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Podcast: Inside SAP S/4HANA Cloud

Episode 130: Digital thread & PLM: Driving innovation across industries

Fig. 1 – Cover art of Inside SAP S/4HANA Cloud podcast
Figure description – An image with a silhouette of a hand holding up a loupe over a blue circuit board. A solid blue block featuring the title “Inside SAP S/4HANA Cloud From Product Experts to Product Experts” and SAP logo is under the image.

Transcript

[00:00:00]

Fernanda Rodrigues: Welcome to the podcast Inside SAP S/4HANA Cloud, there is no customer success without product success and project success. In today's episode, we are gonna explore how and why the concept of digital thread is important and what it means for our customers.

I'm your host, Fernanda Rodrigues, and I'm [00:00:30] delighted to be joined by Ravi Nirankari, the CEO of Piterion, one of SAP's latest PLM Partners and my colleague Petra Streng from our PLM product success team, Ravi, Petra, welcome to the podcast. It's Great to be speaking with you today. Let's start then with a short round of introduction. Petra, tell us a little bit about your role at SAP and how does this support our PLM strategy?

Petra Streng: Hi Fernanda. Thanks a lot for inviting us to today's [00:01:00] podcast. This is so exciting to do a podcast with you again. I'm the PLM enablement lead from SAP's product Success and Customer Care Unit. And in that role I support customers globally on their PLM decision and journey. And identify areas of strategic importance to collaborate on. In my many years at SAP, I have worked on research and development and product lifecycle management topics, and I see tremendous value in enabling a digital thread [00:01:30] across various lines of businesses. And I'm very glad that with Piterion, we have such an experience partner on our side.

Fernanda Rodrigues: Thank you, Petra! It is a pleasure to be with you again here and now Ravi you, what's your role in Piterion?

Ravi Nirankari: Yes. Thank you Fernanda, and thank you very much for inviting me. So for 20 years, Piterion has been supporting companies in PLM and digitalization, and today the focus is increasingly on full [00:02:00] digital transformation and the rapid changes in the market. So as CEO, my role is twofold. On the one hand, to be trusted partner for our clients, helping them navigate through these transformations and define the best way forward. On the other to align our own organization after two decades in this market, with these changes by evolving our people skills and driving our globalization.

Fernanda Rodrigues: I think we could not be [00:02:30] in a better company today. Listeners, all advocates of product lifecycle management who can outline what benefits a digital thread c oncept can bring our customers.

So Petra let's start with you. What is actually a digital thread and what do you mean by it?

Petra Streng: Well, just to make sure the right pronunciation comes across, we are talking here about digital thread with a D, not a digital threat with a t. Which might also be an interesting topic in [00:03:00] today's world of increasing cyber attacks, but today we wanna focus on a mechanism to better connect different business units who are responsible for defining, producing, and maintaining or repairing a product and need to have a streamlined

information flow. This connection of product information from these different walks of life is what we call digital thread. So a digital thread usually starts on the R&D. Engineering side of the business [00:03:30] and refers to the communication framework that allows a connected data flow and an integrated view of a product on assets data throughout its lifecycle and across traditionally siloed functional units.

Fernanda Rodrigues: That's very clear now.

Thanks for the explanation, Ravi, can you now outline the benefits of having a digital thread?

Ravi Nirankari: The first question I usually ask is, without a digital threat, can a company [00:04:00] even survive in today's market, the reality is that only with consistent end-to-end information and the ability to make faster decisions, organizations can react quickly enough to stay competitive. So from there, a number of benefits follow naturally stronger regulatory and quality compliance, which is crucial in the industries like aerospace or medical technology. Higher operational efficiency with faster processes and pure errors and products [00:04:30] that are more closely aligned to customer needs, and ultimately faster innovation traceability. So take the automotive industry as an example. Markets are shifting rapidly, especially with electronics and software driven features. So only manufacturers who can instantly, creates, adapt, and i mplement changes are able not just to meet customer expectations, but to excite their customers. That's the true power of digital threads.

Fernanda Rodrigues: Very [00:05:00] interesting now that you mention the automotive

Industry for which other industries actually is the topic of a digital thread relevant?

Petra Streng: Initially the concept of digital thread appeared on the discrete industry side, so like automotive, industrial, machineries, medical devices, but also in the transportation business or for utility oil and gas companies.

In general e verybody who sells or operates large machines, trains, airplanes, or even oil [00:05:30] rigs, et cetera. needs to maintain them in an efficient manner. These companies are interested in sharing the engineering details with their asset maintenance and field services teams. Sometimes this also crosses organizational boundaries. When the engineering work is done by different company then the one operating it, or when third party contractors, for example, are responsible for the asset maintenance. And then as a second wave you could say also process Industry companies now embrace this [00:06:00] concept of a digital thread. And this is a twofold situation. We see it with the companies who operate such machines as assets on their shop floor, and of course then need a digital thread to reduce downtime and keep maintenance costs as pay.

