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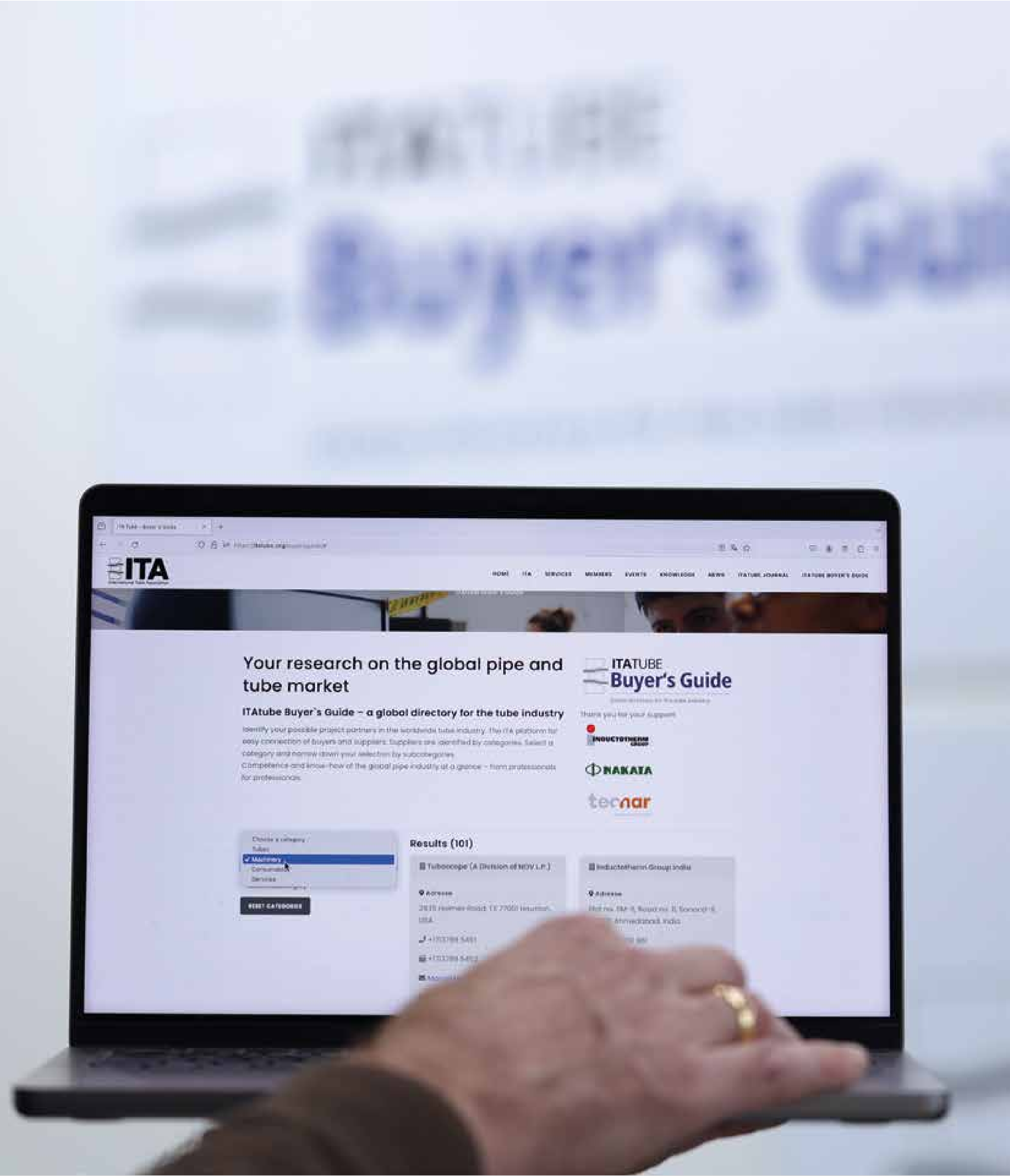

Dr. Gunther Voswinckel
President ITA

Dear colleagues from the Tube and Pipe industry, dear readers of the ITAtube Journal.

Exciting times with both positive and challenging developments are experienced by the global tube and pipe industry.

Global pipe production increased by remarkable 14% last year, and the prospects for 2024 are promising. Most tube and pipe producers were able to report strong economic figures in 2023.

The geopolitical challenges as well as the demands of climate change with regard to decarbonization of our industry are having a lasting impact on the global pipe market. To compensate for geopolitically risky oil and gas supply sources, other production capacities for oil and gas have been and are being massively expanded in regions such as North and South America. This has created a boom in demand for OCTG pipe products. The construction industry is becoming increasingly interesting, with new architectural solutions intensifying the use of tubular products.

The transformation to green steel tubes requires high levels of investment and innovative technical solutions. New pipe markets have emerged because of decarbonization. Examples include electromobility, carbon capture and the planned supply logistics for green hydrogen, which will require large quantities of tube products.

However, it must also be mentioned that these opportunities for the pipe industry vary from region to region, as demand has changed, and production costs are regionally quite different. The political measures must be assessed in a differentiated manner in some cases.

For plant manufacturers, technology providers and suppliers to the tube and pipe industry as well, these dynamic times naturally offer market potential that needs to be tapped into. In addition, there are increasingly more innovative solutions for improved productivity and customer benefits. These include also innovative AI-based technologies that are finding their way into the tube industry.

Innovative products and production processes guaranty sustainability and profitability of our industry.

As further service for our tube industry, the ITA has just released the ITAtube Buyer´s Guide as the global directory for the tube industry to enable buyers and suppliers to have a platform for easy matchmaking. Buyer`s Guide – ITA International Tube Association (itatube.org)

Yours faithfully

ITA Team

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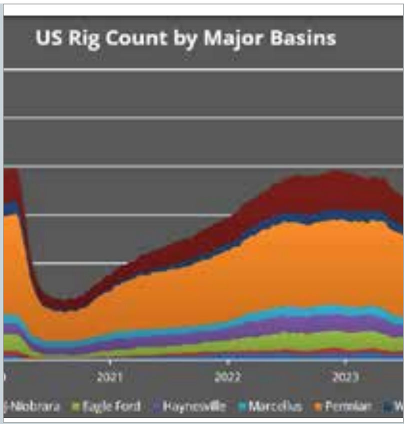

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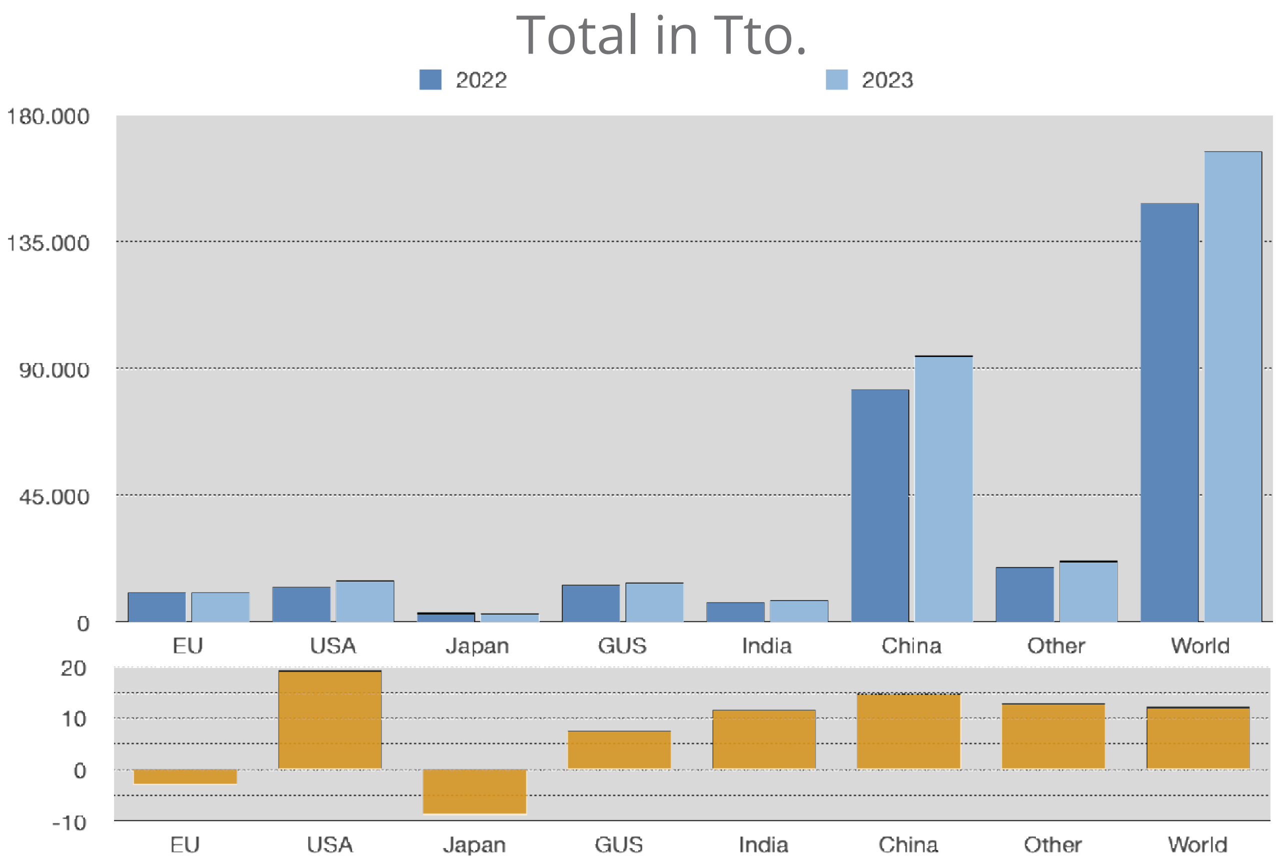
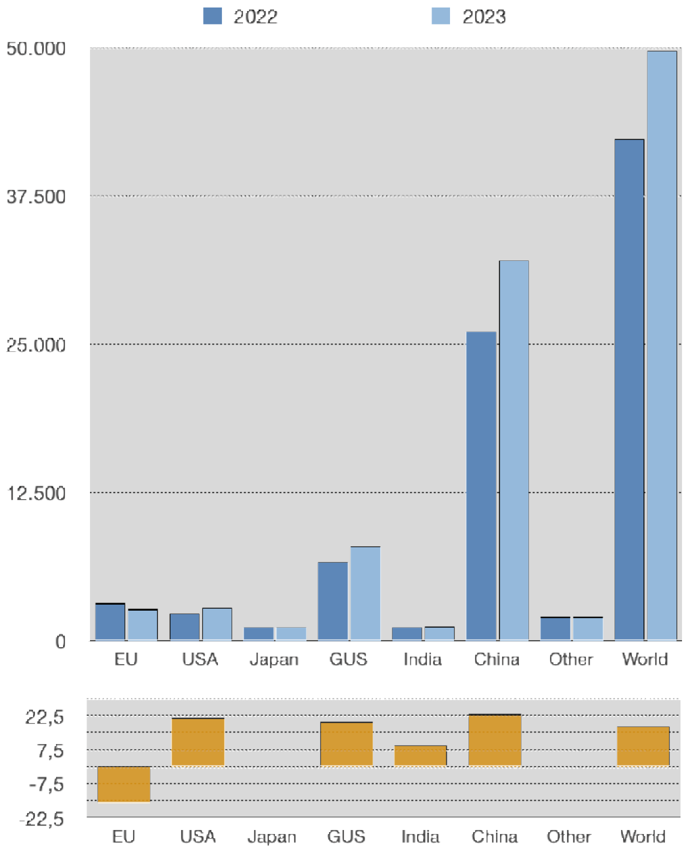
World Steel Tube Production – Review

A comparison of growth in 2022 and 2023 shows global growth of 12.3%. While the USA and the CIS states are leading the way, Europe has a decline of 2.8%. Bringing up the rear, however, is Japan with a decline of 8.6% in global steel production. However, the different growth rates in the individual sectors are also noteworthy here. For welded tubes >406, the EU and Japan also recorded an increase of 25%. The Chinese market is also showing growth figures of 14.8%. China's enormous growth figures are now being put into perspective. Worldwide, growth can therefore be seen in all the areas mentioned, with the exception of the EU and Japan.

