

RENEWABLE ENERGY MUST RAMP UP TO MEET NET-ZERO GOALS

New data has revealed how the global shipping industry will require the equivalent of the world's entire current renewable energy demand in order to replace fossil fuel use.

Fuelling the Fourth Propulsion Revolution, authored by Professor Stefan Ulreich from Germany's University of Applied Sciences and commissioned by the International Chamber of Shipping, highlights the "enormous opportunity" for investors and governments represented by the global shipping industry's need for new, green fuels. To reach the industry's 2050 net-zero goal, shipping's fuel needs would require electricity from renewable sources to increase by up to 3,000 TWh, the report shows. This is the equivalent of the entire world's current renewable energy production.

It found that to achieve the IEA's Net Zero by 2050 scenario, the world would need an 18-fold increase in existing renewable production capacity.

Taking the global trading of hydrogen as an example, the report identified substantial potential benefits for exporting and importing countries, particularly in the global south. This is due to the expected production cost differentials of such fuels across the world (expected range of €72.60/MWh to €156.40/MWh in 2050).

The cost range reflects the abundance of renewable potential, such as solar and wind power, in many African and Latin American countries, which can generate the electricity needed in the production of hydrogen fuels at much lower cost.

The report identified the first movers who are looking to seize these investment opportunities, including Germany, Algeria, and Chile, which have signed multiple bilateral agreements on the production of hydrogen fuels (seen as key for powering ships).

Unveiled at the World Ports Conference in Vancouver, Canada, *Fuelling the Fourth Propulsion Revolution* urgently calls for increased R&D in green fuels, and to specifically develop production infrastructure in key geographic locations such as Latin America and Africa.

Up to this point, there continues to be a lack of investment in zero-emission technologies, with the IEA highlighting that the total amount of corporate R&D investment for maritime has decreased, from \$2.7bn in 2017 to \$1.6bn in 2019.

Yet by 2050, at least half of net-zero fuels traded globally are expected to be moved by ships, according to the International Renewable Energy Agency. The report indicates that this makes maritime a key enabler of the decarbonisation of land-based industrial sectors. The full report is available [here](#).

GLOBAL GRAIN HARVESTS REVEALED

The US Department of Agriculture has produced grain statistics for 2022/23 showing the impact of the war in Ukraine, as well as climatic conditions.

Global production is forecast at 775m tons, down 4m from the previous year. The largest cut to production is in Ukraine, which is projected to have a crop one-third smaller than the prior year with reduced harvested area and lower yields due to the ongoing war with Russia. Australia is expected to have a smaller crop, down from last year's record, on reduced harvested area and yields.

Production in Morocco is forecast at the lowest since 2007/08 because of severe drought conditions. The crop in India is down as heatwaves have damaged yields in prominent northern growing states. European Union production is forecast slightly lower than the previous year. China, the second-largest global producer, is also expecting a slightly smaller harvest.

The largest year-over-year growth in production is expected in Canada, where area and yield are both forecast higher on improved weather following last year's widespread drought. Russia's crop is forecast higher on improved yields. Turkey's crop is forecast higher on improved weather boosting yields, offsetting a reduction in harvested area. Kazakhstan is also expecting a larger crop on higher yields. The US is forecast to have a larger crop on recovery in spring wheat production after a drought-plagued 2021/22. See the report [here](#).

REMOTE SURVEYS TO STAY

The impact of the pandemic on the maritime industry resulted in an increase in the deployment of remote surveys by members of the International Association of Classification Societies (IACS) to ensure the maritime industry was able to continue functioning in as smooth and efficient a manner as possible.

Advancements in information and communication technologies, together with the experience and knowledge gained during the pandemic, means that remote surveys will increasingly form part of IACS members' operations, given the many advantages that can be achieved in terms of practical delivery while ensuring the same quality and safety levels.

A "remote survey" is defined as a process of verifying that a ship and its equipment are in compliance with the rules of the classification society where the verification is undertaken, or partially undertaken, without attendance on-board by a surveyor.

To ensure all IACS members have uniform guidance and requirements on remote surveys it was considered essential to develop minimum common requirements for the implementation of remote surveys. The IACS Unified Requirement UR Z29 has therefore been developed to deliver the core objective that a remote survey will only be appropriate when the survey is carried out without compromising the quality and results of such a survey, providing the same level of assurance as those performed by a surveyor attending onboard the vessel.

IACS Unified Requirement on Remote Classification Surveys UR Z29 will enter into force for IACS members on 01 January 2023.

