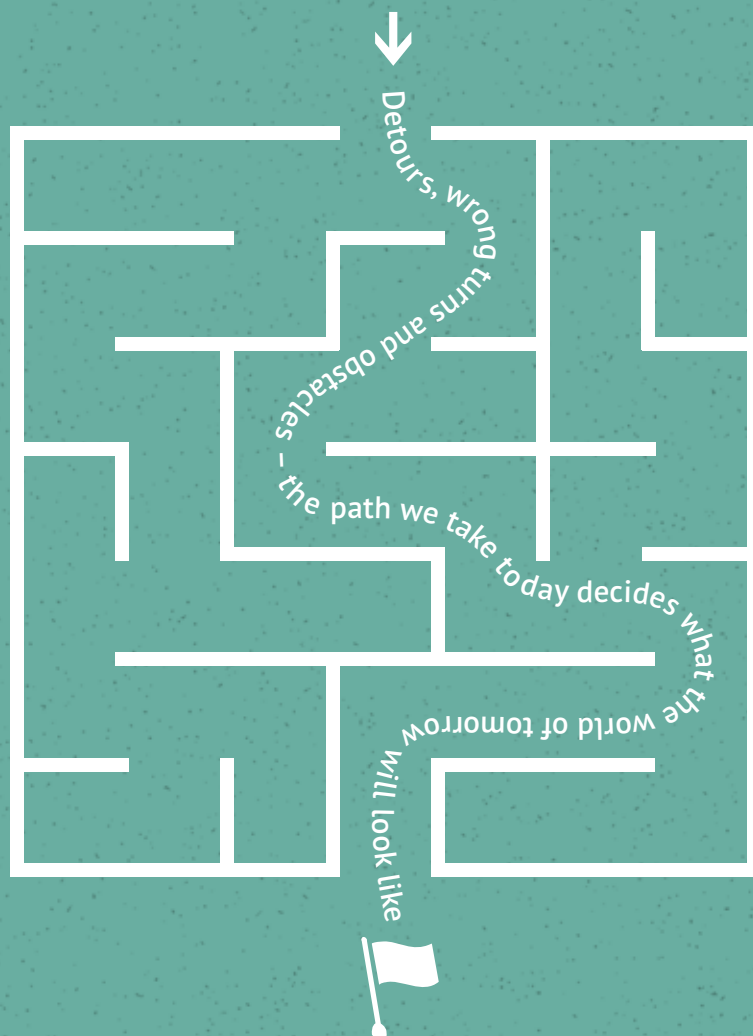


DENKFA3RIK

NEW IDEAS FOR TOMORROW'S TRANSPORT



THE GOAL: SUSTAINABILITY

What the economy of tomorrow needs

ARE YOU ON THE RIGHT TRACK?

This is how to meet the challenges facing us.

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THE POWER OF NATURE

A bike tour with aerodynamics expert Jean-Paul Ballard.

Page 26

LOOKING AHEAD

Futurist Kai Goerlich creates scenarios for the economy.

Page 36

ARE YOU

READY TO MAKE A

RADICAL

CHANGE IN YOUR LIFESTYLE ?

Only those who see (their own) shortcomings can act accordingly. According to a BUND study from 2020, at least 86 per cent of Germans are willing to significantly reduce their lifestyle, to protect the climate. 85 per cent would do it to stop species extinction, while 87 per cent to

fight pollution. On balance, the willingness is even higher among younger people than among older people. However, the survey did not elaborate on the nature and extent of the restrictions.

Source: bit.ly/35u4hYg

Dear readers,

You and all of us continue to face enormous challenges in today's world. We have seen an unprecedented spiral of supply chain problems and extreme price increases since the end of 2020. The war in Ukraine has only exacerbated these problems since February of this year.

The cost of energy, such as electricity and gas, has skyrocketed. Prices for raw materials such as steel, aluminium and chemical precursors continue to rise. On top of this comes the strong inflation we are seeing in the euro area. At the same time, components such as brake modulators are becoming less available. The war in Ukraine has had dramatic consequences: for example, the Azov steelworks – previously the largest slab producer for Western steelworks – have been destroyed. The embargo against Russia, for example, is also strongly impacting the timber market: we at Fahrzeugwerk Krone need wood for the floors of our trailers.

Although we put priority on maintaining long-term, trusting relationships with our customers and suppliers, not even we are immune to the fact that, despite ongoing supply contracts, many manufacturers have increased their prices at short notice. Krone has always managed to meet its contractual obligations to you as our customers so far. The framework conditions are nevertheless currently so volatile that we are reaching the limits of our capabilities. Even experts did not foresee this war and its drastic consequences.

I assure you personally that we are doing everything we can to regain more stability for all of us and that we will continue to be a partner that you can count on. Let's traverse these extraordinary times together and tackle the associated challenges in a spirit of partnership!



Bernd Brügggen,
Managing Director
of Krone Commercial
Vehicle SE

Bernd Brügggen
Yours, Bernd Brügggen

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Blue Notes

News from the world of Krone



Emergency aid for Ukraine

In order to help the people affected by the war in Ukraine or who are forced to flee, the Krone vehicle factory has donated **EUR 50,000** as emergency aid. EUR 10,000 each will go to aid organisations in five countries: In Poland, the work of Caritas is being supported in Hungary, the charity service of the Order of Malta, in Romania the Red Cross and in Germany the campaign 'Deutschland hilft'.

In Slovakia, the money was handed over to the organisation Integra, which uses 100 per cent of it for humanitarian aid and the provision of accommodation for Ukrainian war refugees in Ukraine. A truck loaded with food, hygiene articles and sleeping bags, among other things, was sent directly to Kyiv and Kharkiv. Together with other humanitarian organisations, Integra provides initial aid to people fleeing war but also to those trapped in war zones.

Two weeks after the outbreak of war, the Krone ScanBalt Group, which includes Krone's subsidiary in Ukraine, continued its sales and rental activities in the country. All staff are working remotely from secure locations. In addition, individual support is being provided if colleagues want to stay in the country or go to Poland or Lithuania. Furthermore, Ukrainian immigrants in Denmark have helped with translation, and many staff members have made private donations. ↩

Strategic Partnership with ECR

The Krone Commercial Vehicle Group and the independent service provider ECR-Solutions have agreed on a strategic partnership: Together they want to further develop service packages for **fleet management**. Fleet operators today have to be prepared for increasing volatility in the markets.

Many, therefore, are relying on vehicle types from different manufacturers, and on partners with diverse financing and ownership concepts. At the same time, the complexity of fleet management is on the up. Krone and ECR offer customised holistic solutions to logistics service providers and shippers for the management of trailer fleets. Krone has been working with the company for many years – not only within the remit of warranty processing but also full service ('Fair Care') and rental ('Krone Fleet'). ↩



Ole Klose as the new member of the Executive Board

Ole Klose has been appointed as an additional member of the Executive Board of the Krone Group of Companies. In addition to Board members Dr David Frink (CEO) and Dr Stefan Binnewies (COO), he has been responsible for the activities of the company's corporate divisions – **such as leasing, financing and the trading division** – as a member of the Executive Board of Krone Holding since October 2019. Now on the Executive Board, as CFO, he is responsible for bundling financial activities and for human resources. ↩



European research contract Gaia-X

How can the flow of goods and commodities be optimised through intelligent use of data? The answer to this can be found at the Krone vehicle factory on behalf of the German Federal Ministry of Economics. As part of the 'Gaia-X' research project, which aims to offer European companies an independent alternative to the market-leading cloud providers from overseas, Krone will develop a concept that optimises the flow of goods and commodities through the intelligent use of data. ↩

POTOS: KRONE GRUPPE, SHUTTERSTOCK/YASKA



eTrailer wins Zenit Innovation Award

For their work on the electric drive train for long-haul trucks developed by Krone and Trailer Dynamics, the companies have been awarded the Innovation Prize of the Zenit e. V. network. The prize comes with EUR 10,000. The foundation of the system is the eTrailer – a powerful electric axle that works independently of the tractor unit. It means that diesel trucks emit less **CO₂**, and it ensures a noticeably longer range for electric tractor units. ↩



Even larger service network for Celsineo

Celsineo's service network is being expanded: In addition to approximately **200 bases** in Europe that are already certified, more are to be added in 2022. The 'Celsineo' modular trailer refrigeration units, which Krone produces in cooperation with Liebherr, were launched on the market in 2021 with tremendous success. Recently, they have also been sold in Spain, with the Scandinavian countries to follow in 2023. The close-knit Krone service network in Europe is one of the major success factors here. New partners do not have to provide refrigeration staff; at most a minimum of two technicians per company undergo a free two-day training programme. An overhead crane is needed in the workshop, and the investment volume for a starter kit is in the low four-digit range. In this way, the service partners can expand their scope of services with little effort. ↩



MORE TRANSPARENCY

SHARED ECONOMY

OPEN FOR CHANGE

RESPONSIBILITY

Turn where possible!