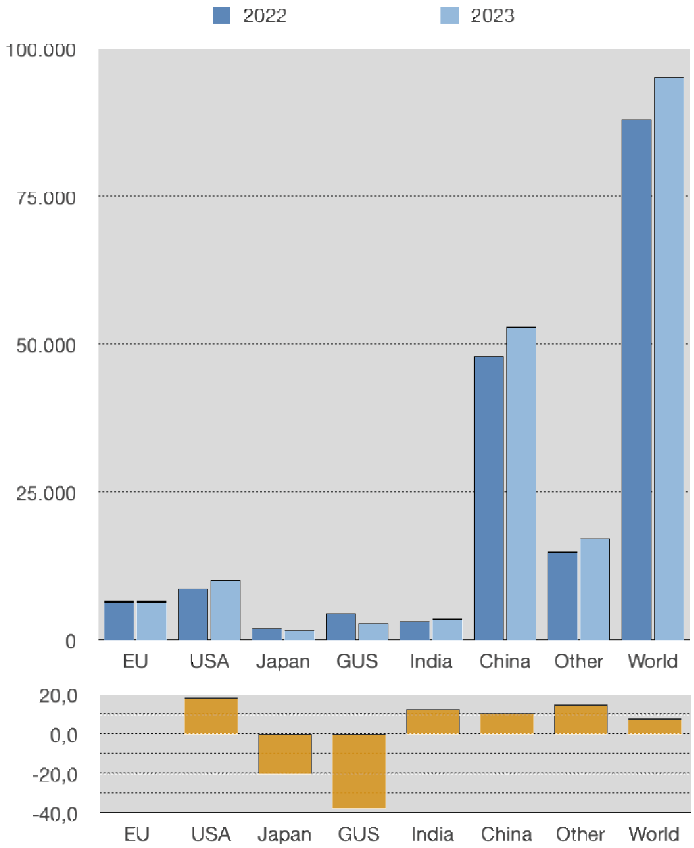


	seamless tubes			welded tubes <406			welded tubes >406			welded tubes			TOTAL		
Region/ country	2023	2022	in %	2023	2022	in %	2023	2022	in %	2023	2022	in %	2023	2022	in %
EU	2.700	3.200	-15,6	6.700	6.700	0,0	1.000	800	25,0	7.700	7.500	2,7	10.400	10.700	-2,8
USA	2.800	2.300	21,7	10.200	8.600	18,6	1.800	1.500	20,0	12.000	10.100	18,8	14.800	12.400	19,4
Japan	1.100	1.100	0,0	1.600	2.000	-20,0	500	400	25,0	2.100	2.400	-12,5	3.200	3.500	-8,6
CIS	7.900	3.000	163,3	2.800	4.500	-37,8	3.500	2.100	67,7	6.300	6.600	-4,5	14.200	13.200	7,6
India	1.200	1.100	9,1	3.600	3.200	12,5	2.900	2.600	11,5	6.500	5.800	12,1	7.700	6.900	11,6
China	32.000	26.000	23,1	53.000	48.000	10,4	9.800	8.600	14,0	62.800	56.600	11,0	94.800	82.600	14,8
Other	2.000	2.000	0,0	17.200	15.000	14,7	2.800	2.500	12,0	20.000	17.500	14,3	22.000	19.500	12,8
World	49.700	42.300	17,5	95.100	88.000	8,1	22.300	18.500	20,5	117.400	106.500	10,2	167.100	148.800	12,3

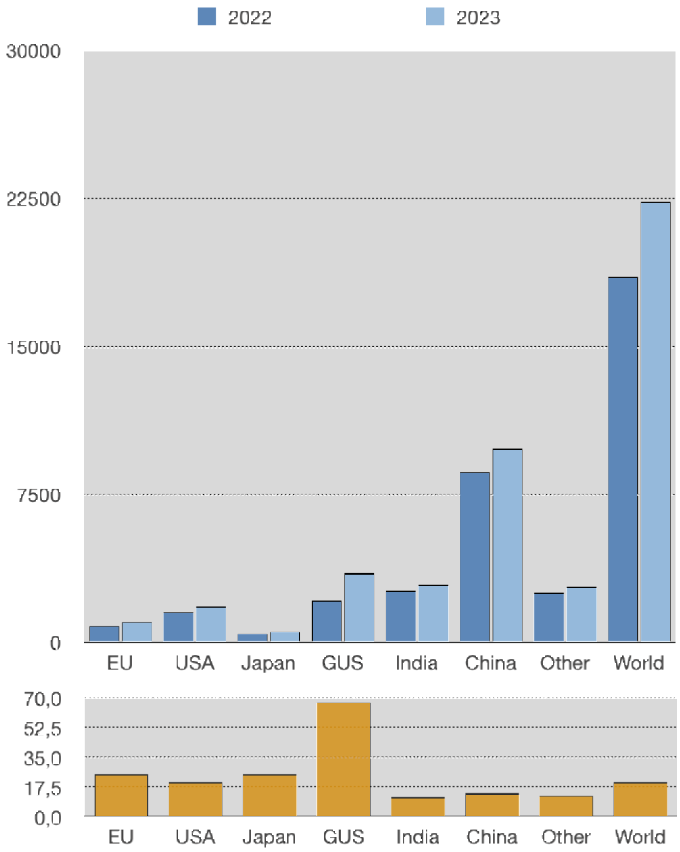
Seamless tubes in Tto.



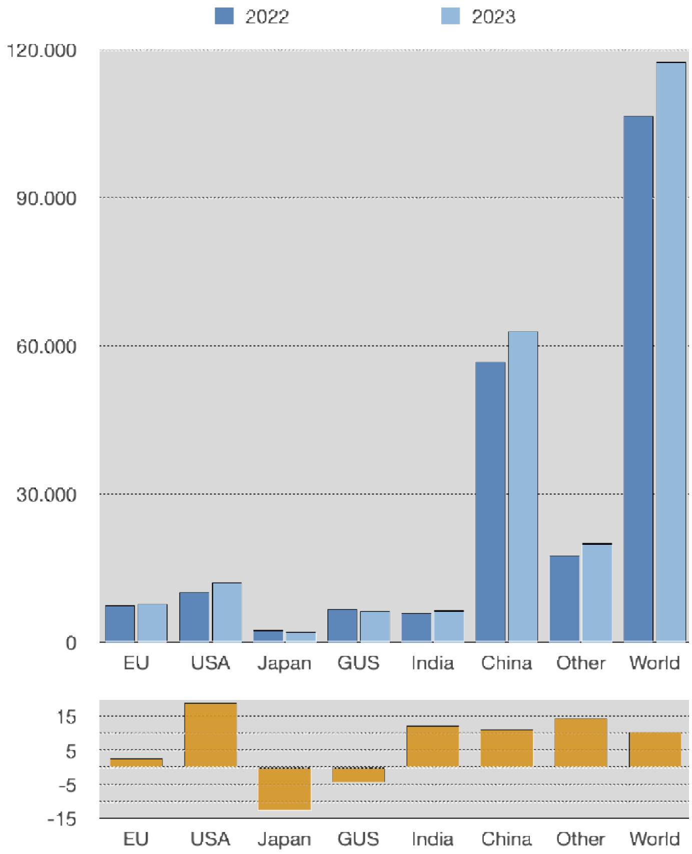
Welded tubes <406 in Tto.



Welded tubes >406 in Tto.



Welded tubes in Tto.



Dr. Gunther Voswinckel, VOSCO GmbH

World Tube & Pipe Market: Factors influencing the current situation

Dr. Gunther Voswinckel – Update as per July 2024

Welcome to ITA's and VOSCO´s regular presentation of the main worldwide economic factors influencing the tube and pipe industry.

The Russian invasion of Ukraine and its consequences, the war between Hamas and Israel, possible upcoming war between Israel and the pro-Iranian Hezbollah militia, the increasing tensions between the USA and China, the Houthi attacks in the Red Sea and the upcoming elections in France and Iran are threatening our industry or are at least being closely monitored. After the initial turbulence on the energy market, the impact of these threats has weakened considerably, as the parties involved have so far succeeded in limiting these conflicts locally and preventing them from spreading to other regions. However, political intervention and regulations are increasingly influencing the strategies and actions of the industry.

The necessary transition to environmentally friendly and carbon-reduced production has become a central task for the industry. The consequences of the associated increase in costs are unevenly distributed worldwide. Despite generally lower energy prices, Europe is confronted with comparatively high energy prices and taxes for carbon-intensive industries. Regions such as the USA, India, Turkey and China are benefiting from lower energy costs. The high level of government debt caused by the expensive measures taken to overcome the various crises gives rise to fears that the central banks' effectiveness in combating inflation will be limited.

Pipe manufacturers were able to record an increase in profits in 2023, but high energy prices and CO2 levies are weighing on pipe manufacturers in Europe.

Due to the dynamic nature of current developments, it is usually very difficult for manufacturers to react appropriately. Some manufacturers are losing confidence in their ability to compete on the global market with these additional costs and are even reducing their involvement in Europe as a result. Some countries/regions are therefore looking for suitable political countermeasures to compensate for their cost disadvantages.

Whereas quality, delivery time and costs used to be the only decisive factors, geopolitical and logistical risk considerations as well as current and future energy costs are now increasingly taking centre stage. All sources of supply are being critically scrutinized and one can only hope and warn that international trade will not suffer too much as a result. In particular, regional differences in energy prices will have an impact on the current landscape of the energy-intensive steel and tube industry.

However, disruptive times also always create new opportunities for economic success. New markets such as Carbon Capture Utilization and Storage (CCUS), new networks for hydrogen transport, electromobility and productivity improvements at production sites as part of the transformation to more environmentally friendly plants offer opportunities that need to be exploited.

As already outlined in earlier reports, the availability of economical energy is a decisive factor for the industry. Geopolitical turbulences and political regulations have changed the regional balance with increasing challenges for the industry in regions with higher energy cost. This may change the industrial landscape of the energy intensive industry with significant future consequences.

The prices for electrical energy in Europe, after turbulent periods, is now reported at a level of about 60-70 €/MWh (Figure 1). The cost level for electrical energy has partially converged for the industrialized countries. Some countries with larger nuclear energy sources or other base-load energy sources at reasonable cost, still have cost advantages. Considering for example that the US-Texas based costs of about 60 €/MWh are about 16-25% lower than the average European electrical energy prices the unbalanced cost situation becomes obvious. Political institutions still must control, that regulation introduced will not rise the electrical energy cost level creating unbalanced cost situation for the industry.

Cost of natural gas, after turbulent times climbing in 2022 up to levels higher than

9 USD/MMBtu and another sharp increase in 2023 up to 4 USD/MMBtu, has now again climbed up again to a level of about 2,7 USD/MMBtu, which is about 30% higher than early 2020 (Figure 2). The volatility of the natural gas price is still challenging the gas intensive industries and gas power plants. Europe anyhow, originally being supplied by Russian gas via pipelines at good values, now sources its gas needs to a great extend as LNG (Liquified Natural Gas). Just Austria and Poland still source their natural gas via Jamal pipeline from Russia. LNG on the other hand is by far more expensive than normal natural gas.

Figure 3 displays the development of the global price for LNG. Since November 2023 the LNG-price for 1MMBtu was reduced significantly from 15 to 9 USD. Since March 2024 the cost for LNG went up again to about 11 USD/MMBtu. This price right now with more than 8 USD/MMBtu is much higher, plus 8,2 USD or ab. 400%, than the price of normal natural gas. These remarkable additional costs are applicable to such regions without sufficient natural gas supply. Europe is one of such regions with additional cost burdens. Europe is buying LNG from USA, Kuwait but also from Russia via third countries. Extended European local gas exploration or shale

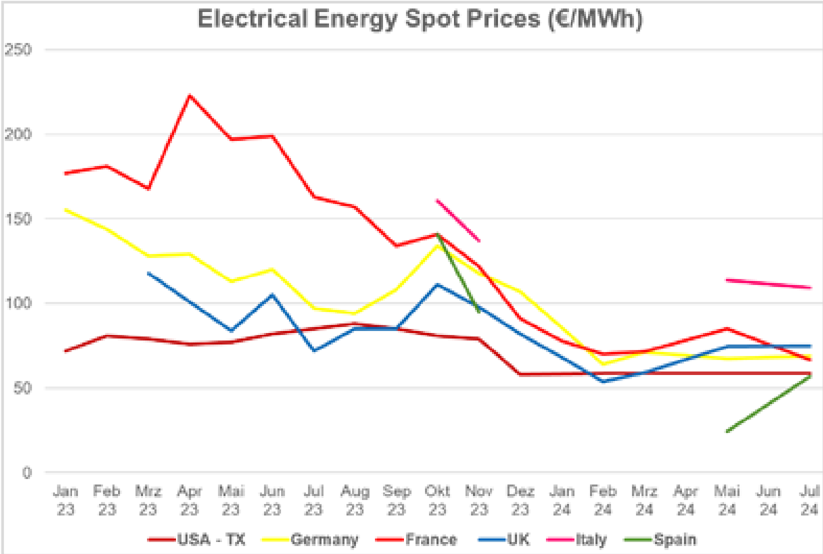


Figure 1: Selected spot prices of industrial electrical energy since 2023 in €/MWh Source: Statista.com, Kallanish, com

