

Kuehne+Nagel's Inside Semicon

Episode #5

Modernising logistics for Semicon

Intro (00:03.318)

Welcome to our podcast series Inside Semicon. And in today's episode, we were discussing how the Semicon industry is helping to modernize logistics. We are featuring a special guest who will tell us more about her take on Semicon logistics and what has changed in the past.

Tom, John (00:23.182)

Good morning. I'm your host for today, Tom Mulders. I'm here with two people this time. So I'll give the word to John and then to Renata. Thanks for having me again, Tom. So good to be back. So for those of people who don't know yet, my name is John Desmond. I'm the subject matter expert on semicon and over to you, Renata. Hey, my first podcast. I'm so excited.

My name is Renata. So I'm currently working as a global sales standard manager for Semicon and healthcare. So I'm very excited to be here today and share some insights and experience with you guys. So thank you. Thank you again. you for coming. Thank you for coming. So Renata, tell us a little bit more about yourself, about your background. Okay. So I'm Brazilian. So I started in Cunha Naga, Brazil in 2011. So

Renata (01:30.182)

I have been always working sales, so focusing on customer development and customer retention. So basically managing tenders, monitoring performance, also working on some process improvement projects and so on. I then, so I stayed in Cotonago, Brazil for seven years.

Then I moved to Chile and then I stayed there for four years. but my focus there was a little bit different than in Brazil. So in Brazil was much more focused on the healthcare sector and then in Chile it was a mix. So I was concentrated on healthcare and also consumer and then there was an opportunity to come to Europe. So to move to Hamburg. Now I am in Hamburg for two years already and

And here in Hamburg, I had the opportunity to start and work on some semi -con projects. that's where we first met when we got involved with semicon. Exactly, two years ago. Two years ago. Semi con Europe it was. yeah, yeah. So good. yeah. then I have been working with John in some semicon projects, mean, tenders for sure, but also in portfolio management and development, also governance.

Yeah, I think it was a great experience to understand much more about the industry. because initially my knowledge was pretty basic. and John was like a mentor. He could give me another perspective and amplitude how the industry really is. Because I knew about microchips that silicon was, I mean, is a major element the engineers wearing the white bunny suits, working in the cleaning rooms. This is what I knew. But then I had the opportunity to attend the Semicon Europa with you, John. So I could understand much more about the entire ecosystem, which was a great experience to see how sophisticated and detailed the manufacturing process is. Exactly. And I also had the opportunity to work in tenders for sub-fabs and also for the equipment manufacturers. it was a different experience, different requirements. So I think this industry requires a lot of specialization.

I think during those two years I have been learning a lot. I think that's one of things, Tom, we were talking about as well earlier on was how does this, how has it affected, still have and we've had many discussions about the semi -con industry and how it has changed the project management, the RFQ, the tender process. Because as you mentioned, the ecosystem is quite complex. It's not just a matter of shipping product from A to B, Tom. It's not just brown boxes. No, it's not just brown boxes moving from A to B. It is quite an intricate part of the logistics supply chain. we've had to actually, and I think you would have seen this more Renata, we've had to actually step up our game in terms of what we can provide to customers. And I suppose that's something we discussed Tom as well, was how do we get ourselves prepared for the next gen of devices, the next gen of processes, because they're continually evolving and it's something that we need to continually look at. And while myself and Tom have discussed it at a high level, it's good to have someone like yourself here because

John & Renata (04:59.968)

You probably see firsthand exactly how that has changed over the last two years since we first started working together on Semicon. So for you, how do you think that that has evolved in two years? Have you seen a change in the knowledge you've had to correlate and co -relate to allow you to put tenders together? Yes, yes, John. So I think so. The entire ecosystem is so complex and there's 100 types of requirements like temperature control, like you need to be Nice exposure is another one. That's a good one that's coming up a lot recently. So temperature, humidity control. Humidity control as well. Vibrations. exactly. So safety is also something very important. I think during those two years, could, yeah, I have been working for healthcare for a long, but I could see that as health care in a different perspective, but semi -con has its own requirements, high quality standards. also, we need to provide a special care. And this is why I think during those two years, I think that with all the investments that the industry is doing right now, so for example, here in Europe, they want to expand a lot and invest in lot of manufacturing companies. I think Semicon is a modern technology that we need to focus. So what I'm curious about is your healthcare background. You have quite an extensive background in healthcare. Has that helped you to understand the semi -con industry quicker than others maybe? I think so. I think so, Tom, because I mean, for sure, semi -con has its own requirements. It's different, so it's high value cargo, very sensitive. But I mean, also in healthcare, there are a lot of standards. And then this for sure helped me a lot to connect and contribute more to all projects that we have been involved, I think. Yeah. Okay.

