
THE SOLE WORLDWIDE ACTING ASSOCIATION OF TUBE & PIPE ENGINEERS

World Tube & Pipe Market for the *Automotive Industry*—some influencing factors

Dr. Gunther Voswinckel – Update as per November 2020

This is one of a series of articles that discuss several economic developments in the tube and pipe industry.

The corona pandemic still has a firm grip on most parts of the world. In consequence many countries have limited substantial human rights for the second time this year, rights such as the freedom of movement as well as the freedom of property and the freedom of practicing an occupation. Many countries have decided, for the second time this year, to lock down major types of public, industrial and private activities to protect human lives.

This article will not discuss the sad and disastrous consequences of the pandemic for mankind (as of November 27th, 2020, worldwide about 61 million persons in 185 countries are known to have been infected by Covid-19 and about 1.43 million persons have died from the disease).

Here, we look at the significant impact on the tube and pipe industry. The industry must take substantial strategic countermeasures to avoid severe consequences.

The consumption of energy and most industrial goods has fallen apart, and major supply and service chains are not working any more. Travelling restrictions make customer contacts and site works even more difficult. Web-based virtual meetings can only partially replace the site presence/work.

The second largest market segment for tubes and pipes is the automotive industry. With a share of the world tube and pipe market of about 15% the automotive industry is essential. Since the outbreak of the corona pandemic in China, world car sales dropped by more than 20%.

Supply contracts to the automotive industry are frame contracts without guaranteed supply volumes. Therefore, supply volumes are directly in line with the number of cars produced and hence very challenging for the tube and pipe industry, since car sales fell by about 70% from March to May 2020. Since then a recovery of car sales is reported, especially in China and to a lesser degree in USA and Japan. Other countries' car sales volumes, such as Brazil, India and Europe still have accumulated annual sales figures of about -28% compared to 2019.

The tube and pipe price index, consequently, has weakened since November 2019, falling from 106 down to 97 in August 2020 (-8%). On the other hand, the hope for the timely arrival of a corona vaccine and an improvement of the trade conflict between the USA and China thanks to the new US president elect may stabilize the economic situation in many countries and create an atmosphere that releases pressure on our industry.

This may be the reason why the prices for steel pipe and tubes as well as stainless steel tubes have gained about 2% since August 2020. Due to the second Corona wave,

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it must be feared, that demand and therefore prices may drop even further. But most countries try to keep the industry going despite the pandemic.

In high wage countries, demanding high-tech products are strategic targets, rather than commodity-grade tubes and pipes. Limiting factors are sometimes the availability of steel quality and quantity for strip, plate and billets, as well as the tube plant infrastructure in terms of machines and the applied quality standards.

Strategical measures for our industry are consequently demanding, but important. Lean and agile organizations with flexible, customer-orientated production facilities are needed to prompt the demanding and volatile market requirements. Agile digital solutions in the context of “Industry 4.0” offer further opportunities to stay successful.

The international stock markets are flooded with huge amounts of financial support to avoid bankruptcy or unfriendly take overs. The automotive industry is one of the mayor recipients hereof. In addition, some countries are trying to compensate for the consequences of the virus with financial support for mid-size and small entities. The tube and pipe industry has also been hit hard by this global pandemic.

The second largest market segment for tubes and pipes is the automotive industry. With a share of the world tube and pipe market of about 15%, the automotive industry is essential (Figure 1).

