

**PROFILE //**  
The Original

NEWS

Profile Vehicles Oy - Magazine for customers & partners, May 2016





## Profile Vehicles Oy

- Founded 1982
- Family-owned company throughout its history.
- Annual production approx. 500 special vehicles from which majority are ambulances.
- Certified ISO9001 multi-site quality management system in all manufacturing units.
- Group parent company and headquarters in Iisalmi Finland, own companies also in Sweden, Hungary and Estonia.
- Entrepreneur of the year in Finland 2001 (Suomen yrittäjät).
- Entrepreneur of the Year 2015 (Eastern Finland, E&Y).



# Profile Vehicles on solid

**Profile Vehicles Ltd.**, a manufacturer of ambulances and other special vehicles, is experiencing strong growth considering all key indicators.

Five years ago, the company's turnover was EUR 17.3 million and production output was 220 special vehicles, most of which were ambulances. By the year 2014, turnover had increased to EUR 32.8 million and 500 vehicles rolled off the assembly line.

The growth rate has been relatively high. Growth has been achieved by increasing sales and production capacity and not by

means of mergers and acquisitions. During this period, a new production facility was established in Hungary which facilitated growth significantly.

- Our growth has been steered in a conservative and controlled manner. In parallel with the sales increases and production capacity, we have developed all our service and support functions in equal measure,' says Profile Group CEO Marko Repo.

As recognition of the right choices and remarkable growth, Profile Vehicles Ltd was elected as Growth Company of the Year

2015 in Eastern Finland in the Pan-European Entrepreneur of the Year competition.

**The headquarters** of Profile Group is located in Iisalmi, a city in Eastern Finland. The family-owned company was originally incorporated in the same city.

- The parent company of Profile Group is located in Iisalmi. The parent company steers and manages all core activities of Profile Group, such as sales, financial administration, design and development, sourcing and quality assurance. Besides Iisalmi, vehi-





# growth path

cles are manufactured in Hungary and Estonia by our subsidiaries, which are fully owned by the parent company and, thus, held by the same family.

- The stated company values are cooperation, development, commitment and quality, and we hold these values in high regard during all our activities.

The manufacture of vehicles has been regionally distributed so that the production facility in Isalmi manufactures vehicles mainly for the Nordic market, whereas the Estonian subsidiary manufactures vehicles sold in the Baltic coun-

**The stated company values are cooperation, development, commitment and quality, and we hold these values in high regard during all our activities.**

tries or exported to the Russian market. The Hungarian Ministry of Health has been the largest customer of the production facility in Hungary, and vehicles are exported mainly to Eastern and

Central Europe and to some more remote countries.

The greatest target for our company is retaining its position at the cutting edge of ambulance development. Profile has been more than capable of meeting this target. All Profile brand ambulances are now more advanced than ever before in terms of safety, ergonomics and hygiene.

Development in the field of pre-hospital emergency medical care has been rapid. It is no coincidence that our development work has been able to keep up with the latest industry developments.



# Advanced vehicle manufacturing technology

**Profile Vehicles** has developed its manufacturing processes further by investing a great deal of resources in it, in addition to the design work. Of the company's stated values, internal and external cooperation has assumed a more pronounced role, together with development activities. Without continuous development the company could not have been able to meet the challenges presented by the rather rapid expansion and growth of the company and business activities.

All standard products and product configurations composed of various different modules are manufactured on assembly lines based on a scheduled mean completion time. The assembly line has several assembly stations, each of which inspects the work quality of the previous assembly stage.

In other words, there are several quality assurance control stages during the course of the overall manufacturing process operation. Furthermore, in the final quality assurance inspection, it will be assured that the unit includes all the required equipment and components and that they are functioning appropriately.

At the initial stage of the manufacturing process all the standard products and modular configurations are completed, and in the final stage the unit can be customised according to a

customer's needs.

According to Profile Group Sales and Marketing Director Jari Mononen, the manufacturing process seeks to provide high-quality products, short lead times and maximum efficiency.

**Profile's customers** benefit also from other advanced processes associated with manufacturing and design activities.

- All our production facilities operate on the basis of the so-called Lean Manufacturing model, made famous by the automotive and electronics manufacturer, Toyota. The model is based on a number of principles whose application enables achieving high quality levels and time savings, as well as a customer-oriented approach to the manufacturing process in general. In the Lean Manufacturing model all work tasks and stages which do not provide added value for the customer are eliminated, and all work input is focused only on the necessary tasks requiring immediate attention at any given time.