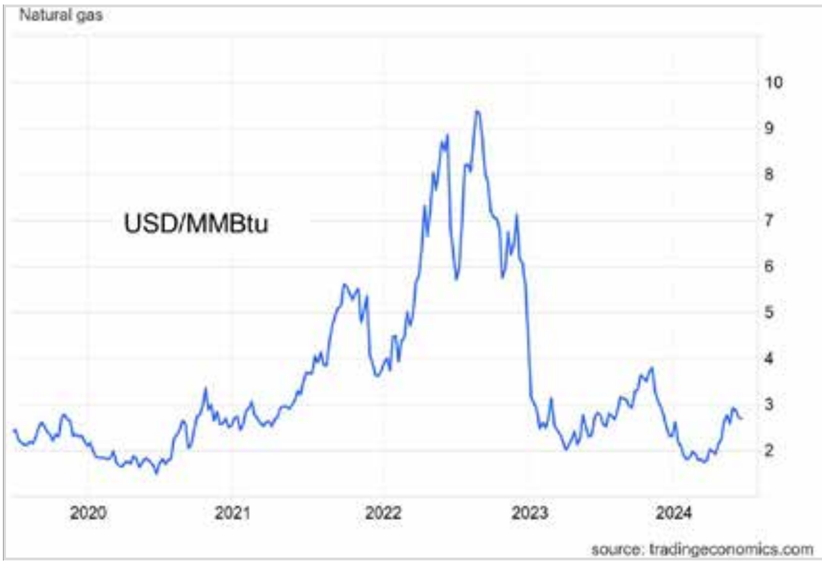


Figure 2: Natural Gas price development 5 years up to 19th of March 2024 Source: Trading Economics.com

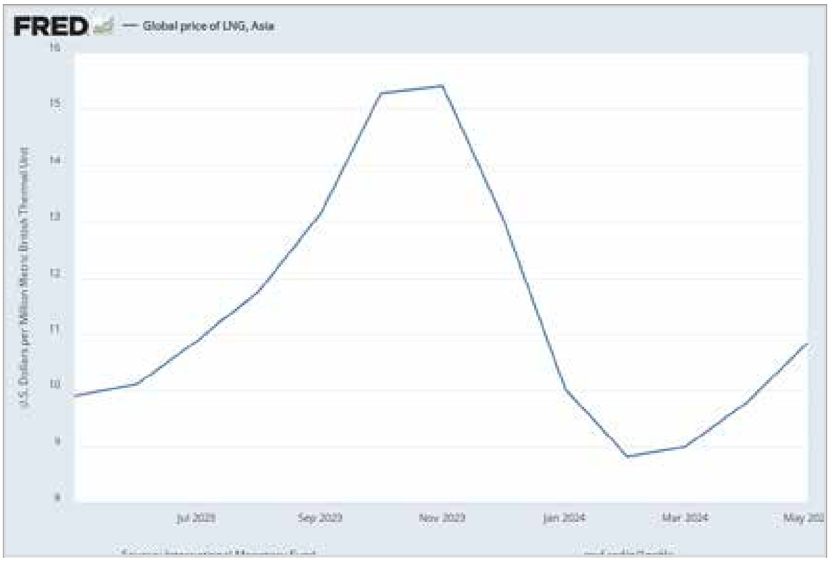


Figure 3: LNG Global Price development 1 year up to May 2024 Source: International Monetary Fund, US Bureau of Labor Statistics

gas exploration are politically banned. Therefore, hardly any short- or mid-term measures are visible to overcome cost disadvantages European high energy consuming industries are confronted with.

The long-term strategy to shift towards green hydrogen to replace fossil energy sources such as natural gas, are also questioned by specialists. Hydrogen production via electrolysis in an industrial scale requires not only masses of clean water, but also a lot of electrical energy. About 55 MW electrical energy per ton of Hydrogen must be considered. Furthermore, the chemical process, the electrolysis, requires permanent electrical energy 24 hours over 7 days per week with limited power network variations. The lifetime of the electrolyse stacks is significantly reduced in case of larger power supply volatility. Therefore, green hydrogen production seems to be feasible in regions with steady sun and wind. In most parts of Europe such constant power supply at reasonable cost is still hardly to be realized by the green energy sources wind and sun. Some European countries therefore consider nuclear power as the green solution hereto.

The total world tube and pipe production in 2023 was 167,1 million tons. The largest segment are tubes and pipes with a diameter < 406 mm accounting to 95,1 million tons, followed by seamless tubes and pipes accounting for 49,7 million tons and welded tubes and pipes > 406 mm diameter accounting to 22,3 million tons (figure 4).

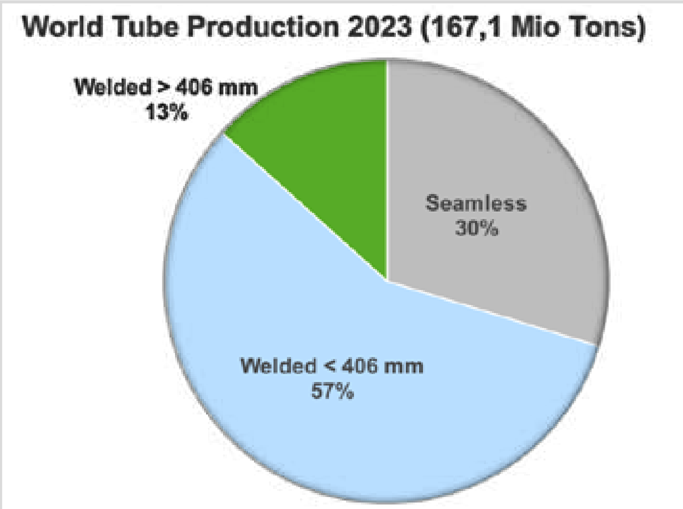


Figure 4: World Tube and Pipe Production 2023
Source: Wirtschaftsvereinigung Stahlrohre, ITA

Tube and Pipe manufacturers buy hot-rolled coils, round billets, or plates as input material for their production lines. 70 % of the total world pipe production, i.e. about 120 million tons/year, are welded tubes and pipes. Welded tube producers are highly dependent on attractive hot rolled coil prices and large OD (> 406 mm diameter) pipeline producers, on plate prices. Average prices for hot-rolled coils came down from September 2021 (ab. 2000 USD/ton) to September 2023 (ab. 700 USD/ton). Since then, the HRC prices strengthened again to prices of about 1120 USD/ton. End of June 2024 the price is at 730 USD/Ton (Figure 5). Some Countries, such as Turkey and India trade even at 600 USD/Ton. Furthermore, tube producers suffer from shortages in the availability of special tube material specifications. Special alloyed HRC as applied e.g. at OCTG tubes and pipes, are traded at significant higher prices. Steel plates are traded according Kallanish on 26th of June 2024 for low grade S275 plates at about 690 USD/ton.

Billet prices, used for seamless tubes are traded for an average of around 500 USD/ton.

In 2024 almost all prices for tubular pre-materials were quite volatile. It remains challenging to predict the pre-material price developments.

Figure 6, shows the price development for two representative tube grades since June 2022:

- P110 OCTG O.D. 5,5" alloyed casing pipe.
- S235 non alloyed structural pipe.

The OCTG pipe price for P110, after its hight in October 2022 (ab. 3.900 USD/ton) experienced a price decline of ab. 46% until October 2023 (ab. 2.100 USD/ton) - however, since then, it seems the price has bottomed out at a level of 1.700 USD/ton.

The structural pipe S235 although on a much lower price niveau, characterized by much less volatility almost maintained its price level at ab. 630 USD/ton. Comparing the price difference between HRC and finished structural tubes and pipes type S 235 (Figure 6), it becomes obvious how small the margins for tube producers of such products are. There were even time periods, with negative margins.

As already shown in the last edition, the world tube and pipe production after a slight downturn in 2022 of -1%, had an impressive recovery in 2023 of +14%.

Anyhow substantial regional differences are reported. CIS (+17%), the strong growth most likely due to compensation of imported pipes by local production. Remarkable is that contrary to the trend, the production of welded tubes < 406 mm OD was suffering by

– 38%, whereas the segment of pipeline pipes > 406 mm OD was growing by 67%. This trend seems to be fired by the need to build new pipelines to redirect the gas originally send to Europe. USA (+19%) with strong growth in all dimensional segments driven by the strong economic situation and the strong oil and gas demand. China representing more than 50% of the world tube production had a further gain of 15%, which is by far more than the overall economic growth in China. Particularly the seamless tube segment reported a remarkable increase of +23%. India after a week 1st half year 2023 reported a booming 2nd half year ending up at a full year 2023 increase of +12%. This positive development was already reported in our last report and was covering all tube and pipe segments. In essence the tube and pipe producers in these four countries are benefitting the most from the present geopolitical turbulences. Japan and Europe on the other hand are suffering and do not participate in the general growth trend reported for 2023 in the range of +14%!

Whereas the welded tube production segment < 406 mm OD is charged by hot rolled coils mainly processed on continuous ERW lines, the segment of welded pipes > 406 mm OD is represented by more alternative production routs. Up to a max. of 710 mm OD and a max wall thickness of ab. 25 mm, the ERW process

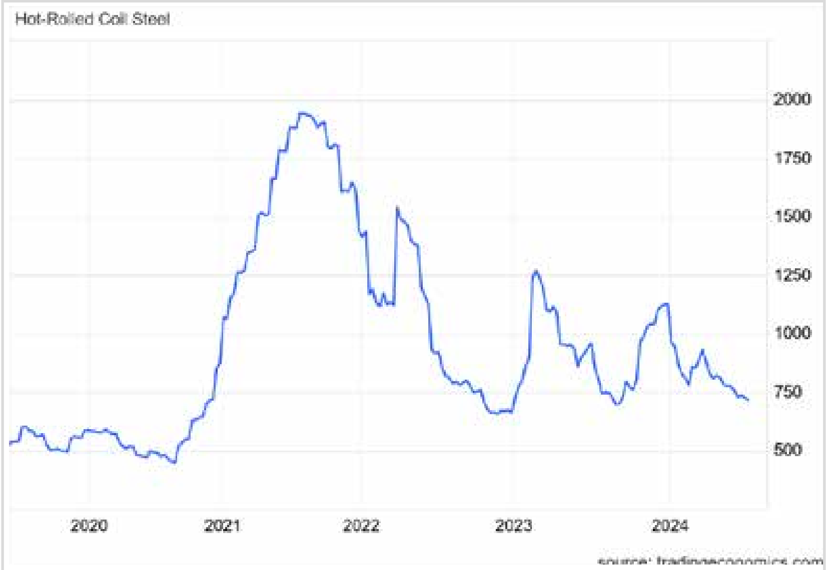


Figure 5: Hot-Rolled Coil Steel prices 5 Year until 19th July 2024
Source: tradingeconomics.com

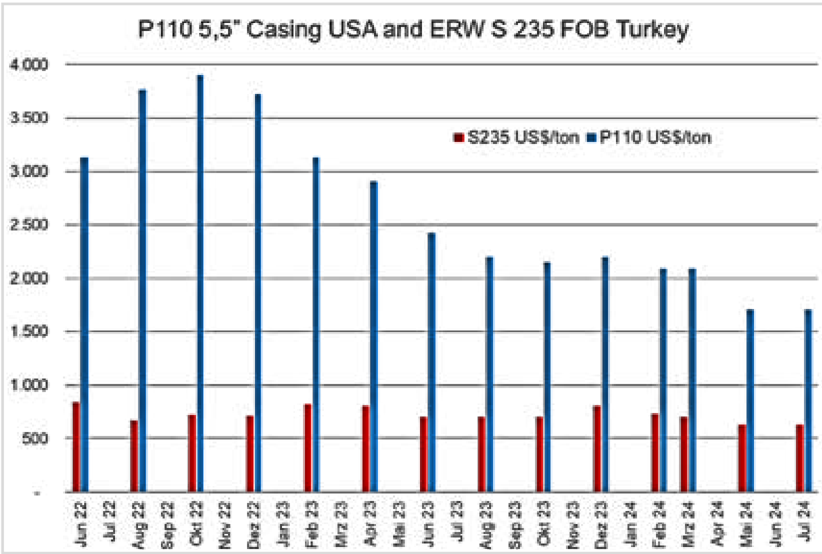


Figure 6: Representative Steel Tube and Pipe Prices (OCTG – P110 USA and Structural S235 Turkey)
Source: Kallanish.com

is applied depending on the availability of adequate hot strip dimensions. The discontinuous LSAW process charged by plates is producing up to ab. 1.524 mm OD and wall thicknesses up to ab. 65 mm in standard length of 6-12 m (18 m). The LSAW process is limited by the geometrical availability of plates in the required width and length range. The applied technologies with different capacities are: U-ing and O-ing presses, 3-roll bending or

