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FutureLink Boston 2025 Keynote: Intelligent Orchestration of Your End-to-End Supply Chain

Intelligent orchestration will define the next era of life sciences supply chain performance. In this keynote address from FutureLink Boston 2025, Shabbir Dahod, President and CEO of TraceLink, outlines how TraceLink is enabling a fundamental shift—from siloed, manual operations to scalable, intelligent collaboration across all supply chain partners.

Dahod shares a bold vision for how TraceLink's OPUS platform and **MINT solution** are transforming the industry. He walks through the technical and strategic foundation that supports real-time interoperability, no-code digitalization, and the future of agentic orchestration. From global regulatory compliance to automated partner onboarding, scalable integration, and next-generation AI, this session is packed with insights on how to increase profitability, reduce risk, and build resilience at every level of the supply chain.

Watch to learn:

- Why the shift from manual transactions to intelligent orchestration is no longer optional

- How TraceLink's Integrate-Once™ model enables real-time interoperability across organizations and all of their supply chain partners
- What agentic orchestration is—and how it will reshape supply chain roles, planning, and execution

Watch now to discover how TraceLink is leading the charge toward smarter, faster, and more patient-centric supply chains.

TRANSCRIPT

TRANSCRIPT

Shabbir Dahod

All right, hopefully you're not tired. Are you? I know DSCSA has been an arduous journey. I mean, for you guys, it's been 10-12 years. For me, it's been 22 years. Just so you guys all know, when I entered this industry in 2003, there was this talk about digitalizing the supply chain, making it safe and making it serialized. And it's been a long journey. But I'll tell you, for me, it feels like we're really just beginning. We're absolutely just beginning, because the real, real journey that's ahead of us is about building on what we have built together.

And so my goal here today is to walk you through the TraceLink perspective for how we plan to continue to forge forward based on the foundations that we have laid out here. And for us, those foundations really start with our mission, right? Our mission and vision and our values. This is what we hold most dearly at TraceLink, and hopefully that's what we share with you and how we work with you.

Our goal and our tagline is about the Network for Greater Good. And we really mean that, because what we want to do is to make sure that everything we do will

continue to drive value, not just from you, from a business perspective, but value with each other and how you work together, how you collaborate, cooperate, even if you're competitors. How do you learn to grow this ecosystem together? And in order to achieve that, we have to really have the same kind of core values within our company and with everyone that we work with. And there are other numbers up there that are, obviously the financial numbers and all that is great and we'll make that even better and better as we move forward in this industry, for all of you. But I think what is really important is to really embrace these values. Because the number one question I always get asked anytime I talk about, hey, let's go ahead and, create this digital network to be more efficient is, will my partner play?

And the reality is that everybody wants to play. Everybody else wants to get better. So we just have to open up and be ready to go do that. And as long as we keep the patient in mind, we'll be able to achieve that. And for us, the whole focus has been captured in the fact that we were creating a network that has a platform that's inherent in that on that network that you can leverage, and you've been leveraging it for the last 10 years or more. But it's really about the fact that that core network with the platform enables you to have interoperability and integration across all your functions as products move through your supply chain from one end to the other, and how they work with your partners as the extended supply chain that you have, and how you then drive the digitalization of those processes that then enable you to orchestrate, whether it's with your partners on the transactions that you're doing, or it's with the processes that you want to integrate, like compliance exceptions, or it's with the product that you're trying to make sure is secure and available to everybody. And that's how we think about things: There's all these orchestrations going on at these multiple levels, and now we're moving towards making that more agentic and intelligent as well, to make sure that we drive even more efficiencies and more capabilities, again, to drive towards that core purpose of being able to make everyone's performance and specifically making products available that are safe and secure for patients as well.

And so this is our core mission that we have. But this core platform is what enables us to accelerate everyone's business performance. It's not just about you getting better. It's about all the people you work with in your company getting better. It's about how all the people you work with in your ecosystem, whether you're suppliers or they're your contract partners, or they're your downstream customers. And then we cannot just improve and protect patients from counterfeit, but we can also improve the operational efficiencies, throughout the organization, throughout the supply chain so that we can bring down our inventory levels so that we can have more cash available to invest into more and more improvements. And then we can also drive higher availability of products and maximize everyone's revenue. And so this unpacking of both the vision and the mission towards those core capabilities that drive higher, higher, and higher performance for everybody, all for the goodness of everybody involved, all for that greater good, and obviously, ultimately, for that patient.