So similar to what we've seen on the discrete side, but we also see it in the area of process industry products. That's consumables, food, cosmetics, or medicines as well to improve the forward and backward information exchange between their research and [00:06:30] development and the manufacturing departments.

Ravi, how do you see this? What is your experience? What do your customers require?

Ravi Nirankari: I mean, of course when we think about digital thread, the first industries that come to mind are the discrete ones aerospace, automotive, transportation, or machinery. But what's really interesting is how much broader the adaptation is becoming. So just last week I spoke with a major oil company and the main concern was also [00:07:00] the digital thread, because for them it's all about data continuity . The difference is that in process industries you deal with massive volumes of sensor data and you need to put that into context. So instead of following a bill of material, you essentially follow the process itself. That's why we now see digital threads across many industries, not only energy or chemicals, but also food, consumables, cosmetics, medical [00:07:30] technology, and life science sectors that a few years ago hardly spoke about the digital thread, are now treating it as a core capability.

Fernanda Rodrigues: We've heard a lot about digital thread now, how does this align with customers digital transformation programs, and does the cloud play a role in establishing a digital thread here?

Ravi Nirankari: That's exactly a very, very good question because when we talk about digital transformation, at its core, [00:08:00] it's really about the digitalization of the entire value chain of a company. A central part of this is maintaining control over your data, because once you digitize your products and services, you need to build a digital thread to connect them. So that's why the digital thread is not just a nice to have, but a central pillar of any digital transformation. So now transformation itself is not only about the data or the digital thread, it's all [00:08:30] about how an organization manages their changes across people, processes, and technology. If you focus specifically digital thread, it o nly delivers value when you connect the key data points across the value chain from design and engineering through production and into operations and services.

The big challenge is how do you actually bring these areas together and traditionally, each function work in its own system. So we had PLM, [00:09:00] MES, ERP, SCM, CRM, and integration was the only option. Today, the cloud offers a much stronger approach. It acts actually as a central synchronization layer that brings data together across disciplines and even across geographies.

Fernanda Rodrigues: Really exciting to learn. Ravi, thanks for this explanation too, and now, Petra, what does your area of PLM and the digital thread have to [00:09:30] do with each other?

Petra Streng: PLM is basically where the weaving of the digital thread starts. It's about the question, what the R&D or engineering unit need to provide to enable the manufacturing or maintenance departments. So how to connect the dots in an easy, understandable, practical, and also an efficient way. Meaning when you need to service your machines or devices on a global scale, you not only need to know whom you've sold them to and where they're located, but also. [00:10:00] What is their makeup? What are the structural components that

they're made out of? And what exactly needs to be replaced, what parts are needed, and how to do the whole replacement and repair process? So this information originates in PLM systems and also vice versa. The information about needed improvements needs to flow back to the engineering side, into the PLM system for the next version of the product or machine. So this overarching [00:10:30] process and related information flow is what companies are trying to achieve these days and continuously innovate and improve their products and have something exciting and new to the market.

Fernanda Rodrigues: Great.

Ravi, what are the levers or business justifications for such projects? Could you maybe share a customer success story with our audience? And I'm also wondering what are the reasons for them to wish for a digital thread, and what are the benefits they're seeing [00:11:00] as a result?

Ravi Nirankari: To answer these questions, I think we first need to ask ourself what kind of problems can a digital thread really solve? The most obvious case is what Petra already described. Yeah, you have a product in the field, a change is needed. And that information must flow back to engineering. This scenario actually comes up with almost all of our discrete manufacturing clients and is still one of the most common challenges. That's why we run so [00:11:30] many projects where we link the engineering BOM with a manufacturing BOM or even the service BOM. This project span automotive consumer goods and tooling companies, and there are numerous examples. Things have become more complex. Products today are not just hardware. They're hardware plus software. That means that digital thread also needs to support model-based systems engineering. We recently worked with an aerospace client on exactly this. [00:12:00] Interestingly, although MBSE has its root in aerospace, many companies are only now introducing it. In the past, requirements were often managed in Excel or standalone a LM tools. But today MBSE combined with the digital platforms enables a much more consistent flow of information. This is also highly relevant for autonomous driving or for industries aiming to improve design trade-offs. A very [00:12:30] prominent consumer brand, famous for reinventing vacuum cleaners and head rises is embraced in this MBS E approaches for exactly this reason.

Supply chain is another big driver. For example, we recently supported a washing machine manufacturer, where traceability was key. Knowing exactly which parts are installed in which models and factories, so that disruption or quality issues, can be managed quickly. In the pharmaceutical industry I [00:13:00] recall a client with multiple production sites who needed to prove consistent product quality across all plants. And the digital thread was the foundation for achieving that.

And if you take the idea even further, the digital thread enables new business models. Instead of selling a product once, companies can offer it as a service with predictive maintenance and guaranteed uptime. So. We all know examples like [00:13:30] printer monetized through ink subscription or coffee machines offered with on demand services. In aerospace, we see it as powered by the hour service models made possible by realtime data integration. That's why the value of digital thread is so clear. It starts with feeding services insights back into engineering. But it can scale up to transformation as an entire business model.

