Power of Unified Manufacturing: **Manufacturing at a Crossroads**

Webinar Transcript

Section 1: Introduction

Annette: Hello, everybody. Good morning, good day or good afternoon, depending on wherever you are. A warm welcome to our panel discussion, Manufacturing at a crossroads. My name is Annette Trenz. I'm leading the global industries, and in that role, I'm responsible for the industry posture of CGI globally. Today, I have a wonderful panel with me, a panel of amazing women talking with me about the future of manufacturing. I'm super excited to introduce Stephanie Naujoks from IDC, Helena Jochberger, who you met in the previous session, and Nicole Zethelius from CGI. Ladies, please introduce yourself.

Stephanie: Yeah, just wondering who should start, right? Thank you very much for the introduction already. I'm Stephanie Naujoks, I'm a research director at IDC and we are a global research and advisory company in the IT industry. My research area is digital transformation in the manufacturing industry and how basically digital technologies impact manufacturers, traditional processes and business models. It's a pleasure to be here with you on the panel. Thanks for having me.

Annette: Thank you.

Nicole: Hello, I'm Nicole, and I'm the head of Sustainability and ESG Strategy Global. I work on talking with the clients directly on the ground, I guess you could say. I come from over ten years of experience in sustainability and sustainable development. Educated from Harvard University, I've been a senior advisor at the United Nations Economic Commission, as well as IPCC on hard-to-abate sectors, specifically scope 3 emissions. That is myself in a nutshell.

Annette: Thank you.

Helena: Then I'll end this wonderful round here. Helena Jochberger is my name. I'm the global lead for the manufacturing industries, working together very closely with Annette Trenz and also Nicole on all the industry-related topics. We see with digital transformation how much we are interfering with other industries when transforming and when becoming sustainable. I'm looking forward to this panel with you ladies.

Section 2: Geopolitical and economic impacts

Annette: Thank you. Manufacturing is at a turning point. Just still recovering from a global pandemic, manufacturers find themselves navigating through the next challenge of a geopolitical crisis and disruption. The question we are asking: are manufacturers ready to respond to these challenges?

Let's start our discussion with the topic of geopolitical and economic changes. The geopolitical future is driven by U.S. and China policy. While the driving forces of the economic growth have shifted to Asia, we have entered a global race in which technology and innovation are becoming key. Maintaining economic growth is the future challenge for developed countries. Faced with that polarization, the European Union will most likely focus on open economic and social policies to ensure both access to markets and having standards. Regulation frameworks to protect its own economic interests and the European Union will most likely continue its very strong focus on regulations—from ensuring data privacy to fighting climate change. So, my first question goes to Stephanie. How do you see the impact of standards for the future?

Stephanie: Thank you, Annette. First of all, I absolutely agree with what you just said. When we talk about standards, standards are not only important when you look at technologies, standards are particularly important when it comes to sharing data. I'm bringing that up because I strongly believe that, whereas manufacturers today are really focusing on, you know, making products good and engineering them super, in the future, it will no longer be enough to work just on their own. In the future, I believe it will be a key to collaborate in ecosystems, and what will be key to collaborate in ecosystems will be sharing and exchanging data. And why is that key? That's simple, right? The more data you have, the more you can increase the customer experience, the customer value and even product quality or shop floor or factory operations. But the thing is, in order to exchange data, organizations need to agree on a common data model and a common data format that ensures standardized semantics. And the good news here is that there are actually already a number of initiatives worldwide addressing standardization in the industrial context.

The thing is, a key aspect of sharing data in an ecosystem relates to trust and establishing trust. This is actually a major concern and the subject of many conversations I'm having with manufacturers. And also, you touched upon that as well, data sovereignty will be key. Here we do see a quite promising example or an initiative here in Europe—Gaia-X. Gaia-X has the goal to support data sharing in a secure and trusted environment while ensuring data sovereignty. As IDC, we also did some interesting research on Gaia-X, as I mentioned. What we found is that organizations, what they value or what they think are the benefits of Gaia-X, are mainly related to sharing data in a trusted environment, but also to securely connecting different data pools.

