

**CENTRAL EUROPEAN  
CASE COMPETITION**

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**THE WEBEYE CASE**

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**2020**

# THE WEBEYE CASE



Central European Case Competition  
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**O**n a busy Monday morning, Mr. Pál Németh, CEO of WebEye Telematics Ltd. was sitting in the regular traffic jam in Budapest downtown. He was thinking about the previous strategic meeting where WebEye's (WE) management team discussed the latest strategic questions the company is facing. WebEye showed significant growth in the past years. From a small, Hungary-based tech start-up it has become a regional player with state-of-the-art telematics solutions. Today, WebEye is a leading provider of road transportation telematics solutions for businesses that are eager to benefit from cutting-edge telematics innovations on their light and heavy commercial vehicles. For almost 20 years, WebEye professionals have been supporting customers with best-in-class service, helping them grow and enhance their businesses.

Telematics is becoming an increasingly popular tool for companies in the age of digitalization. Pál is keenly aware of how WebEye has gradually developed competitive advantages in the telematics market. Nevertheless, the industry faces new challenges: first, customers have become more price-sensitive, leading to fierce price competition among industry players. Furthermore, as new technologies are emerging, WebEye is looking to provide innovative solutions in a dynamically changing market environment.

The company has arrived at a crossroads as “we have been working on a completely new service model, called Telematics-as-a-Service” – commented Pál, while crossing Liberty Bridge in his new car. “The current market shock caused by the coronavirus pandemic appears to rearrange existing market positions and opens questions regarding how the market may recover once this is over“. The key question now occurs “How can WebEye exploit potential opportunities in light of changing demand conditions with the limitations that the current turbulent environment imposes on its resources and opportunities? How can it find a new balance between market share and ARPU expectations? How can the company introduce the new TaaS service model to its customers, especially in the LCV segment?” – the CEO ponders.

Pál will have an online management meeting next Monday, where he will clarify the key value propositions of the TaaS service model in the new environment and the related strategic options with his executive team. As WebEye management understand the critical issues they currently face, they have decided to involve external consultants with a fresh mind and global benchmarks to help them refine their strategy for the upcoming 5 years.



# INDUSTRY OVERVIEW

## RECENT TRENDS IN THE AUTOMOTIVE INDUSTRY

The whole automotive and transportation industry is facing a new wave of disruptive and radical innovations from different directions. New, disruptive players such as Tesla, Google or Apple appeared on the horizon and the whole industry must react on these new challenges. KPMG surveyed<sup>1</sup> almost 1000 senior executives from the world's leading automotive industries and they identified the following trends as the most important ones:

- **Battery electric vehicles (BEVs):** BEVs are electric vehicles that use chemical energy stored in rechargeable battery packs. BEVs use electric motors and motor controllers instead of internal combustion engines (ICEs) for propulsion. These vehicles derive all power from battery packs and thus have no internal combustion engine, fuel cell or fuel tank. Motorcycles, bicycles, scooters, skateboards, railcars, buses, trucks and cars can run like this. Nissan Leaf and Tesla Model S applies this technology as well.
- **Connectivity and digitalization:** Number of sensors within a car increased dramatically in the past decades: this allows to measure and connect the car with other devices (e.g. a smartphone). New digital solutions (e.g. usage-based insurance) can help customers optimize their activities and save costs.
- **Social media inside the vehicles:** IT giants (e.g. Google, Apple) are interested in the interior and UX of the cars. OEMs and suppliers have to prepare for this challenge.
- **Hybrid electric vehicles (HEVs):** A type of hybrid vehicle which combines the conventional internal combustion engine (ICE) technology with the electric propulsion system. Toyota launched the first 'truly' hybrid elec-

<sup>1</sup> KPMG (2017): Global Automotive Executive Survey, 2017

tric vehicle, the Toyota Prius in 1997. Since then, other OEMs launched their own HEVs as well.

- **Market growth in emerging markets:** As the road infrastructure is constantly developing in the emerging countries, more and more people buy cars and other vehicles. The emerging countries are acting as the main growing markets of the automotive industry.
- **Creating value out of Big Data:** As the automotive industry is being transformed by technologies, applications and services, data becomes available from numerous different sensors. Analytics allow this data to be merged regardless of the format which could consist of 'machine-readable' datasets or unstructured data such as videos, sound recordings or texts.
- **Mobility-as-a-service (Car- and ridesharing):** Mobility service providers allow constant, multi-modal travel to their users through IT solutions. Car- and ridesharing are recent trends which are based on sharing vehicles or rides with other passengers.
- **Autonomous and self-driving cars:** Vehicles' central processing unit will have a full responsibility for controlling its operation and will be inherently different from the most advanced form of driver assist. Early autonomous driving features are already available, while full self-driving automation will be ready by approx. 2025-2030 (and with the pace of the actual by-geography spreading of AD also depending on the purchasing power of the particular markets).
- **Downsizing of internal combustion engines (ICEs):** The appearance of alternative fuel technologies challenged the usage of internal com-



bustion engines. OEMs are putting more focus on EVs and other fuel technologies.

- Rationalization of production in Western Europe: OEMs started to optimize their production activities. This process is in line with other macroeconomic trends such as the changing condition of the labor market or the decreasing international trade barriers.
- Cyber Security challenges: As cars are becoming connected wirelessly, they are exposed to cyber-attacks by hacking their internal systems through internet connection. The majority of car manufacturers have limited cyber capabilities and have no countermeasure strategy in place for the case their vehicles are hacked.

As the listed trends show the automotive and related industries are dynamically changing and facing new challenges. Market players within the transportation and fleet management industries must respond to these trends.



## TRANSPORTATION INDUSTRY AND FLEET MANAGEMENT

Transportation refers to the movement of product from one location to another. Transportation companies are responsible for the delivery of products at the right time to the right location with the right functions. Accuracy and safety are considered a high priority in the whole industry.

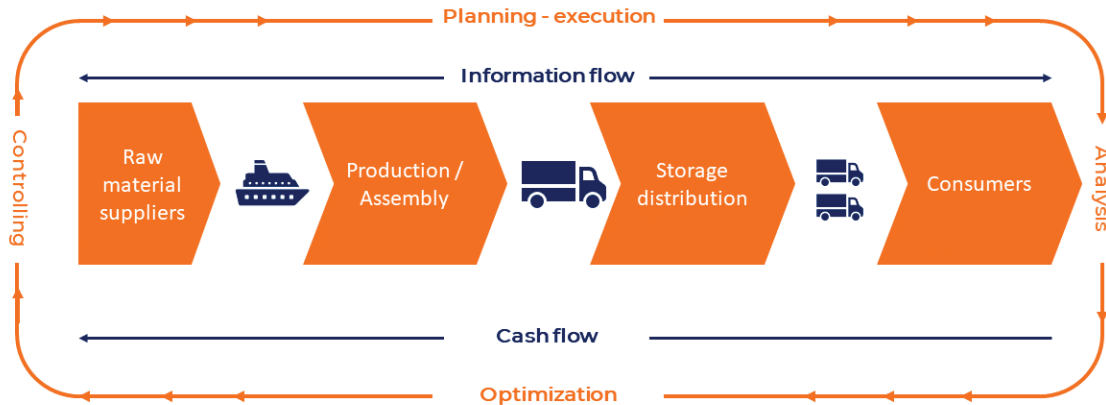


Chart 1: Transportation industry Supply chain

Source: WebEye

Chart 1 introduces the transportation industry supply chain and the main actors of this ecosystem:

1. **Manufacturer:** Owns or runs a manufacturing plant (e.g. Pfizer, Samsung). The main objective of the manufacturer is to receive accurate and safe logistical services from the freight forwarder company.
2. **Freight forwarder:** A person or company that organizes shipments for individuals or corporations to get goods from the manufacturer or producer to a market, customer or final point of distribution.
3. **Freight company:** A company that is specialized in the moving (or “forwarding”) of freight, or cargo, from one place to another.
4. **Consumer:** A person or organization that uses economic services or commodities (e.g. Tesco, Carrefour).