The challenges that the economy has now faced for some time are great and extremely complex. Things must not continue as before. What adjustments need to be made, to bring about sustainable change? Important issues that matter now are **sustainability, modern corporate culture and innovative business models.**

Climate change, the war in Ukraine, a shortage of skilled workers, a shortage of drivers, rising energy costs, ever higher raw material prices, disrupted supply chains, the pandemic, the semiconductor crisis – the list of enormous challenges facing the economy and society could, unfortunately, go on and on. In the second decade of the 21st century, the problems have become increasingly concentrated and entrepreneurs have to cope with all these issues simultaneously. How is it possible to stay in the driver's seat here, to set the right course, and readjust processes? What matters right now?

"In the long term, environmental risks will be at the centre of any necessary transformation. That is why this topic should be a priority for entrepreneurs," something consultant Katja Mayer is convinced of. The conviction that CO₂ costs are rising is certain. "And simply because of regulations at EU level, anything related to climate targets and environmental concerns remains the focus for all supply chains." Of course, many companies – especially those listed on the stock exchange – are already adopting a sustainable approach, says the expert, because institutional investors have been pushing the issue for a long time: "They have more or less forced companies to realign their strategies and become active in this regard. New regulations – such as the EU taxonomy or due diligence in supply chains – have now set in motion a domino effect that is reaching down to smaller suppliers. In the future, everyone will have to act and not only on environmental issues, but in equal measure on social and corporate governance issues."

The Coronavirus has exposed certain weaknesses

Furthermore, according to Mayer, most companies have recognised that this is not the only reason why a transformation is necessary. In her book "Nachhaltigkeit: 125 Fragen und Antworten" ["Sustainability: 125 Questions and Answers"], published by Springer-Verlag, the consultant explains how companies can be managed sustainably. "The Coronavirus has once again revealed many weaknesses," she explains. "I think that every company is well-advised to question its own business model now and analyse the critical parameters." It is important for companies to carry out an accurate analysis of their entire supply chain, and to know the CO₂ emissions released in the process. Transport and logistics, in particular, play a critical role here. "If I can offer low-carbon solutions for my customers, I have an important competitive advantage." In her opinion, the following questions should also be addressed:



What is my impact?

What will change in my supply chains in the future?

Where are there price increases?

What new legislation affects me?

What risks do I actually face?

What alternatives do I have at critical junctures?

Where do cooperation and digitisation help?

With regard to sustainability, according to the expert, you have to accept that this principle means a permanent conflict in terms of goal attainment: "The environment, and socially responsible value creation – there are many points of friction. Acting responsibly is, on the one hand, quite simple to understand and ethically correct, but at the same time, extremely complex. And entrepreneurs have to bring this all together." Despite all the challenges we face, she advises not to see the topic as a burden, but rather as an impetus for innovation that can, for example, deliver new production processes, technologies and also business models for the logistics sector. "Let's rely on the circular economy approach to develop positive innovations in business models that really come into their own, thanks to digitisation: For example, imagine a future where the world has switched completely to renewable energy, and where all resources are constantly recycled with minimal losses. Considering that we in Germany, in particular, have an excellent understanding of engineering and new technologies: There is already a lot of innovation taking place. Actually, we have everything at our disposal to continue performing at the top of our game in the future."

Bold, big steps are needed

This requires a profound anchoring of the principle of sustainability in companies: "Even though my company is listed on the stock exchange and I already do so much in terms of ESG, i.e. environmental and social governance: This needs to be reflected in the strategy and backed up with clear targets – just as I have targets for turnover or development." →

ADOBESTOCK/FOUR LEAF FLOWER

+ KATJA MAYER

Katja Mayer has been working successfully with companies at an international level for 30 years. Since 2011, she has been a member of the supervisory board of Europe's largest energy exchange, EEX, and cemented her reputation as an expert in corporate sustainability by setting up trading in CO₂ certificates for Deutsche Börse Group in 2010 to 2012.



In all of this, the challenge is that the future will be many times more complex than today, Mayer explains:

"We'll all have to think more in terms of scenarios – which, in turn, brings with it a degree of uncertainty. And not all the decisions you make then will be right." Nevertheless, courageous, big steps are needed, rather than small, cautious ones.

How do you take your staff on this journey? "That's exactly what it is: a journey," says David Cummins, Managing Partner of the Hamburg-based Ministry Group, which assists companies in organisational development. His focus is New Work – modern working in a digitised professional world. "As a leader, you first have to be willing to take that journey yourself," he explains. "And then you extend a friendly invitation to your staff. Anything else would be kidnap, not getting people on board."

Build an internal transformation team

He recommends building an internal transformation team to develop a vision for the

organisation in collaborative fashion. Executives are, of course, already on board, while the rest of the crew should consist of people who already possess a degree of influence in the company, who are respected by the staff and who can motivate effectively. "And this group also needs a clear mandate, they need to be able to decide, to implement programmes, and to try things out." Cummins has often assisted such a group: "I then have an idea of the path that needs to be followed, and I provide assistance, but each company takes its own individual approach."

Not all staff will welcome change lightly – change can be scary. "The key here is to strike the right balance and avoid extremes, because they would cause uncertainty," says Cummins. "You shouldn't abolish hierarchies entirely, or put people completely at the centre of everything. It's not the case that everything old is bad, and everything new is good. We need to find healthy middle ground. This is because, if a change is too disruptive, it usually causes rigidity within teams. If you don't know where to go, you'd better stay on the spot for now."

Outline the vision as a story

The transformation team can outline the vision they are creating for the company as a story. This sheds light on where you want to go, and also takes into account where everyone is at the present moment. And there is enough room to ask everyone on the way, time and again how they feel, what they need and where, for example, there is room for greater experimentation. "It doesn't have to happen slowly, but often it develops a fantastic dynamic that inspires and drives everyone involved."

Today, modern work is quickly associated with the term "agile". But its methods – such as sprints, design thinking and the like – are only recommended by David Cummins if the solution to a problem is open and if, for →

Am I a modern employer? Three sources of impetus from David Cummins

1. Openness

Being open to change creates an optimal foundation for a leadership style in today's working world.

2. Forge relationships

A new-work attitude promotes good relationships between people in the organisation. A modern employer takes its time, and always conducts discussions on an equal footing.

3. Resonance

Listen! Have the courage to enter into dialogue and observe what resonates. Unpleasant feedback is also a sign that you are on the right track.

+ DAVID CUMMINS

David Cummins is the managing partner of the Hamburg Ministry Group. For more than nine years, he has assisted human resources and organisational development, forms of agile working and self-organised teams. The New Work Future conference for leaders and designers in organisations, which he co-founded, is dedicated to the working world of tomorrow.



example, you want to develop a new product that is influenced by many external and unpredictable factors. "If, on the other hand, I only want to develop a complicated product, but an expert knows exactly how it works, I tend not to need these tools. And so, if I already know what I want to do and only have to implement it, I don't have to lay it on too thick with agile processes – especially not if the sole aim is to present myself as a modern employer."

Everyone must fit together

According to Cummins, you are more likely to do that by evolving constantly. "You should demonstrate openness and not have ready-made solutions in your pocket, but rather be prepared to find answers to questions together with your staff. Anyone who leads a company or a team should develop ideas and a notion of the direction in which they can go. But then we all have to move in sync – if only because the current challenges are so complex that no one person can master them alone."

Potentially the greatest challenge of the past two years was the Coronavirus pandemic – a crisis that hardly anyone could have foreseen. During this time, logistics became even more important than before, and at least in some places, it was also rendered more visible to the public. Johannes Berg, new head in the circle

of experts at Krone's "Denkfabrik" think tank, says: "Logisticians have shown a great deal of flexibility in this crisis, and they have also demonstrated how they always manage to make the best of dicey situations. The industry possesses this strength, and will certainly retain it in the future."

Sustainability as an opportunity

As Managing Director of the Digital Hub Logistics Hamburg, Johannes Berg talks a lot with representatives from the industry. He senses a strong increase in awareness vis-a-vis the importance of sustainability. "It was certainly an issue for many people for a long time that they put on their agenda, because it was clear that it had to be dealt with," says Berg. In the meantime, however, he is hearing with increasing frequency that entrepreneurs know that they have to adjust the parameters of their day-to-day business and look beyond their environmental reports, to find out which know-how or which technologies they need in the company, and whether collaborative approaches are indeed possible, and even make sense. "They also increasingly understand sustainability as an opportunity for new business models and areas," says the network expert. "This is because, when the first wave of companies come out of the woodwork and cooperate with →

In the heart of Hamburg's historic "Speicherstadt" district, the Digital Hub Initiative is creating an international network of companies, investors, start-ups, research and education.



