repairs.
- Remote maintenance by technicians with a tablet is increasingly common. As a result, the technician also makes the diagnosis even before the truck arrives at the workshop.
- Customers expect truck dealers to use telematics solutions to proactively advise on achieving TCO savings.
- Staff must continuously retrain in order to keep up with new developments.
Expectations concerning maintenance:

• Simple & routine (mechanical) maintenance is currently 48% of the contract work. In 2025 that will be only 32%, shifting the direction of general garages and in-house workshops.

• Electronic work amounts to 23% of maintenance. By 2025 that will be 42%. Truck dealers expect to benefit from the increasing complexity of software and telematics applications. This requires them to have highly qualified personnel with an affinity for ICT.

• 70% of the truck dealers think that their current employees can easily cope with the level of work.

• Technicians aged 55 and older represent a different picture:
  – A quarter of them can be given any task.
  – A special career development plan is available for a quarter of them.
4.4 The workshop of the future will be manned by high-level specialists

Truck dealers indicate that in the future, they will need to employ maintenance staff who can diagnose problems and have affinity with ICT. Routine tasks are decreasing and the need for highly qualified technical employees is increasing.

Due to current developments, by 2025 I will need one or more highly skilled technicians at my branch. (87%)

There are fewer and fewer simple mechanical jobs. (81%)

My data analyst will soon read the truck’s data remotely, make a diagnosis, and deliver the work order to the workshop manager. (81%)

Due to an increase in ICT, maintenance is more complex. (79%)

Developments happen so fast that one technician can no longer keep up with everything. (77%)

At the workplace, technicians will specialise in a particular type of service (e.g. gearbox, exhaust system). (70%)

I will soon only need technicians who can perform tasks at Level 3/4. (53%)

Because instead of repairing, we replace, maintenance is easier. (19%)

(n=47)
Trend research into developments in the commercial vehicle sector until 2025

• It has become more important to match the applications of the customer and end customer (department store, sporting goods store or catering) in order to adapt the commercial vehicle configuration to them. The need for customer segmentation will also constantly increase as a result.
• The accurate identification of the needs and wishes of the (end) customer is becoming increasingly necessary.
• Increasing knowledge of:
  – financial break-even point of the various configurations
  – technological developments and applications
  – competing brands and systems to emphasize the strengths of their own configurations
• Continuous monitoring, together with the after-sales manager, of the expiration of RMCs and the economic lifespan of vehicles is of growing importance.
• More and more highly skilled technicians in sales functions to enhance customer contact.

IMPACT OF TECHNOLOGICAL DEVELOPMENTS FOR TRUCK DEALERS

Sales

• Declining workshop visits through improved quality and longer intervals (lower maintenance needs) and growing importance of telematics (scheduling of targeted maintenance).
• Increase in activities at levels 2 and 4.
  – Level 2 shifts to universal and own workshop
  – Level 4 mainly applicable to dealers
• Decrease in activities at level 3.
• Increased specialisation in the workshop and/or outsourcing of activities.
• Increasing need for technicians with an affinity for ICT.
• Highly skilled technicians capable of handling the technical complexity are more and more in demand.
• Increasing importance of customer contact when it comes to malfunctions and driving behaviour.

After-sales
4. Increasing technological advances have led to changes in the working and organisation procedures

**IMPACT OF TECHNOLOGICAL DEVELOPMENTS FOR TRUCK DEALERS**

**After-sales**

- Differentiation of technicians according to specialisation at facilities is more important.
- Differentiation of activities according to type of employee, e.g. on the basis of age or skills, is more important.
- Increasing knowledge of rules, regulations and working structure required.
- Further training is even more important than it already is: specialist subjects, differences between brands, etc.
- Emergence of diagnostic technician as an (office) function.
- New functions such as data analyst.
TREND 5.
EMERGENCE OF CHAIN INTEGRATION IN ORDER TO MAKE THE WORKSHOP AS PROFITABLE AS POSSIBLE
Carriers, like truck dealers, are continuously looking for ways to make the workshop as profitable as possible. In this process, they are increasingly looking for ways to change their place in the chain:

5.1 Increasing backward integration by carriers:

   Rising costs are forcing carriers with their own workshop to make the following choice:
   - Divest their own workshop and outsource everything.
   - Make their own workshop recover costs as a minimum. Carriers perform backward integration more and more in doing so.

5.2 Increase of forward integration among truck dealers:

   Truck dealers are facing their customers’ changing needs, declining revenues and the emergence of newcomers on the market. As a result, they feel compelled to implement forward integration.
5.1 Increasing backward integration by carriers

For carriers, an in-house workshop is a fixed cost that they can make profitable in different ways. Some of the ways that are used are:

- Perform maintenance themselves more and more. The workshop is run commercially in order to cover fixed costs.
- For a carrier, having its own workshop is more rapidly profitable when maintaining a large fleet. The current trend of mergers and acquisitions among carriers offers opportunities in that respect.
- Some carriers are convinced that they can also carry out themselves the maintenance on commercial vehicles with alternative propulsion systems. Now this happens rarely because of a mandatory RMC. This will change in the future, as a result of which it will be possible to perform more maintenance in-house.
- Other carriers have observed that complex maintenance is entrusted to the dealer more often, while simple jobs can still be performed in their own workshop.

