THE FUTURE OF SUPPLY CHAIN

Logistics in the 21st Century: The Journey to the Cloud

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[00:00:22] **Richard:** Welcome to the Future of Supply Chain, a podcast where we discuss hot topics, best practices, and the latest innovations in today's global business. I'm Richard Howells, and I'm joined by my wonderful co-host Oyku.

[00:00:35] **Oyku:** Hello, everyone. I'm Oyku Ilgar, a marketer in the blog podcasting and supply chain in the ERP area at SAP. Today, we are diving into how logistics is evolving, especially from SAP's perspective, and what the journey to the cloud really looks like. And to do so, we are joined by SAP's Till Dengel. Till, pleasure to have you on the show again. Could you please introduce yourself for those who may not know you?

[00:00:56] **Till:** I am very happy to be here again, Richard and Oyku.
[00:01:00] Till Dengel, at SAP, I run product marketing for our logistics asset and field service topics.

[00:01:08] **Oyku:** Great. And before we even get into modernizing logistics, I wanna ask a simple question. As a company whose logistics operations are already running smoothly today, why would I even think about changing anything?

[00:01:21] **Till:** Good, good question, right? It depends on where you want to start, right? If your business processes didn't change in the last 20 to 30 years, then you may just be fine with the software you've implemented. But in general, Oyku, what we see in logistics is that. Logistics, I would say, from even 10 years ago is not the logistics that we are seeing today, and there are a couple of reasons for that, right? If you look a little bit into the history of logistics, it's been fairly focused on efficiency and driving cost out of the supply chain until recently, and recently, I would say the last maybe five, six years, starting with COVID when [00:02:00] suddenly. Logistics came to a halt globally. Then we have, of course, other incidents. We now have tariff wars, we have global trade

wars going on, and other incidents where roads and pathways are blocked. And I think with that change, logistics is also changing and not just focusing only on efficiency, but also on how to cope with resiliency and agility to deal with these increasing supply chain disruptions. So I think that's one of the main things. And what happened in the past few years was also that we now have providers in the market. Driven by a lot of venture capital that flew into the space or that went into the space, um, that provides visibility across the supply chain. So you get a ping of every movement in the supply chain, every 15 seconds. And this is something where you can today react and be much more agile compared to 10 years ago, when this digital representation of the supply chain was not available. And then there are a few [00:03:00] other things. One, if you look at logistics, the past, it was very ERP-centric; it was built in the core ERP system, and today, logistics is much more centralized logistics execution that connects to one or multiple ERP systems. So I think that's important. And when you look at it from how our customers are running logistics, they are now running a really multi-tiered supply chain with very local logistics operations, sometimes where you have large warehouses needing to interoperate with small warehouses, driven by logistics processes where customers are trying to get even closer to their customers to deliver even faster. All of these changes are really changing the logistics landscape. Two more I want to mention. One is talented in this space. Very different generation. Take myself, working a long time in this space, and now, like digital natives coming into this space, they wanna work with different systems. They are, they [00:04:00] want to operate differently. And then the last thing, of course, is the technology disruption while we were. On premise in the past. Now everything is in the cloud. AI is everywhere, right? AI will reshape business processes as we go forward. So I think those are, in my perspective, the main reasons why companies think about modernizing their logistics landscape.

[00:04:22] **Oyku:** Mm-hmm.

[00:04:23] **Richard:** That's a great summary of what's been happening in the last five to six years. It's certainly that the world has changed. Business processes have changed. The business systems have to change to be more resilient, enable more visibility, and improve collaboration. And the people who are working in our supply chains and our logistics processes have to evolve as well to embrace new technology. So with all of this change, and change is the constant there, how has it been supporting customers in the modernization of their logistics [00:05:00] processes and business systems?