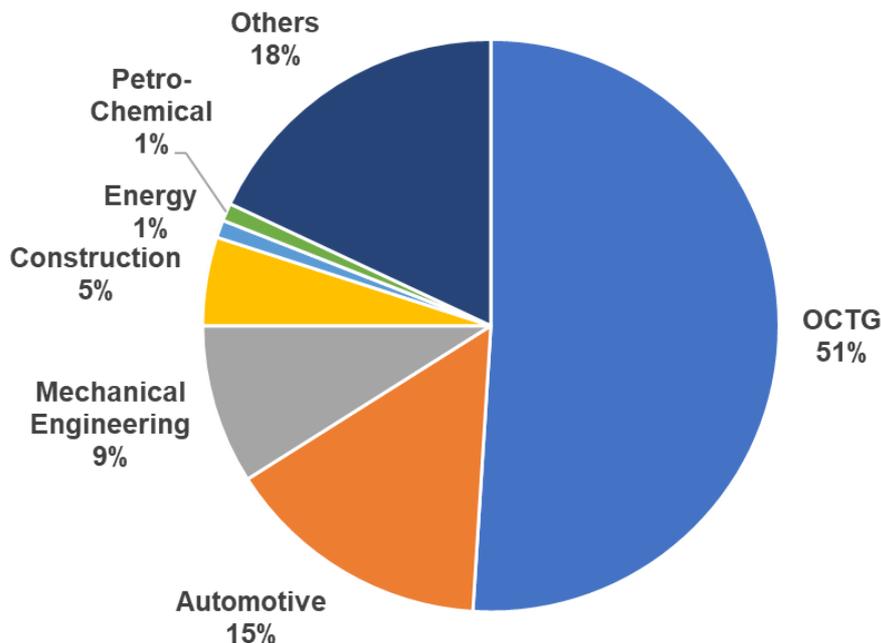


Figure 1: Markets of Steel Tube and Pipes
Source: ITATube Journal/Wirtschaftsvereinigung Stahlrohr

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The automotive industry market is subdivided into tubes used for the combustion system, mainly stainless-steel tubes, and on the other hand carbon/alloyed steel pipes and tubes for the drive system, the safety structures and the body/platform.

In the automotive industry, tubes and pipes with diameters up to 90 mm are mainly applied.

From 2017, after many years of stable growth, annual global car sales figures were in decline, falling in both 2018 (-1%) and 2019 (-4%). In 2020, in the wake of the corona pandemic, observers predict another significant decline of world car sales (about -20%) (*Figure 2*).

World Car Sales

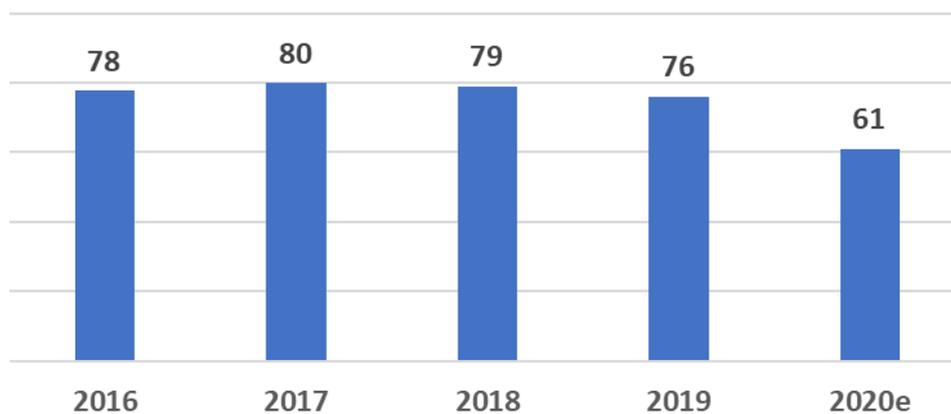


Figure 2: World Car Sales (Mio. units)

Source: gathered from Statista, PCA, Bloomberg, Bain

The automotive industry is characterized by very global supply chain systems, made demanding by just-in-time deliveries. Car sales figures in 2020 dramatically fell apart (e.g. in China -82% this February 2020) and many OEM and suppliers' production plants were shut down. This April 2020 the world automotive industry almost totally shut down. Some suppliers reported production levels in April and May 2020 of only 20% to 30% of the originally planned production figures.

First Chinese production plants, then some European and other countries restarted production in May 2020. However, the ongoing corona pandemic has meant that many countries have as yet been unable to restart their industries. It therefore remains a great challenge to restart the complex global supply chains in a reliable way.

Analysts from various well-reputed organisations show impressively (*Figure 3*) how they anticipate the development of world car sales throughout 2020. This so-called probable scenario was established under the condition that the automotive industry could reliably restart in May 2020 without further delays due to the corona epidemic.