PHOTOS: DENNIS MOEBUS, PHILIP ERPENBECK, DIGITAL HUB LOGISTICS

start-ups to utilise a great sustainability management system and distribute it beyond their own production sites, competitors inevitably come under pressure.”

Another issue he encounters time and again is the desire for greater transparency in the supply chain. “You might think that this is old hat because there are already many tools and services to this end, but especially with the pandemic and the disruptions to supply chains like the traffic jam in the Suez Canal, the need for even more transparency, automation and predictability seems to have grown.” And, finally, according to Berg, logistics companies continue to look fervently for ways to deploy staff effectively, for example, with automation tools.

Be a pioneer in sharing

Sharing is another keyword that can increase capacity utilisation and thus also save on personnel resources. “We know it more in terms

of private mobility that sharing cars, for example, has become very widespread. I see it less in the commercial vehicle sector for the time being. But this can be an opportunity to establish a foothold as one of the first movers in the B2B sector,” says Berg. “After all, logistics is predestined for this, because different stakeholders along the logistics value chain have always struggled with inefficiencies or, for example, a certain degree of ignorance concerning load volumes on certain carriers. Perhaps one positive impact associated with the pandemic could be that, with greater transparency and one or two creative sharing models, you could also launch logistics into the stratosphere.” The time may not be quite right yet, but it could be soon: “I would say 2022 is not yet the ideal starting point, but maybe we’re on the verge of seeing plans in that direction beginning to pay off. And so you can definitely think about it and plan the initial steps.”

+ JOHANNES BERG

The Managing Director of the Digital Hub Logistics Hamburg, studied International Relations and completed an MBA in Innovation Management. Among other things, he has worked in corporate and political consulting, managed the TÜV Nord Group’s representative office in Brussels, and handled research and innovation projects at NXP Semiconductors in Hamburg.

Johannes Berg becomes a new member of the “Denkfabrik” think tank

With “Denkfabrik”, Krone created a think tank in 2019 in which experts from various professions meet at regular intervals to exchange ideas about trends, technologies and ideas for tomorrow’s working world. Johannes Berg was appointed as a new member in 2022. “For me, it’s an honour to be a part of it,” he explains. “The group is hugely exciting. With the Hamburg Digital Hub Logistics, I myself have created a logistics network in which primarily start-ups can realise ideas. I look forward to gaining even deeper insight into the broad world of logistics, and sharing my knowledge at the Krone Denkfabrik. Above all, beyond my own highly agile work environment, where much revolves around terms like funding rounds or a “unicorn status”, I’d like to enter into dialogue

with the entrepreneurs who are absolute professionals in their day-to-day business, and thus form the backbone of the economy. It’s a thoroughly grounding experience.”



PHOTOS: DIGITAL HUB LOGISTICS, SHUTTERSTOCK/ARTYWAY

The other members of the Krone Denkfabrik are:

Wolfgang Thoma, Managing Partner of Ansorgo Logistik

Axel Plaß, Managing Director of the Hamburg Zippel Group

Berit Börke, CEO and Founder of Partner for Pioneers

Anthony Wandt, Managing Director of Wandt Spedition Transportberatung

Christian Kille, Professor of Retail Logistics at the University of Applied Sciences Würzburg-Schweinfurt

Oliver Detje, Publishing Director DVV Media Group GmbH

solar.lowtechmagazine.com

Today, the WWF already consumes three times more electricity than can currently be generated from wind and sun. The Belgian Kris de Decker reveals one possible solution with a “lightweight construction” website that is 100 per cent solar-powered. When the sun stops shining, the site goes offline – and that’s just fine with the developer: “Shops aren’t always open. Why should a website always be available?” Why aren’t webpages that nobody needs at night simply turned off during this time? At the very least, it would raise awareness of the enormous energy consumption behind internet usage.

Digital meetings over long business trips: The internet simplifies many processes, saves on distances travelled and thus also CO₂. However, at the same time, it consumes a lot of energy and even causes more CO₂ emissions than the aviation industry. This is because ever more people are using smartphones and are constantly connected to the wider world. Websites are becoming faster and more elaborate – videos alone account for 80 per cent of traffic. And countless trivial things like for example animal videos make up a significant proportion of this.

Does everything always have to be “on”?



Oops!

This page is offline

Change of perspective



Why, how come, where?

Knowing your own ecological footprint is becoming increasingly important – but employees, legislators and other stakeholders also have a keen interest in it.

36.3 billion tonnes of CO₂

were emitted worldwide in 2021 – more than ever before.

(SOURCE: INTERNATIONAL ENERGY AGENCY – IEA)

50,000

Companies in Germany must prepare a sustainability report in 2023.

(EXTRAPOLATION BASED ON THE EU DIRECTIVE "CORPORATE SUSTAINABILITY REPORTING DIRECTIVE – CSRD", DATA BASIS: FEDERAL STATISTICAL OFFICE)

46 per cent

of Executive Board members and Managing Directors state that they have so far taken sustainability measures for marketing reasons only.



(SOURCE: STUDY BY HR CONSULTANCY RUSSELL REYNOLDS IN APRIL/MAY 2021 OF 9,500 EXECUTIVES WORLDWIDE, THEREOF 747 IN DE)

2 of 3

Companies that meet at least two of the following criteria must prepare a sustainability report from 2023:

- Balance sheet total greater than € 20 million
- Turnover greater than € 40 million
- Number of employees during the year greater than 250



(SOURCE: EU DIRECTIVE "CORPORATE SUSTAINABILITY REPORTING DIRECTIVE – CSRD")

41 per cent

of all German employees attach importance to their employer trying to become climate neutral.

(SOURCE: REPRESENTATIVE SURVEY BY THE MEINUNGSFORSCHUNGSINSTITUT CIVEY IN OCTOBER 2021)

60 per cent

government funding is available for the determination of a CO₂ company footprint and reduction strategy.

The funding rate equates to 50 per cent of eligible costs, for SMEs, it is 60 per cent. The maximum funding amount is € 80,000 (per location).

(SOURCE: FEDERAL OFFICE OF ECONOMICS AND EXPORT CONTROL [BAFAA])

EXPERT INTERVIEW WITH HELEN TACKE

How do I deal with my company's CO₂ emissions?

It starts with an inventory of all current emissions. A thorough analysis then shows where savings can be made. This should be translated into specific measures and evaluated, in order to make progress measurable. I can only recommend involving all people who are part of the relevant processes, i.e. employees, suppliers and customers. Only those who communicate the topic of CO₂ reduction effectively will be successful.

What are the ways to reduce your own CO₂ footprint?

By drafting a strategy on how to achieve actual savings, i.e. by carrying out specific ecological conversion measures. Alternatively, you can buy CO₂ certificates to compensate. However, one thing has to be said about this: Those who only rely on compensation will miss the boat, entrepreneurially speaking, because certificates are becoming ever more expensive and only serve to postpone the problems until tomorrow.

But how do climate protection and a company's profitability go hand in hand?

We have developed a calculation standard for this – the ROI: Return on Carbon Investment. Each CO₂ reduction measure is subjected to an impact analysis and investment calculation, in order to determine whether it also makes prudent business sense. I am firmly convinced that climate protection can only function meaningfully in the German economy if it pays off in every respect.



Helen Tacke is the founder and Managing Director of Cozero GmbH in Berlin. At the company's core is a software solution that enables users to decarbonise effectively, and which digitally records the carbon footprint of the entire value chain, balances it and analyses it using artificial intelligence. Based on an impact analysis and investment calculation, concrete measures for CO₂ reduction are then introduced with the involvement of all stakeholders.

Further information: www.cozero.io



By the way:

In future, a sustainability report is to be submitted by

- Banks and investors
- Insurance providers
- Customers and suppliers

What opportunities are there to address the issue of sustainability?

Those who compile emissions on their own usually get an unstructured and imprecise result – and experience shows that this fails miserably. For example, anyone who hires a climate consultancy then receives a report that is standardised by law, but this involves a great deal of effort and expense every year. Moreover, the reduction proposals are often very subjective and often rely on certificates. And then there are the possibilities of tackling this in digital form ...

You use digital tools for CO₂ accounting – how exactly does that work?

With Cozero, we have developed software that automatically identifies, logs and analyses emission points in a report-compliant manner, 365 days a year – with the highest precision and depth. From millions of data points and taking into account economic efficiency, we can thus create forecasts and scenarios for savings. Real changes can then be derived from this. And we demonstrate how to bring in all the groups involved. Sustainability is a good example of the great opportunities offered by digitisation. ↪

Smarter control of system transport operations

With the handling of swap bodies, as well as closely timed line and system transport operations, W. Wienkämper GmbH from Melle in Lower Saxony has clearly positioned itself in the market. **Digitally optimised processes** are to ensure tomorrow's success. For this, the transport company relies on the Krone telematics system.



"No matter what digital strategy a company pursues – it only works if you implement it consistently."