- We also utilise efficiently the so-called 5S working environment organisation method. This is basically a quality assurance tool that helps us eliminate unnecessary tools and equipment at the work stations, to keep only the necessary items within easy reach and to

maintain the entire working environment in a tidy and safe working condition.

Quality assurance is also a primary objective in all manufacturing processes, and Profile seeks to lead the way in this respect too. Identical manufacturing processes and operating models are utilised in all the production facilities of Profile Group, and the same certification body audits all the production facilities.

One of the stated company values is quality. Profile makes no compromises concerning quality or quality assurance, because, at the end of the day, our customers benefit from the high-quality work outcome.

- All special vehicles and versions included in our production range delivered from all the production facilities delivered from all our production units are manufactured according to exactly the same features and requirements and assembled with exactly the same high-quality workmanship. All our employees have undertaken full compliance with the agreed operating procedures and methods which facilitate optimising both the high-quality products and manufacturing processes. The customers can be sure that they will receive a high-quality Profile product. In the course of the year 2016, our quality management system will conform to the requirements of the new version of ISO 9001:2015.

## Profile is authorised Mercedes-Benz VanPartner

Profile Vehicles works in a close cooperation with a number of leading chassis manufacturers so as to be able to offer, at relatively short notice, advanced and innovative bodywork solutions for ambulances or other special vehicles to be constructed on any given type of chassis manufactured by the cooperation partner.

By virtue of such cooperation, Profile is capable of meeting all the specifications and requirements defined by the chassis manufacturer in bodywork design and structural safe-

## VanPartner by Mercedes-Benz

ty. The customers benefit from the added value afforded by the cooperation, because Profile can maximise the utility value of the entire surface area of the chassis platform to meet customer expectations, while taking into consideration the maximum permitted load-carrying capacity of the chassis in the bodywork design.

- Mercedes-Benz VanPartner status provides a prime example of our excellent partnership which allows access to the technical specifications of the various types of chassis at a very early stage, a fact that facilitates efficient and focused product development. Local Mercedes-Benz import companies and distributors can always trust in Profile and their cooperation with us, since we are an authorised partner of Mercedes-Benz and have access to their full technical support,' says Profile Group Sales and Marketing Director Jari Mononen.

# Products to accommodate all prehospital emergency medical care needs

The product development work of Profile Vehicles is based on feedback and suggestions provided by the foremost experts in the field, namely the customers. It is equally imperative for the ambulance manufacturer to be informed of any new customer needs and new technological solutions and materials which enable developing innovative product properties and enhancements.

Safety, ergonomics and hygiene constitute the foundation for Profile's development activities. These three aspects are considered very carefully when the company develops new products or enhancements to the existing products

– Basic features are non-negotiable.

Actual customer needs and new operating models applied in the field of pre-hospital emergency medical care will be used to enhance the product properties and pre-designed modular solutions.

All product design is based on the concept of modularity so as to ensure that the products would be in all cases pre-designed and tested to the greatest extent feasible before they enter the production stage. This process ensures a serviceable overall solution, short delivery times and high-quality finishing.





# Advanced New Advanz

**Mercedes-Benz** launched a new Vito series van on to the market in 2015. Already before the first deliveries of the new vehicle model were made from the factory, Profile Vehicles had developed for the chassis a next generation bodywork, available in several different versions.

The objective of the development work was to integrate in one single ambulance model nearly all previous innovative solutions created and further refined by the designers of Profile Vehicles – hence the product name Advanz, perhaps an allusion to the advanced design, a step forward in the right direction.

**The range of available Profile** bodywork versions comprise both the A1/A2 versions for patient transport and the full-blooded B version for emergency primary care work. Field Command - and Paramedic vehicles are available on Vito chassis as well.