MOU AIMS TO SMOOTH SUEZ PASSAGE

The International Chamber of Shipping (ICS) and Egypt's Suez Canal Authority (SCA) have signed a memorandum of understanding (MOU) covering key issues impacting international shipowners and operations of the Suez canal.

The year-long commitment, signed during a meeting at the SCA head office, will increase information sharing and negotiations on the movement of global trade through the Suez canal. It will open communication on long-term strategies for toll pricing, environmental protection, and decarbonisation.

This MOU represents a formalisation of dialogue between ICS and SCA. The organisations hope it will lead to in-depth collaboration on operational and structural policies of the canal, the safety and security of transiting vessels, and enhanced pilotage, towing and repair services.

The agreement follows a period of close co-operation

between the two organisations, which have been in regular contact over the covid-19 pandemic, and during the grounding of the Ever Given in 2021.

Admiral Osama Mounier Mohamed Rabie, chairman and managing director of SCA, says: "We adopt an ambitious vision to reinforce the pivotal role of the Suez Canal Authority amid the international community of maritime navigation, and the benefit of our clients is our major priority."

Esben Poulsson, chairman of the ICS, comments: "ICS has enjoyed a close liaison with the Suez Canal Authority for almost a century. The maritime industry is at an inflection point as we earnestly begin our transition to a renewable future. The conversations we have had this week leave me with great confidence that Egypt will be one of the leaders of industry's green transition, leaning on its position at the heart of the maritime world."

Egypt is hosting COP27 this November.

BEUMER SNAPS UP FAM

The Beumer Group has acquired FAM, a supplier of conveying systems and loading technology, significantly strengthening the Beumer Group's market position in the large equipment sector as well.

The FAM Group, with headquarters in Magdeburg, Germany, is an internationally operating medium-sized group that has been producing conveying systems for decades. FAM is one of the world's leading full-range suppliers of bulk materials handling and processing plants and successfully plans, designs and manufactures turnkey plants and systems for mining, conveying, loading, and storing minerals, raw materials, and goods. The group employs approximately 750 people at its headquarters and subsidiaries in Brazil, Chile, China, Canada and India, as well as representatives worldwide.

With more than 4,500 employees over 70 countries, Beumer Group is well established in the bulk materials technology market. Its focus on conveying technology in mining and minerals makes it a good fit with FAM.

CEO Christoph Beumer confirms that this takeover underpins the company's long-term orientation in the extraction, processing and handling of raw materials sector.

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SOUTH AFRICA PLAN HIGHLIGHTS INFRASTRUCTURE IMPROVEMENTS

South Africa's National Infrastructure Plan 2050 Phase I, available [here](#), details the government's broad vision for infrastructure development in the country, law firm [Bowmans reports](#).

It seeks to create a foundation for the National Development Plan, setting out actionable steps and intermediate outcomes intended to lead to inclusive growth and promote job creation and transformation in South Africa. This first phase of NIP 2050 focuses on four strategic sectors: energy, water, digital infrastructure and freight transport.

When it comes to freight transport, the NIP 2050 highlights the need for improvements to rail and ports infrastructure, in particular, detailing a vision in which:

- more freight is moved from road to rail, encouraged by reforms to Transnet Freight Rail to allow for third party operators
- an independent National Ports Authority is established by 2022/2023, recognising that this requires ending "cross-subsidies between rail and port operations' and is necessary to ensure 'ring-fencing of port charges for reinvestment in the port system"
- existing logistics corridors in South Africa are strengthened to support and facilitate the movement of freight, particularly between Durban and Gauteng and between Saldanha Bay and the Northern Cape
- regional shipping is promoted and seaports are integrated with regional multimodal transport networks, particularly between Durban and Dares Salaam
- six one-stop border posts are established by 2025, reducing delays and associated cross-border transport costs
- the Port Master Plan, the National Rail Policy and the Road Funding Policy are finalised;
- a single Transport Economic Regulator is established by 2022/2023, for road, rail, sea and air transport.

DUST CONTROL DESIGNED FOR WINDY WEATHER

BossTek's powerful cannon designed to fight dust with maximum efficiency has been developed in response to the needs of customers in areas with variable winds.

The DustBoss® DB-60 Surge® features water propelled at high velocity from a central nozzle, combined with a fan and misting ring system. With three remote-controlled stages and precision oscillation for optimum command over water volume and coverage area, the cannon uses high-powered jets that surge through the wind for more than 76.2 m to suppress both surface and airborne dust. The result is effective and versatile dust mitigation in challenging weather for outdoor operations ranging from demolition to bulk material processing and storage.