Felix Wienkämper

It's a pitch-black night, plus continuous rain and unpleasantly cool temperatures. Under these conditions, the search for the right swap body in a densely-parked depot quickly becomes a game of patience. And patience, as is well known, is not one of the pronounced strengths found in logisticians. "If, in future, a tablet app could show our driver exactly where the swap body he is looking for is parked at the depot, we will have achieved our goals: greater efficiency thanks to the time saved, a reduction in the workload for our drivers by eliminating stress factors and, at the same time, ensuring the high degree of quality associated with our transport operations", explains Felix Wienkämper, who is responsible for digitisation projects in the family business. Even if the smart control of the swap body pick-up still sounds like a dream of the future, it is important to create the initial prerequisites for it now: "We can't wait until technology reaches its optimum and everything is running autonomously, we have to start today – taking it step by step."

Relying on telematics

The transport company's 1,000+ swap bodies have, therefore, been fully equipped with telematics for years, in order to enable tracking and identification at all times – initially with modules from another provider, and for the last two years with Krone's telematics system. W. Wienkämper has been buying mobile transport equipment from Krone for decades, so the new offer quickly fell on receptive ears. "The integration of existing telematics, as well as the willingness for further joint development tipped the scales," Felix Wienkämper explains further. "With our manufacturer-independent platform, we are open to third-party systems and can back up our claim that we can make data available exactly where it is needed for the success of transport companies," confirms Maximilian Birle, Head of Sales & Service Telematics and Digital Services at Krone. "The development partnership with W. Wienkämper again serves as a valuable source of impetus and practical experience."

In order to be able to map the complexity of scheduled services digitally, functioning interfaces between the systems are essential. In the future, it should, therefore, be possible to seamlessly transfer telematics data into the transport management system. Felix Wienkämper: "The trick is to bring the data together on one platform and extract utility values from it – for our customers, our drivers and our dispatchers." The first specific results of the collaboration include the consolidation



of various systems on the Krone Telematics portal and in-house programming that enables Wienkämper to control the distribution of swap bodies to the various DPD depots.

Maximilian Birle, Head of Sales & Service Telematics and Digital Services at Krone, relies on this close development partnership.

Ensuring quality

This is because the transport company not only drives for the parcel service provider, but is also closely integrated into its network and route planning. For example, constantly changing specifications have to be met as to how many swap bodies are needed at the respective depot. The organisation of scheduled transport operations with a focus on Germany, France, Benelux and Poland is a highly complex matter that requires extensive experience. The specialisation of the third-generation family business is closely linked to the development of the CEP sector. Since DPD was founded in 1976, W. Wienkämper has developed expert level competence in the handling of swap bodies, and has grown successively. Freight forwarding has also benefited from the e-commerce boom of recent years and the associated volume growth. "However, at the same time, customer demands for efficient processes and reliable delivery are growing. This is another reason why digital technologies for quality assurance are indispensable for us today," Felix Wienkämper continues.

By its very nature, any change has to be made during ongoing operations without interfering with day-to-day business. The strategy is therefore, to break down comprehensive objectives into stages and individual measures. One recent step: Since the autumn of 2021, drivers have been successively equipped with tablets, and the roll-out will be completed by the summer of this year. The mobile device is intended to relieve the drivers' daily workload and simplify numerous routine tasks – from the transmission of the next route to shift →



+ PROFILE

The company **W. Wienkämper GmbH** has been providing **national and international transport services** for more than 90 years. When DPD was founded in 1976, the company began to transport swap bodies for the parcel service provider. Clear positioning and specialisation in scheduled and system transport operations formed the basis for continuous growth. Today, the fleet includes over 1,000 swap bodies and 160 articulated trains. W. Wienkämper is being managed in its third generation and employs over 250 people.

www.wienkaemper.com

reports, annual leave planning or expense reports. Based on initial experience, the user interface is continuously optimised, in order to ensure the app's intuitive and secure handling.

Benefits for the employees

The digital processes also make scheduling easier. If only one telematics portal has to be operated, this already makes a significant contribution to reducing complexity. This applies to route planning, as well as for example, compliance with deadlines according to Germany's accident prevention regulations (UVV). "You can no longer control over 1,000 swap bodies manually," Felix Wienkämper continues.

"Digital technology thus relieves our employees and removes unnecessary stress factors for them." The company expects this to increase efficiency and have a positive effect on retaining existing employees or attracting new ones. This also makes it easier and more effective to train new drivers and dispatchers. Finally, optimised processes support the sustainability goals pursued by the transport company, for example, through a more efficient use of resources, or the continued reduction of kilometres driven without freight.

Implementing digitisation consistently

High-level customer demands, necessary investments in digitisation, increasing complexity – Felix Wienkämper believes that this development can lead to a crowded-out market: "Ten years from now, our business will be completely different from what we do today." This makes it all the more important to recognise and actively use the opportunities as they arise: "No matter what digital strategy a company pursues – it only works if you implement it consistently." The perseverance required for a gradual implementation should pay off – at least, when drivers no longer have to search for a long time on a rainy night, but rather are guided directly to the right swap body thanks to digital assistance. ↪



PHOTOS: STEFFI BEHRMANN FOTOGRAFIE

How to digitise your fleet – and why it pays off

Telematics comes into its own when the entire fleet is equipped with it. Krone supports its customers along the way with optimal products, functions and services.

Determining the location of a vehicle costs a lot of time and money without telematics," says Maximilian Birle, Head of Sales and Service Telematics & Digital Services at Krone. A digital fleet improves working conditions in dispatching, it makes the drivers' job easier and ensures professional and complete documentation of the transport operations and fleet.



KSC Solar. It needs only to be attached to the outside of the vehicle, and installation is complete in just under 15 minutes. The KSC Solar can transmit the vehicle's GPS data and indicate whether it is moving. This is already sufficient for many applications. In addition, it has been designed for further use in cases involving Bluetooth technology.

How do I get started?

Define your requirements! Do you only want to know where the trailer is at the moment or, for example, how fully loaded it is, what the overall condition of the tyres, brakes or refrigeration unit is?

What hardware do I need?

Krone offers two types: the cable-guided telematics box Krone Smart Collect (KSC), which can read out all the trailer's information. It is connected to the vehicle's consumers and sensors and transmits the collected data to the Krone telematics portal for display and interpretation. The installation – including sensor technology – can be carried out in authorised workshops within three hours; mobile service on site is also possible. The second option is the solar-powered

Which range of functions suits my needs?

There are several modules to choose from for the Krone Smart Collect, which is installed internally: "Basic" reveals the position and coupling status of the trailer, "Premium" evaluates all the data of a standard trailer, from the door contact, to the all-important EBS information and error messages. "Premium Cool" and "Premium Dialog" are designed for the Cool Liner and enable all mechanisms – from monitoring the temperature to controlling the closures of the security doors on the refrigerated trailer. Those who start with "Basic" can upgrade at any time: If the vehicle is already fully wired, everything – up to the full version – can be digitally enabled remotely. Krone is always on hand as a reliable service partner.

Why does a trailer need telematics when it's already in the truck?

Truck and trailer rarely drive as a fixed unit these days. Only with trailer telematics can you determine: "What condition is my vehicle in?" and "Where are my goods, what condition are they in, and will they arrive at the delivery point on time?" The more efficient the logistics chain is to become, the more flexible the vehicles need to be. Clear trailer documentation is essential.

Conclusion?

The investment is well worth it! Especially when taking an honest look at the total costs. Without telematics, dispatchers spend a lot of time determining the location, and fleet managers the condition of vehicles. With Krone Telematics, they are relieved in their day-to-day work and can concentrate fully on satisfying their customers' needs. ↪



PHOTO: ISTOCK/JACZHOU



KRONE

Who's on his toes

For our customers, quality and speed are the most important factors when it comes to repairs. Any downtime means losing hard cash. In order to ensure mobility is quickly re-established, it is all the better for me and my colleagues to have a Krone trailer in use. In this case, I only have to scan the QR code on the vehicle and can immediately see everything at a glance: which spare part is installed and where exactly. When ordering, you are even shown how quickly the part will be available. Without time-consuming clicking, searching and checking – simply via a mobile phone and everything at a glance. This makes our work easier, we can complete the job faster and the vehicle is mobile again more quickly. Quality is also right on point with Krone; everything from construction to completion is thought out, down to the smallest detail. This is how we can guarantee customer satisfaction: Together, we can move more – from professionals, to professionals.

**JANNIK GLÄSER,
MICHELS KFZ-WERKSTÄTTE
[VEHICLE WORKSHOP]**

The vehicle workshop "Michels Kfz-Werkstätte" has been part of the full-service workshop concept "Alltrucks Truck & Trailer Service" since July 2021. It offers Europe's largest independent and cross-brand service net for all vehicle types, and has been the exclusive aftersales network for Krone since 2021.