[00:05:01] **Till:** SAP has been in this space for over 30 years. And I would actually break it down into different generations of software and solutions we

provided in this market space. And it started with our ERP system, our core, ECC, with logistics components, logistics, execution, warehouse management, LE-WM, for many that are listening to this, they probably still have this implemented, or LE-Transportation. So logistics, execution, transportation. The modules were called at the time. That's the first generation. They were built on an on-premise architecture. They were deeply embedded in the processes, outbound, and also inbound, in the core ERP. And of course, if we look at it today, it's an aging innovation cycle, right? It's software that was built three decades ago, which is no longer where software should be today, but of course, they're running very stable; it's been good [00:06:00] software, and it's still running at many of our clients. And then there's the second generation, from 2005 onwards, this is where advanced logistics was born around our business suite on the Net Viewer Foundation. We had extended warehouse management at the time of its birth. We also had our transportation management a few years later, coming in. And that logistics was for the first time independent, as a standalone system that could talk to an ERP system, but it was designed as a standalone logistics system. And it was designed for high-volume business, highly automated warehouses. It was built for complex global transportation networks, and it was sitting next to an ERP with a dedicated infrastructure to support that high-volume business with very quick, very short response times, in the warehouse with radio frequency devices and other things. So dedicated infrastructure for [00:07:00] creator control for our customers. But that was the second generation. And then the third generation is actually our S/4HANA, where S/4HANA Cloud Extended Warehouse Management and Transportation Management, also available as a standalone solution, to support this high-volume, complex business. It can also connect to one or multiple ERPs. It can model global transportation networks. It already connects to freight networks of carriers, for example, and visibility providers. And it comes in the cloud with a dedicated and scalable infrastructure and high configurability. That is also available. And then the latest addition to our portfolio is Logistics Management. And for those on the podcast who may not have heard about it. We launched in February this year. The solution is now generally available. It's called Logistics Management. It's a SaaS native product, and we built this product to [00:08:00] complement our S/4HANA Cloud Extended Warehouse Management and Transportation Management. So, what do I mean by this? S/4HANA Cloud, EWM, and TM run in high-volume operations, right? Global DCS, very large distribution centers, but many of the local facilities are smaller warehouses, local stock rooms, final mile warehouses, and things like that. They are often not yet in a digital world, and that's why we designed logistics management, which brings together warehousing, transportation, and a network of carriers for these local and regional and satellite warehouses. And with that, you can now build multi-tiered distribution networks consisting of large-scale extended warehouse management, for example, and then, last-mile and local warehouses

with SAP Logistics Management. So it's really been three decades with different solutions that are spanning across these three decades.

[00:08:54] **Richard:** Till there's certainly been a lot of evolution of SAP [00:09:00] solutions moving from on-premise and to cloud solutions, and then addressing facilities of all shapes and sizes, and so there's a lot of choice for our cu customers. So when modernizing a logistics landscape, what trade-offs should decision makers consider between speed of change, their y'own and their companies tolerance to risk, and the operational complexity of their business?

[00:09:28] **Till:** It's a question that many of our clients are looking into, right? How do I move from product into a newer product, and which direction should I take, and how do I balance, like you say, right? How do I balance the risk? How do I also map my requirements against certain capabilities? And I think from my perspective, certain frameworks always help. And I'm a big fan of frameworks. Using that across different business areas. And we found the framework in Gartner's logistics complexity model that we like to use. Let me [00:10:00] explain a little bit what I mean. So Gartner characterizes complexity in the warehouse and also complexity in transportation across five levels. So level one, for example, is a very basic warehouse, not really very digital yet, very manual, maybe a little bit automated. Then level five on the other side of the spectrum is a highly automated warehouse connecting you to warehouse robotics, for example, or warehouse automation, really large scale. So that's basically the breadth Gartner looks at, and similar for transportation level one, really being very basic transportation, very little consolidation. Mostly domestic and level five, really being multimodal, international transportation with fully automated transportation planning and optimization. So we like that model with L one 12, L five, and we basically break that model almost in the middle, right? So we would say from level one to [00:11:00] level three, that's actually the target space and the target market for certain products, and as I said, it's more manual, semi-automated operations, local or regional distribution, and limited automation, and usually it's a single mode transportation. And there, the new product that I described, logistics management as a SaaS native solution, is, from our perspective, a really good fit. Also, because of the standardization, right at that level, one to three. It's really standardized business processes. You take off the shelf cloud software. And then if we move into the very advanced logistics operations, level four and five, advanced and highly automated with the characteristics, like I said, international transportation, high volume distribution centers, network, with multiple year pieces connected and robotics and warehouse automation enabled, that for us is the prime spot for our S/4HANA based extended. Warehouse management and transportation management [00:12:00] in the private cloud. And why is that important, the private cloud? Well, because you have these high-volume requirements, right?

And customers want to have their own. Dedicated cloud environment that they control, they can scale it as they need it, and they can also configure a lot more based on their requirements, versus a SAS native solution that is much more standardized. So we really like to use this Gartner framework to basically point at these two different options that customers have going forward.