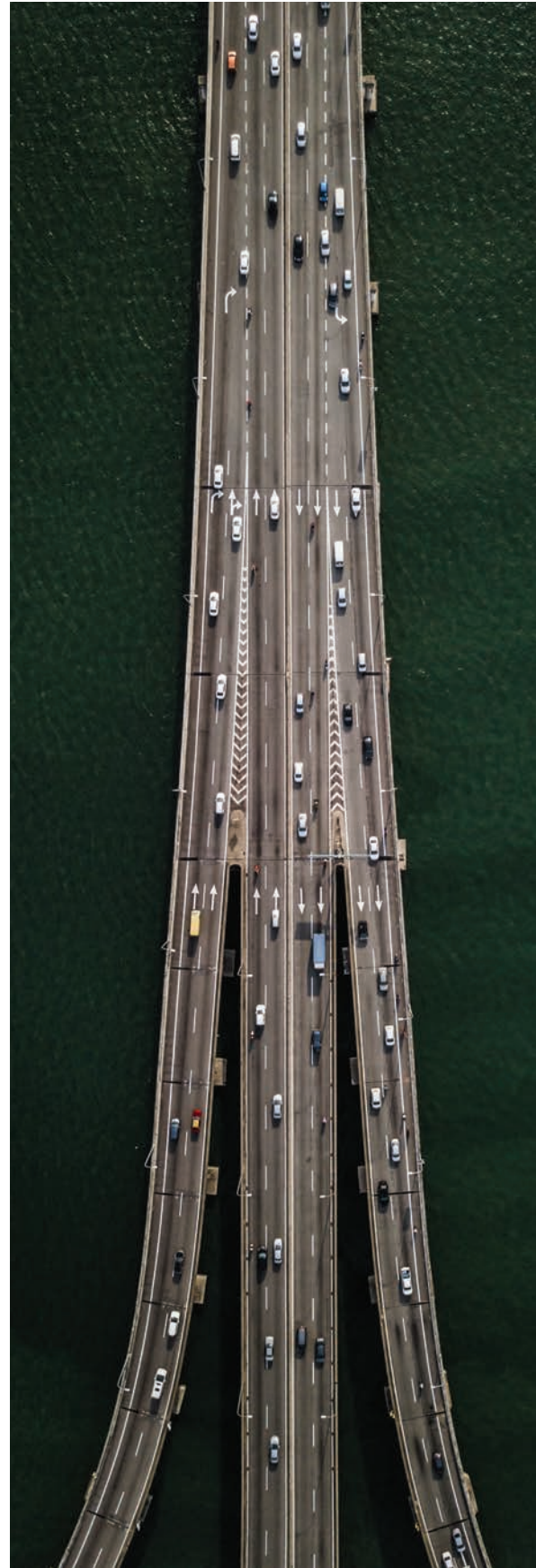
Besides the core transportation activity, information constantly flows between the different actors along the supply chain. Planning and execution, delivery analysis, process and cost control are important value drivers of the whole industry.



## Transportation types

The transportation activity can be divided into different types based on the load scale and variety, value or size of the transported goods. Although the basics of transportation services are fairly similar, each type requires specific cares from the service providers.

- **Full truckload (FTL):** One transportation equipment per one transport order, which usually means one place of loading and one place of unloading. It means a single customs clearance for the whole truckload. This is considered as the fast and favourable way of transport.
- **Less than truckload (LTL):** This transportation type covers multiple transport orders between multiple loading and unloading locations. LTL requires specific information on the quantity, size and type of goods for the optimal utilization of the cargo space.
- **General or groupage:** These trips are normally started per destination and based on a specific schedule. The departure frequency is normally based on the quantity of goods to be shipped to the destination. The service fees are based on announced tariffs. This type of transportation is considered as a slower transportation mode.
- **Dangerous goods (ADR):** Dangerous goods or hazardous goods are solids, liquids, or gases that can harm people, other living organisms, property, or the environment. A hazard pictogram is intended to provide information about the hazard that can cause damage to human health or the environment.
- **High-value transport (HVT):** In the case of this type of transportation, safety and security is



the number one priority. The service is constantly monitored, and usually guarded parking facilities are needed (e.g. geo or corridor fence). Police or other security companies may provide an escort service.

- Refrigerated goods (Frigo): Unique solution for FMCG and medical companies who transports goods under a controlled temperature. This service requires a separate cooling system with own engine and fuel tank (Thermoking, Carrier).
- Oversize transport: Extra size or volume transport which sometimes using remote-controlled multi-axle and direction trailers. Usually, this type of transportation requires special infrastructure permissions and overnight freight.



## Cost allocation

Road transportation is considered as a volume business where realizing the economies of scale is considered as the main competitive driving force. However, the technology behind the industry is constantly changing, controlling and keeping the costs on the lowest possible level is an important priority for the industry players.

The cost structure of an average freight has five key items (see chart 2): fuel cost (46%), wages (21%), road toll (19%), maintenance costs (7%) and other (7%) costs:

1. **Fuel costs:** The fuel cost may appear as a surcharge on the carrier invoice or it may be directly embedded in the actual freight service. As a commercial truck driver in the US can easily consume more than 70,000 USD of fuel per year, the fuel costs are considered as the largest operating expense.
2. **Wages:** Standard commercial truck driver salaries are based on the distance driven, per mile. Although drivers spend a fair amount of time in docks and traffic, their operating costs are only derived from miles travelled.
3. **Road toll:** Required permits and licenses for the industry and equipment, as well as continuous travel on toll roads, are representing 19% of the costs.
4. **Maintenance costs:** This item represents approximately 7% of the total costs. This includes all the maintenance related cost items (e.g. repair, garage, service station of trucks).
5. **Other costs:** Other costs represent 7% of the total costs.

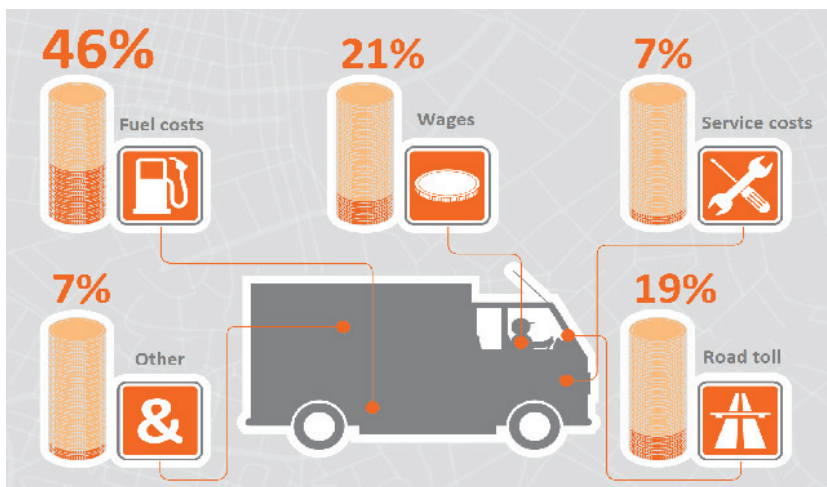


Chart 2: Cost allocation for an average freight  
Source: WebEye

## FLEET MANAGEMENT<sup>2</sup>

Fleet management is a somewhat ambiguous term used in reference to a range of solutions for vehicle-related applications. A fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communication to a back-office application. The history of fleet management solutions goes back to several decades. On-board vehicle computers first emerged in the 1980s and were soon connected to various networks. Today, mobile networks can provide ubiquitous online connectivity at a reasonable cost and mobile computing technology delivers very high performance, as well as excellent usability. All of these components combined enable the delivery of vehicle management, transport management, driver management and mobile workforce management applications linking vehicles and enterprise IT systems.

Commercial vehicle fleets play an essential role in the European economy. According to official statistics, in 2014, there were 36.6 million commercial vehicles in use in EU23+2. The 5.8 million medium and heavy trucks accounted for more than 75% of all inland transports, forming a € 250 billion industry. Approximately 0.8 million buses and coaches stood for 9.3% of all passenger kilometres. The greater part of the 30.0 million light commercial vehicles (LCV) in Europe was used by mobile workers and for activities such as the distribution of goods and parcels. Last but not least, there are an estimated 12.6 million passenger cars owned by companies and governments.

The European fleet management market has entered a growth period that will last for several years to come. Individual markets may however suffer temporary setbacks, depending on the local eco-

<sup>2</sup> Berg Insight (2017): Fleet management in Europe



conomic developments. The number of fleet management systems in active use is forecasted to grow at a compound annual growth rate of 16.4% from 6.6 million units at the end of 2016 to 14.1 million by 2021. The penetration rate in the total population of non-privately owned commercial vehicles and cars is estimated to increase from 15.6% in 2016 to 31.6% in 2021.

A group of international aftermarket solution providers have emerged as the leaders on the European fleet management market. Berg Insight ranks TomTom Telematics as the largest vendor in Europe at the end of 2016 with 609,000 subscribers in the region. Masternaut still holds the number two spot. Transics is ranked as the largest player in the heavy trucks segment with an estimated 120,000 active units installed. Other significant players include European companies such as Microlise, ABAX, Viasat, Bornemann, Trakm8, Quartix, OCEAN (Orange Business Services), EcoFleet, GSGroup and Vehco and international players like Verizon, Trimble and Teletrac Navman from the US, Astrata Europe from Singapore and the South African telematics providers Ctrack (Inseego) and MiX Telematics.