PHOTO: NICOLE BOUILLON FOTOGRAFIE

What continues to move us

More inspiration, tips and thoughts

Well worth seeing

Climate change is a reality, the consequences of which can no longer be denied. The Arte documentary "Klimawandel und Vogel-Strauß-Taktik: Wie wir uns selbst belügen" ["Climate Change and Ostrich Tactics: How We Lie to Ourselves"], which is well worth watching, describes and explains how and why we deceive ourselves on the subject of climate change, and helps us to better understand how our minds work.

www.arte.tv



Listening closely

What type of chocolate can I eat with a clear conscience? Is palm oil really that bad? How environmentally harmful is 90 minutes of film streaming? The sustainability podcast "Besser leben" ["Live better"] from Bayern 1 grapples with environmental issues from everyday life once a week, and reveals simple solutions. The fourth season started in March.

You can listen to it at www.ardaudiothek.de and on all the usual streaming services.

Quiz

In 2015, the United Nations adopted the "2030 Agenda", which encompasses economic, ecological and social development aspects. With this quiz, you can put your knowledge of the 17 United Nations Sustainable Development Goals (SDGs) to the test.



Games



With the beautifully designed board game "Trails", you go on a hike to explore national parks and landmarks in the USA. New tasks – such as photographing birds, collecting raw materials and observing wild animals – await you in each round. The rules are very simple, and the winner is the one who collects the most hiking badges.

From Feuerland Games



Well entertained

Sustainable travel is all the rage – and rail travel is undoubtedly one of the most sustainable ways to travel. Of course, the right reading material must be included in any luggage. With the book "Gebrauchsanweisung fürs Zugreisen" [Instructions and tips for travelling by train] by Jaroslav Rudiš, every train journey becomes an adventure.

Published by Piper-Verlag

App check

The first step towards achieving an environmentally-friendly lifestyle is to know your own CO₂ footprint. The climate app from Codyo helps to determine this and reduce it over the long term. Each user learns more about his or her own consumption and how it can be rendered climate-friendly.

<https://codyo.app/>





Going intermodal into tomorrow's world

The Italian transport company Codognotto relies on **combined transport** and brings primarily fast moving consumer goods (FMCG), furniture and steel to many European countries by road, rail and water.

"We are always looking for options that our drivers can be at home as often as possible"
Matteo Codognotto

On its website, the Italian transport company Codognotto welcomes visitors with the skyline of the Star Wars planet Coruscant and with the self-confident claim 'We are what other logistics companies will be' and the greeting 'See you in the future!'. The freight forwarder has claimed the world of tomorrow for itself – not entirely without good reason, because in terms of climate-friendly transport, it is way out in front thanks to its strong focus on combined transport – both on the road and on water and rail.

FMCG and furniture require combined transport

Codognotto mainly transports FMCG and furniture. 'You need intermodal support for this nowadays', explains Matteo Codognotto, Marketing

& Innovation Group Director of the company, which is headquartered in Salgareda in north-eastern Italy. 'We started transporting by rail in the 1990s and are still one of the few companies today offering combined transport between Italy and Poland.' Other combined transport connections are operated between Italy and Germany, Spain, Great Britain and the Benelux countries, among others. 'This enables us to cover all possible routes in Europe with intermodal transport.'

The company was founded in 1946 by his grandfather, who bought trucks from the army shortly after the Second World War. In the 1970s, his sons took over and continued to concentrate on transport operations within Italy. In 2001, the family bought a company that specialised in international transport and thus expanded its scope of business. From 2004 onwards, own subsidiaries were founded in other countries: first in France, then

in Spain and Great Britain and, finally, in Slovakia and Poland. 'Today, we are represented in almost every country in Europe. We transport by truck, road, rail and air and offer logistics and international distribution solutions – the complete portfolio of logistics services.'

Roadmap for the future in place

And Codognotto is on course for growth: After achieving EUR 350 million in turnover in 2021, the forecasts for this and the coming years continue to show an upward trend. 'We are seeing that the market remains expandable. Costs are rising, there are many challenges here, but we have a roadmap for the future that will allow us to grow and continue to offer our clients the best services and alternative solutions', says Matteo Codognotto. →



Sustainability is a core issue that is firmly integrated into the corporate strategy. According to Matteo Codognotto, his team and he place great emphasis on three pillars. First, social responsibility: 'We know that we need to ensure that our drivers work in an environment that allows them to be safe, happy and motivated. That is why we are always looking for ways for them to be able to spend time at home as often as possible. In the same way, we pay close attention to the well-being of the employees in our offices.' A second pillar is economic sustainability: 'We seek out opportunities in what is an aggressive and competitive market for transport services to remain viable, but of course, we also make sure to always be financially stable.'

Investment in LNG trucks

And thirdly, the digitalisation of all internal and external processes – such as the electronic consignment note – as well as the use of alternative drives, underpin the company's desire to operate in an ecologically sustainable manner. Since 2013, Codognotto has invested in LNG trucks and runs them on bio-LNG produced from waste. 'We are looking in equal measure into the possibility of using electric trucks and hope that, by the end of the year, we will be able to introduce the first vehicles of this kind for heavy-duty transport.' In intermodal transport, the long haul section is completed by train or ship, while the rest is done by road. 'This saves on driver hours, there is less traffic on the roads, and thus the risk of accidents decreases', explains Codognotto as he lists the other advantages. 'And, last but not least, we have also opted for combined transport from an economic point of view because it is a sustainable solution in the long term. We can guarantee our customers that we can offer major capacity on an ongoing basis.'

For road transport, Codognotto relies on Krone: For the next five years, the company has ordered 600 mega-trailers in Werlte, which can hold loads up to three metres high. They are piggyback trailers that can be loaded onto a ship as so-called roll-on/roll-off traffic or Ro/Ro for short. 'This allows us to cover all our customers' needs from a wide range of sectors, whether we are transporting cars, furniture, electronics, steel or white goods', says Codognotto. He has decided in favour of using telematics – all trailers ordered from Krone will be equipped with it. 'We developed our previous systems ourselves, but now we are buying trailers pre-equipped with telematics from the manufacturer for the first time. I look forward to pursuing this close collaboration, and I am sure it will be a success.'



Company wants to be an innovation driver

The Star Wars city-covered planet of Coruscant is the central planet of the universe and has been the seat of the Galactic Republic government for millennia. It is not a green planet but a very modern one, which was also considered the centre of the galaxy in the saga because of its civilised infrastructure. For Matteo Codognotto, one thing is clear: 'Either we are drivers of innovation or we lose our competitiveness.' That is why the company also runs its own research and development department, where it is working on a truck with an alternative drive system, among other things. 'And so we are developing solutions that may seem impossible today. But we are in no doubt that they can be implemented.' The pandemic and Brexit have shown the degree of flexibility with which transport service providers have to react. 'It is, therefore, important for us to think about what the market might look like in two or ten years' time – and we want to be prepared for that.' In an in-house academy, junior staff are trained and supported in their efforts – and so the invitation 'See you in the future!' also applies to them, in particular. ↪

With modern space for storage and offices, Matteo Codognotto (above) wants to offer his teams a good workplace.

+ PROFILE

The Codognotto Group implements integrated logistics management and transport by road, sea or air for leading companies worldwide. The fleet comprises almost 2,000 vehicles.

PHOTOS: IGOR BORTOLUZZI

Interview

How companies benefit from rail transport

Carsten Hemme, Managing Director of **Paneuropa Transport GmbH**, on the advantages and challenges of rail transport

What does combined transport offer freight forwarders?

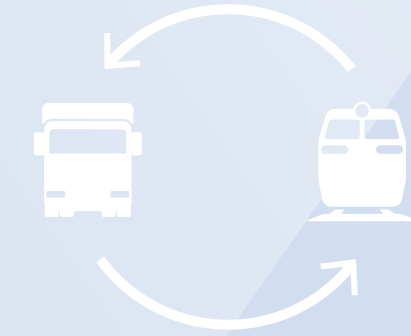
More climate-friendly transport and the possibility to react faster to volatile transport volumes. Rail transport allows you to handle different amounts of cargo with far fewer drivers and tractor units while accommodating mixed and unstable loads. This facilitates planning and helps you avoid having 50 tractor units standing around during the holiday season. The fact that you are allowed to take 4 tonnes more onto the tracks is another plus. And the rail option can partially attenuate the problem of the many freight forwarders that are currently going out of business.

What does rail transport demand from transport service providers?

The scheduling department has to rethink and become familiar with details such as timetables and acceptance times. Delays often have far-reaching effects: whereas a lorry stuck in a traffic jam may be delayed for a few hours, this can stop a train for a whole day. Your customers have to follow suit and come to terms with longer lead times, among other things. This often requires more communication on the forwarding side.

What do you personally see as the greatest benefit for your own company?

