

Issue 2021

proSewer

The customer magazine of MÜLLER



Now with
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POSTER** in
the middle
section

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THE TRUCK PEOPLE

Have you heard about
our maintenance contracts?

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Dear readers, dear business friends,

the spread of the coronavirus and the resulting consequences have thrown our previous world into a state of emergency for which there are no proven solutions or simple recipes. For us as a production company, the Corona pandemic and its effects pose great challenges.

We receive orders from you and, of course, you expect us to provide concrete deadlines for the process from quotation to vehicle delivery. Unfortunately, however, this is becoming increasingly difficult, and this is not due to our own planning. Rather, the corona crisis is making it abundantly clear to us just how great the mutual dependency in a globalized world has actually become. We are now feeling the effects of this in our industry through massive problems in the supply chain, which are manifesting themselves in acute supply bottlenecks in the areas of chassis, electronics, hydraulic components, aluminum sheet and other components.

We are aware that the current market situation with major delivery delays will have a considerable impact on everyone and will demand a great deal of flexibility and solitude from all concerned in the coming months. Nevertheless, we should not forget that we are market partners. We can only reach solutions by mutual agreement. In our view, therefore, our entire industry must now prove itself as a community of solidarity.

We at MÜLLER would like to focus on the future despite the issues of the present day. This includes interesting and innovative products as well as new technologies. In this issue, you will therefore read an interesting article on the further development of the FRONTLINER vehicle type, in which we have given thought to the vehicle height and a better payload. Also we are very proud to present the highly optimized water recycling system.

In general, we at MÜLLER are known for attaching great importance to the aesthetics of a body. At the same time, however, it is just as important to us that an innovation also results in clear advantages for the user. We think we have achieved this with the new modular covering concept. Read about it in this issue.

Everyone is talking about the end of the combustion engine. In many discussions with our customers, we have noticed that there is a great deal of uncertainty in many quarters as to which chassis will be able to be used at all in the future. Chassis manufacturers are working intensively on new drive options, but at the moment there are still no signs that our industry is moving in the right direction. That is why we have tried to shed some light on the subject in this issue of proSewer.

It is a well-known fact that employees are a company's most important asset. This is no different at MÜLLER. That's why we have completely reorganized our human resources management in order to deal professionally with all the concerns of the existing workforce in the future and to further improve the value of MÜLLER as an employer brand. In this issue, you will get to know our new Head of Personnel Management.

We would like to thank you for your continued trust in our company and, as always, hope you enjoy reading this issue. On behalf of all our employees, we wish you happiness, success and, above all, good health – stay with us and, above all, stay confident.

Yours sincerely,

 
Dr. Volkwin Müller Wolfgang G. Müller



LOW HEIGHT

LONG ENDURANCE

WATERRECYCLING

LIGHT TRUCK

LARGE PAYLOAD



INNOVATION: No time for lockdown!

The new FRONTLINER PRO next generation

Due to the pandemic, the last year and a half have been characterized by massive restriction in many areas of life, which have not even stopped at the economy (see also our article on CORONA). Short-term work and shortage of parts are only two of the issues that still occupy many companies today – not to mention the many threatened or even destroyed livelihoods.

For MÜLLER, however, it was clear from the very beginning: No matter how the situation develops – there is no lock-down, no postponement for our innovation activities! On the contrary. The MÜLLER innovation team, consisting of Research & Development, Production and Sales, used the time intensively to focus on selected areas with optimization and innovation potential and to bring them into line with current social issues.

After all, after the success stories such as the HELICOPTER and FRONTLINER booms or the legendary MU-COCKPIT, time has of course not stood still.

The product requirements for our vehicles are constantly changing, but the needs of our customers are still our top priority (see also our article on electric drives). Since innovations do not come out of the blue and a number of ideas and preliminary concept studies already existed, the innovation team focused on the key areas of flexibility, occupational safety and, in particular, resource efficiency in order to offer our customers real added value, also against the backdrop of the current climate debate. Specifically, the topics that came to the fore were the overall height of the vehicle, the performance of the water recycling system, the unladen weight, the payload, and the center of gravity – all of which are ideally suited for implementation in a new truck. The team named this project “4L.”