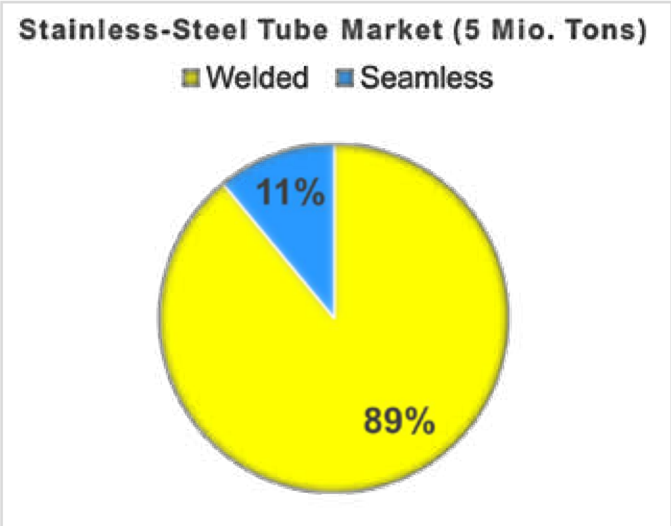


Figure 7: World Stainless-Steel Tube Market 2023
Source: SMR.at

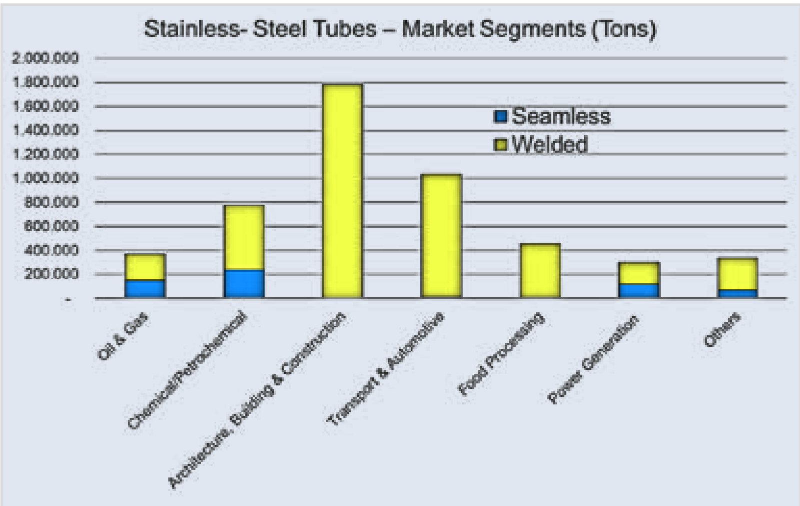


Figure 8: World Stainless-Steel Tube Market Segments
Source: SMR.at

Figure 9: Oil price WTI development 1 year up to 14th of June 2024 (US$/Bbl.)
Source: US Energy Information Administration

incremental bending by a hydraulic sword. LSAW pipes are normally used in more demanding OCTG applications.

In case of even larger OD requirements, the continuous HSAW process is applied. The process is charged by hot strip, which is spiral weld up to 3.050 mm OD with wall thicknesses up to 25 mm. This process is applied for large pipelines and various construction application.

A special market segment are stainless steel tubes with a wide range of applications. The market size is only about 5 million tons per year, subdivided in welded tubes (89%) and seamless tubes (11%), but this niche market has attractive segments (Figure 7). Especially the seamless stainless steel tube market growths by about 5% per year!

Looking at the different market segments of stainless-steel tubes, that higher alloyed tubes for OCTG, chemical/petrochemical and power generation are mostly seamless, whereas the volume segments architecture, building and construction, transport and automotive as well as food processing with less alloyed materials are dominated by welded tubes (Figure 8).

The major driver of the tube and pipe industry is the OCTG market representing about 51% of the world tube and pipe production. The consumption of OCTG tubes directly relates with the oil price (see previous tube market reviews). OPEC+ during the past years have tried to keep the oil price at a minimum level of 90 USD/Bbl. by voluntary supply cuts. The USA on the other hand tried to balance the possible supply shortages by additional own supplies. These measures kept the Oil price mostly in a range of 70 to 90 USD/Bbl. (Figure 9). Therefore, under normal conditions, the World Bank projects the WTI oil price to stay at 80 USD/Bbl. in 2024. This projection certainly only applies if the war in middle east and the other geopolitical conflicts remain local. The oil price volatility anyhow ticks higher with more geopolitical risks simmering. Traders monitor Houthi attacks in the red sea, the increasing tension between Israel and the pro-Iranian Hezbollah militia as well as the upcoming elections in France and Iran with concern.

The USA to soften the inflation and to sacrifice the crude oil demand enlarged its crude oil production almost linear from 12 Mio. Bbl./day in September 2023 to

13,3 Mio. Bbl./day in February 2024 (+ 11%) by increasing the number of drilling rigs and their productivity (Figure 10). Since then, the US production remains on such high level.

The number of US drilling rigs was enlarged to about 800 by December 2022 (Figure 11). In 2023 due to improved productivity and declining oil prices, the number of rigs was reduced until June 2024 to 588 rigs. Of these 588 rigs, 485 are dedicated for the extraction of oil and 98 for gas. The US oil exports have reached a remarkable new all-time high with about 5,5 million Bbl./day representing about 41,6% of the total crude oil production.

Efforts to reduce dependence on fossil fuels can hardly be successful in the short term and can only contribute medium term. For our pipe industry, however, this means that crude oil prices can be expected this year at around 80-90 USD/ Bbl. The need to secure the world energy supply will keep the demand for tubular products high. Another driving factor is the record high global LNG production. Katar, USA and Australia have record high LNG production. Consequently, the demand for OCTG products remain high. The LNG supplies ease the energy crisis especially in Europe to compensate the stopped Russian pipeline gas supplies. Carbon Capture Utilisation and Storage (CCUS) is another upcoming interesting market for higher alloyed tubes. Hydrogen pipelines will create further additional markets for steel tubes.

The automotive market, accounts for around 15% of the global tube and pipe market. With most car manufacturers and many of their suppliers now reporting that overall car sales figures are slowly rising again - with global deliveries expected to reach 92 million units by the end of the year 2024.

As the macroeconomic outlook for the

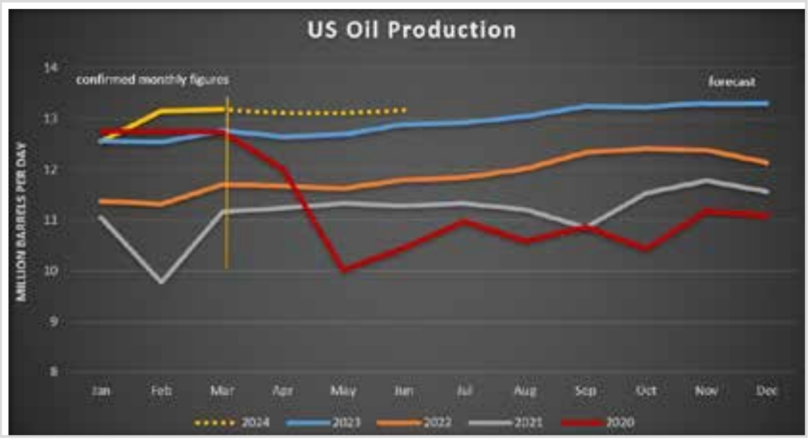


Figure 10: US Crude Oil Production since 2020
Source: OilPrice.com

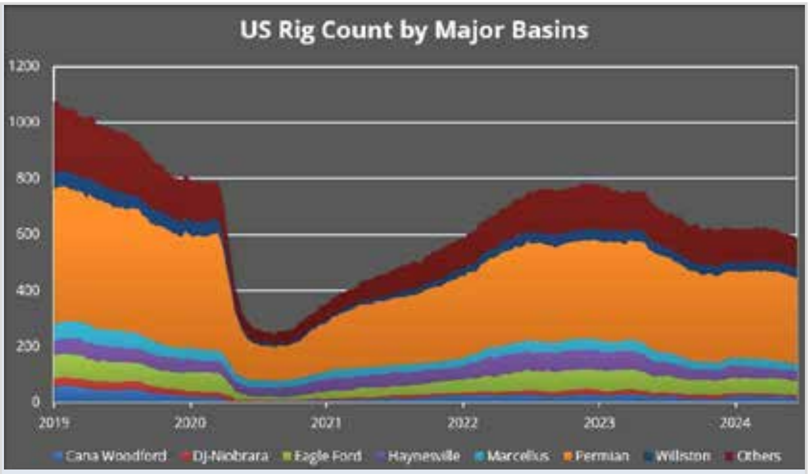


Figure 11: US Total Rig Count 5 years up to 24th of June 2024
Source: OilPrice.com

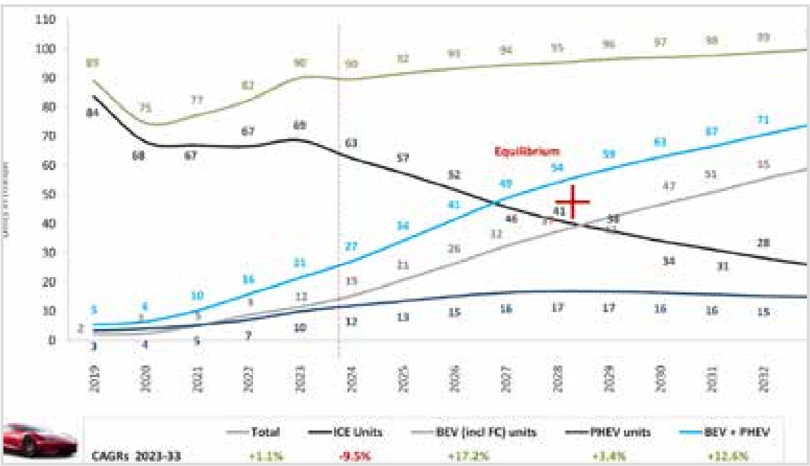


Figure 12: Global vehicle sales volume 2019-2033 (million units)
Source: IHS-Market, SMR, OEM statements

automotive industry deteriorates, a modest return to growth in new car sales of private and commercial vehicles is expected over the next two years. ABI Research forecasts global vehicle sales growth of 3.6% in 2024. Furthermore, car manufacturers can expect sales to exceed the 92 million units' level again in 2024 (Figure 12).

In terms of regional growth in vehicle sales, according to IHS, the recovery process in the volume markets of Europe and North America will take longer. Future growth will primarily take place in Asia, particularly in China. However, China could increasingly become a sales problem for the western automotive industry due to the American decoupling tendencies and the strengthening local car industry in China.

However, the tendency to further reduce the weight of vehicles supports the trend towards the use of tubular products. The transition to electromobility BEV (Battery Equipped Vehicles) and PHEV (Plug-in Hybrid Electric Vehicles) can also support the use of tubular components, as the additional weight of the batteries must be compensated as far as possible. The automotive industry offers many attractive applications for tubular products. The decrease of cars with combustion engines (ICE - Internal Combustion Vehicles), as indicated in figure 12 may be questioned, since many recent forecasts view the prospects of ICE vehicles more positive. Anyhow stainless-steel tubes for exhaust systems will most likely face a negative CAGR of about -5,4%/year.

Overall, the automotive industry faces the challenge of the transition to electromobility and the question how they can continue to serve markets in which electromobility cannot be introduced due to restrictions in the availability of electrical energy. Car manufacturers must therefore pursue all drive technologies to avoid losing major market potential. Environmentally friendly combustion technologies will continue to have their place. Political institutions, such as those in Europe, on the other hand, are setting deadlines to ban combustion technologies including green fuels. Present discussions may be understood that this paradigm may be opened again in favour of combustion engines with green fuel. In this area of conflict, the automotive industry, including its suppliers of tube products, must find suitable business approaches.

The mechanical engineering market segment, which accounts for around 9% of global pipe production, has developed well in recent years in line with global GDP. During the financial- and corona crisis, the market was characterized by higher volatility with sharp slumps and rapid recoveries. In 2023, the current further recovery was slowed down by geopolitical circumstances. Asia, and China in particular, although increasingly self-sufficient, are still the largest markets for the purchase of machinery. It remains remarkable that the Chinese industry has taken the global lead in machine sales since the coronavirus crisis.

The USA's intentions for decoupling must be taken into account, which could become a game changer for the global mechanical engineering industry. The USA and Europe also remain important sales regions. This market segment certainly offers the greatest variety of tubular products. Cylinder-, precision-, ball bearing- and turned part tubes, to name just a few prominent representatives of this market segment, certainly offer interesting prospects for tube and pipe manufacturers.

The construction market, which accounts for around 5% of the global pipe market, represents another opportunity for pipe manufacturers with growth potential.