We are more independent and can reliably handle our customers' orders. We



have been focusing on combined transport since 2002 and have only ordered trailers that are suitable for railway use since then – whether they are used on the road or not. And we were already expecting an increasing shortage of drivers back then in view of the

demographic development. Most of our transport operations go to Italy, where professional drivers are separated from their families for several weeks. However, if they only bring the goods to the railway and pick them up from there, they can already be back home in the evening.

What has to change?

We need longer trains and, like pilots, train drivers should have an official international language so that the same driver can continue when the train crosses borders. A second rail track would also be helpful. More goods can only be transported by rail if investments are made in a rational and targeted manner. ↪



PHOTO: KRONE

When the wind becomes your friend



Optimal **aerodynamics** make vehicles faster, save fuel and thus CO₂. Dr. Frank Albers, Managing Director Sales & Marketing at Krone, spoke with Jean-Paul Ballard, owner of Swiss Side, about what trailers could learn from cycling. The company develops wheels, bicycles and products with which the world's top cycling athletes go onto break records. The two met at Swiss Side's headquarters in Thalwil near Zurich, and went on a bike ride together along Lake Zurich.

Dr. Frank Albers: *You worked in Formula 1 for a long time and then switched to cycling. What prompted you to make the change?*

Jean-Paul Ballard: Formula 1 is exciting and very thrilling; it was a lot of fun to develop and implement ideas in that discipline. However, at a time when we are confronted with issues like climate change, it no longer made sense to me personally to watch cars driving in circles. I wanted to use the expertise I had gained there in a different way. I started cycling during the lunch breaks – here in Switzerland, you can often find yourself on the mountain in just a few minutes. I raced a lot, competed in triathlons. I had little idea about all things business at the beginning – I'm an engineer at heart. But fortunately, we have managed to build Swiss Side as a company that can help cycling professionals achieve sporting success. We have developed the fastest wheels in the world, with which world championships have been won several times. We produce 3,000 to 4,000 of these per year in cooperation with the component manufacturer DT Swiss.

Albers: *For example, what improvements have you made to racing bikes?*

Ballard: Classically, they came with NACA profiles, for example, which have been adopted from the aircraft industry. But an aeroplane reaches very high speeds and also, ultimately, has to take off – a bike does neither. And so we developed our own profiles that are designed for a speed of around 40 kilometres per hour, and significantly improved the aerodynamics in this regard. The cycling industry was thoroughly underdeveloped in this respect; there is a lot of potential here – improvements of around 30 per cent are not uncommon. However, we also always go to extremes and really get the optimum performance out of it, because our wheels and other products are designed for top athletes. For example, we look after Patrick Lange, who became Ironman World Champion in 2017 and 2018 and completed the race in under eight hours for the first time. To do this, he had to be at least 101 seconds faster than the previous record holder – we christened it "Project 101" and achieved it together with partners and Patrick. Our collaboration has continued since then; we promise him a two per cent increase in performance per year and have always managed that so far. You also ride mountain bikes and road bikes, is that right? What tours do you do?

Albers: *For me, long distances mean tours of about 150 kilometres. As an amateur, I average around 30 kilometres per hour, so I'm on the road for around five hours. That's enough for me – →*



I also have to balance this hobby with my job, family and other activities. But it's a lot of fun. What would you say – as a cyclist, how do I best deal with the wind on the road?

Ballard: The equipment can make a big difference here. With a good bike that has an optimal frame, wind is of little consequence. Above all, you need good wheels, because 65 per cent of the desired glide effect comes from the wheels. Then the wind can truly be your friend.

Albers: *Why have you devoted yourself to aerodynamics?*

Ballard: I'm fascinated by this power of nature, I always have been. I grew up in Australia and Switzerland, and I did a lot of windsurfing Down Under. Sure, nobody likes a headwind when cycling. But when I'm on two wheels and I feel that energy, I always try to see it as a source of support and use it.

Albers: *It also has a training effect to ride against the resistance.*

Ballard: And the suffering is also part of the fun.

Albers: *Quite. You learn to endure things and practise humility. And when you get to the finish, it's refreshing and you feel amazing. I remember a tour last year, for example. It was 90 kilometres long and I rode 70 kilometres with headwind only. That was torture. But then came a descent, and it felt so liberating – the effort before was all but forgotten. You want to ease the suffering a little for top athletes, and make them faster. How exactly do you manage that?*

"We always rely on the numbers: For us, nothing beats facts and testing."

JEAN-PAUL BALLARD



Ballard: We always rely on the numbers and check and test everything in a wind tunnel at Lake Constance. There are products on the bicycle market that are advertised as aerodynamic, promise an increase in performance and are sold with a correspondingly higher price tag. We tested them, and in some cases, the air resistance was 20 per cent higher. For us, there is really nothing like facts and testing. For example: The Swiss athlete Marcel Hug drives a racing wheelchair, and we designed a completely new vehicle for him ahead of the 2021 Summer Paralympic Games in Tokyo together with the aid manufacturer Orthotec and the Sauber Group. Racing wheelchairs usually have closed disc wheels, and no one questioned that for a long time. However, we left out the discs in the wind tunnel and only rode with spokes – in fact, the air resistance was ten per cent lower! Marcel then won gold in Tokyo over 800, 1,500 and 5,000 metres and beat the 22-year-old world record by around 2.5 minutes over the marathon distance – because he had the best material, and, of course, also because he is a world-class athlete. The world record was our goal – we always want to break records.

Albers: *Surely your ideas will be copied. How do you protect yourselves against IP theft?*

Ballard: Given that we work at a very high level, this is not too big an issue for us. But yes,



we have to participate in a certain amount of "patent battles" that are going on in the bicycle industry, in order to protect our intellectual property. We ourselves would not be very interested in patents because they are elaborate, cost a lot of money and take time. When a patent is granted, we are usually at least a year further ahead in terms of our development efforts.

Albers: *You have not yet dealt intensively with truck trailers, but what can you say about the aerodynamics of vehicles with your view from the outside? Since we are, of course, legally bound to certain height, width and length dimensions, there is little room for optimisation. But I would be very interested to know what other sources of potential you see.*

Ballard: There are three influencing variables: In addition to aerodynamics, i.e. air resistance, these are rolling resistance and the weight of the vehicle. The crosswind factor, in particular, seems to me to have been little researched so far in relation to trailers. For example, measurements could be taken on the underbody to see

what forces are acting on it. It is interesting to note that there is little general knowledge about wind conditions on the ground; official measurements often relate to a height of around ten metres. To support the airflow on the vehicle, you could, for example, deliberately create structural turbulence and attach corresponding add-on parts.

Albers: *This definitely works, it's often just a cost issue for transporters: The price pressure in the industry is enormous, and investments must pay off within 24 months for customers who carry out simple transport operations.*

Ballard: Of course, solutions always have to be economical – I understand that well. In theory, platooning would be a very promising concept for heavy goods traffic because it mitigates crosswinds and saves a lot of air resistance when at least two vehicles drive close behind each other. We know this from team cycling: When there is a convoy, the riders in the slip-stream benefit, but so do those in front. →

As early as 2012, Krone and MAN presented a fully aerodynamic, optimised version (with a CO₂ savings potential of 25 per cent).



For example, we advised Team Ineos in 2019 at the Tour de France on the best position to use their key rider Egan Bernal, especially on stages with a lot of crosswinds. With five riders, he placed third – and he won the competition.

Albers: *Practical tests have shown that platooning delivers efficiency gains. Unfortunately, the concept fails in countries like Germany, Austria or Switzerland due to dense traffic and is not a viable alternative in practice. Another thing that interests me: A rectangular-shaped trailer is probably significantly less streamlined than a person on a bike, is that right?*

Ballard: The thought is obvious at first, but in comparison, the trailer sometimes even performs better: Humans, with their rounded shapes on arms, legs and torso, create quite a lot of turbulence – sometimes worse than a box-shaped object. One of the ways we are trying to address this issue in cycling is by developing jerseys made of particularly low-resistance fabrics.

Albers: *When an athlete approaches you with a specific question, how do you address their concern?*

Ballard: First of all, we need to understand exactly what the issue is, and then we can decide what measurements are needed to achieve this – both on the road and in the wind tunnel. In addition, we can use very powerful, self-programmed tools to simulate certain practical situations. This allows us to set parameters such as air resistance or rolling resistance and, for example, to see how an object behaves at different speeds. Then we build models. To perform the measurements, we need techniques like 3D printing or carbon fibre construction and structural calculations – because, ultimately, we want to develop drivable products. We stand not only for aerodynamics, but also for physics and electronics – we build a complete system. And whenever we need to quantify something but there is no measuring device for it, we develop the necessary instruments ourselves. For example, we have constructed a steering torque sensor with which we can measure in the wind tunnel what influence the crosswind has on the front wheel of the bicycle and the steering. We are the only professionals in the world in the bicycle industry who can measure this.

Albers: *Do you also align your efforts in your work with the example set by nature? We presented a study together with MAN in 2012: the AeroLiner – an aerodynamically optimised*



semi-trailer tractor. It had a streamlined outer shape in the form of a teardrop, for which the shape of a pilot whale was the inspiration.