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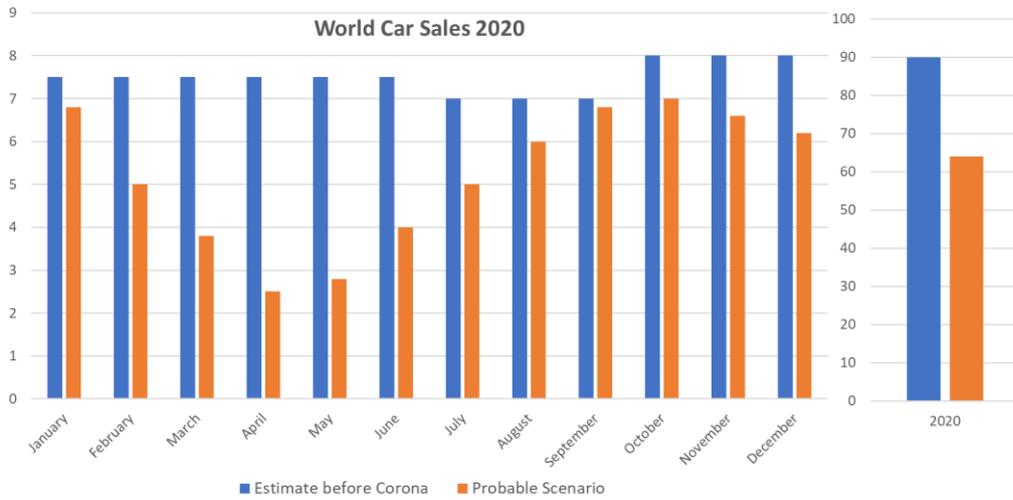


Figure 3: World Car Production (Mio. units) 2020

Source: IMC, PCA, Bloomberg, Bain & Company

It was assumed, after the dramatic cutbacks in March to May (about 70% of original values), that sales volumes would rapidly recover by September 2020. It was not to be so.

The tube and pipe industry supplying the automotive industry faces considerable challenges as the ramp-up has not been as steep as predicted in this study. The industry is used to large production lot sizes which significantly melted down as the ramp-up curve was flatter. Some suppliers of the industry have even not reached minimum critical lot sizes.

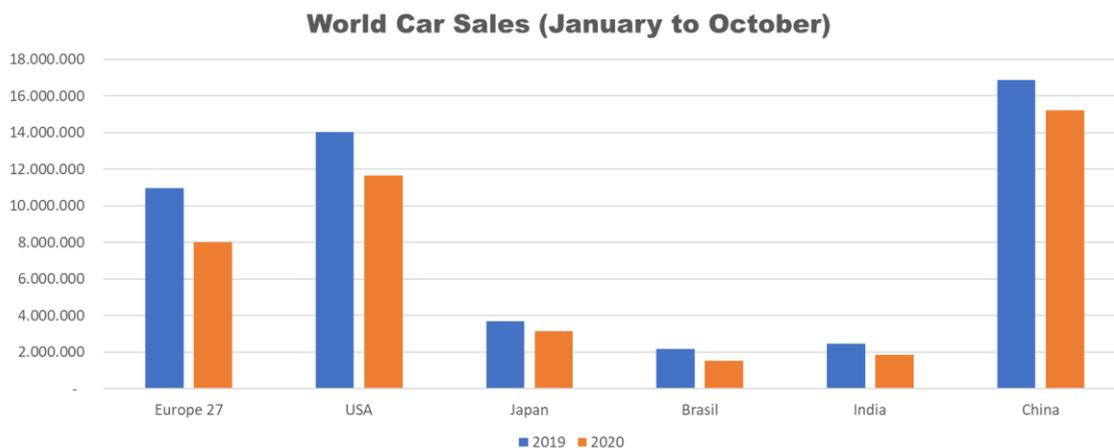


Figure 4: World Car Sales in selected Countries (October 2020)

Source: VDA

Looking at some important regions in the world, it is clear how critical the downturn in some regions has been. Compared to 2019, in most regions annual car sales figures fell by around 26-30%. Only China, the largest market for car sales, had a more moderate downturn of only 10%. This is thanks to a subsequent restart of the industry as early as May 2020. The USA,

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encouraging the industry to continue producing despite the high corona impact, had the second most moderate downturn, with a drop of 17% fewer car sales.