And so what is TraceLink's role in accomplishing this? Well, the way we look at it is that we are looking at that centerpiece, right? That's been our mission and vision for over 16 years now. And it's really about the fact that, there are physical facilities that you manage. Many of you manage manufacturing sites, distribution sites, pharmacies, etc. And then there's products that flow through that, and then within that flow, then, you're trying to plan and have performance indicators that let you continue to drive improvement. But what's broken is that middle piece, is that transaction flow.

Because throughout the industry, much of that transaction flow is still occurring in a very manual way with that information coming through emails, or you have to go to portals, or you have to use a very expensive type solutions, either EDIs or try to connect with people on WhatsApp. I can't tell you how many times they say, well, how did you hear about that shipment? Well, somebody WhatsApp-ed me that that shipment was sent out. This is not how we get better. This is not how we drive more and more improvements. And so when we first entered the industry back in

2009, what we really looked at was, well, how do you solve this problem?

And again, you have to look at this from the perspective of 2009 there were no laws and regulations. So when we started the company, our focus was, how do we digitalize all of these capabilities? Because we know that we heard from customers that there's lost revenue there. It drives increased working capital, there's reduced profitability. So when we entered the industry, these issues existed in 2009 and so we looked at solving those problems. We really took a different approach from everybody else. Everybody else was saying, "Oh, come, use my custom integration point." Or they were saying, "Oh, implement those EDI transactions the way I want you to implement them." Or maybe use this industry exchange that is very specific to what that particular custom network wants. Or come to my portal. How many people are running from portal to portal as well or using a particular API.

And what we decided to do back then in 2009 is basically say, in order to really solve this problem, we have to turn it inside out, and that the only way that we can solve this problem is not by trying to force people in a particular way, but to let everyone work the way that they want to work, work with the system that they want to work with. And what we would do is create an interoperable network that would allow people to exchange information with an Integrate-Once model. You can integrate however you want to integrate, and you can be interoperable with everybody else on the network and all the different processes and transactions.

That was the foundation of TraceLink, established in 2009 and '10 and '11. And then that foundation is what really enabled us to build out success in Track and Trace everywhere you go. Now the Track and Trace network exists. TraceLink's exist because all the partners that you have, whether they're customers or not, they are on the TraceLink network. And there's over 291,000 of them, and there's over three and almost 40,000 links between everybody exchanging information. And we've saved the industry over $4.4 billion and we service every part of the industry, and at every size and scale, with all the different use cases, leveraging,

still this core capability of Integrate-Once, right? So that's the foundation. When we started the company, it was about, how do we digitalize on an end-to-end basis? We created the core capabilities in order to do that, the Integrate-Once capabilities, and then when track-and-trace requirements came, we applied that to track and trace and serialization. And then we onboarded the whole network globally, across 51 different countries, to drive this interoperability on an end-to-end basis, such that the whole industry now has a core foundation network upon which it executes.

Just to give you some numbers, we do 1.1 billion serial numbers commissioned every month. We do a terabyte of data exchanged every month. So the industry operates on TraceLink, right, and you're all part of that industry. You're all partners of ours and with each other in accomplishing this. Now the questions people often ask me is, okay, that sounds great, but how does it really work?

And so what I want to unpack for you is, how do we accomplish this, and then how do we leverage this moving forward? So what we do is that for every node, each one of you on the network, we have your digital twin. We have for you a node and a way to reference you, all the different references that you have, all the different numbers or any other IDs that you have, GLNs, etc., for you to be referenced. That's your digital twin on the network. And then with that digital twin, what we do is create what's termed as an integration profile, which you see over here. And that integration profile is the way you want to talk to the network. Think of that as this is kind of the language you want to speak onto the network. And then whether you're, let's say, on an SAP system and you want to speak iDoc, and then the other system wants to speak EDI. We then say, okay, you speak whatever you want to speak, and we'll make you interoperable.

So how do we make you interoperable? We basically take whatever SAP comes out with and whatever specific version in your company that it comes out with, and we basically turn that into what we term as a canonical, which is a rich semantic

format or representation of that information. And then we send it to the other party on the network. So, in this case, Biogenica sends it to Novorax, and then on the other side, we say, okay, how does this other company want it? Well, they want X12. And so then we then convert it. Sometimes people call it map or transform, sometimes API calls. In this case we mean EDI X12. We convert it into that and we send it to them. Again, we send it to them however they want.