Ballard: There are many good examples in nature from which we can learn for the aerodynamics of vehicles. When developing innovative jerseys, for example, we were inspired by the structure of shark skin. You have to see on a case-by-case basis whether the transfer to another world works. For example, a shark swims in the water, but our typical products move through the air. That makes a big difference. For us, the wind tunnel tests are the be-all and end-all – we only put into practice what makes the mark there. ↩

+ JEAN-PAUL BALLARD

Born in 1978, studied Aeronautical Engineering and then worked for 14 years in Formula 1, where he optimised the aerodynamics of racing cars for BMW-Sauber, among others. Privately, he has long enjoyed riding a lot of road bikes and turned this hobby into his profession in 2014: Since then, he has been running Swiss Side, a spin-off company of Sauber that develops aero wheels and equipment, and helps athletes to become ever faster.



PHOTOS: NICO PUDIMAT FOTOGRAFIE, MAN

BOLD, BRIGHT, BRILLIANT!

Painting a trailer with KTL powder coating not only makes it attractive, but also protects against most external influences. In this powder booth at the Werlte site, Krone gives the metal the perfect finish: around 23 kilograms of paint powder adhere electrostatically to a trailer – the nozzles fire it onto the material under a voltage of 100,000 volts. Powder that does not stick can be reused. Customers are spoiled for choice: 240 colour shades are possible!



PHOTO: SCHÖNING FOTODESIGN



"The usability is easy, the reliability is great."

Sebastian Uhlhorn



All good things come in threes

Anyone who runs temperature-controlled transport operations has to meet high demands. Spedition Uhlhorn from Twistringen relies on a **new modular cooling system for this purpose.**

I can still remember 30, 35 years ago when we used to tarpaulin-sided trailers cooled with dry ice to carry margarine". Sebastian Uhlhorn, the man with these memories, is just 41 years old. But, as a fifth-generation representative of the logistics company Uhlhorn in Twistringen, Lower Saxony, he grew up with such stories – stories from the transport industry that sound a bit like something from a long-lost time. It was only a few years later that the technical quantum leap from dry ice to modern refrigeration units on the truck trailers followed.

Mobile phones and navigation systems did not exist at the beginning of the 1990s either, of course. "When the drivers left on Sunday evenings, they called from the client on Wednesdays to let them know they were empty. Today, everything can be tracked online – even the temperature at which the vehicles cruise at on

the road," says the junior manager of Uhlhorn, explaining the turnaround in truck logistics.

The temperature-controlled transport operations he is talking about present their own unique challenges. Fresh goods such as fish, meat, chocolate or vegetables have to be transported over long distances under the strict maintenance of the cold chain, and with the pressure to meet the set deadline. 200 refrigerated vehicles are on the road for Uhlhorn in Germany and Europe, with temperatures ranging from plus 30 to minus 25 degrees Celsius. "We run a lot at room temperature of around 18 degrees, for example, for chocolate products," Sebastian Uhlhorn reports during the interview at the company headquarters. The view from the meeting room leads to the local railway station, and a large photo of the port of Hamburg hangs on the wall. Other logistics worlds in their own right.

Cooperation with Krone and Liebherr

In order to offer its customers a service with even more safety and reliability in the field of refrigerated logistics, Uhlhorn has been using the new "Celsineo" refrigeration system for about two years. It was developed by Krone, a long-standing partner of Uhlhorn, in cooperation with Liebherr, a company specialising in cooling technology and air conditioning. While normal refrigeration units have only one refrigeration circuit, in the Celsineo system, the cooling capacity is distributed over three plug-and-play refrigeration modules. Each of the three units has a self-sufficient control circuit. Thanks to this modular system, if one of the units fails, another one takes over its function and the cold chain is maintained. "In the event of any damage, you can complete the route and then carry out the repair at your leisure," explains Sebastian Uhlhorn.

So far, the major freight forwarder from Lower Saxony has equipped one trailer with the Celsineo system, which transports fresh fish on the route between Hamburg and Berlin. Ten more refrigeration units of this brand are to be added in the course of the year. "Before we started using the new unit, we had a reserve trailer with which we could react quickly if the cooling system ever failed," says Markus Rathje, branch manager at Uhlhorn Logistik in Hamburg. Sebastian Uhlhorn estimates that there are about five such failures a year. If there is a defect in the refrigeration of fresh produce, "then you immediately get alerted in scheduling, especially since many trucks run at night". With fresh produce, in particular, there is only one deadline for delivery, as it is only briefly handled at the customer's premises and then goes directly to the sales counters. In such a case of damage, the drivers have to head for the nearest workshop and possibly reload at the nearest refrigerated warehouse. →

The "Celsineo" cooling system has been in use at Uhlhorn for around two years. Since then, a reserve trailer is no longer necessary.



Sebastian Uhlhorn in conversation with editor York Schaefer

+ PROFILE

The Uhlhorn company was founded in 1876 as an agricultural trading company. Sebastian Uhlhorn's grandfather then developed the company into a freight forwarding business in its third generation. Today, Uhlhorn Logistik has 850 employees, 500 to 550 of whom are drivers. The 420 tractor units and 500 semi-trailers in the company's own fleet include around 800 scheduled vehicles. Uhlhorn has 92,200 square metres of warehouse space. In addition to food, the Twistringen-based freight forwarder, which operates from seven other major locations in Germany, transports paper and cardboard packaging, as well as building materials.



"This is time-consuming, labour-intensive and costly – not to mention nerve-wracking," emphasises company boss Uhlhorn. "Being able to sleep peacefully again is actually the biggest perceived benefit of the new cooling system for us".

Intuitive and fast operability

"The modular solution is the first truly new approach to refrigeration logistics in decades – a real milestone. For me, this was ultimately also a decisive aspect in terms of securing the cold chain," says Sebastian Uhlhorn, who particularly appreciates the ease of use associated with the system. In view of the fact that different drivers travel with the trailer between Hamburg and Berlin, it is important that the cooling system can be operated intuitively and quickly. "It has to be self-explanatory," affirms the managing director. Branch manager Rathje compares the system to a smartphone: "Actually, everyone can handle it." After a short introduction by Liebherr, the Uhlhorn drivers were in the picture. "The system is very straightforward," confirms driver Holger Plassa,



who is on the road with the Celsineo. Even for smaller companies that do not have a refrigeration technician among their staff, the Celsineo system, with its relatively simple handling, should be of interest. "In times of a shortage of skilled workers, this can definitely be a decisive aspect," says Sebastian Uhlhorn.

Driver shortage due to Brexit and Corona in the public consciousness

The shortage of drivers, in particular, also poses great challenges for the Twistringen-based haulage company. Brexit was the first time that this problem was discussed in a broader public sphere, and it was intensified again by the Coronavirus pandemic. "Before that, hardly anyone had thought about logistics chains, i.e. how goods actually get to the shops and what is needed in the run-up to that point," says Uhlhorn. He welcomes the new public awareness of this problem, and that it has become more visible that there are too few truck drivers in all European countries. Sebastian Uhlhorn believes that the profession of "driver" is generally underestimated. At the same time, this work entails a lot of responsibility. Added to this is the potential daily stress caused by traffic jams on the motorways, the limited parking spaces and the sometimes poor treatment at the loading and unloading points. "That doesn't make this job any easier," adds the Twistringen haulage boss. At least in refrigerated logistics, the Celsineo system could eliminate at least one stress factor for drivers and dispatchers, because there have been no failures in the cold chain since the new technology was introduced at Uhlhorn Logistik. ↪

PHOTOS: MARTIN BOCKHACKER, KRONE TV

Here come the hydrogen vehicles!

Hyundai Hydrogen Mobility AG has developed the world's first heavy-duty truck powered by fuel cells. In Switzerland it is already in successful use.

Hyundai Motor Company will be able to produce full 2,000 hydrogen-powered heavy-duty vehicles annually from 2022, promises Hyundai Hydrogen Mobility – a joint venture between Hyundai Motor Company and the Swiss company H2 Energy. The team has developed the world's first heavy-duty trucks powered by fuel cells, and has already successfully put them on the road. In Switzerland, the first vehicles were handed over to haulage companies in 2020 – and almost 50 Hyundai Xcient Fuel Cells have been in regular operation since then.

Extremely positive feedback

According to Patrick Huber from Business Development at Hyundai Hydrogen Mobility AG, the feedback after more than three million kilometres driven and more than 2,500 tonnes of CO₂ saved is extremely positive: "The vehicles work, there are no technical issues, and the customers are satisfied." The heavy-duty trucks can be filled up with hydrogen in just 15 minutes, giving them a range of around 400 kilometres. According to Huber, low ambient temperatures have no great influence on the range. Two truck models are available, and their production is secured. "This means that the availability of vehicles no longer represents a bottleneck on the road to climate-neutral transport," says Huber.