Since the supply of tubes and pipes for the automotive industry is on demand within frame contracts, storage facilities for tubes and pipes are filling up, causing prices to slide for the industry (Figure 4). Since November 2019, prices fell by about 8%.

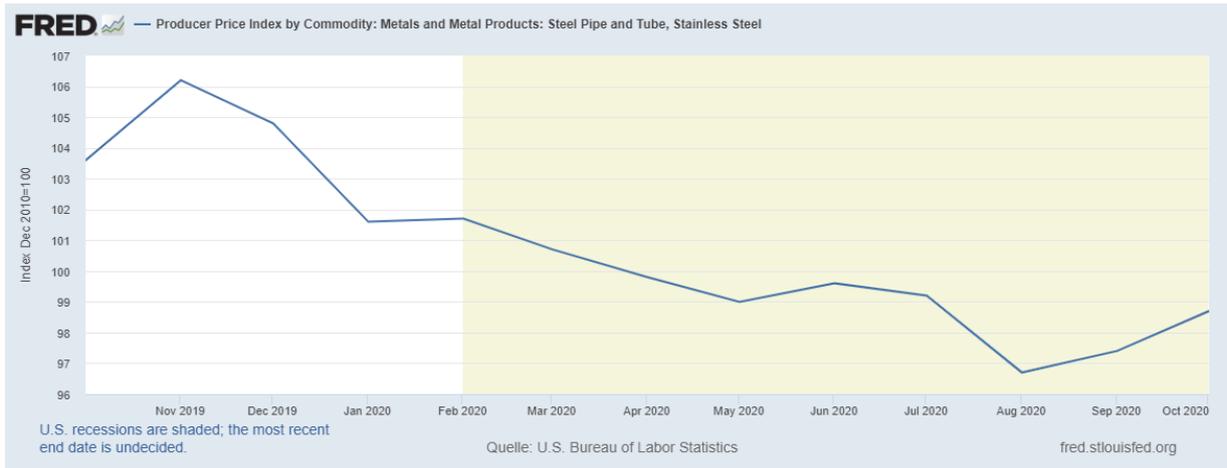


Figure 4: Pipe and Tubes Stainless Steel Producer Price Index as per 27th of November 2020

Source: FRED US Bureau of Labor Statistics

Current world production figures as per Q1 2020 reflect this negative trend. As already mentioned, this market is mainly served by tubes and pipes in the diameter range of up to 90 mm. The world steel tube production of tubes and pipes with a diameter of ≥ 406 mm including those up to 90 mm diameter, has dropped by about 12% (Figure 5).

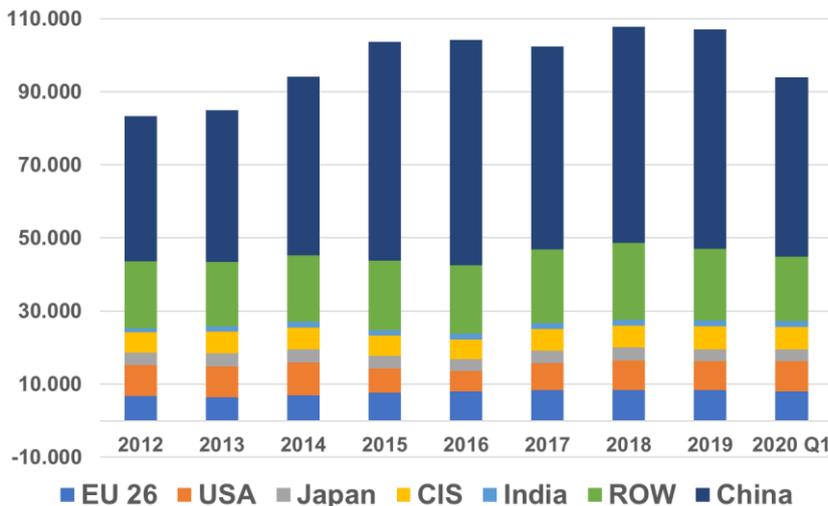


Figure 5: World Steel Pipe Production in Ttons (welded < 406 mm OD)

Source: ITATube Journal/Wirtschaftsvereinigung Stahlrohre e.V.