What's also interesting, what I wanted to share here while we're talking about it, is that not only manufacturers or organizations in Europe, for example, consider Gaia-X as an important initiative, but also organizations in Asia-Pacific and North America. Generally speaking, and to answer your question, Annette, definitely standardization, data standardization is a major topic in the manufacturing industry, but also having those frameworks, such as Gaia-X, to ensure data sovereignty.

Annette: Excellent, Helena.

Helena: That brings me to another interesting topic or initiative that is going on, and that is mainly also under the umbrella of Gaia-X. And this is called Catena-X. And I think especially in the German-speaking countries, a lot of people that are aware of that data-driven manufacturing initiative are also aware of Catena-X. This is also a very interesting example of data systems for sharing, for collaborating and also for achieving various goals.

Just collecting the data is, of course, never an end goal in itself. It furthermore tackles certain contextualization and other goals. Sustainability is only one to name. Catena-X is one working domain on sustainability and later on, we are having a panel on that to discuss and enlighten that further. The second aspect of data ecosystems is, of course, for manufacturers to thrive in the future and to have data systems, and data ecosystems in place to generate new revenue streams. And we also see that clearly in this year's Voice of Our Clients data that generating new revenue streams while transforming is a big topic for them that they are discussing heavily.

Last but not least, increasing resilience. Annette touched on that at the very beginning. We are facing really a volatile VUCA (volatility, uncertainty, complexity and ambiguity) world and within that, it is really key to increase the resilience of organizations and collaborative systems with the data underlying might help us, of course. In a nutshell, of course, technology is an enabler. Data plays a crucial role and will, furthermore. What worries me a little bit is when I see the transformation pace of our manufacturing community, because compared to the other industries, we are 8% points behind all the data from this year's analysis when it comes to producing results from digital transformation.

Now we have this, I would say, very moderate evolution on the one hand, and we have huge challenges on the other hand. And so, I would like to pose to Annette the question again: how do you see the latest challenges within that climate debate?

Section 3: Role of sustainability initiatives

Annette: Climate debate is a big topic for manufacturers. Manufacturers are pursuing a highly energy-consuming industry, and nearly every manufacturer has made a climate pledge and has published a climate pledge. However, climate change is not a siloed approach. Manufacturers are reaching out to the wider ecosystem in order to make sure that partners contribute to their own activities towards getting climate neutral, reducing their greenhouse gas emissions (GHG). Also, climate change is a large investment. It's a driver for transformation. It's really the true driver for transformation. Those who are able to adapt will gain a competitive advantage from it. But Nicole, you've worked for decades in that industry, in that area. What are the manufacturers telling you?

Nicole: On the ground, speaking with many clients in the past six months, and even to exacerbate the volatile state of geopolitics and global supply chains, manufacturers must also address the new emerging legislation around sustainability and climate change. If we look at the EU taxonomies, CSRD (Corporate Sustainability Reporting Directive) and SFDR (Sustainable Finance Disclosure Regulation) policies, it's only the starting point for what's to come. Parts of North America and the rest of the globe, especially Asia, are looking at making legislation around this area.

Companies will need to prove externally with validated data their activities around environmental, social, anti-corruption, diversity on company boards, as well as sustainability factors on product governance, for example, things like reducing carbon emission and circularity. Now, as part of the Green Deal, the EU Green Deal is pushing the financial sector and the manufacturing sector and other large companies to reduce their emissions by 35% by 2030. A major lever in accomplishing this is the transition to cleaner energy and renewable energy. However, we are in a current state of energy crisis in Europe and other parts of the globe, and with rising prices and not enough energy in certain areas, how is the manufacturing industry going to deal with this challenge if there is not enough green hydrogen, wind or sun moving forward? This is something that obviously we need to address, not only as an industry but externally. That requires a lot of shareholder shared value and cooperation.