Fernanda Rodrigues: Fantastic. Ravi. I like very much how you brought so clear [00:14:00] these examples from some customers to us. Thanks for that. And now Petra, I also would like to hear from you some insights from your customers.

Petra Streng: I can also share various examples. One is from a pharmaceutical customer. Who operates large packaging machines and wants to ensure that they run smoothly all the time. So they want the vendor of these packaging machines to provide details of the machine all the way to visually showcasing how each maintenance step [00:14:30] is to be executed so that the maintenance workers can more easily do their work.

And the downtime of the machine is reduced. This required a digital thread across multiple companies. Another example comes from the transportation area. So railway companies, for example, need to operate under tight schedules. And having a train malfunctioning has a serious impact, not only causing extra maintenance costs, but also delays for us as customers and can therefore lead to bad reputation. [00:15:00] So with the digital thread approach where the repair workers, the third party maintenance contractors get easy to understand visual guidelines, how to repair the train, the brakes, or the electricity or whatever else was not working properly, is reducing the downtime and is paying off more or less immediately. And last but not least, a bit more advanced. The vision for how modern maintenance can be done comes from the oil and gas industry where a [00:15:30] new way of maintenance without too much stock keeping was explored. So instead of piling up a lot of potentially needed spare parts or any replacement materials, why not share the PLM information from the original vendor of these spare parts? The oil operation out there somewhere in the high seas and have the spare parts printed out via a 3D printer on site. How cool is that? That is quite an interesting cross-company digital thread [00:16:00] example for an entirely new business model.

Fernanda Rodrigues: I'm very impressed by you too. I was not aware that so much is doable today already. Thanks for sharing the art of the possible and also giving so many insights what companies are doing these days. I'm sure this will be very relevant to our audience too, Ravi now, any more aspects you would like to highlight?

For example, when you think about timing or industry redness, collaboration, for example.

Ravi Nirankari: let's break it down. [00:16:30] I think the topic of timing can be viewed from different angles. On the one hand side, it's important to act now because many marketplace already moving and getting better at it. But when we look specifically at the digital thread, timing really means the accuracy and validity of your data. Outdated data sets don't help. So in terms of industry readiness, what we see is that most sectors are actually well prepared. Over the past [00:17:00] decades, huge amounts of data have been collected, and with the many digital initiatives already underway, there is a strong foundation. So at Piterion we have even provided i ndustry specific templates that serve as a starting point and in many ways evolve into industry standards. And finally, collaboration. So we live in a world where people are used to sharing, interacting, whether through social media or in their professional lives. [00:17:30] In companies this collaboration mindset is essential because digital thread is the only way how it works. If people understand the importance of data quality and contribution to it, this is still where we often see gaps. Poor data quality can slow down implementation, but organizations that address this had on accelerate their success significantly.[00:18:00]

Fernanda Rodrigues: Very good. Thanks also for this explanation.

Now, Petra, when we wanna make Digital Thread a reality, what do we need to do?

Petra Streng: Well, I'm an advocate for ease of use. In my humble opinion. We need information at our fingertips. A graphical intuitive navigation across the different engineering manufacturing of services form instances. So digital product information and visualization capabilities are key. [00:18:30] We need to leverage the product designs for asset maintenance, the field service, or spare parts replacement processes, because this visual approach just simplifies things and reduces errors, and we need to be able to. Not only share this information across different business units within one corporation, but also efficiently and without undue overhead across different organizations. Just like in both Ravi and mine examples, we outlined that before. [00:19:00] So that contract manufacturers, third party maintenance contractors and the design partners can all benefit from the information at their fingertips and perform their work efficiently and without any delays or errors. SAP's integrated product development and SAP's asset management solution, with their collaboration , visualization, and mobile fields service capabilities play a Key role in this, but key is of [00:19:30] course, also having very experienced implementation partners like Piterion, who understand the business needs that are behind the digital threat and who can help our customers achieve the organizational transformation that goes along and is needed to make the digital threat a reality.

Fernanda Rodrigues: Absolutely.

And Petra, if our listeners want to know more about how to engage with SAP regarding their PLM and digital thread strategy, where would you [00:20:00] recommend they find more information?

Petra Streng: Well, the easiest way is to join our PLM Expert Forum in LinkedIn where you can engage with our PLM team or other experts, as well as hear about upcoming events or the latest solution updates. Then you can also join us in person at our various PLM partner events. Like Piterion's customer Event or the other and partner roadshow events that happen now at [00:20:30] various places in Germany, Austria, Switzerland this year. And for everything else, just simply reach out to Ravi or myself or speak with your SAP account manager.

Fernanda Rodrigues: Very good, and we'll be sure to create a link here to the listeners in the description below where they can find all these materials that you refer to, Petra.

We are at the end of this episode. Thank you very much, Ravi and Petra for your insights for joining this episode today. It was really [00:21:00] great to learn so much with you about Digital Thread and also learn what the customers are doing out there. I learned a lot with you.

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Until [00:21:30] next time, keep exploring and be Inside SAP S/4HANA Cloud.

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