• For each new investment, carriers with their own workshop have to assess whether that investment can be recovered. Due to an expected increase in investments in, for example, gas discharge, detection tools, diagnostic hardware & software, carriers find it increasingly difficult to keep their workshop profitable. For carriers without their own workshop, the necessary investments are therefore an obstacle for starting it up themselves.
5.2 INCREASE OF FORWARD INTEGRATION AMONG TRUCK DEALERS

Truck dealers view forward integration as necessary for the following reasons:

1. Carriers are increasingly looking for a ‘one-stop-shop’ for all maintenance. There is less brand and people loyalty as a result of this trend, which also prompts carriers to switch truck dealers faster.

2. Truck dealers are seeing a decline in revenue from sales and maintenance. As a result, they are forced to look for new revenue opportunities. For example, they broaden the product and service offerings to multiply their chances of meeting tender requirements.

3. Developments in areas such as telematics open up opportunities for external parties, allowing truck dealers themselves to enter that market.

Some of the forward integration methods implemented include:

- Provision by truck dealers of accident repairs, repair of upholstery, and financing and insurance services.
- Start-up of wholesale trade initiatives through the dealer network. Truck dealers provide the workshops of carriers and private carriers with tools and parts, even coffee, soap and other necessities. This makes sure truck dealers are able to intensify contact with their customers.
- Intensification of telematics applications and sale of subscriptions for the relevant service. However, the ownership of the data should be in the hands of the truck dealer.
- Create a full-service package. As a result, customers can approach dealers for maintenance, trailer bodywork, tyres, damage, refuelling and washing.
- Concluding RMCs on specific components such as transmissions and exhaust systems.
5.2 FORWARD INTEGRATION AT TRUCK DEALERS MAINLY THROUGH SERVICING TRAILER PARTS

In the future, truck dealers are expecting primarily the extension of the maintenance on trailer-related components:
1. Maintenance of truck mounted forklifts +23%-pt *
2. Maintenance of cooling units and trailer cranes +17%-pt
3. Maintenance of trailer structure +15%-pt

This suits the carriers’ expectation because their economic interest is more in the trailer.
What stands out is the expectation that maintenance is going to return to other brands. This is probably due to an increase in telematics applications and the increasing technological complexity of vehicles. Consequently, the own brand dealer can perform this maintenance better.

In addition, truck dealers are mainly seeing opportunities to develop new services and expand the sales range from delivery vans all the way to heavy trucks.

*) %-pt is the difference between the old and new percentage.
EFFECTS OF CHAIN INTEGRATION FOR TRUCK DEALERS

Sales

• Be more concerned about the maintenance needs of customers and, with the after-sales manager, keep bringing to the attention the capabilities of forward integration for relieving the burden.
• Have a stronger financial knowledge to be able to determine the financial feasibility of a carrier's workshop.
• Have a stronger technical knowledge to be able to determine the technical feasibility of a carrier's own workshop.
• Customer segmentation is necessary to be able to estimate profitable sidelines.
• Learn more to think in terms of unburdening & servicing. Deviate from brand thinking in the process, and accept declining brand loyalty.
• Customers will point more to future industry developments and share their thoughts in the relevant business cases.

After-sales

• Increase in the diversity of activities performed by technicians on technical equipment (cranes, forklifts, cooling units).
• Further training is even more important than it already is: specialist subjects, differences between brands, etc.
• Increasing specialisation in the workshop.
• Differentiation of technicians according to specialisation at facilities.
• Differentiation of activities according to type of employee, e.g. on the basis of age or skills. Older technicians can for instance be freed for the maintenance of older delivery vans and tested techniques such as loading ramps.
• Sparring partner for both sales and customers and intermediate between both parties.
APPENDICES
The research set-up for answering the central research questions consisted of desk research, interviews and an online survey of people working at truck dealers. We started with the desk research in order to come up with the right questions in the interviews and survey. The aim was to use the input of the desk research for the interviews and to quantify the combination of desk research and interview outcomes through the online survey.

While conducting the interviews, a first short survey was sent, followed by a second longer survey at a later stage.

1. Desk research:
   - Forward-looking studies of OOMT, CE Delft, TNO, and other leading consultancy agencies.
   - Internet forums, journals and other sources.

2. Interviews:
   - Exploratory phase: a topic list based on desk research for semi-structured interviews with two branch managers of truck dealers (Scania, Cosmo).
   - In-depth phase: Some topic lists for semi-structured interviews with truck dealers, importers, local & national governments, carriers and private carriers.

3. Survey 1:
   - Short survey on the one hand aimed at general trends and, on the other, at specific technological developments.
   - Respondent data obtained through BOVAG Truckdealers
   - Sent via Innovam

4. Survey 2:
   - Long survey focused on general trends and developments in the commercial vehicle sector.
   - Respondent data obtained through BOVAG Truckdealers
   - Sent via Innovam and BOVAG Truckdealers newsletter

Respondents were all experts in the field of one or more trends.
5. Other activities:
   – In addition to the above, the Truck of the Future Symposium was attended during Transport Compleet in Hardenberg, and the Intertraffic show in Amsterdam.
   – Group discussion with participants from EVO Raad voor Eigen Vervoer in which trends and developments have been validated.

6. The different topic lists, surveys, and interim findings have always been communicated with the advisory committee which was attached to this research.

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