Despite the challenging macroeconomic and geopolitical environment, the global construction industry continued to achieve moderate growth momentum in 2024 with a real increase in production of 1%. This is largely thanks to China's surprisingly strong performance, despite the prolonged real estate crisis there, which has significantly impacted construction investment. Construction activity in the US and Northeast Asia also picked up in the first half of 2024, driving growth in global construction output. In view of the persistently high interest rates, new investments in the residential construction sector fell sharply. This was particularly the case in North America and Europe, where building permits for residential buildings fell dramatically. The infrastructure, energy and utilities and industrial sectors will continue to be the main drivers of construction output. There is also a lot of investment in areas related to the energy transition, such as renewable energy projects and production facilities for the manufacture of electric vehicles and components.The market penetration of construction pipes is quite unevenly distributed globally and the growth pattern is highly dependent on regional GDP growth. European countries are struggling with weak GDP growth, which combined with construction cost increases is leading to slow construction activity. India and the USA, on the other hand, are reporting much more active construction investment due to their stronger GDP growth. China offers great potential for construction once the current real estate turmoil is under control. In the medium term, this market segment will also offer interesting opportunities for Europe again.

In North America and parts of Asia, pipe products are used extensively for building construction. In Europe, on the other hand, standard concrete or steel structures are still predominantly used. The pipe industry must continue to promote the advantages of pipe applications and demonstrate the architectural perspectives. Tubular profiles are an ideal choice when visible structures are desired due to their versatile shapes and closed cross-sections in combination with smooth sides. The best mechanical properties and the ability to bridge large spans are further highlights of tubular profiles. In addition to round-shaped construction tubes, rectangular profiles dominate in architecture. Such profiles are usually cold-rolled and formed in so-called “Turk’s heads”. In this process, attention must be paid to the metallurgical properties of the edges. Generally, unalloyed steel is used, but alloyed steels with their improved material properties should also be considered. In terms of carbon footprint, pipe profiles are of great advantage as the steel used can be produced from metal scab in electric arc furnaces powered by green electricity.

A recent study published by Global Construction Perspective and Oxford Economics entitled “Global Construction 2030” predicts an 85% increase in global construction output to 15.5 trillion by 2030, with the three countries China, USA and India leading the way and accounting for 57% of global growth alone. Europe, on the other hand, will slow down its pace of investment. There is room for additional production capacity for structural tubes, particularly in India, to keep up with the market trend.

Most pipe manufacturers were able to report greatly improved economic figures in 2023. However, the persistently higher energy costs and the additional CO2 levies adopted by the European Community pose major challenges for European pipe manufacturers. Some tube manufacturers are losing confidence in their ability to compete on the global market with these additional costs in the future. As a consequence, some pipe manufacturers are even reducing their involvement in Europe.

New emerging market segments such as carbon capture and storage and hydrogen pipelines will require larger quantities of alloyed pipes from 2025. In general, there is sufficient production capacity to meet the increasing demand for tubes for all market segments. Nevertheless, the trend towards producing close to customers will continue to have an impact on the landscape for pipe manufacturers. Raw material prices for the steel and pipe industry appear to have stabilized. Nevertheless, the markets are nervous and have the potential for further fluctuations.

A further challenge could arise if the political measures to prevent climate change are not introduced in a balanced manner, which could result in the migration of industries with high energy consumption to regions with lower energy costs. However, as the balance of supply and demand in the pipe industry has largely been restored, price volatility has calmed down.

The transition to environmentally friendly pipe production with low-carbon pipes has become an increasingly important task for the industry. Pipe manufacturers are converting their production facilities from gas to electricity. At the same time, they are improving their productivity, flexibility and customer service. In this context, innovative tools such as Artificial Intelligence (AI) and Industry 4.0 are being introduced. So far, AI has only been used to analyse the vast amounts of data available to the industry, but self-learning AI solutions will further revolutionize the pipe industry.

Many technology providers have already responded by adding environmentally friendly and digital solutions to their product portfolio.

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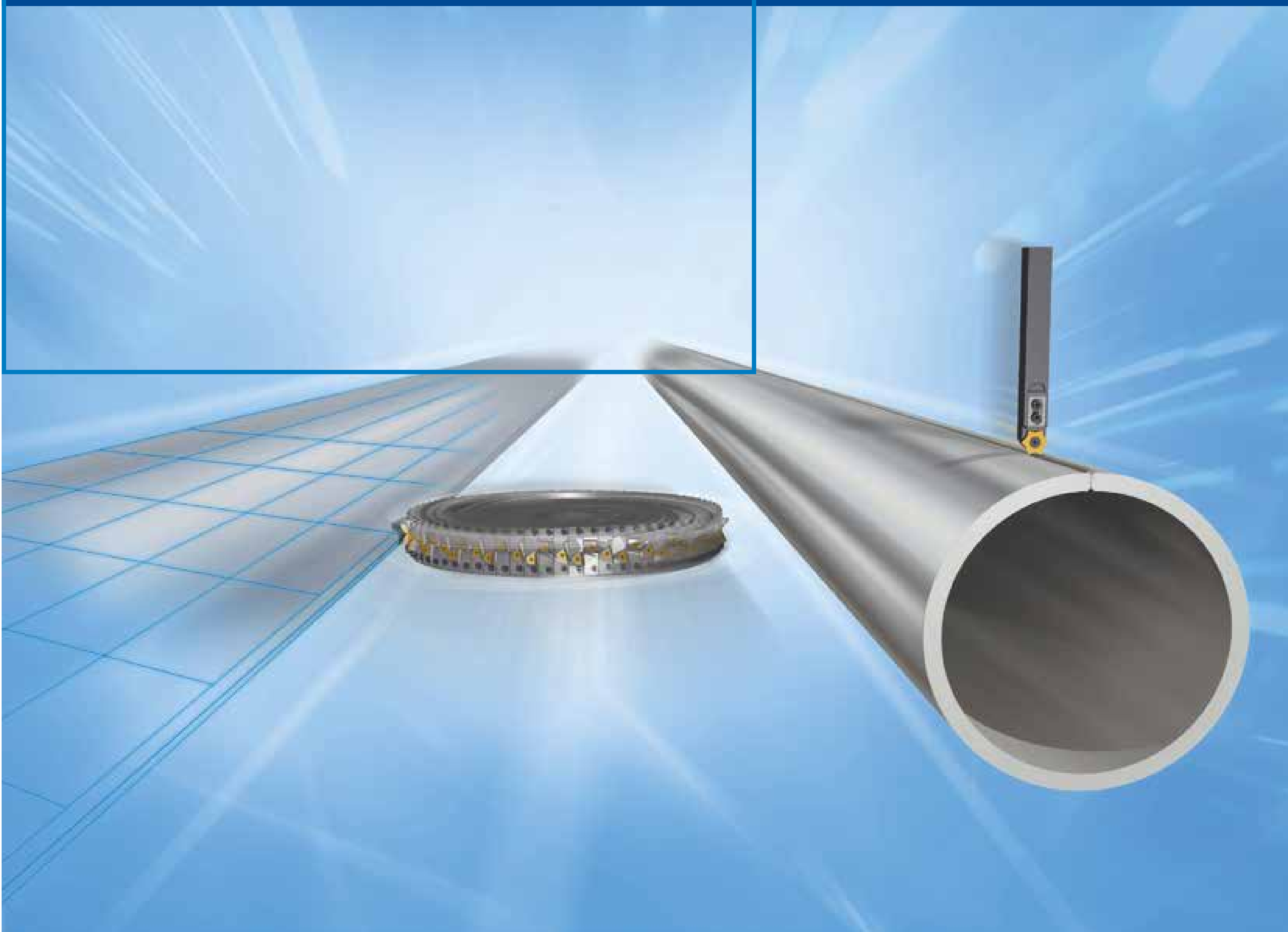
boehlerit

Know-how in the field of tube machining



- Boehlerit offers an unrivalled diversity of products and the full range of cutting and machining solutions for the production of pipes.
- Other industries also draw on our decades of experience and know-how in very special machining processes, for example in the case of plate edge machining.

Boehlerit GmbH & Co.KG, Werk VI-Straße 100, 8605 Kapfenberg,Phone +43 3862 300-0, www.boehlerit.com

Boehlerit GmbH & Co KG

Carbide as the ideal material for sophisticated structural components

The carbide and tool specialist Boehlerit is presenting its latest ready-to-install cutting systems, which have been specially developed for existing and new production lines in the FemininCare and BabyCare sectors as well as other areas of application in the hygiene industry.

The use of carbide as a construction element has become indispensable in various sectors such as the chemical industry, plastics production, the food industry, blasting technology, the recycling industry and the health and hygiene sector. Carbide is characterised in particular by its wear resistance and is therefore a reliable option for components that have to withstand extreme loads. Whether impact stress, high pressure, high temperature or corrosion - carbide is often the only material that can cope with these requirements.

Carbide tools can be manufactured either from solid carbide or as a composite material made from carbide and steel. Close cooperation between design and carbide production is crucial in order to find the best design solutions and optimally utilise the advantages of carbide.

From blank to ready-to-use cutting system

The carbide and tool specialist Boehlerit is presenting its latest ready-to-install cutting systems, which have been specially developed for existing and new production lines in the FemininCare and BabyCare sectors as well as other areas of application in the hygiene industry. The cutting systems offer the option of converting from steel/HSS to carbide in order to sustainably increase efficiency and service life. The cutting systems can be easily integrated into the production process by adapting the existing frame designs to suit the carbide.

The grade is selected on an application and product-specific basis, with corrosion-resistant versions also available thanks to the company's many years of carbide expertise. Boehlerit's engineering team works closely with customers to design and manufacture customised solutions according to drawings or customer requirements. Reverse engineering is also possible in order to economically reproduce existing steel/HSS solutions from carbide. With its ready-to-install cutting systems, Boehlerit is once again setting standards in the industry and offering innovative solutions for efficient production.

The company

As a carbide pioneer, the Boehlerit Group is one of the world's leading manufacturers of wear protection solutions and cutting tools for machining metal and composite materials. With cutting materials, semi-finished products, precision tools and tool systems for milling, turning, grooving and forming, the family-owned company has been ensuring process reliability and efficiency worldwide since 1932. Around 800 employees offer customers comprehensive expertise in all aspects of metallurgy in order to realise process-optimised production technologies, the highest quality and a head start in tool productivity. With three production sites in Europe and Asia, international subsidiaries and a network of sales partners, the carbide and tool specialist has a global presence. Together with its two legally independent sister companies Leitz and Bilz, the Boehlerit Group forms the globally active Brucklacher Group, in which over 4,000 employees generate an annual turnover of around 450 million euros.

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Bültmann GmbH

High speed tube straightening

Once again, the proven Bültmann 10-roll tube straightening machine technology has been able to impress. A 10-roll tube straightening machine, type RRM 10/060, was recently successfully accepted by a Japanese customer as part of a fully automatic straightening line including coil feeding, separation and discharge. The equipment processes seamless steel tubes in the size range Ø 15 - 60 mm with lengths of up to 7.5 m. In addition to the straightness < 0.1 mm/m, the challenge with this application was the extremely high throughput rates and very short cycle times < 3.0 s. This requirement could be met with straightening speeds of up to 180 m/min in conjunction with reduced non-productive times. Consistent process optimization was required here, which was implemented through the targeted use of IBA Analyzer technology. In addition to the high product quality, the advantage for our customer lies in the elimination of two old machines and the associated logistics and labor costs.

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Fives Group

Energy-efficient solutions for Arconic plant

Arconic Architectural Products contracted Fives, an industrial engineering group, to modernize its facilities due to increased energy costs and the carbon tax.

Arconic, a leading manufacturer of pre-painted aluminium for the construction industry, decided to invest into environmentally friendly technologies to reduce energy consumption of its Merxheim plant in France. The modernization project included the replacement of two old curing ovens and cooling sections to upgrade the existing coil coating line. The project was funded by ADEME, the French Agency for Ecological Transition as part of the "France Relance" industrial decarbonization plan.

"We had the ambitious goal of finding a sustainable solution that would allow the plant to reduce its emissions and energy consumption. Our target was to reduce greenhouse gas emissions by 67% as part of the project. Thanks to Fives' expertise and advanced technology, the results exceeded our expectations," says Antoine Higelé, Project Manager & Lead of Energy Management at Arconic Architectural Products SAS.

Outstanding results

As part of the modernization project, the existing thermal equipment was replaced with new technology, including Stein ovens for primary and finish curing and new air cooler sections.

A hot air injection system was also introduced to reduce energy consumption throughout the process. In addition, the robust design of the pre-assembled ovens facilitated handling inside the plant, which contributed to faster installation and less production downtime.

"We have a broad experience in designing curing ovens for coil coating lines for various metals and applications. Our team was actively involved in the pre-engineering phase to identify challenges and find a suitable

Curing ovens at Arconic coil coating line solution, and we are very proud of the spectacular results in terms of energy efficiency and productivity," says Gustavo Guzman, Chief Executive Officer of Fives Steel Spain, a Fives' subsidiary specializing in thermal solutions.