The FRONTLINER PRO next generation is the result of this project. It is a CANALMASTER WA PROFESSIONAL next generation with FRONTLINER boom and the best water recycling of its kind we have ever built.

It features an extremely low overall height, a highly optimized and extremely high-performing water recycling system, a reduced overall vehicle weight and an overall increased payload.



Who is not familiar with this? Time and again, there are situations in which, for example, low bridges, low-hanging trees in road traffic, overhanging parts of buildings or low hall gates represent insurmountable obstacles for sewer cleaning vehicles in operation.

In some cases, the operating conditions on site simply do not permit a vehicle of up to 4 meters in height. Of course, it is usually possible to find alternative routes or to change procedures on site. But this is often at the expense of work efficiency and thus also resource efficiency overall. The innovative body concept of the new FRONTLINER PRO next generation has succeeded in significantly shifting this operating limit by noticeably reducing the overall vehicle height.

Whereas with a comparable vehicle of the previous generation it was not possible to go below a certain body height or – if at all – only with great effort, we now deliver the new FRONTLINER PRO next generation with a body height that is up to approx. 200 mm lower, depending on the equipment.

A quantum leap for this type of vehicle. This is because the CANANLMASTER WA PROFESSIONAL, i.e. the CANANLMASTER with a type 2 water recycling system, is characterized by the provision of a water tank for water recycling to the right and left of the cylindrical sludge tank respectively, which means that greater flushing capacities (flow rate) can be realized due to a larger supply of recycled water. Classically, in the old generation of vehicles, a reduced body height was always at the expense of the diameter of the cylindrical sludge tank.

Not so, however, with the new FRONTLINER PRO next generation. The mixture of a general body concept and a special body configuration make it possible to realize both a low overall height and an optimally dimensioned sludge tank.

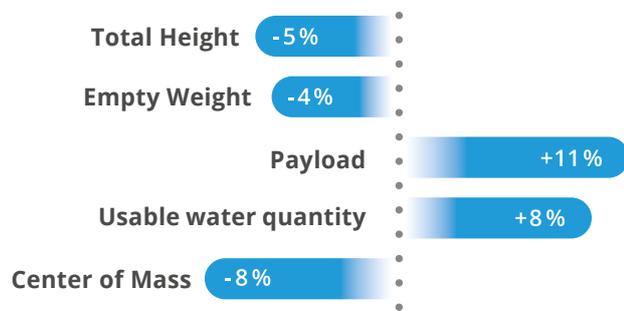


Sophisticated lighting package: In addition to the practical arrangement of the rotating beacons on the vehicle, we attach great importance to perfect illumination of the working environment. It is also possible to illuminate special positions entirely according to customer requirements. For example, the boom can be positioned even more easily in the dark. It is also conceivable to illuminate the open tank door to enable any cleaning work to be carried out in the dark.

But how is that possible? And here the MÜLLER innovation team has managed a little stroke of genius, which has to do with the new water recycling system, among other things. Various measures have been taken to significantly increase the volume of treated water that is later fed back to the high-pressure pump for cleaning.

However, not at the expense of the processing quality – quite the opposite! This could even be greatly improved by more than doubling the yield of sedimentation. With significantly increased performance of the water recycling system (more cleaning water), part of the tank volume can be sacrificed for water recycling in favor of the

Key-Fakts FRONTLINER PRO next gen.*



*Data for a specific vehicle configuration and for a specific loading condition.



sludge tank volume, resulting in a reduction of the empty vehicle weight and thus an increase in payload. But anyone who thinks that this means that there is no more water available overall for the high-pressure pump is wrong.

The amount of water that can be used from the water recycling system has also been increased (by reducing the unusable part of a water recycling system). And not only for vehicles with discharge pistons, but also for dump trucks. In the latter, by the way, the high-pressure pump can still be used for cleaning work even when the tank is raised/tipped.

There are other features also, which make working with this machine even more pleasant. For example, all water recycling chambers do not need to be accessed for cleaning or maintenance purposes, as everything is easily accessible from the outside via the corresponding openings.