All major truck manufacturers on the European market offer OEM telematics solutions as part of their product portfolio. Mercedes-Benz, Volvo and Scania launched their first products in the 1990s followed by MAN in 2000, Renault Trucks in 2004, DAF Trucks in 2006 and Iveco in 2008. A major trend in the past years has been the announcements of standard line fitment of fleet management solutions. Since the end of 2011, Scania is rolling out the Scania Communicator as standard on all European markets and includes a ten-year basic service subscription. The new generation of the Actros trucks from Mercedes-Benz contains the FleetBoard vehicle computer as standard in all EU28 countries since October 2011. Volvo is going in the same direction offering Dynafleet as standard in Europe. New MAN trucks are now equipped with RIO as standard replacing MAN TeleMatics introduced in July 2012. DAF launched its new optional fleet management solution DAF Connect that has been developed in-house in September 2016. The leading OEMs in Europe are Scania, Daimler and Volvo with 172,000, 99,000 and 99,000 active FM subscribers respectively at the end of 2016.

The consolidation trend continues, and numerous M&A activities have taken place in 2017. In January, Viasat Group acquired MobileFleet (majority stake adding about 23,000 subscribers). In February, Princip was acquired by W.A.G. Payment Solutions which is among the six largest European providers of payment solutions for road mobility. Viasat Group continued its acquisition spree in May 2017 when buying ICOM in Bulgaria. One of the largest transactions

this year was when Investcorp acquired ABAX in June 2017, paying NOK 1.8 billion (US\$ 210 million). Isotrak acquired UK Fleet Management technology business VeriLocation in June 2017. The latest transaction was done in July 2017 when TIMKEN acquired Groeneveld Group that owns Groeneveld ICT Solutions.

### Light commercial vehicles

LCVs comprise a range of lightweight utility vehicle models including vans, pickup trucks and tailored models. In terms of production and sales, LCVs outnumber HCVs by almost five to one on the European market. New registrations of LCVs in EU27+2 reached 2.0 million vehicles in 2016, up 11.6% compared to the previous year. Italy, Hungary and the Netherlands showed the largest increases and the most negative developments were recorded in Latvia. France was the largest geographical market in 2016 recording 409,000 new registrations, followed by the UK and Germany with around 375,000 and 258,000 registrations respectively. PSA, Renault and Ford are the leading manufacturers with market shares of between 19.0% and 15.8% in Europe and sales volumes of between 378,000 vehicles and 314,000 vehicles. Ford was the most popular brand with a market share of 15.8%, followed by Renault with 14.9% and Volkswagen with 11.8%. Fiat, Daimler, GM, Nissan and Iveco are also important players on the European LCV market.



## Medium and heavy trucks

Medium and heavy trucks accounted for 15% of the total market volume for commercial vehicles in Europe in 2016 when new registrations reached 345,000 units. The total increase was 11.0% compared to the previous year. Greece and Hungary faced declines, while growth over 20% were recorded in Italy, Finland, Ireland, Latvia, Slovakia, Slovenia and Lithuania. Germany was the largest geographical market in 2016 with 92,000 new registrations, trailed by the UK and France with 49,000 and 48,000 new registrations respectively. Volkswagen, Volvo and Daimler were the top manufacturing groups with market shares of 28.4%, 21.2% and 20.9% respectively in 2016. Other major manufacturers were Iveco and Paccar. Brands are frequently not shared with the parent company in the truck industry. Renault Trucks is part of the Volvo Group. DAF is part of Paccar but has retained its original brand in Europe. Scania is since mid-2014 completely owned by the Volkswagen group. Volkswagen also became the majority owner of MAN at the end of 2011. Mercedes-Benz, MAN and Volvo are the largest brands with market shares of 20.9%, 15.1% and 13.6% respectively.



## **Buses and coaches**

Buses and coaches accounted for less than 2% (about 38,000 vehicles) of the commercial vehicles registered in Europe during 2016. Germany, France and the UK were the three largest geographical markets in 2016 with between 6,700 and 6,300 new registrations each. Daimler is the leading player with nearly 13,000 new registrations, corresponding to a market share of 34.2%. Iveco was number two with a market share of 15.9 per cent, followed by the Volkswagen Group, Ford and the Volvo Group with 15.2%, 8.6% and 6.8% respectively. Smaller manufacturers producing less than 1,000 vehicles accounted for almost one-fifth of the total production volume. These include larger manufacturers such as DAF, as well as niche players.

## **Trailers and semi-trailers**

There are today an estimated 2.6 million trailers in use on the European market. The European trailer industry experienced a long period of prosperity with strong volume growth for the manufacturers until 2008. Since then the industry has been fighting the most serious market collapse in history. New registrations of trailers and semi-trailers of over six metric tonnes gross weight reached an estimated 205,000 units in 2016, down from about 240,000 units in 2007. Germany was the largest geographical market accounting for about 20 per cent of the total, followed by France and the UK with around 10 per cent each. The European trailer industry is highly fragmented and currently encompasses over 1,000 companies, of which 400 operate in Germany alone. Three German manufacturers have emerged as European market leaders with international presences. Schmitz Cargobull is the largest manufacturer with a production reaching 56,000 units in 2016 and with a market share of 27.3%. Krone was number two with an estimated production volume of 48,000 units and a market share of 23.4%. Kögel is number three with a production rate of about 13,000 units and a market share of 6.3%. Schwarzmüller of Austria also produced approximately 9,000 trailers last year. About 36% of the total market is still held by small local and niche manufacturers.

## **Off-road construction and agriculture equipment**

Off-road equipment comprises self-propelled equipment designed for other purposes than road transports, e.g. construction equipment and agriculture equipment. Total shipments of off-road equipment reached 368,000 units in



EU27+2 in 2016, where shipments of construction equipment increased 10% and agriculture equipment were basically flat year-on-year. The construction equipment market is divided into a wide range of sub-segments. In terms of units shipped, mini excavators are the largest sub-segment, followed by in order of market size telescopic handlers, crawler excavators, wheeled loaders, skid-steer loaders, backhoes loaders and wheeled excavators. The agriculture equipment market principally consists of tractors with a small share made up by combines.

### Company-owned passenger cars

In the previous editions of a European fleet management report by Berg Insight, passenger cars owned by companies, organizations and governments were not included. There were 257.0 million passenger cars in use in Europe 28+2 by year-end 2016. Berg Insight estimates that 12.6 million of these were used in commercial and government fleets. These are now also included in the addressable market for fleet management solutions covered in this report.

Germany has the largest passenger car parc of 44.4 million vehicles, followed by Italy with 37.1 million, France with about 31.7 million and the UK with 31.6 million. Austria, Finland, Germany, Italy, Lithuania and Luxembourg have roughly 550 or more cars per 1,000 inhabitants, while Bulgaria, Croatia, Denmark, Hungary, Latvia, Romania and Slovakia have around 420 or fewer cars per 1,000 inhabitants. In the EU28+2 area, new passenger car registrations grew over 8.9% to nearly 15.1 million vehicles in 2016, which is still below the peak of almost 16.2 million new registrations recorded in 2007. Germany remains the largest market with 3.4 million new registrations, up 4.6% year-on-year. The UK remained the second largest market with an all-time-high of 2.7 million new registrations.





# COMPANY OVERVIEW

## WEBEYE

WebEye International is a major Hungarian provider of vehicle tracking and fleet management services. The company is part of the Lambda-Com Group which was founded in 2001. Until 2006, WebEye's focus was on the domestic (Hungarian) market, then international expansion was initiated, gradually establishing WebEye subsidiaries covering Central-Eastern European markets (Romania, Slovakia, Poland, Croatia, the Czech Republic, Bulgaria and Slovenia), Russia, as well as Western European (Germany, Austria and Portugal). As of today, the company has 332 employees and generated revenues of around € 17.7 million in 2019.

### Continuous innovation: historical overview

The WebEye system enables real-time vehicle monitoring based on GPRS/GPS technology. The range of features includes route planning and transport management, fuel measurement, alarm functionality, driving style analysis and vehicle diagnostics leveraging CAN-bus data. In-cab displays can be integrated to enable order management and two-way driver communication. Accessories include driver identification solutions, thermometers for temperature management, door sensors, fuel level and flow meters, and panic alarms. A number of different back-office packages are available – MIC, ECO, PRO and MAX – which are priced at around € 11, € 15, € 17 and € 26 respectively. The low-end MIC package is targeted at small family businesses, callout patrol services and companies performing customer visits. ECO is suitable for transportation companies active in distribution while PRO is tailored for medium-sized fleets, FMCG companies and valuable transports. The high-end MAX package is suitable for large fleets including haulage companies, agriculture operations and fleet owners with heavy machinery. The MAX package includes eTachograph functionality enabling digital tachograph data download and control. The vehicle hardware is charged by an upfront fee in the range

of around € 100–700. The company has installed a total of 72,000 devices for tracking of various types of vehicles mainly in Europe. Hungary, Romania and Poland are key markets.