Sustainability is no longer merely an added value. It is now an imperative. It is an expectation that we have on business, and we need to consider economic, environmental and social factors in our business, both short term and long term. The manufacturing industry needs to collect data around ESG, environmental, social and governance, along their entire value chain. That is not only to report but also to mitigate and make scalable change in these areas. It all boils down to actionable data. So, Stephanie, what is IDC's take on sustainability?

Stephanie: Nicole, you said it already. Basically, manufacturers must comply with the sustainability regulations that are, of course, enforced by law, but also increasingly by customers and financial institutions and the investor community. My perspective as an analyst on this is that in the past, manufacturers used to design products based on costs and performance and use. This is a key selling argument and the key selling factor. Going forward, this will change. The key selling factor in the future will be sustainability and recyclability. So that's a big change. As you also touched upon, Nicole, companies would need to prove, with externally validated data, their activities.

As an analyst in the IT industry, there are lots of digital technologies out there and they will play a major role to support these efforts. Think about IoT technologies that enable track and trace solutions or cloud-based platforms that enable the integration of relevant stakeholders in the supply chain or in the supply chain networks. There also are increasingly applications that help to track and calculate CO_2 emissions. So why am I saying that? Utilizing digital technologies and platforms enables manufacturers—as you said already—to reduce CO_2 emissions in the supply chain or intel or they can help manufacturers to decarbonize their production.

Also, super interesting is that different platforms can enable manufacturers to engage in initiatives that are either about reselling or reusing remanufactured components, just to mention a few examples. At IDC, we do some extensive research on how sustainability is embedded in operations or how manufacturers today embed that in their strategies and operations. An interesting but not really super surprising topic here is that today, sustainability is actually among the top business priorities of manufacturers. However, there is a slight difference. We see that manufacturers in India and Asia-Pacific are slightly ahead when it comes to their focus on sustainability within their business priorities compared to North America. That's only a slight difference, but I thought I'll mention that. In a nutshell, from our perspective as an analyst, what has really changed compared to past years is that sustainability has moved and entered the key strategic priorities of manufacturers.

Helena: Just to build on what you just said, Stephanie, this is absolutely congruent with our [CGI Voice of Our Clients] data. We see it both as a top industry and business priority trend, the topic of sustainability. What you said is there are so many interesting aspects and technologies that we can use for that, just to name the example of additive manufacturing, right? For example, in the aerospace industry, there are parts produced with the help of 3D printing. Ergo, the parts are becoming much lighter. Ergo, you need less kerosene to start the aircraft. Ergo, you have fewer emissions coming from the aviation industry.

I think it needs a lot of creative potential and also innovative spirit to rethink the way we produce. That goes alongside the whole lifecycle of things. So, how do I source my raw material as a manufacturer, or how do I produce the parts? Which kind of wastage is getting there? Which kind of wastage am I producing in my own final assembly or production? And I think also the frontiers between B2B and the classical consumer are becoming a permeable membrane in the sense that we need to include within the customer experience the user behavior and how users are using a system or a product.

What you just said, Stephanie, as well, how might we use raw material or parts that can be refurbished, reused and re-manufactured to create a so-called circular economy, which is not really a super new topic, but it's gaining more and more in importance the longer we talk about the climate topic. When I'm speaking about suppliers, raw material suppliers, parts suppliers, that obviously leads us directly to one of our next topics, the supply chains, which is really a big topic. Annette, a word on supply chains.

Section 4: Adapting supply chains for resilience

Annette: Thank you, Helena. From a supply chain perspective, we should start with the observation that globalization slows down. The question is, if de-globalization is prioritized in short term, the pandemic itself has demonstrated the fragility of global supply chains. Russia's invasion of Ukraine has demonstrated, again, the global dependencies on economies and supply chains. However, the need to adapt supply chains to become more resilient is imminent. Stephanie, how do you see how manufacturers react to that and what they are doing in order to achieve this resilience?