The self-cleaning of the water recycling system has been increased so that any cleaning measures that may be necessary are reduced to an absolute minimum. Even more spacious tool and equipment cabinets can now be accommodated on the left and right sides of the vehicle.



This increases the storage space. What's more, these cabinets remain horizontal in the case of a tipped tank, so the operator doesn't experience a nasty miracle after tipping the tank (see also our article on the covering concept). Or how about a lower vehicle center of gravity, which makes driving even more pleasant and safer?

Last but not least, the new FRONTLINER PRO next generation can be supplemented with other established options, such as our unbeatable lighting package for working at night. Did this project hit the key issues of flexibility, occupational safety, and resource efficiency? In our opinion, yes – even exceeded!

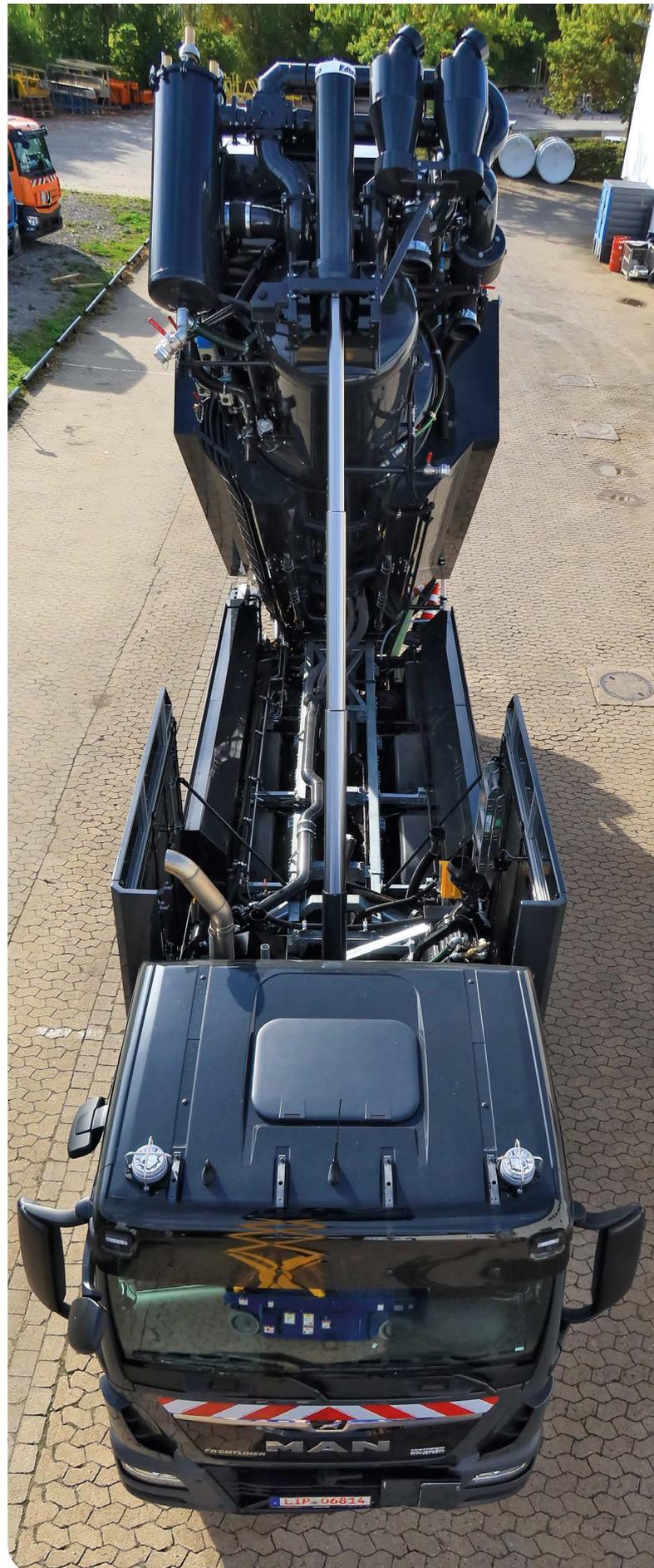
Flexibility is ensured, for example, by the reduced overall height, but also by the even more efficient water recycling system. At the same time, the latter is a key factor in increasing both work and resource efficiency. And a vehicle with a reduced center of gravity is simply even safer to drive on the road.