One could send it via S2, then one could send it via FTP. And so this is how we create this digital network that's interoperable across all transactions. You've been using it, sometimes even internally, for your line systems, your other warehouse management systems, or your different multiple ERPs. You've been using it with all your partners for all the serialized information.

When we started the company, the first transactions we actually built were not serialized transactions. We built POs and ASNs actually, because we knew this is where the industry had to go as well. And so this is how we drive the ability to integrate once and interoperate with everyone else. And the beauty of this model is that, it's multimodal, so everybody can work in any way they want. So if somebody doesn't have a system and they want to use a UI, we automatically create a UI for you. So if you're a partner of ours, if it's serial number exchange, you can use the serial number exchange UI to upload and download your serial numbers. If you want to use the UI to pick, pack, and ship, you can do that. If you want to use a mobile device, you can do that. And so we had the ability to be multimodal so that anyone could also use any APIs you wanted. So if you wanted an API into Microsoft Dynamics or into NetSuite, we'll use those APIs.

So this then enabled everyone to integrate however they wanted. And then we have a team that you guys all use that is the Network Success Team that goes out there and onboards all your partners, right? And it does that for you as a service at no cost. And then you're able to have that dedicated team, not just for your integration, but for all your partners. You just come to us, and we onboard all the

partners. And now if any of your partners need to change anything, or you need to change anything, you don't perturb anyone else. So if, for instance, if you're going from, let's say, NetSuite to Oracle, nobody else cares, because we just change your integration on your side, and you're still interoperable with everybody else. If somebody else wants to go from one version of SAP to another, they just do that independently whenever they want. And they can do that even gradually, system by system, if they have multiple ERPs that they're that they're consolidating.

So this is what drives us to all work together in this collective manner and manage this on the independent basis. And then as the network grows, we're able to grow, once the partners are on there. They have the integration profile. We just do no-code linking right now. That's how we get faster and faster, so that as we mature and build out the network, and we get more and more participants, we can all run faster together, because we're all helping each other build this network.

So some of you may bring on Partner A, somebody else might bring up Partner B, somebody else might bring up Partner C, but then if anybody wants to work with each other, it's just configuration, and that's how we collectively drive the greater good, and that's how we drive massive scale, and that's how we drive speed throughout the adoption of this digitalization on an end-to-end basis.

And so this is what we've been living and this is the foundation upon which we've been building more and more capabilities so we can drive more and more digitalization in order to make everyone's business better. And that's what our investments have been over the last three to four years, and that's what we've started to work with many of you on this kind of proven digitalization capabilities to now not just drive orchestration, not just digitalization, but orchestration, and now moving towards agentic orchestration. And I'm going to walk you through all the different capabilities that we have built and that we're also going to be delivering before the end of the year, so that you have the journey that you will be on with us for.

So let's unpack first the foundation upon which this network is built, right? I was really pleased to see, I think more than half of you were here for the TLU sessions. And I think many of you have learned many of these capabilities, and hopefully after this, you'll also be able to have more sessions, and there'll be videos available for you to learn even more.

But the foundation starts with the network and this core set of nodes and integration profiles. But what we did over the last four or five years was build out OPUS, and the purpose of OPUS was for us to drive faster digitalization. Digitalize more and more transactions, enable us to create UIs faster, enable us to build reports and dashboards faster. And the core, core technology investment we made was to make everything we term as metadata driven, meaning that it tried to make as much of it configurable and open and no-code as possible.

Therefore, all the information and data completely describe all the objects and the operations. And then, as you create capabilities such as integrations, like through transforms, or you create solutions, you can share them with a catalog. So we can put things in the catalog. Solution partners can put things in the catalog. We made all the network administration completely available. So there's nothing that we do that a partner cannot do. The only thing we do that a partner cannot do is add a new node to the network. That's it, that digital twin. Everything else a partner can do. We then made our transaction processing capabilities much more robust so that we could add many, many transactions, hundreds, thousands of different transaction types through the B2B transaction processor. And then we also enabled much more flexibility on the integration to the different systems by the different modes that they want to transfer information, whether it's API via Link Actions or different types of transforms or FTP.

Now we just came out with an Ariba Bridge, etc. These are all different means by which you can exchange information with anything out there. So this then created the foundation upon which we drove the no-code UI capabilities that you've seen

and that you'll see more of coming up. And then that foundation also enables you to create reports and dashboards. So now you can basically build reports and dashboards.