A great many employees of Profile Group were involved in the development process – from top-management to assembly line workers. Design was based on the existing time-tested solutions (Neo and Genios) which were developed further taking into consideration the following aspects, for example:

Optimal utilisation of the compact space (the patient compartment is wider than in Neo)

■ Enhanced ergonomics (e.g. the installation angle of the touch-screen control panel in the paramedic's desk)

■ Large modules and potential need for customisation (open cabinet on the right side wall, extra windows and so on)

■ Increasingly improved hygiene and ease of cleaning; large surfaces and rounded contours enable more effective cleaning

■ Structural design focused on creating an optimally light-weight bodywork and, thus, keeping the total weight of the vehicle to a minimum

■ Increased structural safety is also ensured by means of testing all structural components in compliance with the requirements and specifications of the standard EN1789

■ Design was also based on creating a new exterior design for the vehicle, including the new integrated emergency vehicle lights and remodelled elevated rooftop – without forgetting the distinct features of the Profile brand

The design of the interior spaces started from the placement of the basic vehicle systems and components, such as the air conditioning system. Once the design of the platform, the system and equipment placement, and special Profile ambulance roof extension had established the dimensions of the space available, the largest surfaces were designed on the basis of this input data.

Finally, the design process reached the most time-consuming stage – the design of the details and functionalities in which the equipment spacing, corners, edges and other rounded contours were finalised.

The designers were faced with a challenging task, for example, in seeking to maximise the space in patient compartment from very compact space available, while trying to take into consideration all potential customer needs already at the design stage.

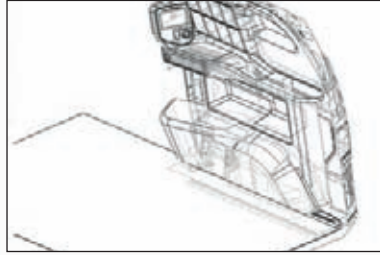
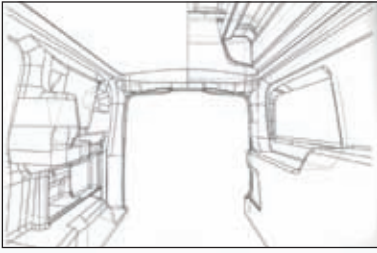
Customers have appreciated the driving performance and manoeuvrability of Profile Advanz which

was included in the product offering of Profile Vehicles last year. Most customers prefer the four-wheel drive option of Advanz which is as easy to drive as any passenger vehicle, but makes it possible to reach the patient in demanding road conditions and in rough terrain. Especially in sparsely populated areas outside conurbations the new vehicle has been received with great enthusiasm.

The patient compartment provides sufficient space for the purposes of pre-hospital emergency medical care despite the compact structure of Advanz. The design of the patient compartment is based on the concept that all medical equipment and devices, storage spaces and, most importantly, the patient are within the reach of the paramedic while the seatbelt is buckled up. Illumination and the air conditioning and heating systems were designed especially for this vehicle model both in terms of output and performance capacity.







All interior materials and surfaces in Advanz are designed in compliance with the most stringent hygiene criteria, while giving due consideration to ease of cleaning. The surfaces in the patient compartment are optimally smooth, even and without any seams and joints. All bodywork joints have been sealed water-tight.

Disinfection of smooth surfaces is easy after every emergency or patient transport mission. 'For several years now, we have paid a great deal of atten-

tion to creating patient compartments without any sharp corners, edges or other contours,' says Profile Vehicles CEO Marko Repo.

**One of the targets** in all design of large streamlined cladded components has been structural durability and their optimally minimal weight. The weight of durable structures exposed to heavy use has now been optimised, enabling us to keep the total weight of the vehicle at minimum. Combining struc-

tural safety with ergonomics produced an excellent outcome, and patient and medical staff can travel and operate safely and comfortably in the patient compartment during any mission.

Designed to make the driver's and paramedic's work more straightforward and safe, Advanz features an entirely new CAN bus control system with touch-screen control panels for both the driver and the paramedic. The traffic visibility of Advanz has been enhanced by a new design of the integrated emergency- and worklights. The news lights are also easier to service.

Advanz has attracted considerable interest in the Norwegian fjord regions and in Sweden, where it has been rather customary to use smaller than usual passenger vehicles also for prehospital emergency medical care purposes instead of larger ambulances because of the demanding conditions.

'In areas in which roads are narrow and steep Advanz is at its best,' says Repo.

The excellent properties of Advanz have also been recognised in Central Europe, and several vehicles have been delivered there too.