When you consider that despite a quantitative increase in water recycling capacity (cleaning water quantity), the water recycling quality has also been significantly increased and that by reducing the volume of the water recycling chambers, the empty weight has been reduced and the payload has been increased by more than this effect, that is quite remarkable. And if you then consider that despite the combination of all measures, there is still more usable cleaning water available overall, then one can only say: the team has done a great job and made the impossible possible!

We hope this has whetted your appetite to learn more about the FRONTLINER PRO next generation. Look forward to the details!

Author: Wolfgang G. Müller

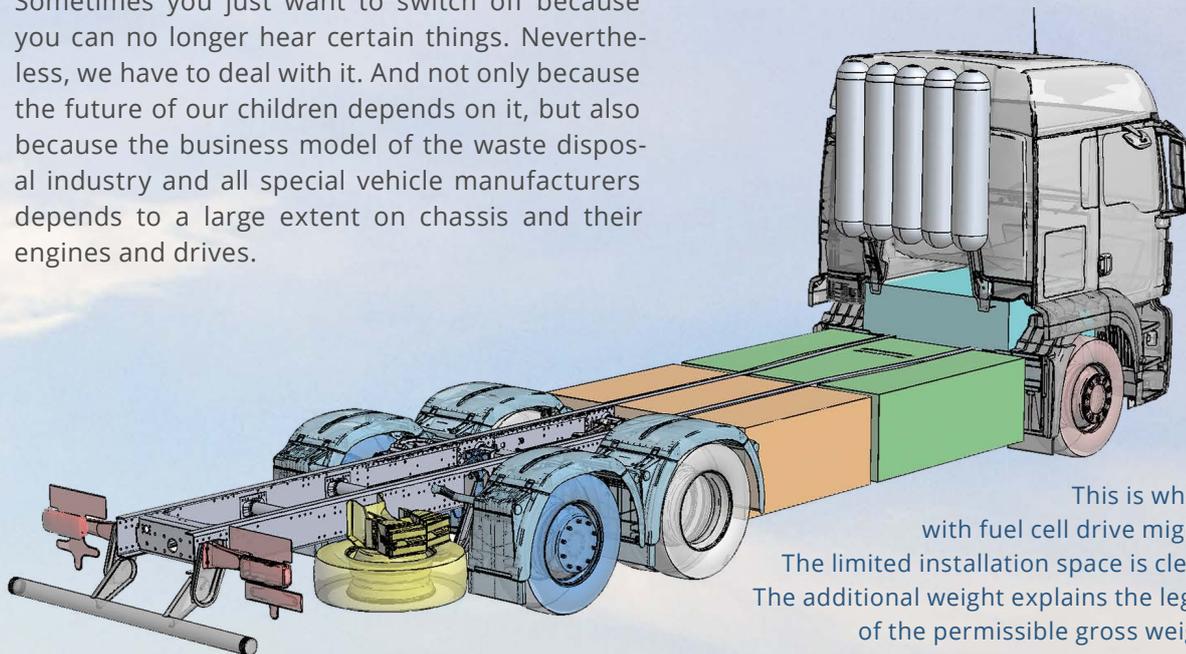
Photos: MÜLLER Umwelttechnik



ALTERNATIVE POWERTRAINS: Who owns the future of the truck?

The number of publications about the future of the truck and its possible engine and drive variants in trade journals, the Internet, etc. is almost unmanageable. At the same time, new reports from politics, society and the economy about the upcoming climate change and who is emitting how much CO₂ are creating increasing unrest, which is also leaving its mark on our industry.

Sometimes you just want to switch off because you can no longer hear certain things. Nevertheless, we have to deal with it. And not only because the future of our children depends on it, but also because the business model of the waste disposal industry and all special vehicle manufacturers depends to a large extent on chassis and their engines and drives.