[00:12:31] **Richard:** Do you see companies that straddle different levels of this logistics complexity, where maybe parts of their business or regions are at a level one through three, and other regions may be at a level four and five?

[00:12:49] **Till:** Absolutely. And actually, we will have one of the customers at Sapphire in two weeks speaking about exactly that. So they have a global distribution business, which they're running [00:13:00] on EWM and Transportation Management on the S/4HANA cloud. And at the same time, they have small warehouses, for example, to provide spare parts to their manufacturing sites, which don't need a huge warehousing system, right? They need a small, nimble system that can be brought up in a couple of weeks. And also for sample operations, they have the right to store the samples, which also requires a huge warehousing system behind it. And they're using logistics management. So it's both types of operations, running side by side. And we see that around the globe. And since we've introduced logistics management to the market in February, we have had lots of customer engagements. And almost every customer, when you talk to them about this new product, starts brainstorming and saying, oh yes, we have these small warehouses sitting there and there in this region. We just acquired a company in that country, and they need some small warehousing. They immediately start thinking from that, even though they may have big S/4HANA transformations going on.

[00:13:56] **Richard:** So in that case, it's not an either-or. It's 'and'.

[00:13:58] **Till:** Yes, [00:14:00] absolutely.

[00:14:00] **Oyku:** Till, that framework that you mentioned, really helps make things more tangible, right? From understanding where you are on the logistics complex scale to deciding whether a stepwise or leapfrog approach makes sense. But if you bring this out of theory and into day-to-day reality, I mean, there are still thousands of companies running their logistics on ECC and Business Suite. So what guidance would you give them?

[00:14:25] **Till:** Yeah. Good, good, good topic. And absolutely, there are different journeys I would call them. Right. So I think the first journey is customers that are still on that 30-year-old LE-WM Logistics Execution, WM

module from the time of e-transportation. And they are asking themselves what to do. And believe it or not, we have customers who have hundreds of warehouses still sitting on that product. For them, it is important that while they want to move off of that product, eventually, they need some time, right? They need to move into the [00:15:00] future stepwise and step by step. And therefore, we introduced many years ago, I think it was in 2019, one of the interim holding patterns for these companies called S/4HANA Stock Room Management, which is pretty much the same capabilities that we had in LE-WM, minus a few capabilities, but in general, roughly it's a similar scope. So if customers are on their rise journey and committing to move into the cloud with us, they can use and continue to use those capabilities that we had in LE-WM, under S/4HANA stockroom management. So it's really for companies that want that stability and need to buy more time to do that transformation. It's really an approach that is rooted in this stockroom management, extending the life of what's already working for customers. And like I said, from our perspective, an interim holding pattern for logistics strategies based on that very firm foundation that we had [00:16:00] with LE-WM. So that's one journey, right? And then of course the next step could be from that stockroom management, either into logistics management, as the latest and current product that we released just this year. Or it could be, and that's the second journey I would like to describe, that you move into S/4HANA Extended Warehouse Management or Transportation Management basic, which are capabilities that are embedded in S/4HANA in the ERP license, basically, and come as basic capabilities. So this is really for organizations as they move to rise, for example, to come from their old LE-WM solution and move it to S/4HANA cloud, in that basic environment that I described. And then the question is, how do companies move on from that? They either stay in that area. If their logistics processes become more complex, they could move off of basic and into what we call advanced, [00:17:00] which is a more advanced capability. So if we go back to that model I described earlier, basic is level one to level three. And then if they wanna do more advanced automation, more advanced transportation planning, so level four and level five, they would move into the advanced, more than into the advanced license. The other journey I would like to describe, almost like a journey 2A, what I just described, and 2B are customers that are running not on that ECC LE-WM or LE-TRA I mentioned earlier, but that are running on the business suite that came into the market in 2005 on the net platform. So also these customers running very complex logistics already in that relatively old solution over 20 years, they can move directly to S/4. And then, the last journey I would like to mention, and for me that's actually the most exciting journey because you mentioned that Oyku, that companies can [00:18:00] leapfrog, right? So if customers are still sitting in that 30-year-old LE -TRA, LE-WM solution. They could now go directly from on-premise into a SaaS native environment for their simple processes, level one to level three, and go directly