The success of the project has shown that the commitment of steel and aluminum producers, combined with the right choice of energy-saving technologies, is taking the industry to a new level of decarbonization.

Equipment delivery

Decarbonization strategy

***Arconic Group** is committed to a global approach to reduce its carbon footprint by 30% by 2030 compared to a 2021 baseline. This commitment is part of Arconic's REAL initiative to make meaningful and responsible progress on key issues that benefit our planet, people and products.*

***Fives Group** is committed to reduce CO2 emissions by 30% from its activities by 2030, continue developing sustainable solutions for industries to improve their environmental performance and focus development on markets that contribute to low-carbon transition.*

Fives – Steel & Glass Division

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Fives Group

World's fastest tube mills for the US market

Zekelman Industries contracted Fives, an international engineering group, to supply high-speed tube mills to increase its productivity capacity for the ever-growing domestic market.

Zekelman Industries, one of the largest independent steel tube manufacturers in North America, was looking to increase production, save energy and enhance safety to stay competitive in the domestic market. Drawing on its technical expertise and capabilities, Fives designed and delivered four OTO tube mills that represent a world record in production.

Record-breaking speed

The high-speed OTO tube mills from Fives are capable of producing tubular products at a record-breaking speed of 900 feet per minute. The mills process tube and pipe from 18 mm to 130 mm in diameter for a wide range of applications, from conduit to solar panels and construction, in both the U.S. and Mexico.

"Our goal was to increase the overall efficiency of our plant in Rochelle, Illinois to achieve the fastest possible production in the shortest possible time, as well as to reduce manual intervention to almost zero in order to utilize our personnel for more skilled and productive tasks within the company. Our long-standing relationship with Fives led us to choose their high-speed OTO tube mill technology with fully integrated automation to reach our goal," says John Chatterton, Group Technical President at Zekelman Industries.

Technological developments

"We are proud that we have been able to combine our high-quality, high-performance equipment with breakthrough technology designs that have enabled Zekelman Industries to set a production record in the manufacture of such tubes. Thanks to our dedicated team of engineers and technicians, the 4 tube mills were commissioned in December 2023, just one and a half years after the order was placed, which was a challenge in itself," adds Luca Cagnolati, Sales & Marketing Director at Fives OTO, a Fives subsidiary specialized in tube mills.

Fives has been a market leader for OTO welded tube mills over 40 years, having delivered more than 1,200 installations worldwide.

SMS group GmbH

SMS group strengthens service business and improves earnings

Another clear increase in order intake and sales

- Further improvement in earnings expected through service business expansion
- Major projects at H2 Green Steel and thyssenkrupp Steel enter a crucial phase and underscore the #turningmetalsgreen mission
- SMS investing in competitiveness
- New company headquarters in Mönchengladbach opened: Innovation Campus facilitates a contemporary way of working together

SMS group made significant progress in the 2023 fiscal year. Order intake was again increased to more than five billion euros (4.6 billion euros in the previous year). Sales also rose to 3.4 billion euros (previous year: 3.1 billion euros). In addition to important decarbonization projects, SMS has further expanded its service business in particular, which made a substantial contribution to boosting earnings. "The service business for our customers' plants and equipment continues to gain importance for us. The close and consistent interlinking of the plant engineering and service business is the main driver for our profitable growth," says Jochen Burg, CEO and Chair of the SMS Managing Board since October 2023. "To reinforce this trend, we pooled our expertise in the fields of electrical and automation systems, technical service, and digitalization in one business unit. As a result, we are ideally positioned to offer our customers individual and integrated solutions for the very different global challenges they face." SMS aims to increase its share of the service business to at least 50 percent by 2030.

Fabíola Fernandez, CFO of SMS group and Jochen Burg, CEO of SMS group

As regards adjusted earnings before taxes, the company's result was 42 million euros above the previous year's figure (19 million euros). SMS achieved a significant improvement in the operating result from 22 million euros to 134 million euros. At 906 million euros, net liquidity was a good 80 percent higher than the previous year.

"Profitability remains our company's top goal," says Fabíola Fernandez, new CFO of SMS group since January this year. "2023 was a successful year that moved in the right direction. We also expect a further improvement in our earnings for the current year."

Decarbonization projects entering a crucial phase

With two major reference projects, SMS is continuing to drive the decarbonization of the steel industry. For H2 Green Steel in Sweden, SMS is building the world's first steel plant to be operated using 100 percent green hydrogen. The planning and design phases for the facility have largely been completed. The plant components are currently being manufactured and delivered to the job site in Sweden. Starting in the fall, SMS will start to coordinate the plant erection work with its own designated teams on site.

At the same time, the preparations for thyssenkrupp Steel are underway for the construction of the first direct reduction plant in Duisburg, which will enable more than 3.5 million tons of CO2 per year to be avoided in future. SMS will take over the construction site in the fall and start construction work, which will be a challenge given the confined space.

“We are fully on track with our #turning-metalsgreen mission,” says Jochen Burg. “We are not only relying on major reference projects, but also offering sustainable solutions that are suitable for all steel production routes. This secures us a key role in the green transformation of the industry.”

Spotlight on competitiveness

Last year, SMS increased its investments in competitiveness to 151 million euros (previous year: 129 million euros). One key investment is the construction of a new production facility on the west coast of India to further strengthen the company’s presence in this strategically important market. The workshop will commence operation next year.

Another focus is on further decarbonization solutions. For example, SMS is developing a process called EASyMelt that allows CO2 emissions to be radically reduced, and that goes for the conventional blast furnace process too. “Our aim is to differentiate ourselves from the competition through innovative technologies. That being said, new technologies must also always contribute to the profitability of the company,” says CEO Jochen Burg.

In May this year, the opening ceremony was held for the new SMS Campus in Mönchengladbach, which offers attractive workplaces for more than 2,000 employees.

SMS looking ahead with optimism

For the current fiscal year, SMS expects sales to increase further to 3.8 billion euros. At the same time, the aim is to achieve a significant rise in the operating result and an EBTA margin of at least seven percent by 2027.

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SIKORA AG

SIKORA presents system for the measurement of corrugated pipes

X-RAY 6000 PRO C-PIPEAI with newly developed AI software reliably measures layer transitions

With the X-RAY 6000 PRO C-PIPEAI, SIKORA presents a system for the reliable measurement of layer transitions in the production of corrugated pipes. By combining a newly developed software, based on artificial intelligence, with an X-ray based system, a precise evaluation of the X-ray data of corrugated pipes is possible.

There are two crucial phases during the production of corrugated pipes. In the beginning of manufacturing, it must be ensured that the different layers of the pipes are concentric. This evaluation can take several minutes, even hours, where only scrap is produced. After the start-up phase, the products must be evaluated in order to comply with predefined specifications at a certain line speed.

In order to minimize the duration in which start-up scrap is produced, the manufacturers' goal is to implement a permanent wall thickness and eccentricity measurement as early as possible in the extrusion process and to use these measuring values to control the process and enable a fast centering. Due to its hill-valley outer pipe contour, the measurement of corrugated pipes is quite challenging.

The X-RAY 6000 PRO C-PIPEAI enables precise measurement of the hill-valley outer contour of corrugated pipes in the extrusion process. By measuring the wall thickness and eccentricity at an early stage, fast centering is ensured and start-up scrap is reduced. In addition to reliable process control during production, this continuous quality control enables maximum cost savings.

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SIKORA offers the X-RAY 6000 PRO C-PIPEAI for measuring corrugated pipes. The measuring values are clearly displayed on the ECOCONTROL 6000.

Tecnar Automation Ltée

Knowledge is power

To keep the hot rolling process in check while making steel tubes, operators must make crucial decisions at every moment. To make the right decisions time after time, they must have quick, easy access to reliable, up-to-date information. Enter the Tecnar Lut 2.0. It provides the real-time information operators need to optimize the process and tube quality. It uses laser ultrasonic technology to measure true wall thickness, eccentricity, temperature and length directly on the hot tube without contact. In a nutshell, Lut 2.0 probes bring the performance and accuracy of ultrasound to the pipe hot rolling process. It delivers crucial information to operators: "Scientia potentia est" which means, knowledge is power. Visitors to the Tecnar booth at Tube Düsseldorf witnessed the power of Lut 2.0 and how it delivers valuable "knowledge" or information, to empower operators and plant managers.

There has been so much interest in this hot tube gauging system, that we'd like to share some highlights in this publication. Since seeing is believing, let's look at real examples and data.

User-friendly interface (UI):

Lut 2.0 displays and stores data on each tube measured. This way, users can compare current pipe characteristics with past records. With just a couple of clicks, operators and managers can display the history of pipes produced to monitor batch fluctuations and drifts, if any, over time. This feature allows them to observe developing patterns, identify anomalies and make informed decisions based on accurate historical data. It's very useful to track trends or deviations and to isolate their cause early, before they fall out of tolerance

Figure 2 shows specific pipe identification and characteristics (zone 1); Historical data and batch trends (zone 2); pipe radial illustration (zone 3) and current tube longitudinal wall thickness and eccentricity profiles (zone 4).

Figure 3 – The thickness on roller face graph (Section B) shows that positions R-180 (in blue) and R-240 (in green), the tube wall is thinner relative to the other roller positions. The thickness on gaps graph (Section C) shows that at position 360 (in purple), the tube wall is thicker relative to the other positions.

Easy-to-interpret visuals deliver valuable information in the blink of an eye. An easy-to-navigate dashboard allows plant operators and managers to quickly access various powerful software features and the information most relevant to them for agile decision-making. Let's take a look at some of them.

A picture is worth a thousand words:

Lut 2.0 gives operators the complete picture. In the illustration below, Section A (Thickness/Length in yellow) shows the historical average wall thickness per tube (each dot represents a pipe). We can see that it is quite consistent from pipe to pipe and well within target throughout the batch. However, Section B (Thickness on roller face) shows that two roll positions have broken away from the pack: the blue line and the green line. These rollers and their relative position are shown in the top right radial illustration (rollers at position R-180 and R-240). We can clearly see that these rollers are applying more pressure on the tube, resulting in a thinner wall at that location. Moreover, this pressure forces some of the material to move in the opposite direction, to the gap between adjacent rollers, creating an overfill. In Section C (Thickness on gap), the purple line breaking away from the pack shows that the tube wall is thicker. This overfill and its relative position are clearly detailed in the top right radial illustration, at the gap 360 position.

Powerful real-time knowledge:

Quality information presented in a user-friendly format in real time is crucial in monitoring dynamic processes. Lut 2.0 displays and collects highly accurate data essential for the early detection of trends and potential deviations in wall thickness, eccentricity and polygonization before they become non-compliant. These may be caused by uneven billet heating, piercing tool wear or inaccurate roll-stand settings. Lut 2.0 identifies and tracks sources of deviations using a detailed automated analysis for each tube spectrum profile. Each peak in the tube spectrum profile relates to, or points to, a single cause of eccentricity. Lut

2.0 provides advanced notice to operators and managers in a comprehensive and intuitive user interface, enabling them to make informed decisions at the right time.

A model to fit your specific application:

Tecnar designs various probes to accommodate different types of manufacturing processes with unmatched flexibility. Lut 2.0 is available in a single fixed-probe version or in a scanning model equipped with one to three probes, which can take high-precision, high-resolution measurements in scanning or in fixed mode. What's more, they're safe to use since there are absolutely no radioactive gamma rays.

By setting the bar higher, laser ultrasonic technology is becoming the standard for monitoring key hot tube and pipe characteristics such as true wall thickness, eccentricity, temperature and length without any contact.

I hope you enjoyed reading about laser ultrasonic technology. To learn more, please visit https://lut.tecnar.com and stay tuned to the Tecnar Steel page on LinkedIn!

About Tecnar

Based near Montréal, Québec, Canada, Tecnar is a leading innovator of industrial solutions. It designs, develops, manufactures and markets novel sensors and systems for process monitoring and control. Founded in 1989, Tecnar has used its expertise to bring cutting-edge technologies to manufacturers. Over the past decades, Tecnar has diversified into four highly specialized divisions: automated pipe and vessel welding; thermal and cold spray in- situ monitoring; continuous steel galvanizing pot chemistry analysis; and non-contact online laser-ultrasonic gauging systems for the hot rolling process in the steel tube and pipe industry.