Stephanie: As you said, supply chains today are super fragile and there are still disrupted supply chains. Think about COVID-19 and the strict lockdowns in Shanghai and the port of Shanghai. You mentioned that there's a supply shortage due to the Russian invasion of Ukraine. Local sourcing is something that we have been discussing with a lot of manufacturers, in particular, over the past two years, as a result of COVID. Rather than relocating sourcing, what we observed are measures relating to increasing stock levels or safety stock to avoid production standstills. Changing sourcing strategies towards local sourcing certainly can be an option and part of the new overall sourcing strategy, but we do not consider it as a radical trend, per se.

And currently, what we partially also see is that what you were calling de-globalization strategies are partially failing due to the skyrocketing energy prices. Nicole, you already mentioned the rising energy prices. As a result, for some production sides, this can be a severe threat and can partially mean that there will be even temporary production shutdowns, which again means that from those sites, no supply can be produced. But definitely, appropriate sourcing strategies will be on the top of every supply chain manager and manufacturing organization. Again, our research shows that for every fifth manufacturer in Europe, supply chain disruptions were the most global, impactful trend they will have to face in the coming months and years.

We believe that given the current geopolitical situation and a business environment that will continue to be volatile and uncertain for manufacturers, it will be above all, and you mentioned it already, Annette, that they need to have a resilient supply chain.

And what are resilient supply chains? This sounds easy, but it's not. Manufacturers will need to make their supply chains more transparent and more agile. We do see manufacturers already investing in making their supply chains more agile. In fact, two-thirds of manufacturers are heavily investing in that. This includes, for example, investments in initiatives like making the execution of transportation more flexible. This can also include making product designs more flexible enabled by multiple sourcing of components. This can also mean implementing inventory strategies that are more flexible, such as warehouse capacity, so sharing warehouse capacities. It can relate, of course, to supply diversification not only on a tier-one level but also on tier two and tier three. So again, we are an IT analyst firm and we observe what role digital technologies play to make supply chains more resilient. They play a key role, right? Just thinking about technologies like cloud platforms, again, IoT, data analytics and automation. Resilient supply chains are a key for manufacturers today.

Annette: I just wanted to ask you for your opinion, Helen, on that.

Helena: Excellent. Just a few words of completion on what Stephanie just touched on. In the current Voice of Our Clients analysis, we also see that. We pose the question about whether there is certain repatriation of the production taking place or bringing the production into the country. And there was not so much an impact. It was a quite low number of manufacturers responding that this will be a key topic for them. Nonetheless, the reconfiguration and potentially also the shift towards other geographies, however, this is a topic that they were discussing quite heavily. For us, it's also to see with curiosity, where will this be going? Taking into account what you just said, the warehousing, all the technologies around enabling warehousing, and again, what we touched on at the very beginning also for ecosystems—how might we collaborate as ecosystems, participants, maybe even competitors to ensure our warehousing? We don't know where the journey will be going. Nonetheless, I think it's a very interesting one to perceive.

Supply chains, I think is one topic. It's not the only challenge that we are facing. When we ask our manufacturers, "what is keeping you up at night?" of course, that comes very, very early, the topic of the shortages in the workforce and the lack of talent that we are facing, especially within the IT sector. Annette, from a more macro overview, what would you say about these demographic changes?

Section 5: Changing demographics and talent shortage

Annette: Demographic changes have a major impact on the future, Helena, absolutely correct. According to the OECD, the world population will hit the 10 billion mark in 2050, less than 30 years from now, and the growth will come mainly from Africa, followed by Asia, while the developed countries are facing an aging population. The OECD countries will have the percentage of those 65 and older increase from 17% to 25% in the upcoming years. And for the business, the impact is that we will face an increased shortage of talent. At the same time, everything will become digital, so we need the new technology and the skills for these new technologies. This forces the industry to rethink the integration of underrepresented populations into the labor market and to reconsider new concepts of learning and training. I guess this is something that you already mentioned, Helena. A shortage of talent is what our manufacturers are facing already today, and it will be even worse in the future. So, what's your take on that?