## European ambulance standard EN1789

The European ambulance standard EN1789 was defined and adopted by the European ambulance industry. The standard specifies the minimum requirements for each type of primary care vehicle manufactured in Europe.

The objective of the standard is to ensure that the activities of all ambulance manufacturers and their products are in conformance with the specified requirements and criteria concerning structural safety and the basic ambulance functions, for example.

Before purchase, verify with your ambulance supplier that the ambulance meets all of the requirements and criteria under the standard EN1789, including the factory acceptance test procedures and methods specified in the standard.

## European Whole Vehicle Type Approval (EWVTA)

EWVTA stands for European Whole Vehicle Type Approval covering the entire vehicle composed of the chassis and bodywork.

Apart from the type approval of the chassis, EWVTA comprises the requirements under the ambulance standard EN1789 and numerous other stringent specifications defined for the bodywork structures.

These all requirements and specifications form the basis for granting EWVTA certification which guarantees that vehicle meets in every respect the most stringent criteria in terms of safety and ergonomics.

Profile has a comprehensive offering of EWVTA certified Genios range ambulances constructed on MB Sprinter chassis.

All these options are available for you – please contact your own Profile sales.

## Neo to be refashioned

Also the legendary Profile Neo ambulance is being upgraded, now constructed on the Volkswagen T6 chassis. The new Neo will feature the same enhancements introduced by Profile Vehicles to Advanz ambulance which were highly appreciated by the customers.

Profile manufactures ambulances constructed on various different chassis types, including the Renault Master, for example.

The company is very attentive to both customer and market needs, and new bodywork models are developed, designed and finally accepted in the production range on the basis of existing market demands.

## Profile is now authorised distributor of Stryker patient transfer and transport systems in the Nordic countries

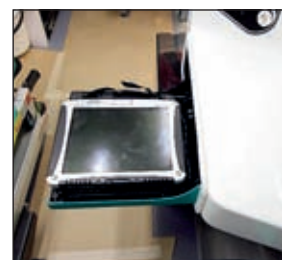
Stryker is one of the leading manufacturers globally of advanced EMS products, including patient transfer and transport systems.

Since the beginning of the year 2106, Profile Vehicles has been an authorised distributor of Stryker EMS products in Finland, Sweden, Norway and Denmark.

Further information as well as the contact information of sales is available at <http://www.profilevehicles.com/en/products/stretchers>

# Profile Genios - the m

In the course of the past year, various new enhancements have been made to the legendary Profile Genios ambulance. The entirely new integrated emergency vehicle bodywork is the most easily perceptible exterior sign of the new generation. The front and rear ends have a new and more modern look. The integrated LED blinkers and white work lights provide a greater light output and visibility. The new fogging system is both soundless and more efficient. Due to the rapid development of patient transport and field command systems, Profile has focused on developing signing new solutions for the installation of the various on-board computer devices and for user-friendly structures which allow using the new functions also while on the road.



Profile has integrated a new structural component in the paramedic's desk which enables ergonomic use of Panasonic Toughbook or similar device while sitting with the safety belt buckled up. When not in use, the laptop can be folded underneath the desk, protected from shocks and splashes, for example. There are no sharp corners or edges in the vicinity of paramedic's desk or in the new desk structure.



In most cases, the dashboard has hardly any room for the various radio devices or display panels, and the number of these devices would appear to be increasing rather than decreasing. For this reason, Profile have designed a new mounting solution as an alternative to the original Mercedes-Benz 2-DIN opening designed for the radio unit. The new mounting can be placed lower down in the mid-console so as to allow more room for the devices needed when driving.



# most popular and best-selling Profile ambulance

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balance.  
lights are the  
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a modern look, whi-  
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Ergonomics and user-friendliness of the patient compartment has been enhanced by re-designing the structure of the seat in front of the stretchers in order to provide a more comfortable sitting position either on the sitting box or the hinged seat. A new full-height seat back cushion is now available as an optional accessory.



Safety aspects are given due consideration in all development and design work. The new emergency opening button in the back door is a vital concrete safety mechanism despite its modest appearance. A mere push (instead of pulling the handle as previously) of the emergency opening switch will release and open the back doors whenever needed.

Safety and especially the safety of children is a cause of concern that we all share. A new paramedic's seat with integrated 5-point seat belt designed for children is now available as an optional accessory.