This is what a chassis with fuel cell drive might look like. The limited installation space is clearly visible. The additional weight explains the legal increase of the permissible gross weight by 10%.

The share of the traffic and transport sector in CO₂ emissions is immense. In the EU alone, the share is around 25% of total CO₂ emissions. Of this, commercial vehicles account for between 25 and 30%, and the trend is still rising. Therefore, according to current political decisions, it can be assumed that the diesel truck will disappear from our streetscape and the sewer after more than a century of dominance.

The efficiencies of the various drive systems vary considerably in some cases. VW puts it very graphically as follows: A Golf Diesel consumes six liters per 100 kilometers.

This corresponds to an energy consumption of 60 kilowatt hours. This gives an e-Golf a range of 400 kilometers. This shows that the internal combustion engine and the electric drive are basically two completely different drive systems, one of which consumes three to four times as much energy. Against this background, an electric drive therefore clearly makes sense.



However, with the good old combustion engine, we have a fuel tank that enables us to drive over a longer distance and to work trouble-free with the self-driving working machine „sewer cleaning vehicle“. With the electric drive, however, the question of energy storage remains open and is still the subject of intense debate.

Experts consider the battery to be the most technically mature solution at the present time. Significant progress has been made in recent years, particularly with regard to the important challenges of range and charging time. Real ranges of up to 500 kilometers and more and charging times of 20 to 30 minutes for 80 percent battery capacity using superchargers are possible.

Unanswered questions in the field of special-purpose vehicles remain, due to hardly any experience, regarding repeated call-up of maximum power, thermal management, weight, availability of space on the superstructure, etc. These are enormously important criteria for any self-driving working machine.



Nevertheless, these do not necessarily have to be knock-out criteria for electric drives in the long term. However, it will certainly be some years before chassis manufacturers will also deal with such issues in niche industries such as the municipal sector.