<b>2001</b>	The WebEye solution becomes the pioneer of the Hungarian vehicle tracking market.
<b>2006</b>	WebEye International was established. The company reached 10,000 subscriptions.
<b>2010</b>	WebEye's subsidiaries operated in more than ten European countries.
<b>2013</b>	WebEye launched the eTachograph solution. As a payment contributor, the company joined the electronic toll system in Hungary.
<b>2014</b>	WebEye launched its new product, the WebEye DrivingStyle, which analyses drivers' driving style. The number of active subscriptions reached 40,000.
<b>2016</b>	WebEye launched the new WebEye Telematics platform to improve customer experience. It reached 50,000 subscriptions.
<b>2018</b>	The company launched the MyWebEye and RoadOn brands to address the light commercial vehicle and the passenger car markets respectively. The company had 60,000 subscriptions.
<b>2019</b>	WebEye won one of the biggest Hungarian accounts with 13,000 endpoints. By the end of the year the company reached 80,000 subscriptions.

*Chart 3: Milestones in WebEye's development*

*Source: WebEye.eu*

Around 52,900 units are in active use and the markets in Eastern Europe and Russia/CIS account for approximately 48,900 units of the active installed base. The Western European markets including Germany, Portugal and Austria account for around 4,000 units. Important customer segments include transportation and FMCG. WebEye, in addition, has a strong position in industries using heavy machinery including mining and construction as well as agriculture. The company has a total of around 3,200 customers and references include SPAR Hungary, Tesco, Sara Lee, Holcim, MF Cargo, Transinter-top, Schwarzmüller, British American Tobacco, Metro and Linde. WebEye is working on extending its network of third-party partners alongside the local subsidiaries and aims to enter markets such as Italy and Spain.

## Innovation in Telematics: The WebEye product portfolio

WebEye provides innovative solutions in the field of telematics. It means an integrated use of telecommunications and information technologies to store, receive and transmit information with the use of telecommunications equipment to remote objects through a network. It encompasses telecommunications, vehicular technologies, for instance, road transport, road safety, electrical engineering (sensors, instrumentation, wireless communication) and computer science (multimedia, Internet etc.). Typically, it is used in the context of automobiles, whereby installed or after factory boxes collect and transmit data on vehicle use, maintenance requirements or car crashes and locate stolen vehicles by using GPS technology.

The main customers of WebEye are the freight companies who are operating in the HCV segment. Managers, dispatchers and truck drivers are the key stakeholders of WE. The Operational Director of the freight company is the key decision-maker, who receives information from the dispatchers, while the truck drivers are the actual users of the telematic solution. Currently, the company has more than 70k+ paying units in 10 countries.

WebEye provides solutions for the following pain points:

- Lack of general positioning
- Non-transparent fuel consumption
- Average fuel consumption
- Tachograph penalties and the related internal disputes between the company and the driver
- Temperature data
- Lack of goods
- Management reports

Via the WebEye solutions, the freight companies can transparently control the fuel consumption, fuel costs, the compliance with official rest, temperature data on special shipments. The software helps the customers to efficiently process transportation-related data and make data-based strategic decisions.

### Business Case: FanCourier – Romania

FanCourier is a Bucharest based market leader package delivery company in Romania. WebEye and FanCourier contracted in 2017 and since then the company have approximately 1,500 PUs (own fleet with 200 HCVs and 1,300 LCVs)

WebEye became the FanCourier's exclusive service provider due to the following reasons:

- High quality of telematics devices (LCV CAN support, like Ford)
- Delivery capability: the full fleet equipped with telematics devices over 3 months
- Telematics integrated to SAP ERP: tour task management, fuel and fleet operation
- Driving style for LCV
- Fuel management: import refuelling list received from fuel supplier, CAN based fuel measurement and reporting
- Online job/tour accomplishment solution: ETA calculation

UNIT	DESCRIPTION
<b>WE X</b>	Basic telematics device with integrated GPS receiver and GSM antenna. 1 input for ignition signal. 1 digital and analog input. 1 onewire input for iButton (driver identification) and for thermometer connection. CANBUS reading capability. In-built bluetooth port.
<b>WE 7 (WITH SNIFFER)</b>	Advanced telematics device with external GPS receiver and GSM antenna. 1 input for ignition signal. 4 digital and analog inputs. 1 onewire input for iButton (driver identification) and for thermometer connection. Tachograph connection. CANBUS reading capability. In-built bluetooth port.
<b>WEBEYE ROAD-PASS OBU</b>	Ready to use (cigarette lighter plug) device for the hungarian E-toll services.

Chart 4: WebEye units

Source: WebEye

ACCESSORIES	DESCRIPTION
<b>DOOR SENSOR</b>	Digital interface, magnetic cargo door sensor
<b>RAMP SENSOR</b>	Digital sensor to check the cargo's ramp status (up/down/moving)
<b>UNHOOKING SENSOR</b>	Sensor for trailer hooking and unhooking detection
<b>PANIC BUTTON</b>	A switch installed into a vehicle's cabin. The driver can send an alarm signal pressing it
<b>SABOTAGE</b>	A digital sensor for checking and alarming in case of tampering the telematic tracking device or its accessories
<b>PRIVATE-BUSINESS SWITCH</b>	Two state switch to identify the actual trip's status -> business or private
<b>AGGREGATE MONITOR</b>	A digital sensor to check the working state (on/off) of the refrigerated trailer's aggregator.
<b>WEBASTO IMPULSE</b>	Standing heater's status (on/off) sensor.
<b>TIPPING SENSE</b>	A digital sensor to check the dumper truck's body status
<b>POWER TAKE OFF (PTO)</b>	PTO is a digital sensor which detects whether any other machine is working connected to the truck / tractor
<b>RPM SENSOR</b>	Revolutions per minute: The sensor can collect the actual revolutions per minute of the truck's / vehicle's engine
<b>FUEL PROBE</b>	The analogue sensor can measure the fuel level in the tank. Alarms can be sent out in case of a sudden drop of the fuel level. Refuelling events also can be checked.
<b>THERMOMETER</b>	This is an analogue sensor. Refrigerated trailer's temperature can be measured continuously. Alarms can be sent out in case of the temperature goes out from the predefined range.
<b>RADIO RECEIVER</b>	The truck-trailer connection can be detected thanks to this radio unit.
<b>WATERPROOF PLASTIC BOX (IP65)</b>	Accessory to protect the telematics device when its installed outside of the vehicle / machine.
<b>CAN SNIFFER</b>	This hardware gives a possibility to connect the telematics device to the CANBUS system of the truck / vehicle. A Controller Area Network (CAN bus) is a robust vehicle bus standard designed to allow microcontrollers and devices to communicate with each other's applications without a host computer. The most important data come from the CANBUS system: fuel level, fuel flow, mileage, RPM, torque, coolant temperature, axle weight, brake and accelerator status.

<b>DRIVER CARD</b>	The personal digital tachograph driver card is a credit card-sized plastic card that contains a microchip. The card can store all relevant driver data required for EU Drivers' Hours regulations including break and rest times.
<b>DALLAS CHIP (IBUTTON) WITH DRIVER ID CARD-HOLDER</b>	An iButton device uses its stainless steel 'can' as an electronic communications interface. This accessory is for the driver to identify himself before starting any trip with a vehicle.
<b>PND STANDARD</b>	This is a Personal Navigation Device at the driver connected to the telematics device. The device has a pre-installed WebEye 'Messenger' software with the following main functions: chat between dispatcher and driver, tour management (tour task handling, status messages - unloading, loading, etc. - , driver identification by PIN, trailer identification, cost management
<b>TABLET STANDARD</b>	This is a mobile application (Android) with same functionality like the "WebEyeMessenger": chat between dispatcher and driver, tour management (tour task handling, status messages - unloading, loading, etc. - , driver identification by PIN, trailer identification, cost management. This application can be downloaded from the Google Play store. The mobile device communicate with the telematics device via bluetooth port.