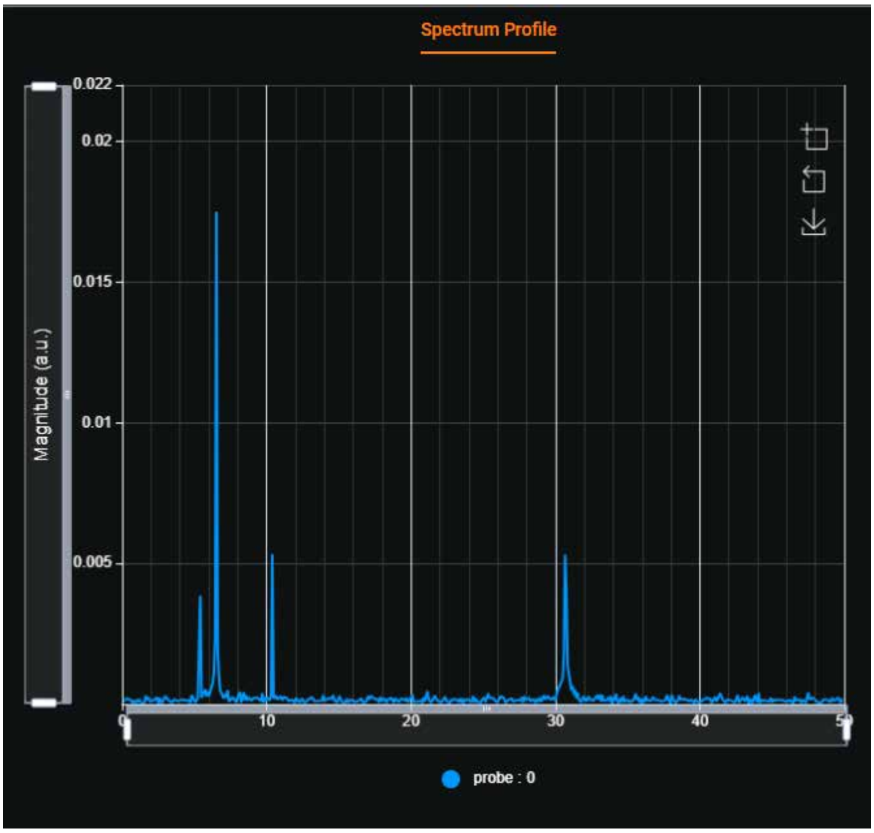

Figure 4 – An example of a specific tube spectrum profile. Each peak corresponds to a single cause of eccentricity.

Tecnar Automation Ltée

Tecnar Announces Landmark Installation of Lut 2.0 Dual Probe Scanner for a PQF Mill in China

Saint-Bruno-de-Montarville, Quebec, July 2024 – Tecnar, a global leader in advanced industrial measuring systems, is thrilled to announce a significant milestone for its Lut 2.0 hot tube and pipe non-contact wall thickness gauge. By mid-2025, a Lut 2.0 Dual Probe Scanner (DPS) will be installed at the outlet of a Premium Quality Finishing (PQF) mill in China. The mill, operated by a member of the CITIC Steel Group, boasts a tube production capacity exceeding 500,000 tons per year.

The Lut 2.0 system will contribute to optimize the production process and tube quality control by providing precise, real-time measurements of true wall thickness, detecting eccentricity, and displaying detailed profiles along the entire length and circumference of hot tubes without contact. This installation will handle tubes with wall thicknesses ranging from 3.2 to 40 mm and outer diameters from 180 to 360 mm.

Seamless tube manufacturers are increasingly adopting PQF mills developed by SMS Group, recognizing the need for superior manufacturing technology. Tecnar's laser ultrasonics, a significant advancement over traditional gamma-ray technology, is on its

way to becoming the industry standard. For years, the Lut 2.0 has played a pivotal role in real-time optimization of tube quality across various processes, including Assel, Push Bench, MPM, Sizing, Stretch Reducing, and PQF mills.
"We are excited about this new chapter for Lut 2.0," said Alexandre Nadeau, CEO at Tecnar. "Our advanced gauging system is set to enhance the production capabilities of CITIC Steel Group, ensuring top-notch quality and efficiency. This installation not only underscores the reliability of our technology but also our commitment to supporting the steel industry with innovative solutions."
Stay connected with Tecnar for more updates on this groundbreaking installation.

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Tube 2024

Record trade fairs face economic challenges: key technologies wire, cable and tube and pipe remain system-critical

15-19 April 2024
Düsseldorf

What a great trade fair season! With 1,500 exhibitors from 60 countries on 67,400 square metres the biggest wire in its almost 40-year Düsseldorf success story; and Tube with around 52,200 square metres and 1,200 exhibitors from 54 countries that now increasingly looks to energy efficiency and sustainability!

A total of 2,700 exhibitors came to Düsseldorf proving over five trade fair days and on around 120,000 square metres' net exhibition space that the wire, cable and tube and pipe industries and their upstream suppliers are ready for future energy-related challenges. The fact that they are also among the system-critical sectors worldwide also strengthens the position of their world-leading Düsseldorf trade fairs.

The desire for personal exchange in these – economically and geopolitically – difficult times was clearly noticeable in the industry. "The world seems to turn faster and we turn with it. Every two years our industries get together here in Düsseldorf – the community stands by its location on the Rhine. We are very grateful for this and are working consistently to ensure that wire and Tube will also remain their industries' No. 1 trade fairs in future," delights Daniel Ryfisch, Director wire, Tube & Flow Technologies.

Exciting line-up of side events in the exhibition halls

However, insights into the exciting transformation processes going on in their industries did not only come care of the 2,700 exhibitors.

For the first time, a packed programme comprising lectures, presentations, special shows and digital guided tours accompanied the hustle and bustle in the exhibition halls. Special Areas and digital trails on such hot topics as ecoMetals, hydrogen,

plastic pipes, separating, cutting, sawing and stainless steel provided information on their news and trends.

Experts from numerous exhibiting firms presented their companies' sustainability strategies, discussed paths towards the green transformation and energy and climate policy with the audience or presented successes already achieved on the way to decarbonisation. Be it the wire & Tube Convention, ITA-Forum, BDS Forum, SawExpo Forum, Special Area Plastic Tubes & Pipes or the digital ecoMetals and high potential trails – the exhibition halls were brimming with innovations.

wire and Tube: fit for the requirements of the future

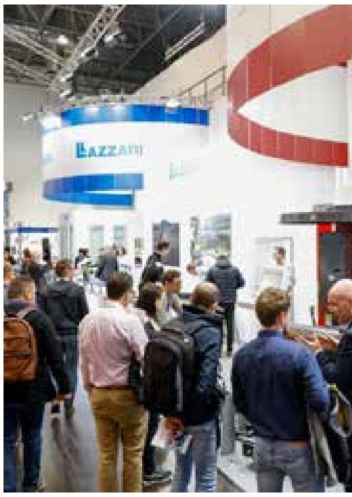
Trends in wire and cable machines, in wire and cable manufacture, in the trade as well as the latest developments in the field of glass fibre technologies, mesh welding machinery, spring making and connection and fastener technologies were presented in exhibition halls 9 to 17.

"wire & Tube is the place where the future of the wire and tube industries is actively shaped and we introduce the innovations of the last two years to our customers," rejoices Dr.-Ing. Uwe-Peter Weigmann, board spokesman at WAFIOS AG. "This year our new developments received extremely positive feedback, which was also reflected by the high number of visitors at our exhibition stand. Alongside new machine concepts such as the modular transfer bending machine BQ10, the theme of "assisted machinery" went down especially well in the context of skilled labour shortages. This machinery assists new staff in setting up, performing individual process steps independently. With four levels WAFIOS has laid the foundation to incorporate machines with their assistive functions long term," adds Weigmann.

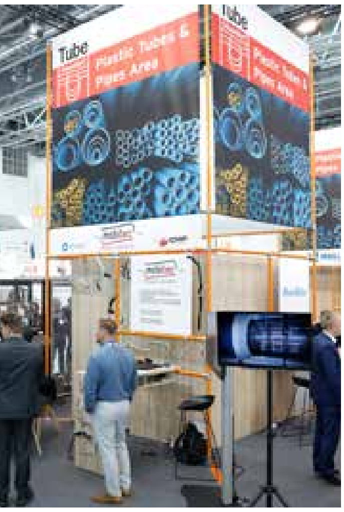
The exhibition stands in Halls 1 to 7.1 made it clear that the tube industry not only "thinks big" but also boasts convincing, sustainable concepts for the use of renewable energies and the reduction of CO^2 emissions. The sectors using tubes and pipelines are as highly diverse as are the requirements for the material properties and sorts/grades. Here plastic pipes play an increasingly important role, as mirrored by the consistently high footfall in the Special Area Plastic Tubes & Pipes in Hall 1.

Trade visitors from 135 countries in Düsseldorf

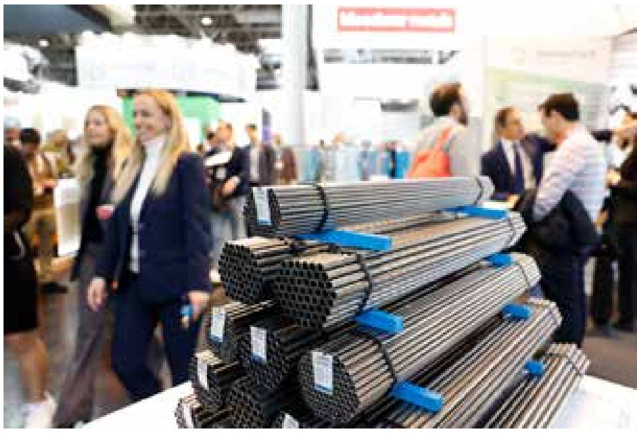
And from which countries did the trade visitors hail? The major producing countries have also traditionally been where



most trade visitors come from. Apart from Germany itself, these once again included Italy, Spain, Belgium, France, Austria, the Netherlands, Turkey, Switzerland, Great Britain, Sweden, Poland, the Czech Republic, the USA, Canada, South Korea, Taiwan, India and Japan.



Noticeably more visitors than before came from Central and North America, Turkey and from Asia. They awarded top marks for the comprehensive line-up and innovative nature of the trade fair stands and praised the presence of almost all market leaders. Networking, exploring innovations at the stands and meeting new suppliers were at the forefront of trade fair visits.



In 2026 wire and Tube will again fly their flags in Düsseldorf, from 13 to 17 April 2026. Until then we would like to keep you informed and entertained 24/7/365 at www.wire.de and www.Tube.de. Be sure to also follow us on LinkedIn: https://www.linkedin.com/showcase/wire-and-tube-leading-international-trade-fairs/

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Tube Düsseldorf

Global Steel Summit – Dubai

What is global steel summit?

10-11 Sept. 2024
Dubai

Scan & Fill the form

The idea of the GLOBAL STEEL SUMMIT is to bring major stakeholders in the Steel Industry from across the world, providing a neutral platform for exchanging Steel conversations, enhancing networking opportunities and business cooperation for the people of the world's iron & steel industry the event brings steel industry's friends and competitors together, giving a barrier-free & healthy opportunity to exchange business ideas, understand each other's position and learn from each other the event enhances cooperation between various steel associations to enable smoother steel trading environment for the welfare of the global trading of iron & steel products.

Stakeholders comprise of the following categories:

- iron & steel associations
- steel mills of bf, bof, eaf & if
- steel mill raw material entities
- fabricators, stockists & traders
- steel pricing intelligence firms
- steel mill equipment suppliers
- steel industry investors & financiers
- major consumers & end-users of steel
- steel technology companies
- green steel & decarbonization firms

Global Steel Summit

September 10th & 11th, 2024
Ritz Carlton DIFC, Dubai
+971 50 4824 030
events@steel-summit.com

Who are our organizers & supporters?

steel associations from across the world such as the:

- Metallurgical Council of CCPIT (China)
- Steel Users Federation of India (SUFI)
- Arab Iron & Steel Union (AISU)
- National Committee for Steel Industries (Saudi)
- African Iron & Steel Association (AISA)
- Association of CR & Coated Flat Producers (SOGAD)
- Steel Producers Committee (UAE)
- International Tube Association (ITA – Germany)
- EUROFER (europe)

media partners & knowledge partners:

- steelmint / bigmint (India)
- STEEL & METALLURGY (India)
- mysteel (china)
- STEELRADAR (turkiye)
- ARGUS (europe)
- KALLANISH (europe)
- steelnetwork (mena)
- steelprice (middle east)
- davis index (usa)
- mesteel (middle east)
- shanghai metals market (china)

event's legal host: global steel summit was founded, invested, promoted, hosted & owned by u.a.e. based steelgiant fze, a company focusing it's business with the steel industry events & publication

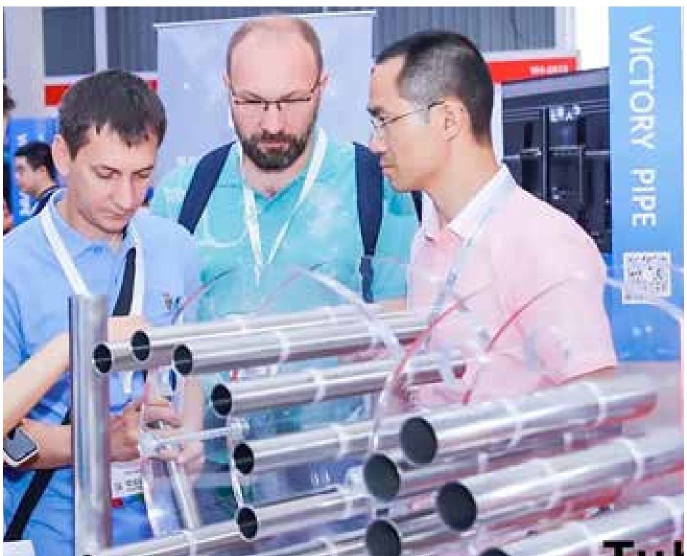
DAY-1 (10th Sep) 08:00-17:00	GRAND EVENT, EXHIBITION, NETWORKING, PRESENTATIONS & PANEL DISCUSSIONS (With a Focus on Macros, Steel Geography, Semi, Long, HRC, Coated Flat)
DAY-2 (11th Sep) 09:00-12:00	RAW MATERIAL FORUM + NETWORKING (Iron Ore, Scrap, Ferro Alloys, HBI & DRI) [Presentations, Networking, Panel Discussions, Seminar & Exhibition]
DAY-2 (11th Sep) 12:30-17:00	PIPES & TUBES FORUM + NETWORKING (Commercial Pipes & Tubes; OCTG & Line Pipes) [Presentations, Networking, Panel Discussions, Seminar & Exhibition]

Tube China 2024

Tube China 2024 – The 11st All China-International Tube & Pipe Industry Trade Fair

25-28 Sept. 2024
Shanghai

After 20 years, Tube China has not only become Asia's leading tube and pipe industry exhibition, but also a pioneer in the industry. The organizers Messe Düsseldorf (Shanghai) Co., Ltd. and MC-CCPIT will leverage their respective advantages to promote technological innovation, green and intelligent transformation, focus on industry trending topics and provide a brand-new upgraded trade platform to present the state-of-the-art products, technologies and solutions from a professional perspective.