And the really amazing thing about OPUS is that it's built in itself. So everything you see in OPUS was built with OPUS. So we are the number one users of OPUS right now, and hopefully we'll get 10,000 more out there. But every solution, every UI you look at, was built no-code. And so when you're looking at MINT, as we'll go through in more detail for all the different transactions, that was all built no-code as well. We built a small application. The rest of it's all no-code. When you're looking at process orchestration with POET, which we'll go through in the next few slides. Again, that was built no-code. All reports and dashboards were built no-code. And what we're doing now is layering on top of all the track-and-trace capabilities the integration of that information into OPUS. So then you'll have reports and dashboards. You'll have the ability to build out your UIs, again, no-code, so we're making all that available as well. So on a single platform, you'll have all your information, all the different processes, digitalized and interoperable with each other. And then on top of that, we're now layering in and putting AI into OPUS so that we can now drive agents, and you can build agents and create agents that can actually operate on your behalf, and you can manage them on the OPUS platform as well. So this is how we're pulling together all the capabilities.

And it's not five years from now, it's not two years from now, it's this year. The only thing that's on this slide that's not available today is the agents, and that will be available in October. So you now have a modern platform upon which you can leap forward for the next two to three years and actually be on the forefront of supply chain, digitalization and agentic orchestration. And if you look at any of the statistics out there, the supply chain will be the number one beneficiary of agentic orchestration, because it will reduce costs and increase revenue. It's the number one area that everyone's identified for the most gains in productivity for any industry, and that's through Stanford research that I can make available to you. So

now I'm going to let the product do most of the talking, hopefully throughout this presentation, but we're going to walk through these core capabilities, because I think seeing it is believing it. I love the products, I'd love to show the product. And we'll start down this process. The first step is really to look at, what does it mean to be on the internet of supply chains, right? That's something brand new. Everyone's kind of used to working in their own little silos, right? Silos within the company, silos with your partners. So we had to invent a new model, a new metaphor by which you work. And this metaphor is the internet of supply chains experience of how you navigate from one relationship to another relationship as part of your digital supply chain.

Video Voice

The MINT user experience allows owner and partner users to quickly and securely access the data that they need. In this example, I am a MINT owner, and I have access to three different process networks for my distributor customers, my external manufacturing partners and my logistics partners. Once I've selected a network on the left, I then see the associated partners on the right hand side. This list of partners is dynamic depending on the network that you've selected. Also, once I've selected a network, my transaction menu on the left changes to show transactions associated to that specific orchestration. If I choose a different network, like external manufacturing, the transactions that I see on the left change accordingly. If I change to look at things from the partner side, I will see a similar list of networks. But instead of seeing networks that I own, I will see networks that I am a partner of. Once I've selected a network, once again, I get the list of associated transactions on the left. Everything that I can see and do is controlled by the owner and the roles and permissions that they give me. For example, as a partner user, I can see purchase orders, but I cannot create them. However, if I go into a specific purchase order, I do have the ability to create the associated PO acknowledgement, invoice, and ASN. And all of this access is controlled by the owner via combination of a robust administration user interface that allows the owner administrator to control the network's links and users and roles and the

ability of the owner to configure their solution based upon the transactions that they want to use.

Shabbir Dahod

So what you just saw was how you navigate the network. You're in a network. It really is in the network, you have relationships with each other. And how do I get to my relationship with this particular partner, this supplier? And then how do I see all the information that flows between them? And how do they see so you're all looking at the same information together? And so this is a brand-new paradigm for how you think about managing and basically working with everybody else across your network. And so this is a fundamental core concept within TraceLink. That’s why we're all always very link centric, right? TraceLink links, but those links are actually your basis by which you collaborate with everybody else, and that's the digitalization that goes on. So in this next demo, you'll see the foundation, the metadata foundation. Like I said, every single object, every single piece of information, every single relationship between objects, all the operations you can do on objects are all defined in a declarative manner. And then we expose that out to our partners and customers if they want to create their own subtypes or their own objects off of our base objects and then build solutions around that. And that's what we'll show you next.