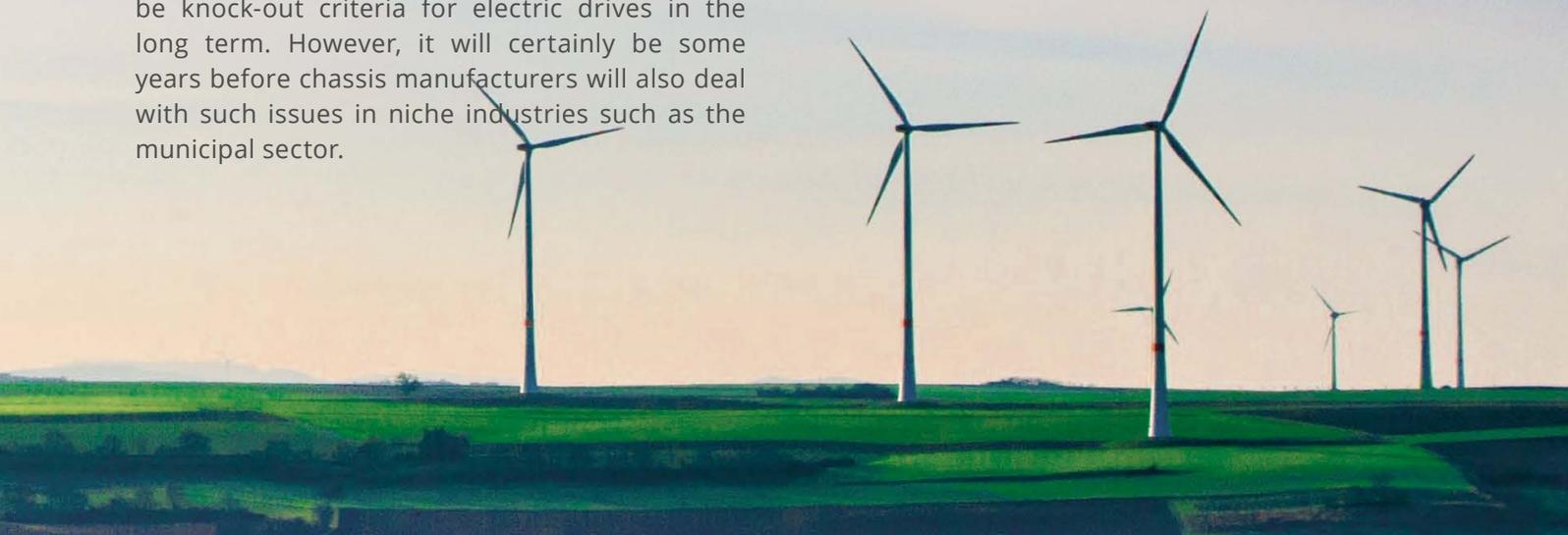


The biggest challenge that can be identified at the moment, apart from the lack of clarity about costs, economic operation and the possible applications of future vehicles, will be the insufficient infrastructure. This applies both to the interurban road network, especially the highways, and to urban areas.

Considering that it is often extremely difficult to find a parking space in large cities, the question arises as to what a functioning charging infrastructure could look like and how often users will be expected to interrupt their work for the purpose of charging when operating sewer cleaning vehicles. Furthermore, the question arises as to how the charging infrastructure will be financed.

A technically interesting alternative to the battery as a storage device is the „on-board“ generation of electricity from hydrogen using fuel cells. This variant is CO₂-neutral if hydrogen is generated from renewable electricity by means of electrolysis.

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READY FOR YOUR ADVENTURE!

The new FRONTLINER PRO
next generation





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Continued from page 9

However, experts have identified a loss of efficiency here by a factor of two. Today, the system efficiency of a fuel cell drive is less than 40 percent. In addition to the question of the robustness of the fuel cell, major obstacles include the still enormously high production costs, which make it extremely difficult to introduce such systems in special commercial vehicles for series production.

In addition, technical modifications will have to be made to the bodies of municipal vehicles, for which hardly any quantifiable experience is yet available. Enormous cost increases can certainly be expected here.

A hydrogen-powered refuse collection vehicle from Germany currently available on the market is offered at four times the price of a comparable conventional refuse collection vehicle from the same manufacturer. It should therefore be clear that every waste disposal company will have to completely redefine the word "economic efficiency of a waste disposal vehicle".

In any case, it seems foreseeable that significant price increases for conventional waste disposal services will be the result. The biggest hurdle, however, is likely to be that a completely new infrastructure will have to be built for the use of special commercial vehicles powered by hydrogen.

In Germany, there are currently still around 14,000 conventional filling stations and currently around 60 publicly accessible H2 filling stations. The cost of building a hydrogen filling station depends very much on the capacity and runs into the millions per filling station.

In addition to the e-truck and the hydrogen truck, some well-known manufacturers are giving another option a chance in trucking and especially in long-distance transport. With this so-called third option, synthetic fuels, the energy required for production is relatively high. However, synthetic fuels also make a good contribution to climate protection, as they are virtually emission-free.

The existing fleet of commercial vehicles amounts to three million worldwide. They will not disappear by 2030/2040. Synthetic fuels can be the key here to operating existing vehicles sustainably. The above comments make it clear that mastering the drive turnaround will be a very big challenge for our industry. However, Corona and the resulting consequences for the supply chains are currently making it abundantly clear that the drive turnaround will not be the only one, which is why we are promoting openness to technology.

It will be the market, not politics, that decides what prevails. But no alternative drive system can do without an appropriate refueling and charging infrastructure. Germany must make considerable efforts here to expand the networks.

No one in the globally respected German waste management industry wants negative examples such as Berlin's BER airport to be repeated throughout Germany and established, functioning and, above all, tax-paying sectors of the economy to be endangered or even threatened in their existence.

Author: Dr. Volkwin Müller

Photo: MÜLLER Umwelttechnik, Free-Photos (Pixabay)



INDIVIDUALIZATION: The king's new clothes!



CANALMASTER

MÜLLER's goal was to develop a new modular covering concept for innovative vehicle bodies. In addition to a recognizable design and plenty of storage space, the new covering was not only to offer suitable large advertising spaces, but above all an aesthetic and cohesive vehicle silhouette with maximum functionality and the lowest possible weight.