Tube China News:
"SAW" and "THERMPROCESS"
Industry Upgrading:Unlocking Opportunities!

The development of China's steel industry has been a crucial driver of the country's rapid economic growth. Within the steel industry, steel pipes are hailed as the "blood vessels" of modern industry, playing an irreplaceable role in the development of the national economy and industrial upgrading. From January to June 2023, Tube China learned that China's steel pipe production reached 48.67 million tons, a year-on-year increase of 12.2%, solidifying China's position as a major producer of steel pipes.

Processing Technology:A Key Driver of Progress in the Steel Pipe Industry

Processing Technology directly impacts product specifications and performance. High-precision processing techniques enable steel pipes to better meet diverse application requirements, enhancing production efficiency and reducing costs. Innovative processing technologies are crucial elements in ensuring industry competitiveness and sustainable development.

In the field of metal materials and pipe processing, besides traditional cutting processes, laser cutting, with its high precision, fast speed, and low cost, has gained significant favor within the industry.

Furthermore, the rise of heat treatment technology has transformed the mechanical, physical, and chemical properties of metal components, significantly improving their quality. More importantly, green environmental protections have become the core of the future development of the steel industry. Heat treatment-related technologies provide greater feasibility for steel production, supporting the industry's transition towards a low-carbon and environmentally friendly direction.

Saw and Laser Cutting China

Based on the Saw Expo China Pavilion in Tube China, the organizers have established a new upgraded and transformed concurrent exhibition - Saw and Laser Cutting China and added laser cutting related machinery and technology.

Saw and Laser Cutting China will jointly exhibit with the two popular related industries of Tube China and Thermprocess China in order to create a more comprehensive display platform and provide a grand gathering for sharing of resources and exchanging opportunities for the saw industry chain.

Tube India 2024

10th All Indian Exhibition & Conference for the Tube and Pipe Industries

27-29 Nov 2024
Mumbai

In India, the construction industry and the oil and gas sector are the most important customers for pipes. Major projects in the areas of rail and air transport, urban and rural wastewater disposal, infrastructure, water supply, irrigation, energy projects and the automotive sector offer additional growth and new business opportunities in India.

Innovators meet investors. For planners, customers and users, there is nothing greater: Tube India is number 1, bringing together investors, innovators and market leaders. Are you a trailblazer? Then find your inspiration here. A show of superlatives awaits you. Experience the full range of state-of-the-art tube manufacturing and processing machinery, innovative tube materials and highlights of OCTG technology.

Good Reasons to Attend Tube India

- Meet and connect with prospective customers
- Strengthen the bond with existing customers
- Learn about new industry developments
- Announce and display your latest innovations and developments
- Gain insights into cutting-edge developments in your industry and the opportunities they create
- Expand your distribution and supply chains
- Strengthen or establish your brand
- Connect with competitors to identify best practices
- Reach out directly to your target market
- Optimize your sales and lead generation strategy

The global market for welded stainless steel pipes is expected to reach USD 9.5 billion by 2030, with a compound annual growth rate of 5.1% from 2021 to 2030. The Indian pipe industry is one of the three most important production locations alongside Japan and Europe.

Nevertheless, the use of pipelines for oil and gas transport in India is relatively low at 32%, compared to 59% in the US and 79% globally. This low domestic market penetration offers significant business opportunities. The Indian pipe industry is worth around 235 billion rupees.

Save the date:
ITA Conference
November 27th, 2024
at Tube India

Main Exhibit Groups at Tube India 2024

- Raw materials, tubes and accessories
- Tube manufacturing machinery
- Heat Treatment Processing and Machinery
- Rebuilt and reconditioned machinery
- Sawing and Industrial Cutting Machinery
- Process technology tools and auxiliaries
- Measuring and control technology
- Testing Engineering
- Specialist areas (i.e. plant engineering and construction, logistics, consulting and other services)
- Trading, stockists of tubes
- Pipeline and OCTG technology
- Profiles / Machinery
- Compound Pipe
- Plastic Tubes (Introducing New Segment)

For more information, visit the event websites at:

www.wire-india.com;
www.tube-india.com;
www.metecindia. com;

Tube Mexico 2025

Discover wire and Tube Mexico 2025

11-13 Feb 2025
Monterrey

wire Mexico 2024 was a new satellite event of Messe Düsseldorf's wire, Tube & Flow Technologies trade fair portfolio. Expo Manufactura, the International Trade Fair for Manufacturing Technology, Automation and Robotics, has been held annually in Mexico since 1996 and is managed by the international organizer Informa Markets. Expo Manufactura is geared towards machinery manufacturers, metal processing companies, upstream suppliers, the electrical industry and the automotive sector.

Recent New numbers from the U.S. Census indicate that Mexico is the U.S.'s top trading partner. In 2023, the U.S. traded $ 798 billion with Mexico as the goods it bought from Mexico surged past China and Canada.

Mexico is becoming increasingly important and is a key growth market for the wire and cable industry. Growing investment in Mexican infrastructure is driving national demand for wire, cables and accessories. Machinery, plants and products for the Mexican automotive, electronics and energy industries are also in demand in the neighboring countries of Central and South America.

The next wire and Tube Mexico will again be held in Monterrey in 2025. For further information on visiting or exhibiting at wire Mexico 2025, contact Messe Düsseldorf North America.

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Email: info@mdna.com

Metalflow Alliance 2025

Düsseldorf umbrella brand Metalflow Alliance presents itself with seven metal trade fairs in Riyadh from 5 to 7 May 2025

Saudi infrastructure is booming

Under the global umbrella brand Metalflow Alliance the seven Düsseldorf trade fairs wire, Tube, VALVE WORLD EXPO and GMTN will be presenting news and trends in their respective industries as part of the two Saudi trade fairs Metal & Steel Saudi Arabia and Saudi Projects in the economically booming kingdom of Saudi Arabia from 5 to 7 May 2025.

Being one of the leading trade fairs of the Saudi construction industry, Saudi Projects 2024 was held in Riyadh for the first time while the Metal & Steel trade fair already looks back on a successful track record. Both trade fairs are held by AGEX, the Arabian German International Exhibitions, in Riyadh.

In May 2025 the Metalflow Alliance with its seven metal trade fairs will be complementing the Saudi trade fair duo at the Riyadh International Convention & Exhibition Center for the first time. The joint trade fair date provides both the exhibitors and visitors of all three events with valuable synergies.

Metal & Steel and Saudi Projects are among the most relevant regional events and supply machinery, equipment, products and services for Saudi Arabia's rapidly growing demand: the Saudi government is pursuing ambitious infrastructural goals proclaimed in and driven by the Vision 2030. Here, billions of USD are currently being invested in the transformation of the Saudi economy.

In this process, the technologies and products offered by the Metalflow Alliance exhibitors could already soon form part of the economic diversification in Saudi Arabia. After all, Messe Düsseldorf is giving its exhibitors the possibility to present themselves concurrently at both trade fairs, Metal & Steel and Saudi Projects.

"The transformation of Saudi Arabia's economy offers our metal trade fair exhibitors very promising opportunities to enter the Saudi market and, hence, plenty of potential for the coming years," delights Daniel Ryfisch, Director of the wire, Tube & Flow Technologies portfolio at the home-base Düsseldorf.

Registrations are welcome as of now and can be submitted to Sarah Liehsem and Aylin Celik at LiehsemS@messe-duesseldorf.de (++49 211 4560 7760) and CelikA@messe-duesseldorf.de (++49 211 4560 7769) .

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Events for Business, Technology, Education and Networking

Diary of world class tube events

September 2024		
10 - 11	Global Steel Summit	steel-summit.co
11 - 12	Stainless Steel World Asia	stainless-steel-world-asia.com
25 - 28	Tube China	tubechina.net
October 2024		
03 - 05	Tubotech	tubotech.com
15 - 17	FABTech	fabtechexpo.com
17	Flat Steel – Kallanish Conference	kallanish.com
22 - 25	Euroblech	euroblech.com
November 2024		
06 - 07	Stainless Steel World Duplex	stainless-steel-world-duplex.com
11 - 14	ADIPEC	adipec.com
27 - 29	Tube India	tube-india.com
December 2024		
03 - 05	Valve World Expo	valveworldexpo.com
January 2025		
13 - 17	BAU	bau-muenchen.com
February 2025		
11 - 13	Tube Mexico	wire-tube-mexico.com
spring 2025		
ITA Tube Conference		itatube.org
April 2025		
09 - 12	Tube Eurasia	tube-eurasia.com
May 2025		
05 - 07	Metalflow Alliance Saudi-Arabia	metalflow-alliance.com
September 2025		
06 - 08	Tube Middle East Africa	tube-mea.com
17 - 19	Tube South East Asia	tube-southeastasia.com
October 2025		
21 - 24	Blechexpo	blechexpo-messe.de
November 2025		
18 - 20	Stainless Steel World Expo	stainless-steel-world-event.com

TUBE FORUM
ITA
International Tube Association
April 18th, 2024 | 10.30 - 2.00
Forum Hall 1 / A47

Tube 2024

Enthusiastic visitors and inspiring conversations

It was a pleasure meeting you at Tube Düsseldorf in April 2024!

“Tube 2024 once again impressively underlined how important a leading international trade fair is for the tube industry!”
(Dr. G. Voswinckel, President ITA)

The high number of visitors exceeded our expectations and ensured a lively atmosphere and interesting conversations. Particularly pleasing was the positive response to the ITAtube Buyer’s Guide presented during Tube, which brings sellers and buyers together on a worldwide platform. The presentations were very well received and allowed visitors to gain a comprehensive insight into the benefits and possible applications.

As with every Tube, the focus was on professional exchange and personal meetings of out ITA members as well as the information of interested companies.

The **ITA Tube Forum** on Thursday has addressed the key steel tube industry trends that will impact international tube and pipe markets. The presented market information and innovations were very well received and attracted many interested listeners. The interactive panel discussion, in which industry experts shared their market assessments and offer strategies for success in a market characterized by volatility and uncertainty, provided valuable insights and ensured a lively exchange among the participants.

We are now taking the next steps with new ideas and are looking forward to bringing the impulses and suggestions gained at Tube 2024 into our future projects.

The technically interesting and diverse exchange once again showed the relevance of an international association for the pipe industry.


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International Tube Association


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Buyer's Guide

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	1x	2x	3x
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Inside back cover	€ 1,800.00	€ 1,710.00	€ 2,220.00
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Outside back cover	€ 3,000.00	€ 1,900.00	€ 2,800.00

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Look at our next issue:

- Review Tube China 2024
- Review Global Steel Summit
- Preview Tube India 2024
- Preview Tube Mexico 2025
- Preview ITA Tube Conference

ITA
International Tube Association

- ITA – well respected since 1979
- non-commercial
- over 600 members worldwide
- sole globally active association of tube & pipe engineers from across the industry (supply and manufacture), related services and universities.
- global technical and market information platform supporting innovation and growth within the tube industry

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