Video Voice

Browse all standard business objects, from TraceLink across apps and create company specific objects based on these standards. Objects consist of fields, groups and collections, starting with standard fields, you can also add your own company specific fields. These fields are metadata driven simply specify a type such as date or pick list and configure their properties. These settings drive the behavior of the pages, enhancing functionality and user experience. Lookup fields enable dynamic connections to one or more business object types, allowing you to add them to your configured objects and create relationships between them. Groups allow you to model set a field like addresses, while collections can

represent order line items, all of these leverage metadata capabilities to automatically drive page behaviors.

Shabbir Dahod

So, what you saw there was that all the different objects are completely modeled. Now if you go to many other systems, they're actually very limited. They have a single set of attributes you can add. But here we have rich capability. Why? Because our data sets are complex. You look at a purchase order or an ASN, those are complex objects. They have many different nested relationships, line items, and so forth. And in order to really be successful in this industry, we realized that we couldn't just do the easy stuff that you might find in a Salesforce or ServiceNow, we actually take on the hard work of... How do you build complex real business objects in the real world that you have to exchange? We're the first company in the world to do this. So you may be looking at other systems that you might have used in the past as either a partner or a customer. There's no other company that has been able to really get down to that level of depth of modeling and then be able to take those objects and be able to then create user interfaces off of that, which is the next set of demos you will see: How do we now take this definition and create drag-and-drop UIs out of that.

Video Voice

When you create a new page, it includes essential UX patterns and workflow fields, allowing you to quickly add sections and drop in fields as needed. By dropping fields like supplier address, all related fields are automatically generated, letting you to choose and visually organize what you need. Autofill works like magic, pulling data from related objects into relevant fields, boosting efficiency for end users. Enterprise data often exceeds simple fields. Dropping collections with fewer fields gives you a list view, allowing easy add and remove operations while organizing your fields. When you drop collections with a larger number of fields, you gain a table experience. On the main page, you can select which key fields appear as columns and arrange their order. Dropping an order line item creates

rows on the main page where each row features add, remove and view operations all housed in their own exclusive push panels. These panels are automatically created and accessible, letting you focus on design. You can individually design each push panel just like the main page, simply by dragging and dropping fields within the order, line item. When you're done, preview your design pages, create and test complex layouts in minutes with options to configure page rules and operations all through simple drag and drop.

Shabbir Dahod

So what you saw there was the construction, actually, of OPUS itself. OPUS UIs are all built using OPUS drag and drop. So every UI you see, including the Solution Designer itself, was built using the Solution Designer. You have to get your head around that a little bit. So when you look at those push panels that pop out on the right-hand side and all these different objects and so forth, everything was built using the OPUS solution designer itself. OSE itself was used to build OSE and everything you see in MINT, in POET, in all the different reports and dashboards, everything was built no-code.

So our productivity as a team went through the roof. And just to give you an idea, just give you a couple of measures, if we had to build all the MINT transactions you'll see later on, the old way, it would take us years. We built most of those in three months. We built most of the UIs in two months for the initial two dozen transactions.

So that same productivity is all in your hands, too. So you can have the same tools. It's the same tools that we're using that we're giving to you as a partner or a customer, and so now the ability for you to achieve what you want to achieve is going to go even faster, because now you'll have this core capability that you can leverage to drive more and more solutions, drive more and more configurability that you that you need for your business. And so what we'll see now is the ability to actually configure and customize workflows as well.

Video Voice

Every business object includes its standard workflow. The PO workflow starts in draft then moves to submitted. The base states can be configured to meet business needs. For instance, a company may want to introduce an approval process. In this case, they can add the Approval Required sub state to the draft base state transitions can then be created from in draft to submitted, enhancing the workflows flexibility. Further logical checks can be added, ensuring specific fields are filled before moving to approval as transaction conditions. That's it. With this configuration, the PO workflow now begins in the new in draft state. From there, it can be moved to pre-approval. If a user attempts to transition without filling in the required fields, the action is prevented. Additionally, transition action logic can be added, executing automatically upon successful completion of a transition.

Shabbir Dahod

So again, all workflows can be configured. You can create as many substates and as many transitions and you can do call outs. All these capabilities are there for you to leverage as well throughout the platform.

And so what you see is like simple use cases, like, hey, I want to review the invoice. I want to reconcile it before I actually approve it. A customer is implementing that as well. I want to review the ASN and understand whether it matches what the PO had. Now you can add that to a workflow for yourself, however you want to do it as well.

And so, all of this is what makes the partner orchestration capable—for us to be able to have this kind of predictable and affordable partner orchestration as well across the full supply chain.