Chart 5: Milestones in WebEye's development

Source: WebEye.eu

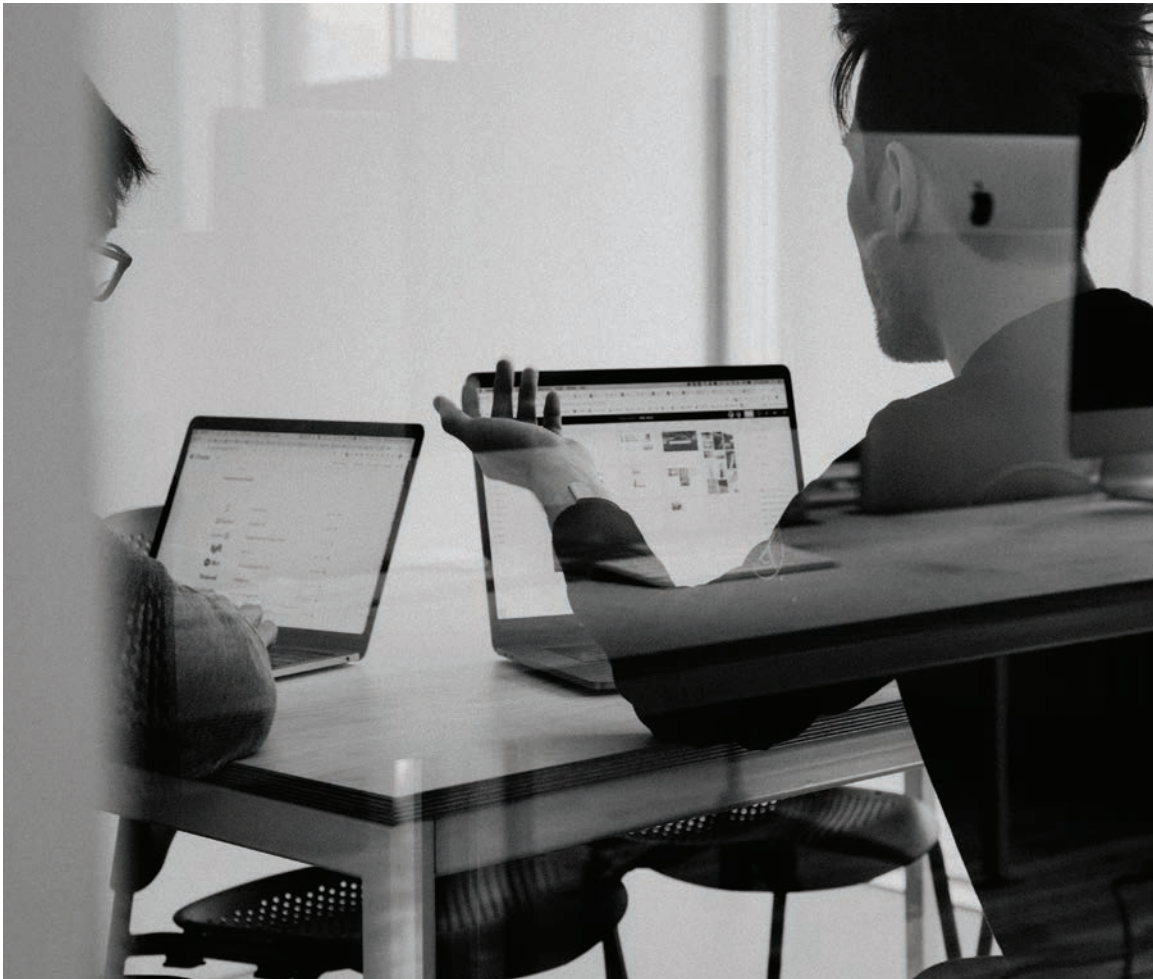


### New business model: TaaS

WebEye's traditional business model has two main elements: the investment fee and a monthly fee. In this model, the customers were paying for equipment (e.g. WebEye unit, accessories) and the installation separately. Once the sensors and the unit are installed the client paid a monthly fee per paying unit (PU). Three years ago there was a switch in this model to TaaS, Telematics as a Service.

In this recently introduced model of TaaS, there is no entry cost and the client does not need to invest into a range of equipment. As the freight companies have limited, approximately 2% margins and bad CF positions, WebEye only charges a monthly, subscription fee. The different features have different prices and the customers has the flexibility to select the features best fitting to their specific needs. The subscription-based model is based on a financing model, where a third party finances the assets (WE unit and sensors). The average contracting time is 3 years, but the company would like to keep the customer after the contracting period and decrease the current churn rate.

Although aiming to grow in the HCV segment and keep its market leader position on the key market, the company would like to increase its presence in the LCV segment. In the LCV segment, the traditional model is stagnating, while WE expect significant growth from TaaS-based contracts.





SERVICES GROUPS	DESCRIPTION
<b>TRACK&amp;TRACE</b>	This is the main function package for telematics services. This includes online tracking - show the feet's position with map view and many historical reports about the vehicles track. Point of Interest management to store in the system many unique locations.
<b>INTEGRATION</b>	Connecting the possibility of the telematics servers with 3rd party systems like ERP, Monitoring, route optimizing, etc. to increase the customer's corporate effectiveness
<b>AUTOMATIC REPORTS</b>	Mass reports with several data (mileage, consumption, driver work time, analyzed tachograph data, etc.) in xls format with daily, weekly, monthly schedules. The report automatically generates and sends to the end-user's e-mail address.
<b>BUSINESS ADMIN 1</b> (WE CONNECT, VIRTUAL PRIVATE-BUSINESS SWITCH)	This Service group contains the functionality of the Driver application and also the business and private trip type selection.
<b>BUSINESS ADMIN 2</b> (WE CONNECT, VIRTUAL PRIVATE-BUSINESS SWITCH, CHECKLIST, ELOGBOOK)	This Service group contains the functionality of the Driver application and also the business and private trip type selection. The Checklist module supports the driver to check the equipment and the technical condition of the vehicle and administrate it electronically. The eLogbook is a digital logbook complies with the Hungarian law - logbook is obligatory to use in many (e.g. transport) areas
<b>SMALLDRIVING STYLE</b>	CANBUS based report package. It helps for the ned user to see for a period of time the vehicle's or driver's behaviour. It contains the number of brake pedal pressing, harsh braking, retarder usage (in case of trucks), fuel consumption summary, mileage, RPM/torque graph, speeding graph, etc.
<b>NEW DRIVING STYLE</b>	CANBUS based report package with driver and vehicle evaluation function. It helps for the end-user to see for a period of time the vehicle's or driver's behaviour with a weighted scoring system can be used to sort them. It contains the number of brake pedal pressing, harsh braking, retarder usage (in case of trucks), fuel consumption summary, mileage, RPM/torque graph, speeding graph, etc.
<b>EDOWNLOAD</b>	Remote tachograph memory download service. The law says that at least every 90 days the tachograph's mass memory must be downloaded.
<b>ECONTROL + ECONTROL MOBILE</b>	Online tachograph status and remaining drive and rest time calculator solution. It helps to the dispatcher to see all the driver's remaining drive and rest periods and the actual status (drive, rest, brake, availability).

Chart 6: WebEye features and service groups

Source: WebEye

## Financials

WebEye had a strong financial performance between 2017 and 2019. The net revenue was increased by 5.5 million EUR, which means a 36.6% total growth and 11% 3-year CAGR. The recurring revenue was increased by 3.2 million EUR, which means a 36.2% total growth and 10.9% 3-year CAGR. In terms of EBITDA, WebEye realized 0.8 million EUR additional EBITDA growth in the past 3 years, which represents a 14.7% CAGR.

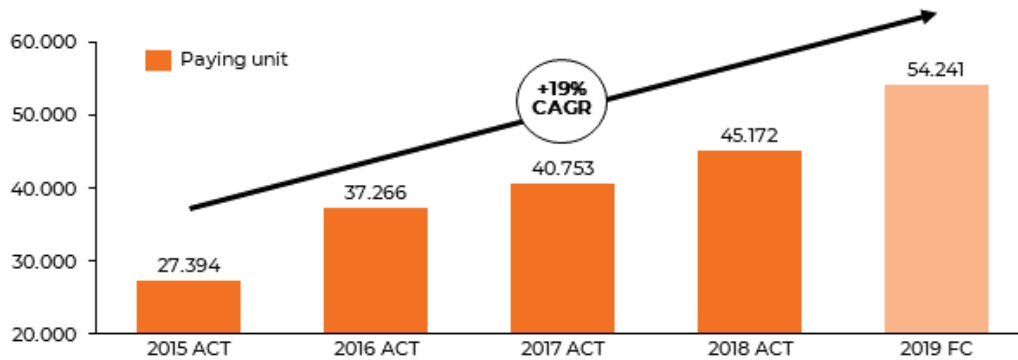


Chart 7: Number of PUs

Source: WebEye

WebEye has an increasing number of paying units (PU) Y-o-Y (see Chart 7), which provides a solid foundation for further expansion. The company had more than 54,000 paying units in 2019 and the growth rate of PUs was 19% in the past 5 years. The new paying units are coming from pre- and after-sales channels. The Y-o-Y new installation ratio is around 15,3%. The churn rate is around 6,5%.

WebEye has a decreasing ARPU (average revenue per unit) which is in line with the long-term market trends. The company realizes -2.9% (0,5 EUR) Y-o-Y loss on average ARPU on recurring revenues. As part of the strategic change toward a TaaS (Telematics as a Service) financing model, management is expecting a higher (+20 to 30%) ARPU which can support us to realize higher revenue per unit over the contractual period.