It is now of the greatest importance how fast the industry can recover and return to a growth path.

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Looking at the different world regions (*Figure 6*): China, by far the largest producer of such tubes and pipes lost a huge 18% of its production. This massive drop was due, not only to the impact of the corona pandemic, but also in part to the trade conflict between the USA and China. US-based tube and pipe producers on the other hand were able to increase their production by 3%.

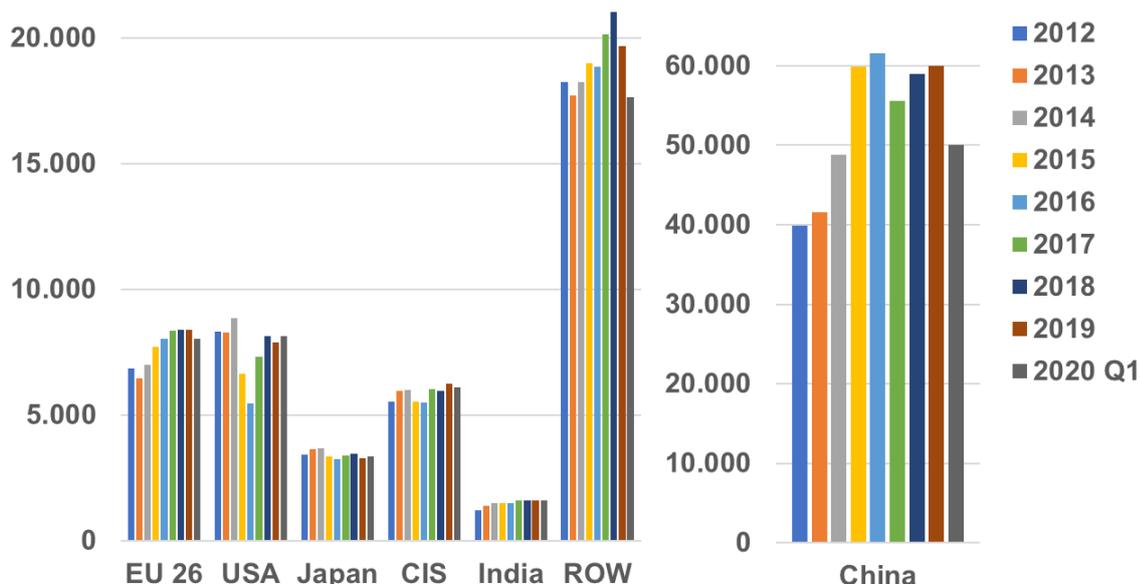


Figure 6: World Steel Pipe Production Regional in Ttons (welded < 406 mm OD)
Source: ITATube Journal/Wirtschaftsvereinigung Stahlrohre e.V.

Europe (-4%) and ROW (rest of the world -10%) also suffered from shrinking markets. Only Japan (+2%) and India (+0%) maintained their production levels.



Figure 7: World Steel Pipe Production in Ttons (Seamless)
Source: ITATube Journal/Wirtschaftsvereinigung Stahlrohre e.V.

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Seamless tube production, on the other hand, has gained about 6% (Figure 7). Looking at the regional production figures, it is clear that with the exception of China (+14%) and Japan (+3%) all other large pipe-producing countries experienced major production drops (Figure 8).