PHOTO: HUNDAY HYDROGEN MOBILITY

Before H2 Energy set up the joint venture with Hyundai Motor Company in 2019, the company had designed a fuel cell truck for the Swiss retail chain Coop. What is more: H2 Energy had built the first hydrogen filling station in Switzerland, produced the hydrogen in its own electrolysis plant and entered into an electricity usage contract with the local electricity supplier. "This allowed us to map the whole ecosystem and show that it works."

Creating a practical infrastructure

The practical application provided H2 Energy with a lot of data: Among other things, the team was able to observe the impact of cold and hot weather on the technology, and quantify the influence of topography on hydrogen consumption, but data on fuel cell degradation was also collected. With all this knowledge, the company approached Hyundai and was able to win the car manufacturer as a partner to jointly develop the Hyundai Xcient Fuel Cell and make fuel cell trucks available throughout Europe in the future. In tandem to these vehicles, a practical infrastructure must, of course, also be created: "So far, there are eleven filling stations in Switzerland and 95 in Germany – but the country is about ten times bigger and also more populous than Switzerland. However, the filling station operators in Switzerland are showing a willingness to invest further in the hydrogen filling station network."

Transporters is currently being offered a pay-per-use model which includes all costs – from refuelling to service. It thus relieves the transporter of risks related to the technology, the price of hydrogen and the resale value. In Switzerland, an emissions or consumption-based levy is charged for heavy goods vehicles – as this levy does not apply to emission-free drives, the additional costs for the vehicle (and the more expensive fuel) can thus be compensated. In Germany, alternative drive systems are directly subsidised. Huber nevertheless advocates that logistics companies should also be able to sell green transport to their customers as an additional service: "Here in Switzerland, the companies that want CO₂-neutral transport are also quite prepared to pay more for it. And going forward, awareness that climate neutrality has value will certainly increase." ↪



The visionary

As a futurist, **Kai Goerlich** generates scenarios for the economy and life of the future. With his company Visionary Labs, he works with companies to find ways to deal with these scenarios. His passion for systemic thinking also brought him to shamanism.

Kai Goerlich has his eyes firmly fixed on what is ahead: As a futurologist, he predicts trends and future developments. In doing so, he wants to help people adopt new perspectives and use them consciously and, with his consultancy Visionary Labs, shows companies the way to a self-determined future: 'We go into a really creative process together with them. It's challenging because it requires you to question your usual perspectives and embrace change.' He knows only too well from his own experience how difficult this can be: 'I want to support others to face up to this and realise their full potential.'

Understanding the miracle of life

When the now 60-year-old wanted to study, he was faced with the choice between music and biology. He chose biology to 'understand the miracle of life'. But disillusionment soon set in: 'The science itself is very exciting, especially when explaining how natural systems work and how we can survive in them', he notes. 'But for me personally, the question of the miracle of life remained open.' He found answers to this in shamanism, which he still practices today and also teaches for 'The Foundation for Shamanic Studies Europe'. The non-profit association aims to preserve, research and pass on the knowledge of this thousand-year-old healing tradition.

Shamanism is based on the idea that everything is connected: People, living beings and all of nature. Goerlich sees this view as a prerequisite for surviving together on this planet: 'We need a global consciousness that enables us to reach common agreements on our resource consumption and living situations.' This is shown not least by the global flow of goods: 'We are currently experiencing with particular intensity how dependent we are to varying degrees on how quickly they can be interrupted, and what problems this can trigger. And so we would have to work out other perspectives and structures.'

After studying biology, he left science to work in public relations: He worked in PR agencies in Frankfurt am Main for around eight years. That was when he came into contact with SAP: The software company was looking for people with expertise in marketing and the internet. 'That was at the end of the 1990s, when modems were still humming away loudly – the Internet Stone Age, so to speak', he recalls. 'SAP wanted to use the technology in a communicative way.' He joined the company and soon took the opportunity to move to a consulting subsidiary where he was to conduct market research to acquire new clients. 'I analysed markets and competitors in the traditional way and read up on financial reports. Soon, I wanted to understand more deeply why analysts make certain predictions.' He studied trends in industry and larger contexts that →

+ KAI GOERLICH

Kai Goerlich studied biology in Würzburg and worked in PR and marketing until he specialised in futurology. After holding several positions at SAP – most recently at the Innovation Center in Potsdam – he is now Chief Futurist at Visionary Labs. He is a father to three children, married and lives near Potsdam.

influence business, society and politics, he produced books internally on trend developments and found that there are people who systematically describe such predictions. ‘That was my entry into futurology’, says Goerlich. His path led him further to Potsdam, where he worked in the SAP Innovation Center Network as Chief Futurist and then set up his own company Visionary Labs with colleagues in this role.

Looking ahead with a clear view

Futurologists create scenarios for future developments. ‘For example, you can imagine a future without blockchain or one with blockchain, and combine that with the topic of sustainability: For example, what would happen if we can use blockchain technology and implement sustainability more robustly than before?’ Based on these scenarios, you can outline possible effects on the economy, society and one’s own company – and then set the course accordingly today. Perhaps, for example, you find that supply chains can be built more sustainably with the help of decentralised blockchain technology?

‘I don’t even need to know exactly (and for certain) what the world will look like in, say, ten years’ time’, says Goerlich. ‘I should only consider how I support or avoid certain developments related to this for my organisation.’



And so it’s about looking ahead with a clear view and deriving possible development paths.’ He himself describes the process as if we were illuminating a dark room with torches: ‘Each and every one of us casts a thin ray of light into the darkness. We derive meaning from what we see there.’

When several people shine their light into the room, you can see a bit more. However, in order to recognise structures, I have to shed a lot more light on them and usually change my own location and frame of reference to do so.’ And so we are always challenged to ‘put ourselves in other people’s shoes’. This is often exhausting and can make people feel insecure. But with that said: ‘After all, the security you felt before is not real. We just like to settle into it – and then keep the thought patterns associated with it.’ A perfectly human reaction, because experimenting with the new and unknown always involves a degree of risk: ‘And especially the business community and government administrations are shying away from it; they want, above all, to minimise threats.’

Flexibility as the greatest strength

According to Goerlich, a society that experiences one-sided growth, as is currently the case, has little prospect for the future: ‘We have known since the Club of Rome in the 1970s that we are overextending the Earth’s natural resources. In these five decades, there has not been much of a learning effect.’ Here too, in his opinion, it becomes clear as to how the same paths are always used: ‘What kind of policy is it, for example, that could have pushed hydrogen technology a long time ago but keeps failing to do so?’

Acquire more resilience

He advises companies that want to be prepared for the challenges of today and tomorrow to acquire more resilience – more room to breathe in their own ecosystem. Supply chains should no longer be relied upon to function as seamlessly as they have in the past. ‘And if I want to survive, I have to become much more innovative and flexible, especially as a small or medium-sized enterprise. I should make myself independent of political decisions and network – build new networks and forge alliances. When systems change, I have to increase my ability to adapt and innovate. In nature, this is done without question: What doesn’t adapt is soon gone.’

Kai Goerlich sees how his scenarios become reality, how the paths he shows companies then take shape. He also has to live with it if his ideas are not implemented. ‘I’m good at that too’, he explains. ‘The only thing I can’t stand is excuses. When someone says: “I understand, that’s a great idea, but we’re not going to do it”, then that’s perfectly fine. But I can’t stand excuses – we’ve seen tonnes of great innovations crash and burn as a result.’

PHOTOS: DANIELA LIPPERT

Digitisation

Goals



Stakeholders

Solidarity
together
Sustainability

A column by Bernard Krone

The power of working together



The world, the economy and society are all faced with an increasing number of global challenges. The coronavirus pandemic was far from over when war broke out in Europe in February of this year. The images of the attacks on Ukraine are horrific. And the images we are seeing of people who manage to flee but have to leave everything behind are also highly emotional. Just like the images that show the many people that are lending a hand. This has sparked an unprecedented wave of solidarity that once again shows very clearly what people can achieve by working together towards the same goals unleashes a boundless source of energy.

This is also the core of our own industry: working together as a real team and getting things to their destination is an important transport and logistics driver. And great things can be achieved when transport chains are closely interlinked, and all stakeholders work together. The challenges are also far too great for individuals

to cope with on their own: global insecurity, digitisation, lack of raw materials and, above all, climate change. Sustainability – the protection of the earth’s resources – can only succeed if everyone contributes.

“Together you can achieve more.”

We know that together, you can achieve more, which is why as a family business, we also work very closely with you. We listen to you, acknowledge your requirements and tailor our products and solutions to meet them. This once again underlines the power of working together. Rest assured that we will be there to lend you a helping hand, especially in the face of growing challenges – and together with you, we will get things moving.

PHOTOS: ISTOCK/JOLYGN, KRONE



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