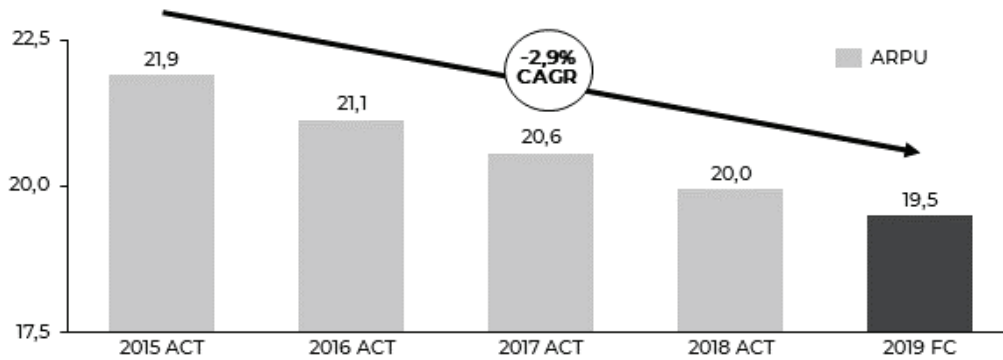


Chart 8: Number of PUs  
Source: WebEye

WebEye has three key geographical markets: Hungary, Romania and Poland, which are representing the 83% of the total paying units in 2019. 86% of the net revenues are coming from the focus countries as they are characterized by relatively higher ARPUs than other geographical markets. Finance and organization wise these countries have their own board of directors with the responsibility to manage and achieve their own financial targets.

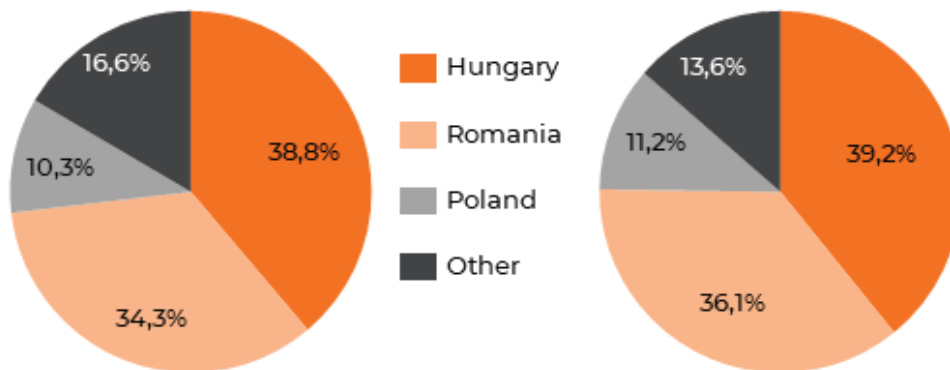


Chart 9: Geographical split of PUs and net revenues  
Source: WebEye

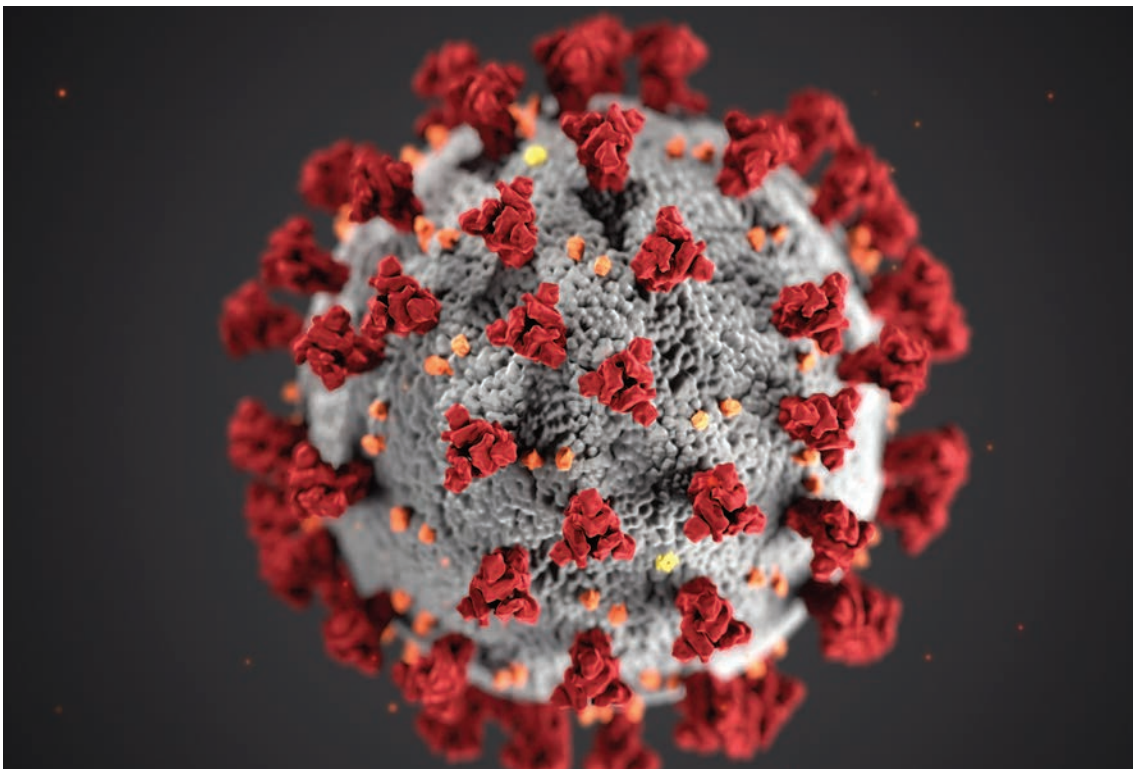
## NEW CHALLENGE ON THE HORIZON

WebEye took significant steps to strengthen its position in the key markets and further increase its market share in the existing market segments. As part of the company's current strategy, WebEye is preparing to increase the sales focus in the LCV segment. To manage this and increase the ARPU metric, the company is working on a completely new business model, called Telematics-as-a-Service (TaaS). Today, the plans need revision due to the global pandemic, COVID-19, that has disrupted the environment and ongoing operations.

### COVID-19

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the virus will experience only mild to moderate respiratory illness and recover without requiring special treatment. However, older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer, are more likely to develop serious illness. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes.

Coronavirus has been spreading around the globe in the past 3-4 months. The World Health Organization (WHO) has declared a global pandemic over a new coronavirus which causes an illness known as COVID-19 that has spread to at least 183 countries and territories, killing more than 64,000 people and infecting more than 1,200,000. On the 31st of December, China alerted the WHO (World Health Organization) to several pneumonia cases. One week later, France confirmed the first European case. Today the virus is affecting 183 countries around the world causing serious challenges to health systems and economies.



## Global pandemic

In the past months, the number of cases increased rapidly around the globe. As of April 4, 2020, there have been 569,952 confirmed cases of coronavirus (COVID-19) across Europe since the first confirmed cases in France on January 25. April 1 saw the highest number of new cases in Europe, with approximately 41.1 thousand new cases on this day alone.

	Worldwide	Europe	Hungary	Romania	Poland
<b>Number of cases</b>	1,204,782	569,952	525	3,613	3,834
<b>Number of Deaths</b>	64,849	42,159	34	146	84
<b>Recovered</b>	247,844	N/A	66	329	134

Chart 10: Latest (4<sup>th</sup> April 2020) COVID statistics in selected geographies

Source: WHO, Statista



Social isolation, quarantine and social distancing are different forms of actions to stop and slow down the disperse of the pandemic (Chart 11). Social distancing is deliberately increasing the physical space between people to avoid spreading illness. People who have been exposed to the new coronavirus and who are at risk for coming down with COVID-19 might practice self-quarantine. Health experts recommend that self-quarantine lasts 14 days. For people who are confirmed to have COVID-19, isolation is appropriate. Isolation is a health care term that means keeping people who are infected with a contagious illness away from those who are not infected.