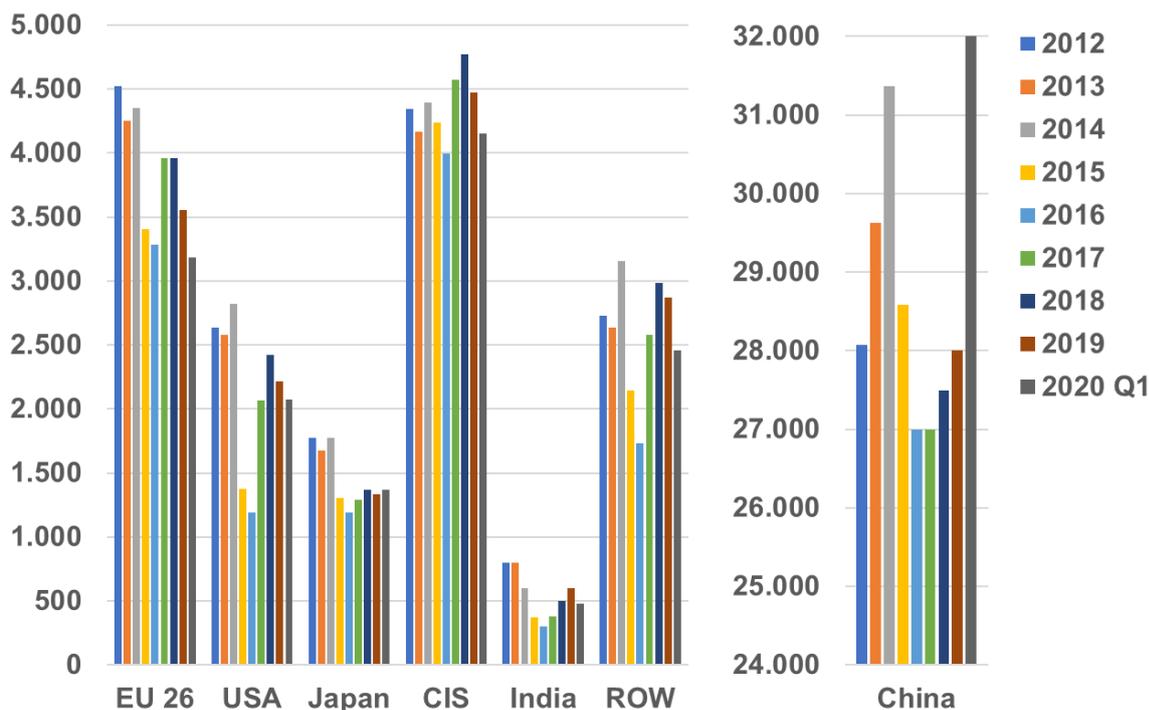


Figure 8: World Steel Pipe Production Regional in Ttons (Seamless)
 Source: ITATube Journal/Wirtschaftsvereinigung Stahlrohre e.V.

India (-20%), ROW (-14%), Europe (-10%), CIS and USA (-7%) are reporting production losses. It should be noted that the corona effect is probably not yet reflected to its full extent in the 1st quarter production figures for 2020.

Now that the second pandemic wave is sweeping through many countries, governments are aiming this time to try and keep the industry going to avoid further negative impacts.

On the other hand, the hope for the timely arrival of a corona vaccine and an improvement of the trade conflict between the USA and China thanks to the new US president elect may stabilize the economic situation in many countries and create an atmosphere that releases pressure on our industry. This may be the reason why the prices for steel pipe and tubes as well as stainless steel tubes have gained about 2% since August 2020.

The automotive market really depends on the recovery from the impact of the virus and how fast the corona vaccine will enable us to control the pandemic.

The automotive steel tube and pipe markets can be subdivided into commodity volume markets and the market sector with high-tech requirements. For the high-tech requirements, the decisive factors are the steel quality. The steel quality for many high-tech steel tube and

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pipe applications is demanding regarding chemistry and homogeneity. The availability of such steel qualities with the relevant uniformity and quantities for welded tubes and pipes as steel strip as well as billets for seamless tubes and pipes is limited and can create a significant hurdle to the supply of tubes and pipes into such high-tech markets.

On the other hand, the tube plant infrastructure regarding tube mills, finishing lines as well as applied quality assurance systems are also of significant importance. Growing importance must be given to agile management strategies regarding customer benefit, process and product quality enhancement by applying “Industry 4.0” measures. Some interesting applications of “Industry 4.0” in the tube and pipe industry were presented by various speakers at the trendsetting ITA tube conference in Düsseldorf 2019.

Plant builders as well as technology suppliers may find interesting business opportunities in this new market segment. Some technology suppliers have already reacted and complemented their product portfolio with digital solutions.

Dr. Gunther Voswinckel

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