Tom & John (06:39.968)

And John, in your opinion, what has changed significantly in the last, two, three years? For me, I think in my personal opinion, what has changed is the amount of, like Renata said earlier, the requirements are getting more and more, they're getting tighter and tighter. Not only from a security point of view, but also from an insurance point of view. Because a lot of this cargo is basically high value, not just the equipment itself, the CapEx going in could be worth anything from 1 million to 150 million, but

the finished goods are actually worth a lot of money as well. So you basically would have a palette of microprocessors moving around. That palette is worth a lot of money. So the security aspect of it, the insurance aspect is something that we've had to also come back on and revisit to understand what kind of insurance do we need and what's the best route because that also affects the actual logistics supply chain. Do we want to be going through areas where it's a slow moving truck? There's a possibility the truck has to actually pull in overnight. Is there a guarded location for that truck to go to as an example? So the security element of it, the security insurance element of it is something that has really come to the forefront.

I think, John, the industry has seen the emergency to have specialized providers, right? To understand the unique aspects of the industry as well. So high value, all the risks that we have during the transportation. So I think we need specialized providers, so insurance providers, to support our customers. And policies should be tailored as well to those risks, I think. I think what I see with my customers is that they also expect certain level of professionalism within the semi-con industry, right? They expect you to have not only the experience, but also the knowledge of their products and also to provide an option B, C, D if at the moment they request it, right? And, Tom, this is something that I realized when I was in Semicon Europa. So what was interesting was, I mean, to see person, you know, the equipment and everything.

Renata (09:47.97)

I mean, it was like a real eye-opener for me. But not only to see the huge machines, but also all the materials and tools behind of it, so that contributes to the manufacturing process. And I think we need to understand the product. then there I could feel more connected, and I thought, OK, I can contribute more especially how we can provide different solutions and alternatives to our customers. Because when you see the product, you notice they are sensitive, high value, they require some specifications. then I think it's good when you real see physically see it. I think that's one of things as well that lot of logistics providers or people in logistics need to be aware. It's good to visit these fairs. It's good to understand what you're shipping. Because when you physically see it, as you said, the ecosystem goes from shipping fluids and substrates to devices that cut up the die, actually physically rotating devices to devices that are bending E-beams around circles. by physically seeing that, it puts your mindset into a avenue because then you suddenly have to go, well, actually what I'm shipping is not just a box, but it's what's in the box. And this is why it is so important to have a dedicated supply chain for Semicon.

And I think for me that was also going to tie in nicely with the fact that when we do have an RFQ, I think for a semi-con is probably a bit longer. Again, you'll be the expert around on this, but I think that the semi-con RFQs and project management of that would probably be longer than a regular say shipping, know, t-shirts or consumer goods, you know, runners or... No, absolutely. We need to evaluate different aspects. Not only, I mean, the transportation part in terms of moving to A to B, also the quality standards that customer requires, all the specifications in terms of product like temperature control, physical, I mean, we need to provide different solutions like physical monitoring, for example, to prevent any kind of situation and we have more visibility. So it's, we need to really on this. So that's why I see the product and understand everything. So it helped me a lot, I think, to work on the tenders. And again, I think this sector requires a lot of specialization. And I think that the more that I learn and more that I experience different scenarios during the tenders, so because one requires some speed, some, so you need to send quickly depending on the required specific transit time. And some of them temperature control, other DGRs. So we have gases as well. So isotanks that we need to also provide any kind of solution. So that's why I think requires a different analysis. So that's why preparation is a very important topic. So we need to be prepared to the tenders for sure

before. yeah, by becoming an expert, I think we stay more competitive as well. And we can also provide an offer with more quality. think the offer for instance, like, because again, like, I'm in town, we're like, you know, again, talking with this on the car right here.