Of course, it had to be a modular design with good accessibility to all relevant components, easy to clean and also significantly reduce noise emissions. These were all really demanding key points for the design specification of the new covering concept for the MÜLLER design team.

In addition, some existing design elements were to be retained in order to preserve the recognition value of a MÜLLER body.



The result is a functional full covering concept that is now available as an option for almost all MÜLLER body types. For optimal use of the usually sparse space underneath the vehicle frame, compartments are offered with a wide variety of design options.

Whether as drawer pull-outs, e.g. for gloves, fire extinguishers, tools, or as storage space for warning pylons, drawers, hand washing devices and hygiene ports as well as nozzle holders – the storage spaces in the equipment cabinets leave no customer wish unfulfilled.



The body can be cleaned quickly and easily due to its full covering and is also suitable for truck washing facilities. Generously sized flaps and doors are provided for maintenance and repair purposes. Gas pressure damper systems ensure power-assisted opening without the need for additional supports for open flaps.

Generously dimensioned side flaps allow a closed vehicle silhouette and are also provided as load securing devices, e.g. for hose boxes behind the covering. Costly additional securing of the load is thus a thing of the past.

The closed side collision protection is of course also approved as such by the admission authority. Necessary ventilation outlets against congestion heat fit perfectly into the appearance. For the winter packages, affected units are completely covered.



Maintenance and repair work can be carried out quickly by means of well thought-out access options that can be quickly dismantled or folded. In addition, despite full covering, the hydrocyclones of the MÜLLER water treatment units in the winter package can be viewed from the outside via a plexi-glas pane, so that the water flow over the cyclones can be checked at any time.

A heatable closet is provided for the operators' work clothes. Soiled clothing no longer needs to be stored in the operator's cab. In addition to the full enclosure, the associated lighting concept, which can be optionally combined, leaves nothing to be desired.



LED light strips along the entire length of the vehicle provide daylight-like illumination of the workplace. LED lights can be integrated in the storage compartments, and automatic light control when opening and closing the flaps and doors is also available.

All lighting systems can be preselected and configured individually for each operator via the MU cockpit.

The entire full covering consists of weight-optimized aluminum profiles stabilized with truss design components. The aluminum planking is mounted without screws, providing a smooth surface for generous advertising. Noise sources on the superstructure can be very well shielded, special insulating materials in the flaps and doors provide a significant reduction in noise emissions.

We would be happy to advise you on the possibilities for your future MÜLLER vehicle! The new MÜLLER covering concept - aesthetic functionality!

Author: Jens Elkenkamp
Photos: MÜLLER Umwelttechnik



CORONA: Material shortage hits the special vehicle manufacturing

Special vehicle manufacturing in Germany is struggling with the consequences of the pandemic. Although the order situation is good, an unprecedented shortage of materials is slowing down production.

Early in the morning, Thomas Nutt and Kevin Mönks consult once again with Production Manager Jens Elkenkamp. Deputy Production Manager Thomas Nutt and Master Vehicle Builder Kevin Mönks each talk through the upcoming workday. *“Before Corona, we had monthly production planning and weekly detailed planning. Today, we always have to readjust everything once a day,”*

explains Dipl.-Ing. Jens Elkenkamp. *“The reason for this is an enormous shortage of materials. This massively disrupts normal operating processes. We can now only implement the orders that are currently in stock. This has a huge impact on turnover. We have never had anything like this before.”*

MÜLLER currently has an excellent order backlog. Orders were already numerous before Corona and picked up massively during the crisis. However, the order volume can currently only be processed to a limited extent due to the shortage of materials. As a result, delivery times have increased significantly.



According to a survey of the German Chamber of Industry and Commerce, companies in all sectors and of all sizes are complaining about price increases and supply problems for primary products and goods. At MÜLLER, these bottlenecks are particularly noticeable for chassis, electronic components, hydraulic components as well as steel and aluminum.