Helena: For me, it's mostly, I would say, access. We are dealing with multiple generations under a rooftop of an enterprise—manufacturing enterprise, IT enterprise, you name it. Several generations mean we need to find answers for these different generations, because not every generation has the same challenges, needs and requirements. For example, Generation Y and Z come into the labor market with a clear understanding of what they want in their work life. On the one hand, they are demanding, they are requesting, they are really knocking with their hands on the table. You need to answer the question about how sustainable you are as a company, and only if you will answer the question to a satisfactory level, we, as Generation Y and Z, will be willing to work for you.

On the other side, we have a generation that is now becoming more and more aged. I call it Generation X or still the Baby Boomers, but call it Generation X that has years of experience, very experienced people also in the manufacturing areas that know the processes by heart, which are not always documented and I would say in due diligence, there is no paper to be read. It's all in their heads. These people need to work even more and longer. We also need to motivate them and to keep them in terms of data ecosystems, data-literate males, so that they know about data as a product and the power of data. On the other side, it needs the right leadership. At the end of the day, I would say it's leadership, it's the lifelong learning mindset that we all need and motivation. Maybe with these three ingredients, we will be able to successfully drive through that path of workforce shortages. I would like also to have Stephanie's opinion on that because I'm pretty sure you have some more insights.

Section 6: Overcoming the skill gap in manufacturing

Stephanie: I mean, they pretty much relate to what you just said. Maybe I have a different way of viewing the topic and how we do some research on that. Basically, I agree with everything you said, but the way I look at it as an analyst is that for sure, attracting and retaining talent is a key topic in manufacturing. That's a key topic in every conversation we have with manufacturers, not only in IT but also in the business areas, in engineering and production. I view this from two angles, as well. First thing is that there is a skill gap in various areas and this gap needs to be overcome. And then, closely related to that, is how to enable new ways of working, how to enable especially remote work concepts and hybrid work concepts. Talking with you about the skill gaps and you said specifically the skill gap in IT, that's the same thing we observe.

There is also an increasing lack of capability of people who are able to develop smart and connected products. We see a number of industries where this is a problem. The situation is, in particular, challenging in the automotive industry. For large automotive OEMs, it's not really a challenge to get the right profiles of talented people, but it is a severe challenge for smaller automotive, tier three suppliers. If it's a problem for those, it will soon also become a problem for the automotive OEM. That's a big issue, actually.

What's also a severe problem is that there is a lack of experienced service and maintenance engineers because a lot of them are reaching retirement age. This particularly applies to industries such as oil and gas or chemical industries. The thing is, as you were mentioning, the younger generation, the new talents, have a tendency to prefer working in more glossy, fancy industries. Industries such as oil and gas or chemicals might have to do some extra effort to attract ambitious people with the right skill profiles.

As a result of that shortage of skills, digital technologies will play a major role to augment lesser trained and less experienced profiles. We do see a lot of initiatives in that area, so providing work instructions on smart glasses or providing relevant information on tablets so that lesser trained and less experienced workers can carry out tasks swiftly or make better decisions based on that information or data they get.

As I mentioned at the beginning, attracting and retaining talents goes basically hand-in-hand with enabling new ways of working, as the younger generation does expect that. Technically, this will be about enabling remote and hybrid work concepts. The challenge here will actually be to provide the same experience to workers, whether they work on-site or whether they work remote. The good side of things here is that on one hand, attracting talent becomes easier and it doesn't matter anymore where people live. But the big challenge here is—and I haven't heard any best practices yet so far—but the big challenge is to onboard those new and remote staff. Organizations will have to come up with appropriate concepts. So super critical topic. Lots of things need to be discussed here.

Nicole: The question also is, will sustainability help in hiring and attracting new talents? If we come back to the conversation about long-term strategy and decision-making, as you said, Stephanie, we need to be able to educate and bridge that skill gap. Companies will need to find and consider ways to bridge the skill gap, as well as invest in their employees and communities instead of relying on individuals to cover the timing costs. To do that, they need to help develop the new skills needed in the workforce, as well as the manufacturer.