to Logistics Management from LE-TRA or LE-WM. So this is really a journey from my perspective for companies I would consider more of the innovation leader. It's for organizations looking for rapid speed. In terms of SaaS adoption and logistics, drive into the future. And also for companies, Richard, what you have mentioned, right, that want to run these multi-tier supply chains and may look for some innovation on the edges or on smaller operations or mergers and things like that. And of course, with that, they are ready for AI. I mean, they're SaaS native. It's a multi-tenant and microservice-based architecture. So they're really ready for the future with such a move, [00:19:00] which is a game changer in my perspective. But that was a lot of explanation, but it's really these three different journeys that I would see for customers depending on where they come from. And every customer has a different starting point and potentially has two choices for an end destination. Either it's S/4HANA Cloud, or it would be SAP Logistics Management.

[00:19:20] **Oyku:** Thanks, Till, and for those of our listeners who want to deep dive. More on this topic, we've just published a complimentary blog for this podcast episode, which breaks down these journeys. So we are going to drop the link in the show notes.

[00:19:32] **Richard:** Till you've certainly laid out in very clear terms the roadmap or journeys for companies, with SAP from a logistics perspective. But I want to ask about the future as well, as we are on the future of supply chain podcast. So, from a logistics point of view. What do you see as the future of the supply chain?

[00:19:57] **Till:** Big question, Richard. Right. And I think we [00:20:00] can go back to what we started with, and I wanna touch on four different areas. One is that the future architectures are cloud-first. They're multi-tenant for the complexity models, level one to level three, and they're a more dedicated private cloud for level four, level five for increased control and more configurability to customers' needs in that very sophisticated logistics operations. So, cloud-first architectures, and you have that with logistics management for level one to level three, and you have it with S/4HANA cloud in the private cloud for level four and five. The second area is, of course, AI. AI is at the core, and we've been investing in this for the last, I would say, two to two and a half years. We've built AI. Directly into the core product. So, for example, if you take extended warehouse management, labor demand planning, for example, in the warehouse as an AI capability, intelligence slotting that came into this. If we [00:21:00] look into transportation management, we had AI in on the inbound side in the intelligent cargo receipt use case. We also had AI with conversational planning, where you can use your natural voice to interact directly with the transportation

planning system. Really much more natural than filtering, you know, different routes and filtering different available capacities and things. So AI is really at the core, and if we look at logistics management, this was built natively with AI. So Joule, as an agent, is built in a very different interaction and user interface for future users, the younger generation, and AI is already also from a process perspective. Embedded in the system so that the system can automatically tender, for example, using AI and other use cases, and more to come. So that's the second area. The third area I would consider for the future, and that's actually where we have a lot of discussions with our clients, is composable [00:22:00] logistics networks, as I would call them, right? It's what we talked about earlier, that you have. We have some clients, for example, that have three large distribution centers around the world. They have one in Europe, one in the US, one for Asia, and then they have hundreds of smaller warehouses and micro fulfillment facilities much closer to their customers. And those networks need to work together. To your question earlier, Richard, they work on different software, right? They work on an S/4HANA system in these large-scale distribution centers, and then they work hopefully in the future on logistics management in those local locations. So it's that interoperability and that composability of these logistics networks. And then while we talk about networks, the last topic, logistics, is a network business, right? And many of you who listen to this. Probably know our business network for logistics, which is a solution that brings your network in the logistics, [00:23:00] 3PLs customers together, right? So that you can jointly with your network, execute business processes like tendering, like doc appointment scheduling, dispute management, and also tracking, right? So logistics of the future is network and has that, a data layer of visibility, and freight rates and things like that come through the business network. And for me, this is also the foundation. This visibility data, in addition to the execution data that you have in warehousing and transportation, sets the foundation and is the fuel to power the AI engines that are on top. So again, long-winded answer, but four areas. Cloud-first architectures, AI at the core, composable networks, and the built-in carrier networks and visibility networks.

[00:23:46] **Richard:** Till, thanks for a great conversation. This has been really informative. I am sure that our listeners, especially if they are current SAP logistics users, will be very, very interested in this session [00:24:00] and will read the associated blog to learn more.

[00:24:03] **Till:** Thank you, Richard. Thank you, Oyku.

[00:24:05] **Richard:** And thanks, everyone, for listening. Please mark us as a favorite. You can get regular updates and information about future episodes, but

until next time, from Till, Oyku, and me, thanks for discussing the future of Supply chain.