As a result of the supply bottlenecks, MÜLLER has to contend, among other things, with higher purchase prices for products and services that can no longer be passed on for existing orders. The delays in the supply chain as well as the rising material prices thus not only lead to delivery difficulties, but also to considerable uncertainties in costing. The general reasons for the shortage of materials in the municipal vehicle sector are, in addition to increased demand, insufficient

production capacities of upstream suppliers and a shortage of materials there, which prevents deliveries from upstream suppliers. Added to this are logistics problems in the transport sector, a shortage of containers, and a lack of freight capacity on ships, roads and rails. The recent partial closure of the Chinese port of Ningbo is also hitting the German economy at a time when it already has to cope with considerable delivery difficulties.

Politicians are creating additional requirements by setting climate targets. Political and legal requirements based on climate targets pose additional challenges for all manufacturers in the special vehicle construction sector. Here, policy-makers should differentiate and be ready for technology-open concepts. At the same time, it must be avoided at all costs that collateral damage from a general ban on combustion engines is accepted in the course of new exhaust gas directives. The diesel engine for sewer cleaning vehicles, powered by e-fuels, i.e. synthetic fuels, is an environmentally friendly model that can prove its worth.

Other alternative drive concepts, which have so far presented a conventional sewer cleaning vehicle with almost insoluble energy issues, require an infrastructure that is hardly feasible in most areas of application for waste management companies at present. In the municipal vehicle industry as a whole, companies like MÜLLER can only work off the existing order backlog to a limited extent. Delivery times will therefore initially be further extended by external disruptive factors.

A shortage of materials during a massive economic upturn is nothing unusual. However, such a shortage of materials and intermediates as we are currently experiencing in a very good order situation has never been seen to this extent before. The big question will be how long this situation will last. Experts reckon that noticeable improvements are not to be expected until the second half of 2022, and in some cases not until 2023.

Until then, one can only appeal to all market participants involved to develop mutual understanding for each other and at least show solidarity across the industry.

Author: Dr. Volkwin Müller

Photos: MÜLLER Umwelttechnik, Kathrin Biller, Bielefeld

FOLLOW-UP QUESTION: **Ludwig Klotzkowski, new Head of Human Resources Management**



How did the dual study program at MÜLLER come about?

Coincidence helped a little. After an internship, Dr. Volkwin Müller asked me if I would like to start an apprenticeship at MÜLLER. I immediately asked whether a dual study program was also possible – and fortunately for me it was. A little later, Wolfgang Müller Sr. even handed me the training contract in person.

Why human resources management?

I was very interested in the global economy and the development of companies. It quickly became clear to me that I wanted to study business administration. It was clear to me in the 3rd semester that I would choose personnel management. I found the module „Human Resource Management“ very interesting and then also chose this focus both in the Bachelor and in the Master.

In general, I like working with people and find it interesting how different people are. I also like how good HR management can improve, for example, the working atmosphere, employee motivation and productivity, or the branding of the company.

What would you like to change in the HR department in the future?

In the HR department, I would like to go paperless in the future by firstly introducing the digital personnel file and also digitizing most processes with the help of a personnel management tool.

Secondly, I think employer branding is very important. As an employer, it is now more difficult than ever to attract and retain employees.

I want to make MÜLLER even more attractive by introducing various benefits. In doing so, it is always important to listen to the employees. For example, my goal is to introduce company bicycles at our company, as many employees would like to do so.

Thirdly, I consider the further training of employees to be very important. Based on a competency matrix, I want to organize this in a meaningful and efficient way.

What role does age play?

At 24, I naturally lack experience as a department head. Nevertheless, I am in good spirits. Because I have a good team around me that supports me in my new task. I can trust the people in the HR department blindly – and both the management and the other department heads support me in my task. They are happy to pass on their experience to me so that I can do my job as HR manager even better.

What are your personal goals for the future?

I would like to lead and modernize the HR department at MÜLLER. Now that I have completed my master's degree, I can finally focus 100% on this. For me, this is also more than just a job, because I really like the people and the company. In addition, I always want to develop personally and am therefore very much looking forward to my new task.



So...? What about your maintenance contract now?

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Thankfulness

”The greatest events
are not our loudest,
but our quietest hours.“

We thank you for the pleasant cooperation
and for your trust. Stay healthy!

Your MÜLLER Team