"Our customers operate in very different circumstances; some with high-reach excavators, some in open areas without natural barriers, while others are located in narrow corridors where wind velocity is amplified," explains BossTek dust control specialist Mike Lewis. "What these customers have in common is the difficulty in controlling fine atomised mist during blustery conditions. So we worked with our industry partners, listened to their feedback and engineered our most versatile and innovative machine to date."

The DB-60 Surge combines the power of an industrial fan, misting ring and heavy-duty barrel with the reach and force of a central high-pressure spray nozzle. The pressurised spray resists wind shear and even uses the force of the wind to further fragment and carry the droplets, enhancing its dust suppression capabilities. This is achieved without the need for the high water output associated with a hydrant-dependent hose or industrial sprinkler system.

In high-wind situations, dust is lifted into the atmosphere and carried beyond the site line over long distances, which can lead to permit violations. Operators of bulk storage mounds, demolition sites, ports, recycling material piles, etc. often mitigate particulate emissions using a sprinkler or hose to saturate a material's surface. The higher the wind, the more water pressure is required to break through the shear, resulting in greater amounts of water filling the surrounding work area – often 300 GPM (1135 lpm) or more.

There are several issues associated with the use of hoses and industrial sprinklers. Hoses typically require manual labor, removing workers from other critical tasks. Moreover, both sprinklers and hand-held hoses contribute to high water bills. Taking compliance and expenses into consideration, the long-term cost of operation for sprinklers and hoses is higher than it might appear.

The DB-60 Surge addresses wind, labour and water usage issues. While striving to stay compliant with dust regulations, operators can now better match the water requirements to the specific application.

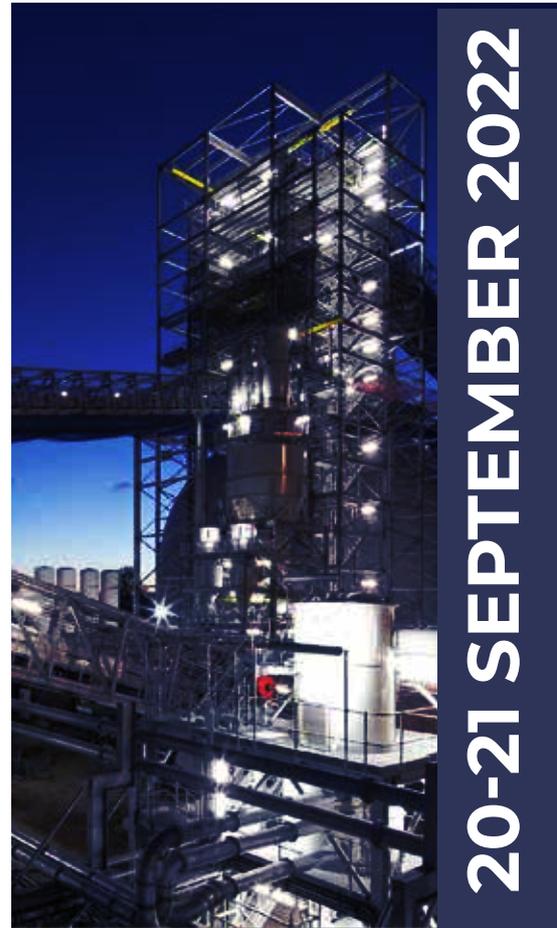
UNDERSTANDING THE TOTAL COST OF OWNERSHIP

HOW TO AVOID FUTURE PROBLEMS AND BUY BULK SOLIDS HANDLING EQUIPMENT INTELLIGENTLY

The OBJECTIVE OF THE COURSE is to raise awareness amongst bulk terminal buyers of the need to behave in a better-informed way and equipment suppliers to understand the operational needs of the equipment they are supplying.

KEY TAKAWAYS: The course will give both terminal operators and equipment manufacturers an insight into what should be on the one side be specified, and on the other side supplied.

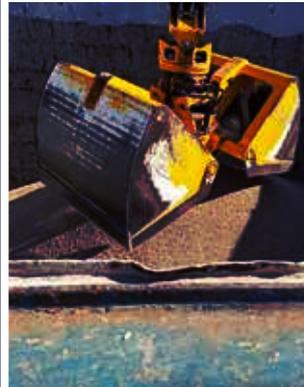
The course will be delivered through EXPERT PRESENTATIONS, CASE STUDIES and GROUP WORKING facilitated by The Wolfson Centre for Bulk Solids Handling Technology and the Solids Handling & Processing Association (SHAPA).