Customers have various different needs concerning the required oxygen equipment. In most cases, the vehicles carry a small-volume extra oxygen cylinder on-board, traditionally placed behind the sliding door on the left side wall. A new alternative solution is now available for the placement of the oxygen cylinder inside the patient compartment, integrated in the oxygen stand which can be turned in a horizontal position outside the back door which enables replacing the cylinder ergonomically without stretching your back muscles.





# New innovative CAN bus

**Profile eCan** is an entirely new special vehicle CAN bus control system whose design is based on state-of-the-art technological solutions. The objective of the development project was to create a user-friendly system environment which is durable in all conditions.

Profile Vehicles developed the system in collaboration with top experts in the industry. The system comprises numerous electronic control system units and components, as well as touch-screen panels of different sizes for which totally new bus wire harness

system was developed.

The new cables feature new connector faces which have increased significantly the fault tolerance of connectors, for example. Furthermore, the number of bus nodes and other units has also been greatly reduced. This facilitates running on-board diagnostics more easily and rapidly as well as taking without delay any required repair action in the event of incident.

**The new system** in its entirety was designed to be modular, and unlike many other manufacturers of

special-purpose vehicles, Profile has comprehensive in-house expertise and competence concerning the system and its technological solutions and programming.

User-friendliness is important for paramedics in their work tasks. The primary objectives of the development project were defined on the basis of the requirements arising from the work of the drivers and paramedics: the driver must be able to concentrate on driving and observing other traffic, and for this reason the driver's user interface shows as a default on the





# control system

display panel only the primary functions as touch-screen pictograms. The user interface is organised logically and any additional functionalities are easy to select if needed. Thus, the driver only needs to a glance at the display pan-

el for one or two seconds at a time.

**The paramedic's** user interface is also organised logically in terms of the primary functions related to primary care. The paramedic must be

able to focus on the patient while simultaneously adjusting the heating, air conditioning, illumination and other similar systems related to primary care.

On both the driver's and paramedic's display panel, a number of key indicators related to the vehicle and CAN system are shown as clearly distinct pictograms and colour codes. For example, any potentially hazardous vehicle manoeuvres are shown in red.

All system components are manufactured in compliance with the specifications of the automotive industry standards, and, for example, the functions shown on the touch-screen panels can also be controlled when wearing gloves as well as in all conditions and in extreme temperatures.

**The paramedic must be able to focus on the patient while simultaneously adjusting the heating, air conditioning, illumination and other similar systems related to primary care.**



## Tavastia Rescue Department

■ Tavastia Rescue Department is one of Finland's 22 regional rescue departments,

■ The rescue service region comprises the following municipalities: Forssa, Hattula, Hausjärvi, Humppila, Hämeenlinna, Janakkala, Jokioinen, Loppi, Riihimäki, Tammela and Ypäjä.

■ On 1 January 2014, the region had 175,481 inhabitants, and the total area was 5,707 km<sup>2</sup>.



Best regards from Tavastia:

# 'Profile pays attention to the cu

**Lasse Hakala** is the head of pre-hospital emergency medical care services of Tavastia Rescue Department and the Health Care District. He is a man of considerable experience in the field, and has held various positions with Tavastia Rescue Department for a full decade by this coming May.

Hakala says that locals have become rather fond of the ambulances delivered by Profile. Ambulance crews have especially appreciated the ergonomic design and uncomplicated organisation of the functionalities.

'Ergonomics and utilisation of space have been developed further, and one noteworthy new solution is the further developed paramedic seat. The full-

**The floor is easy to wipe clean, and in the patient compartment there are no structural details which would allow the build-up of any dirt**

height bodywork version provides ample space for working. Safety improves significantly when there are no loose items on-board,' Hakala says in an admiring tone.

When the vehicle is in motion, working in the patient compartment is always challenging.

'The new paramedic's seat makes work significantly more straightforward and safer when almost every task can be performed while sitting with the seat belt buckled up.'

The ease of cleaning the patient compartment is highly praised by Hakala. 'The floor is easy to wipe clean, and in the patient compartment there are no structural details which would allow the build-up of any dirt.'

When Hakala is asked to provide an example of any specific solution, equipment or functionality of the ambulance design which, in his opinion, has been vital for patients and primary care, he cannot come up with a simple answer. This is because there are too many such examples.