If you can find what you have in the market today in terms of the right skills and competency, you need to find ways to invest to build on that, to develop more people. And you're definitely right, I completely agree—the hybrid way of working is normal now and expected post-pandemic for jobs that were in office. But if we look at manufacturing, premises are still essential and it's necessary to be on the floor. What we're seeing now is the use of IoT to measure and to mitigate and also to develop new safety measures for employees. And this is really interesting. What I see in terms of sustainability overall is that businesses that are more transparent, that are more inclusive, that are more engaging with their employees, are actually showing lower attrition rates. This will make a big difference moving forward. Helena?

Helena: I would say just the final conclusion on what you just said, Nicole, especially about the transparency that leads us to how an organization is structured, how the leadership personnel is treating the workforce, how the interaction between employee and employer is taking place, and also how flexible are they in taking parts of the decisions and contributing to the goal-setting of the company. I am truly and deeply engaged in all these kinds of leadership topics for 20 years. It's something that's really near to my heart. I think also for manufacturers, we need to redefine the way we work. We become agile, we constantly train our people. For sure these will be ingredients to be successful in the future as a manufacturer. Back to you, Annette. When you hear us three talking, what are your thoughts on that?

Section 7: Key recommendations for manufacturers

Annette: It's fascinating to listen to your insights. Thank you very much, Stephanie, Nicole and Helena. In order to allow our audience, our broader audience to ask questions, I would like to ask you for your final conclusion. What is your recommendation, your key message for the manufacturers when they are returning after this event to their desk? What should they start doing Monday morning in order to secure their success? Maybe we can start with Stephanie.

Stephanie: Annette, as you stated at the very beginning of these sessions, we are at a turning point in the history of manufacturing. I think that's because I believe that manufacturers need to start to embrace the fact that the future will continue to be volatile and uncertain, that's step number one. That's a fact and that's different compared to the past. Therefore, manufacturers will have to ensure resilient operations not just in the supply chain, but also having a resilient workforce, having resilient back-office operations. What's also important is not just to ensure resilient operations starting as of Monday, but it's also important to ensure having capabilities and strategies in place to build upon any change in conditions. Because it's important to not just survive in the future, but also, and Annette, I'm quoting you here, it's also important to thrive. So that would be my conclusion here.

Nicole: Very good points. To the industry and leadership, some things to think about and take away is that the industry and leadership need to go beyond short-term decision-making and "carbon tunnel" vision. We need to look at long-term strategies that consider all possible impact outcomes. Sustainability is no longer an added value or something just nice to do. It is an imperative to business. Emerging legislation, geopolitical instability, supply chain disruption, the rise of carbon trade, shifting consumer behaviors even are all intertwined and connected in corporate sustainability. Navigating through these shifts and balancing out economic and environmental and social pillars within the business requires relevant and actionable data. That's my last message to you all. Annette?

Annette: I would say the last word goes to Helena.

Helena: I think that fits quite well with what you just said, ladies. Multi-criteria decision-making is one of the words I love most in volatile times. What does that mean? When you go back on Monday morning to your shop floor, to your factory, I would like you to take with you the message of scenario thinking. What Nicole said, but also what Stephanie said—yes, it's of course, all about data, but I need to contextualize the data and build different scenarios which I can act upon. The world is not really predictable and that means we need to work in approximations and therefore we need certain scenarios.

For sure the reality will divert a little bit from the given scenarios. However, we can do this approximation and therefore become more resilient. Go back on Monday morning to your shop floor, talk about the scenario thinking with your business colleagues, with your IT colleagues and ideally come up with a kind of a creation ideation design thinking workshop where you can work upon such scenarios for your specific environment. And that's my key takeaway for today. Back to you Annette.

Section 8: Audience Q&A

Annette: Thank you, Helena, thank you, Stephanie, thank you, Nicole. If you want to ask a question to the panel, please add your question in the chat. I'm going to open now another screen to see what questions have already been raised. Let me just check. Here's the first question: someone would be interested to hear your perspective on whether sustainability and growth can both be achieved. Maybe that's a question, Nicole, that's just for you.