20-21 SEPTEMBER 2022

SUBJECTS COVERED INCLUDE:

- » Nature of the problem
- » The Hall of Shame – examples of projects that have gone off the rails to greater or lesser degree
- » Quantifying how high the risk is – a review of the Rand Report findings
- » Understanding why technical risk is so high with bulk solids handling projects
- » Know your enemy – materials for design and for controlling technical risk
- » Practical approach to design to accommodate material characteristics
- » The virtue of the bespoke suit over prêt-à-porter
- » A project management approach is not enough – understanding the true cost of a bulk solids handling system to a business
- » CASE STUDIES: Risk management in solids handling projects – examples of good practice in bulk handling project procurement and some projects that managed significant risks effectively
- » DISCUSSION GROUPS – delegates break into groups under the supervision of the course tutors to discuss how well they currently apply best practice, what they can improve for the future and the difficulties to be overcome



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DESIGN SUPPORT SYSTEM FOLLOWS THE RULES

Classification society ClassNK has released its design support system “PrimeShip-HULL 2022”. It complies with the recent comprehensive revision of its Rules for the Survey and Construction of Steel Ships Part C and provides extensive support for shipbuilding design combining safety and rationality.

PrimeShip-HULL series is software for strength evaluations based on the Rules Part C, which stipulates requirements for hull structures. To improve the efficiency of the design process, the software features an excellent UI/UX with an intuitive menu structure and video help, automatic processing functions to reduce design person-hours, and the linkage function with the 3D ship design system of NAPA Group.

The recently released PrimeShip-HULL 2022 has added an evaluation function in line with the new rule requirements, and enhanced automation and person-hour reduction capabilities for design. In addition, by integrating PrimeShip-HULL series that have been separately provided by ship type into a single software package, modelling and evaluating various ship types can now be performed with the same interface, thus further improving convenience operability.

ClassNK’s innovative PrimeShip-HULL 2022 and new structural rules combine safety and rationality, and are part of its continued efforts to further improve the ship design process and to realise 3D model-based structure design and 3D data approval.

SEAFARERS’ MORALE IS AT LOWEST EBB

The latest *Seafarers Happiness Index report*, published recently by The Mission to Seafarers, reveals the lowest levels of seafarer satisfaction for eight years, with the index’s measure of overall happiness decreasing from 6.41 to 5.85 and levels dropping across all categories.

The survey, undertaken with the support of the Standard Club and Idwal, reports on Q1 2022 and shows that a turbulent start to 2022 on many fronts has severely impacted seafarer happiness. From the covid-19 Omicron variant to the conflict between Russia and Ukraine, and concerns over contractual issues, seafarers have faced a challenging few months, as morale on board has severely declined.

Two years on from the outbreak of covid-19, seafarers are still feeling the effects. New variants of the virus continue to have an impact on different countries, affecting seafarers who face a maze of different regulations, ongoing port restrictions and, in many cases, limited or no shore leave. Even when seafarers do get ashore, many facilities are closed due to national restrictions, leaving them without support or basic services.

Seafarers responding to the survey have also felt the effects of Russia’s invasion of Ukraine. Many were concerned about their families and worried by tensions on board. On some ships, Russian and Ukrainian crew members are actively working together to try and ensure that relationships did not suffer, but as the war continues and misinformation spreads, tensions appear to be rising. Crew members from a host of

nations, including Ukraine, Poland, Romania and Bulgaria, expressed concerns about tensions on board, which has implications not only for social cohesion, but safety too.

The survey highlighted that seafarers continue to face problems surrounding their employment rights, contractual issues and calls to be recognised as key workers. The issue of contract extensions was frequently mentioned when asking seafarers about their general happiness at sea and is impacting the mental health of crews that are effectively being forced to remain on board. Many are desperate to return home, especially as connectivity to speak to loved ones remains a huge challenge.

Although the survey raises a wide array of issues that should be the cause of great concern for all shipowners, operators and managers, a number of seafarers also took the opportunity to share examples of steps taken to improve welfare and morale onboard. There was positive feedback from seafarers who spoke about some of the efforts made to make life at sea more comfortable and enjoyable, despite other concerns. This included examples of vessels having funds allocated for wellbeing events and activities, such as weekly crew gatherings, quizzes, karaoke, sports, TikTok video making, movie nights, and barbecues.