'In fact, in all acute cases which require that immediate medical care be provided on-board on any emergency mission, for example, in con-



Lasse Hakala,  
Vesa Keskimaa  
and Miika Koi-  
vurinne.

## Customer throughout the process'

nection with severe injuries, cardiac arrests or resuscitation measures.

**Tavastia** Rescue Department is tasked with providing primary care services across the entire Tavastia Region on the basis of cooperation agreement concluded with the health care district.

The rescue department has 17 ambulances and one field command vehicle. The regional rescue department carries out approximately 30,000 primary care missions every year.

Hakala says that Tavastia Rescue Department has a high regard for the professional competence and expertise of Profile which became

evident at every stage of the procurement process. Hakala himself was impressed by Profile's flexibility and practice-oriented approach to design work.

'Merely the fact the bodywork manufacturer actively seeks to suggest new improvements to the ambulance unit already ordered is rather unique, as well as the company's responsiveness to suggestions made by the customer in the course of an ongoing process. Profile has surpassed all our expectations in this respect,' Hakala says.

The rescue department is very satisfied with the smooth and prompt functioning of after-sales service

es delivered in accordance with the maintenance and technical support agreement.

According to Hakala Profile has been very successful in product development. The ambulance manufacturer has adjusted and responded very well to changing customer needs and requirements, treading carefully but with great consideration.

These best regards from Tavastia Proper conveyed to the Iisalmi production facility are also an encouragement.

'Carry on with the good work, pay close attention to customers in the development activities and after-sales service.







# Czechs satisfied with renowned Profile safety

**Profile Vehicles** started operations in Czech republic approximately 2 years ago in cooperation with local distributor ARC vehicles s.r.o. Now already 40 Genios ambulances has been delivered and partnership with ARC vehicles has developed well.

**ARC**  
VEHICLES

~By~

**PROFILE //**

**Bordering on Germany**, the Pilsen Region lies in the southwest of Czechia and has nearly 600,000 inhabitants.

The region's rescue service is divided into four administrative districts. The joint operative command centre of the prehospital emergency medical care services of all the districts is located in Middle Pilsen.

Pavel Hrdlicka is the head of the 24/7 operative command centre tasked with controlling and coordinating primary care missions carried out by a staff of 700 members in all. The four primary care districts of the Pilsen Region have a fleet of 40 EMS vehicles at their disposal.

The Profile Genios range ambulance units were delivered to Czechia early this year. The Pilsen primary care service districts now have first-hand experience of the new ambulances.

**On the basis** of this initial three-month period, the new users especially appreciate the safety aspects of Profile Genios.

Ambulance driver David Zika has over ten years' working experience in the field. Given his experience, he can truly appreciate the safety of the vehicle.

- 'In my opinion, even every minor detail in the patient compartment has been designed and organised giving due consideration to safety. There are no open shelves, and all necessary devices, equipment and instruments are in closed lockers which is important for safety,' Zika says.

The new users have a long wish list concerning the vehicles in everyday use. As a driver, for Zika the performance of the chassis is



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vital, but he can also appreciate the spaciousness of the patient compartment. Another Profile design solution which Zika finds very successful is the placement of the emergency vehicle lights.

The supervisor of the drivers, Martin Tomášek, thinks highly of the overall safety of the vehicle. He is of the opinion that the working conditions are good and ergonomics even better, even though a few details in the patient compartment might require further elaboration for their dedicated needs.

## Head of transportation

David Jarolim has worked in primary care for 15 years already, but for him too this is the first time of actually deploying Profile vehicles in field work. In his opinion, safety

has been considered very carefully in structural bodywork design.

'Some solutions are particularly well designed in terms of ergonomics. The patient compartment as a whole is of a very high quality.

- While the vehicle is in motion, the paramedic can from the paramedic's seat reach all the control and monitoring devices without any need of shifting focus away from the patient.

Keeping the ambulance clean is very easy.'

Jarolim says that only time will tell how the Profile ambulance performs as an overall solution, because at this point his experience is so limited that it would be rather unwise to make any further comment in this regard. As a professional, he keeps himself informed of the latest developments and trends in primary care, and knows very well that safety is one of the key areas of focus at Profile Vehicles.

He would like Profile to continue investing in the production facility in Hungary, which is, after all, almost a neighbouring county.





## **Profile Vehicles Oy**

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