#### LOWER AND DELAY THE EPIDEMIC PEAK

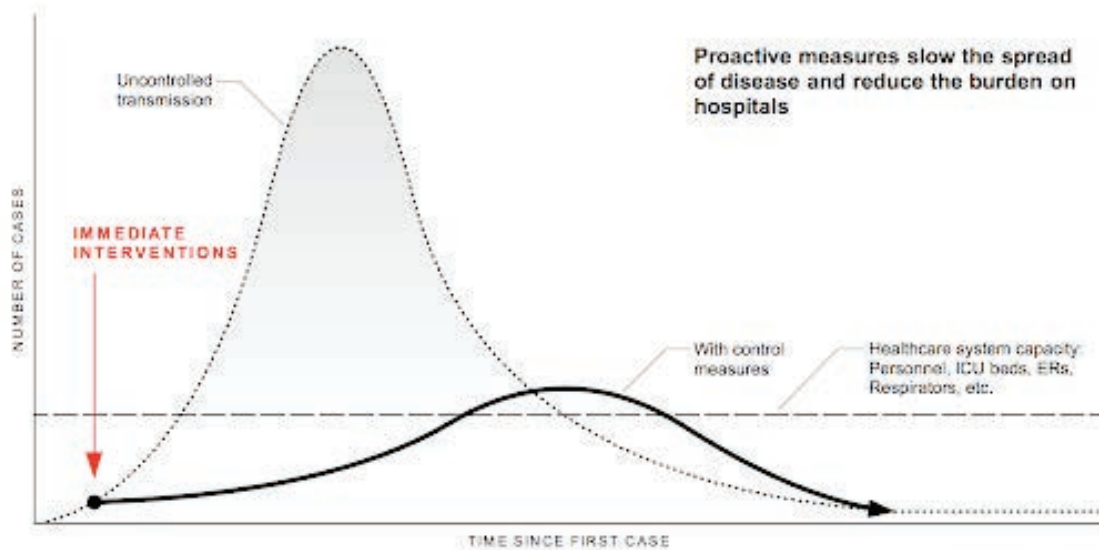


Chart 11: Lower and delay the epidemic peak

Source: Esther Kim, Carl T. Bergstrom

#### Economic aftermath

According to economists, COVID-19 has probably resulted in the fastest and deepest economic shock in history. Complete industries have been stopped and collapsed from one day to another. Every component of aggregate demand – consumption, capital spending, exports – is in an unprecedented freefall. The best-case scenario assumes that the US, Europe and other heavily affected economies would need to roll out widespread COVID-19 testing, tracing, and treatment measures, enforced quarantines, and a full-scale lockdown of the type that China implemented. The duration of the pandemic and the effectiveness of the crisis management are two key components of a poten-

tial economic recovery.<sup>3</sup> Currently, most companies are using their reserves to maintain their operations and have turned to survival mode.

Tourism and hospitality (e.g. hotels, restaurants, bars, event organizers, travel agencies), transportation (e.g. airlines, bus companies, taxi companies), traditional services (e.g. hairdressers, training companies), as well as entertainment industry (e.g. cinemas, theatres) are in the first line of the economic downturn, but the shock is expected to infiltrate into most many other industries.

**GDP impact of COVID-19 spread, public-health response, and economic policies**

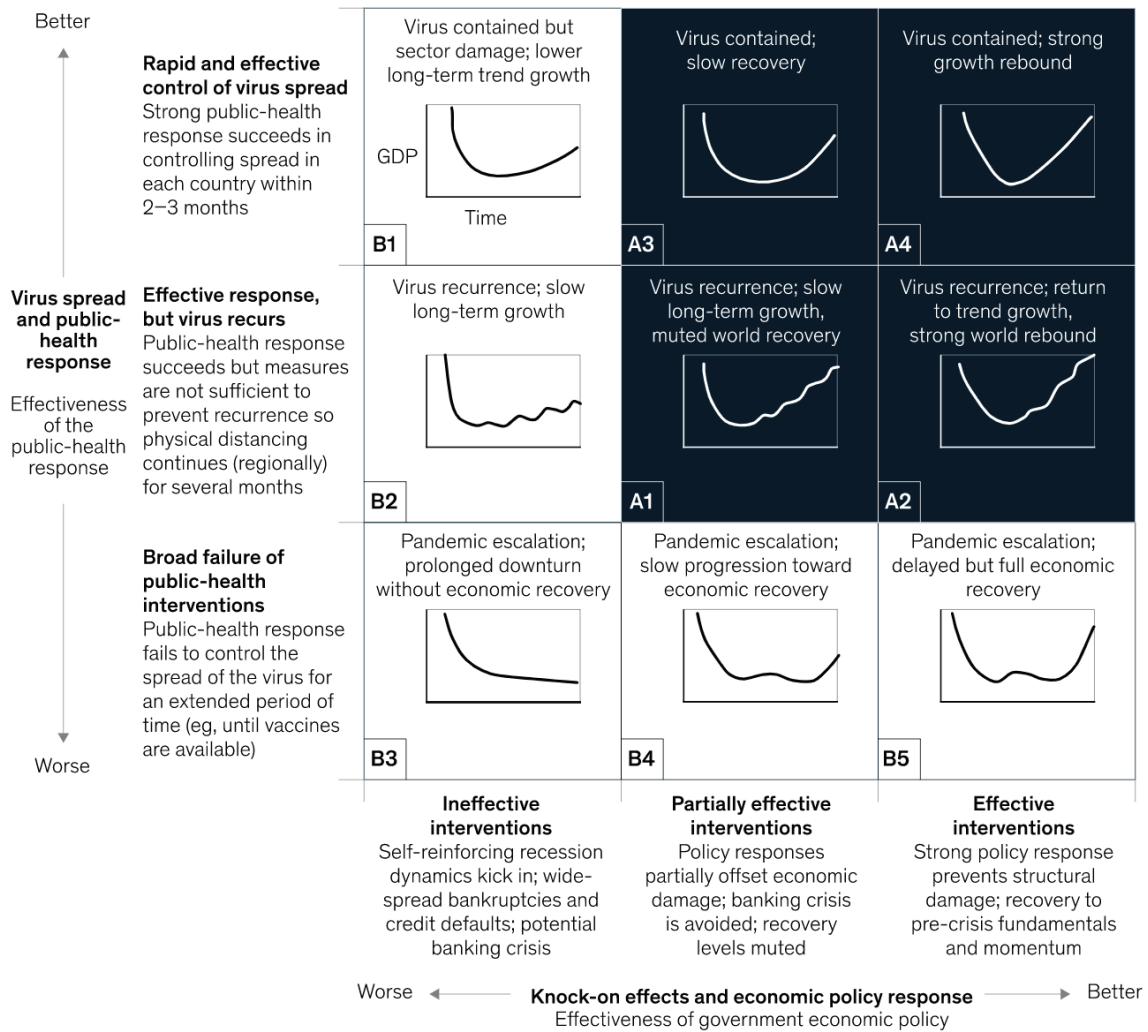


Chart 12: Scenarios for the economic impact of COVID-19 crisis

Source: McKinsey & Company

<sup>3</sup> Roubini (2020): Coronavirus pandemic has delivered the fastest, deepest economic shock in history. The Guardian.

## Impact on Transportation and Telematics

The pandemic changed the customer habits in many ways. People are staying at home, working remotely and using digital tools in every aspect of their work. As people are not going out physically some companies should change their business models and introduce home delivery services. But this is only one aspect of the crisis. People are also consuming less, which has a negative impact on the medium and heavy trucks (HCV) and light commercial vehicle (LCV) segments. Since people travel less, the crisis has hit the buses and coaches, as well as the company-owned passenger car segments, too.

Currently, increasing demand is shown for home delivery, providing a new opportunity for Telematic companies. Although companies (e.g. restaurants) are investing into new vehicles to start their home delivery services, this trend may drop back sharply after the pandemic is over. There are related questions and dilemmas of complex nature. In fact, consumer behaviour and even working regulations (e.g. home office, telework, flexitime) are changing, but the persistence of current conditions is highly uncertain.







# What's next?

Pál has meanwhile arrived to WebEye HQ in the town of Fót and parked his car. The normally busy parking area is empty now. Like for most other companies, the pandemic has changed the way WebEye is operating; employees work from home, with very few exceptions. When he enters the empty office building, he wonders how quickly the management team can accept that much of the “normal” business conditions are gone, potentially forever, and cool their heads switching to an approach focused on looking for long-lasting solutions. The silence of the office feels somewhat frightening, but also like calling for bold steps into the unknown.

As he prepares for the virtual management meeting, he makes a list of priorities of the strategic questions to clarify:

- How can WebEye maintain or even further increase its growth in the current turbulent environment?
- WebEye would keep its market leader position in the HCV segment but looking for a new balance between market share and ARPU expectations.
- The new focus in its growth strategy is clearly the LCV segment. How can they prepare for the post-pandemic, recovery period, and establish the foundations for strong and sustainable growth?
- How can the company most effectively introduce the new TaaS service model to the customers in the LCV segment, taking advantage of the increased attention to its services under the extraordinary circumstances?
- The LCV segment is more diverse than the HCV. What kind of companies should WebEye target in the LCV segment with what specific value propositions?

While listing the questions, it is becoming ever clearer for him that calling in external consultants with a fresh mind and international benchmarks would provide additional power to their strategy development efforts.

He has your team's number in his phone and just touched the call button.

Your phone is ringing, prepare....

**GOOD LUCK!**



# Appendix



Canvas body truck



Solid/Isolated/Frigo box



Cistern for liquid / cereal, etc.