Revd Canon Andrew Wright, secretary-general of The Mission to Seafarers, says: “It’s hugely concerning to see seafarer satisfaction decline quite significantly in our latest Seafarers Happiness Index report, though unsurprising. With the continued threat and disruption of covid-19 and the Russia-Ukraine conflict, [Continued...](#)”

seafarers face unprecedented challenges, which are exacerbated by restrictions on shore leave and crew changes.

Capt Yves Vandeborn, director of loss prevention at the Standard Club, adds: "The substantial drop in seafarer happiness should be a wakeup call for the industry. We rely on seafarers every day for so much of what we take for granted and yet, morale across the board has dropped as a result of the ongoing global pandemic, the Russia-Ukraine war and uncertainty around contracts.

"The few positive comments from seafarers in this Seafarers Happiness Index should also be emphasised to show the importance of caring for our seafarers and how a small investment can go a long way – it really does make a difference to crew morale and outlook, providing both economic and mental health benefits.

With this in mind, Standard Club will continue to work with its members to promote seafarer wellbeing, enhanced communication and best practice."

Thom Herbert, Idwal senior marine surveyor, comments: "Given the backdrop of Omicron and the Ukraine conflict and following two years of pandemic lockdown, it is hardly surprising that the cracks appear to be deepening for our global seafarers. It's desperately sad to hear of increased social issues between crew members as the Russian invasion of Ukraine makes its impact everywhere and, with such a sizeable percentage of crew coming from the affected areas, the industry as a whole should consider the implications for those on board.

To read the latest Seafarers Happiness Index report, [click here](#).

UK TRAINING SCHEME AIMS TO BOOST OFFICER NUMBERS

Former cadets of one of Britain's leading training ships will see a new stream of merchant marine cadets being trained under the name of their college, HMS Worcester, thanks to a new sponsorship programme.

The programme will initially sponsor and support a small number of merchant navy officer cadets for the whole of their three-to-four year training, including statutory seetime, and to the required standard for sitting for their 1/11 Officer of the Watch certificate and a suitable degree. The Worcester Merchant Navy Cadetship Scheme (WMNCS) is being launched in partnership with Trinity House of London, the UK's leading endowed maritime charity.

Major sponsors of WMNCS are expected to include former Worcester cadets and shipping industry and maritime sector leaders. Trinity House, which will be managing the cadets' training for WMNCS, is matching the funding for each cadet raised by the scheme.

Known as the Incorporated Thames Nautical Training College, HMS Worcester trained thousands of merchant marine cadets – later officers – during the ship's more than 100 years of service. Last week the college's alumni group, many of whom have had full maritime industry careers, agreed to inaugurate the scheme, which is hoped will go on to have at least one new Worcester cadet in training at all times.

Speaking at the scheme's launch, Peter Melson, ex-Worcester cadet and former Royal Navy Commodore, said: "The current world situation, with its gradual withdrawal from globalisation, has led to an urgent requirement to onshore our training and manning requirements. This training scheme meets the government requirements in this respect and we hope it will attract wide support."

HMS Worcester was founded in 1862 and, until the time the college was integrated into a successor college in 1968, trained cadets in a series of four ships, which included the famed *Cutty Sark* tea and wool clipper.

Peter Melson, who is leading the campaign for funding WMNCS, explained: "In setting up the Worcester scheme we were keen to replicate as far as possible the outstanding training that we received at Worcester. Training today's Merchant Navy officers to a safe and professional standard is an exacting business and, understandably, is not cheap. In the past, shipping companies generally trained their own cadets, but those days are largely gone and a young person looking for a career at sea often has to find their own sources of funds. This is where the Worcester scheme, in tandem with Trinity House, steps in and offers full payment of all training and seagoing costs, after government SMaRT assistance is taken into account."

RELIABLE TRANSPORT IN U-SHAPE

The U-shape conveyor allows the implementation of narrower curve radii than a troughed belt conveyor and higher mass flows than a pipe conveyor. At the same time and contrary to the troughed belt conveyor, it protects the material conveyed from environmental stress and the environment from material loss and emissions. Thus this u-shaped conveying solution has proven to be an ideal alternative in the cement and mining industry as well as in port terminals if high capacity is required with little space available.