Nicole: Yes, absolutely. But you need to find the right levers in the right areas of sustainability that are relevant to the company and within the company's reach, within the manufacturing that you do. If you're reaching for something that has nothing to do with your main purpose in a company, it makes it very difficult to make that profitable. If you connect that and you integrate it within your business and make it part of your business model, absolutely! What we're seeing is companies becoming more successful, more lean in their operations and just understanding their entire value chain much better. So absolutely, there is growth that can be achieved.

Annette: Thank you, Nicole.

Stephanie: I have actually a very pragmatic view on that to add to Nicole. I think that without being sustainable and without having sustainability embedded in operations, there will soon be no growth, right? Customers require it, financial institutions require it, law requires it. It just needs to be embedded to achieve growth.

Annette: Thank you. Wonderful statement, Stephanie. Let's go to the next question. This all sounds great, but many manufacturers I know are really struggling against a backdrop of old machinery, data collected in multiple ways, in fact, very messy and complex requirements. Yet being data-driven feels like the way forward. How do we move forward? Maybe Helena that's a question for you?

Helena: I think the topic of digital continuity within the core processes is really a question that drives a lot of manufacturers. So of course, we are not on a green field where we can design everything from scratch, new and do not have our backpack of legacy. I think the important thing is—and we were discussing that also entirely with the data community within CGI—to, first of all, have a look at where are your most important data sources. So which core system, source systems are affected and what is the purpose you would like to achieve with extracting data from that? Extracting different data from different source systems is only one task. The other task is to align that data and to form a so-called, I would say, golden data record. No matter if you are having the hat of a COO on your head or if you are the CIO of a company, you need to have this golden data record. For the person who put this question, happy to get in touch with me, I'm happy to set up also a joint call for that topic of data-drivenness because within the remaining minutes it's too complex to give a simple answer on that. I only can tell you data record, a golden data record is a potential first answer, and using the concept of the digital twin may be a second answer in becoming data-driven in manufacturing.

Annette: Thank you, Helena. I am trying to address maybe one or two questions before we come to the end of the session. The next one is a very important one, I guess, as well. For us, security is the number one priority. Surely, this is something all manufacturers are challenged with right now. What is your perspective on that, Stephanie? Talking to many manufacturers.

Stephanie: For every manufacturer, I'm talking to, security is a key topic. We talk a lot about the supply chain and new ways of working. I'm wondering whether cybersecurity has actually become an even greater threat than supply chain disruptions and supply shortages and skills shortages. We do see quite a lot of manufacturers and examples of manufacturers that have had to stop their production due to cyber attacks. I think it was last week when again, another agricultural manufacturer announced that they need to stop production because of the cyber attacks. Cyber security should never, ever be underestimated. And manufacturers need to invest much, much more in that.

Annette: Helena, we've got our latest Voice of Our ClientS data this year. What are they saying with regards to cybersecurity?

Helena: It's interesting that especially the C-level, so CXOs that have been interviewed about cybersecurity, they even state the OT and IT security priority higher even than sustainability. Both priorities are very highly ranked. If they needed to choose between the two, they would rather go for the security topic, saying the potential risks and the potential damage to production, reputation and financial losses would be even higher rated. I would absolutely underline that. On top of that, when we look to the OT, the operational technology on the shop floor, this has been designed to produce at a large scale, to be robust and to produce parts or products. This technology has not been created with security implemented and security by design. Of course, for the moment, being in that overlapping time in which we live, we have to take care of that. First of all, we have to assess where the backdoors and the open doors are. Then, later on, we have to mitigate the risks. And at the end of the day, then you have to take, as a CEO of a company, the level of risk to take, because that's, of course, an entrepreneurial decision to make.

Annette: Thank you so much, ladies. Stephanie Naujoks from IDC, thank you for your insights. Helena on the call. It's a pleasure working with you and thank you for sharing your insights. We are at the end of our session. I would like to thank the audience for your interest. We're entering our five-minute break and see us afterward again. Again, thank you so much. Have a wonderful session. Bye-bye.