Live animal transport



Dump trucks



Container transport



Special body



Self loaders / cranes



Oversize transport



Vehicle transport



Mixer trucks



Construction/Agricultural/  
Mining machines

## Appendix #1: Classification of trucks

Source: WebEye



▪ Door sensor (big one)



▪ Door sensor (small one)



▪ Driver id - proximity / magnetic



▪ Alarm - local or remote



▪ Canvas sensor



▪ Unhook sensor



▪ Panic switch



▪ Privat/Official switch



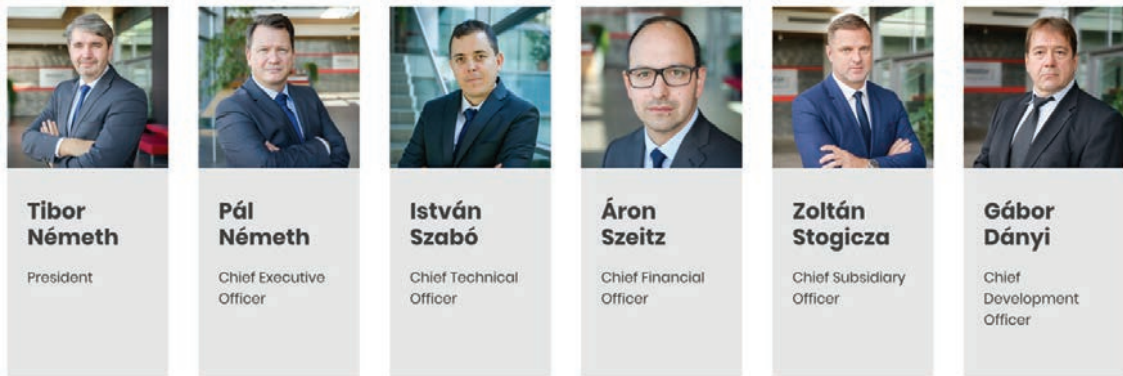
▪ TK



▪ Webasto

## Appendix #2: Accessories & digital sensors

Source: WebEye



Appendix #3: Management team

Source: WebEye



- Hungarian Product Award 2015: Driving Styl
- Hungarian Product Award 2014: eTachograf
- Hungarian Innovation 2014—Grand Prize
- Exporter of the Year 2013
- Special Award for Innovative Exporter 2012
- Pegasus Award 2010
- Bisnode AAA 2013
- ISO 9001:2015
- TÜV Rheinland

Appendix #4: Awards

Source: WebEye

Country	LCVs (<3.5t)	Trucks (>3.5t)	Buses/Coaches	Total
Austria	366,000	69,000	10,000	445,000
Belgium	657,000	144,000	16,000	817,000
Czech Republic	509,000	183,000	20,000	712,000
Denmark	397,000	41,000	9,000	447,000
Estonia	61,000	35,000	5,000	101,000
Finland	304,000	95,000	12,000	411,000
France	5,915,000	424,000	88,000	6,427,000
Germany	2,274,000	893,000	78,000	3,245,000
Greece	840,000	257,000	27,000	1,124,000
Hungary	373,000	87,000	17,000	477,000
Ireland	297,000	29,000	5,000	331,000
Italy	3,844,000	871,000	98,000	4,813,000
Latvia	38,000	34,000	11,000	83,000
Lithuania	51,000	56,000	8,000	115,000
Luxembourg	15,000	5,000	1,000	21,000
Netherlands	885,000	149,000	10,000	1,044,000
Norway	450,000	77,000	17,000	544,000
Poland	2,399,000	941,000	106,000	3,446,000
Portugal	1,118,000	119,000	15,000	1,252,000
Slovakia	209,000	84,000	9,000	302,000
Slovenia	40,000	16,000	2,000	58,000
Spain	4,508,000	517,000	60,000	5,085,000
Sweden	502,000	80,000	14,000	596,000
Switzerland	216,000	54,000	40,000	310,000
United Kingdom	3,737,000	543,000	86,000	4,366,000
<b>EU23+2</b>	<b>30,005,000</b>	<b>5,803,000</b>	<b>764,000</b>	<b>36,572,000</b>

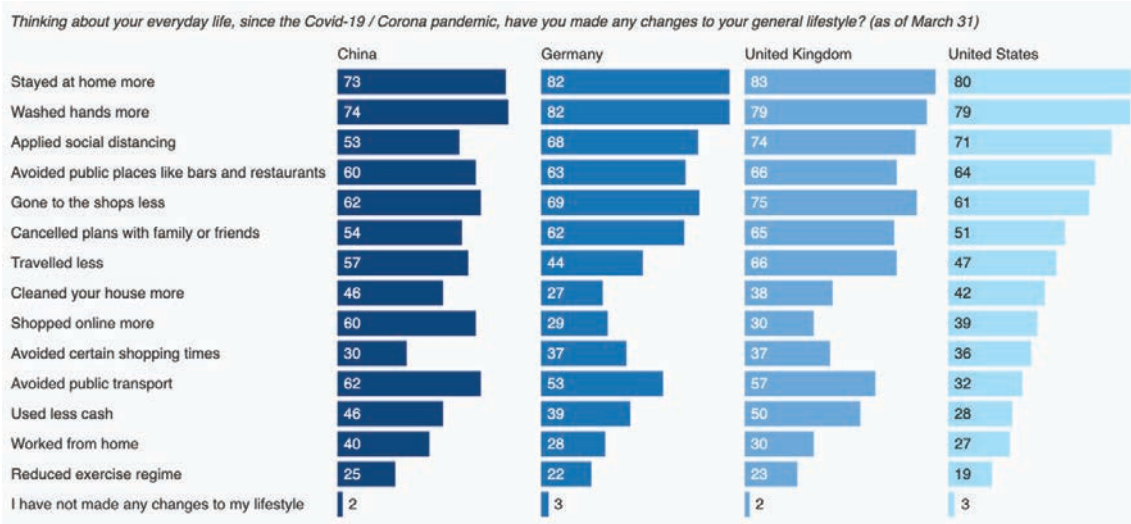
Appendix #5: Commercial vehicles in use (EU23+2, 2014)

Source: ACEA

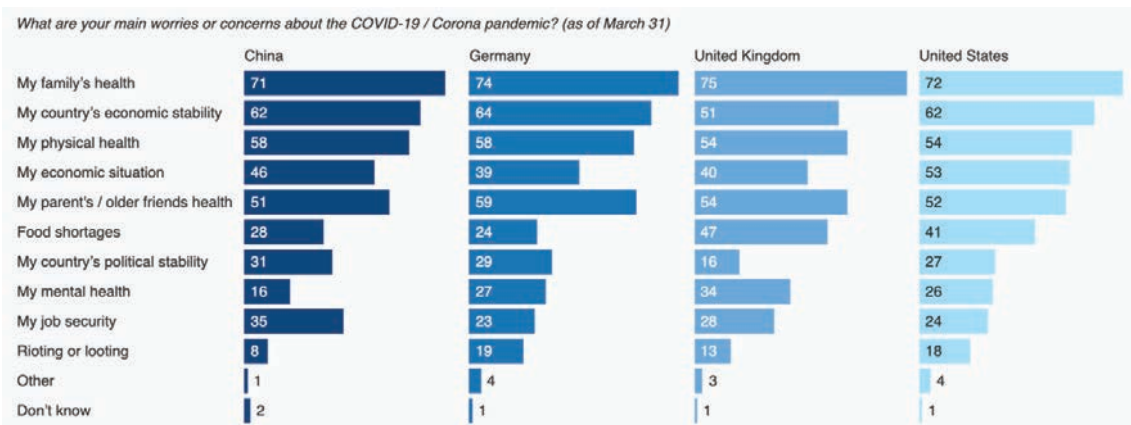
Country	LCVs (<3.5t)	Trucks (>3.5t)	Buses/Coaches	Total
Austria	35,906	7,992	1,041	44,939
Belgium	70,849	10,738	667	82,254
Czech Republic	19,236	11,862	1,001	32,099
Denmark	36,624	5,099	466	42,189
Estonia	4,353	878	171	5,402
Finland	13,678	3,249	579	17,506
France	408,545	48,157	6,593	463,295
Germany	258,119	92,458	6,672	357,249
Greece	5,623	321	103	6,047
Hungary	21,335	5,513	407	27,255
Ireland	27,514	3,040	473	31,027
Italy	199,534	21,156	2,647	223,337
Latvia	2,218	1,588	181	3,987
Lithuania	2,791	6,004	263	9,058
Luxembourg	4,593	1,288	196	6,077
Netherlands	70,025	15,720	840	86,585
Norway	36,002	5,988	1,325	43,315
Poland	56,926	26,630	1,068	84,624
Portugal	34,862	4,557	370	39,789
Slovakia	7,459	3,200	200	10,859
Slovenia	7,738	2,392	188	10,318
Spain	172,191	24,846	3,300	200,337
Sweden	51,647	6,520	1,330	59,497
Switzerland	33,250	4,483	645	38,378
United Kingdom	374,889	49,356	6,258	430,503
<b>EU23+2</b>	<b>1,955,907</b>	<b>363,035</b>	<b>36,984</b>	<b>2,355,926</b>

*Appendix #6: New registrations of commercial vehicles (EU23+2, 2016)*

*Source: ACEA*



Appendix #7: Changes to the general lifestyle due to the COVID-19  
Source: Statista



Appendix #8: Changes to the general lifestyle due to the COVID-19  
Source: Statista

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