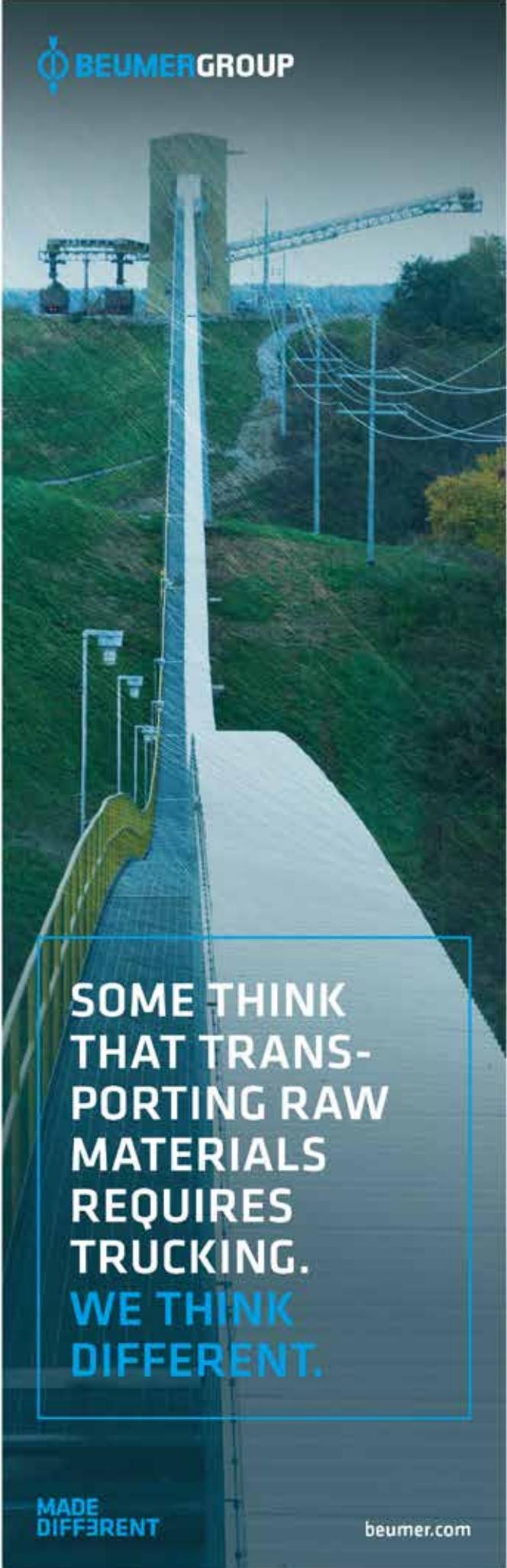
The closed pipe conveyors are suitable to protect fine material such as ash and ore concentrates or even household waste from external influences. The higher the requested conveying capacity has to be, the larger the whole system has to be dimensioned. The diameter directly affects the width of the conveyor and the minimum curve radius. What happens if the required space is missing? "We offer our U-shape conveyors in different versions. This depends on the respective application," says Karl Filarowski, Sales Director, BEUMER Group Austria.. The P-U-shape conveyor offers the functionalities of a pipe conveyor, but is also able to transport coarse materials. In this version the upper strand is formed to an U, while the return strand keeps its tubular shape. "This saves space and prevents loss of material," explains Filarowski. This solution permits the owner to benefit from a significantly higher transport capacity with the same belt width compared to the pipe conveyor. Filarowski mentions an example: The pipe conveyor is a volumetric system. If we consider the starting basis of a tube diameter of 150 and a belt width of 600 mm, the conveying capacity amounts to 100 cubic metres per hour. The P-U-shape conveyor achieves a capacity of 170 cubic metres with the same size. "Thus we can offer the customer an approx. 70% higher conveying capacity".

U-shape conveyor instead of troughed belt conveyor

The T-U-shape conveyor, on the contrary, is suitable in case the owner relies on the advantages of a troughed belt conveyor, but has to consider the specific topographic conditions. This happens if for example narrower curve radii are required or if there are line sections, which require a thinner construction. This way it is for example possible to install a troughed belt conveyor for the routing outside the tunnel, and in the tunnel itself the design of the conveyor changes to a T-U-shape conveyor. "Compared to a troughed belt conveyor with a capacity of 500 tons per hour and a belt width of 650 mm, it is possible to achieve the same capacity with a T-U-shape conveyor saving 150 mm of space," describes Filarowski. "The bigger the troughed belt conveyor, the bigger the related space saving".



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