It's quite hot here today in the Netherlands and I was just kind of rethinking about a story that when you ship from, let's just take there's a microprocessor manufacturing company in Ireland and they were moving products from Ireland in the summer, Irish summers would not be particularly warm to say a location in Arizona. You could have a 30 degree centigrade difference from point A to point B. So when you're looking at that from an RFQ point of view,

Tom, John & Renata (14:33.27)

You didn't have to understand that if this is moving from point A to point B, it's a microprocessor, then there's a 30 degree difference. is the reason why then we would have to suggest back to the company, to the customer, well, you will need temperature control because of this reason. But then as you said, Renata, if you didn't understand the actual ecosystem and how this works, you would not think about something as simple as a temperature difference of X or Y, Z. So you have to actually also be prepared to understand I'm shipping in the summer, I'm shipping in the winter and how this affects therefore we have to recommend temperature controlled, know, ULDs for instance. Routes, different routes. Okay. So what do you think is going to change in the next, five years? In terms of, in terms of microprocessors or in terms, sorry, terms of logistics. The logistics. mean, yeah, I've had a crystal ball and I would have bought shares in Nvidia a long time ago, but it's, it really is, it's a continually, I say, changing environment that we're that we're dealing with and it's also going to come out of left field, the requirements. But I think from your point of view, Renata, it's changing continually as well. But how do you see that? Well, I think for sure, as we mentioned before, insurance, they will become, I mean, it's key. So I think the industry requires some specialised providers.

Also, think control environments. in terms of, I mean, personal that knows how to handle, so all the containers and vehicles that needs to have this clement. I mean, this is something that we need to focus in terms of, because we need to provide this special care to the customer. I think, so in haste also the protection ike packaging, think, as I think we were discussing here before. these, mean, new seals and new tracking devices. So I think this is going to change. I mean, technology will, is moving fast and changing. So I think we will see also some different aspects on this. think one of the things we've touched on before is the fact that not only do you have like temperature, humidity control, which is kind of standard for most electronic devices. But then with Semicon, you'd have light exposure. Certain of the substrates that we ship for an adder, for instance, they can't be exposed to light. So we have to measure that. But then we have the tilt and the crush watches. But now we actually have the like we have X, Y and Z, you know, the tilt and yaw within the particular transport mode that it's leaving on. So we have to measure that as well.

John (16:55.358)

And in some cases, it even goes to the G -Force. And we have touched on this, and this is probably for a future podcast on how we track these devices. for me, think, go back to the previous question, Tom, on where we're going here. It's like G -Force even is something on takeoff and landing, especially in the air, that we might find in the future as the machines get bigger to produce smaller chips, then we're suddenly faced with that the moving parts there that even G -Force could actually upset the device inside that we're shipping. So I think those elements as well and vibration, because once you do land, you still got to get the product from the airport to the factory, to the location. So then you're putting it on a truck. Regular truck. Regular truck. So yeah, that won't do it. That won't cut it. So then

we have air ride trucks. But then I'm sure as time goes on, we're going to have to improve that as well with a new form of suspension or a new inertialess movement that can actually allow the truck to rotate going around corners or coming to stop suddenly or whatever. So think that's also going to be a continual development of the supply chain that we provide. But then on the flip side of it as well, we also have to understand how we move this along in terms of our basic, what we can provide, what we can provide. But that's where it's so important as well to work with the customer during these RFQs to really understand the ones and zeros of what they need. It's not just a box moving from A to B. It's too valuable for that. exactly.

Tom (19:00.000)

Okay. Well, I want to thank you again for coming today, Renata. Really enjoyed your presence. Thanks again, John, for joining. Thank you very much for having me. And see everybody next time. Thank you for listening to our podcast series Inside Semicon. If you're interested in finding out more, go to Kuehne+Nagels website or you can find our expert, John Desmond, on LinkedIn. And don't forget to like, subscribe and follow!