And so MINT, which is our flagship product that we launched last year, but has fully matured this year, enables you to orchestrate across the full end to end supply chain. So this is if you think about it to date, what do you have to do? Well, if I want

to work with my suppliers, I got to use a supplier portal or supplier management tool. If I want to work with my 3PLs, I got to use a 3PL integration tool, logistics tool. If I want to use a commerce I have got to work with my commerce provider.

With MINT, you have it all in one place. You have full end to end transactions that will integrate with any of those systems that you're using in your in your environment, as well as any system that your partner is using to enable all the different transaction types that you can do on an end-to-end basis.

So these are all the transactions that are available today, and we're adding more and more every month. So every month we release them, because these transactions are all built no-code. We don't, we don't release new applications as such. Technically, there's some aspect that we have to just update the version. But we add the canonicals, no-code. We add the UIs, no-code. We add all the different abilities to process them all, no-code, all the transforms are no-code.

So from that perspective, we are just a machine right now, just adding more and more transactions as fast as possible to digitalize every single process in the supply chain, end to end.

And so what you see here is what's available to you immediately to start that journey. And you can start anywhere you like. Some companies start with their suppliers. Some companies start with the 3PLs. Some companies are 3PLs that are working with their customers. Some companies say I want to digitalize my contract manufacturers. Some companies are contract manufacturers working with their clients.

And so we have this full variety of adoption going out throughout the end-to-end supply chain. And the reason why that's happening is because we made it very affordable to everybody. This is not something just for the largest companies, but any company at any scale can participate by us having a very, very affordable pricing structure that scales with the actual number of transaction types and the

number of nodes that you and the actual number of partners that you want to link with.

And so this is accelerating very rapidly right now. So our major release was in October, and what you see is that we've already got many, many companies that have already signed up as customers, and they're from a range of different will be term as ecosystems, on the end-to-end supply chain.
And what you'll see is that this kind of growth has occurred for us. We're basically doubling, every quarter. And we're getting, CMOs, we're getting 3PLs, signing up. We're getting MAH brand owners signing up, distributors, dispensers. And it's also happening all over the world, from China, India, Europe, Middle East and North America, US so and every part of the supply chain as well, as you see here, and what that does is, with the adoption of those customers, we're also driving more and more links.

So they're signing up with a dozen, 50 or 60 different partners that they want to onboard. That's all good for everybody, right? The more partners that get on there, even if you're not on there yet, that just makes it a more mature environment for each one of you. And then you will come on board, and you'll drive more partners, and we'll all go faster and faster together.

So you see this hockey stick occurring, and it's continuing to occur at a faster and faster rate. Our pipeline is growing at a very, very fast rate. And there's a variety of use cases like I mentioned earlier.

Here's just a few that have been, identified, a pharmacy, a regional health system that says, "Hey, I don't get invoices. I get them in email, and they go to the wrong person, and I don't, I don't, actually, pay them on time, because I don't know where the invoice went." And so they can, do a link, be able to get the invoice directly in, they can check it, approve it, pay it, actually, ahead of time, and actually get a discount for that.

You've got companies that are dealing with medical devices that need to connect with, for example, GHX and be able to work with their suppliers. That's live. You've got companies that are third party logistics firms, and they're not saying that, okay, I need to be able to integrate. It's very painful for my clients to integrate with me, so I can just have a single integration into the network and TraceLink you go on board my clients and doesn't cost them anything.

And the beauty is that once that 3PL is on there, it makes it easier for you to integrate in. So this ecosystem is live. It's going we're working as fast and hard as possible to continue to drive this adoption, build up this network for everybody else to enjoy as well.

So we'll go through a couple of demos here. So please run the MINT demo.

Video Voice

The MINT user experience combined with the “Integrate Once, Interoperate with Everyone” capability enables multimodal support for any transaction. Any MINT transaction can be sent or received using multiple methods like EDI, X12, SAP IDocs, direct API calls or the user interface. In this example, the MAH Nova Corporation sent a forecast plan to their CMO partner, Zenith RX. Nova Corporation, sent the transaction to TraceLink via SFTP as an EDI X12 830 transaction, TraceLink transformed the file into our canonical and made the transaction available to both parties in the MINT user experience. Finally, TraceLink transformed the file into an SAP DELFOR iDoc and sent it to ZenithRX via their B2B connection. If necessary, admins can see the transaction from both parties under search business transactions. This allows the admins to see general information about the transaction and the specifics about both the inbound and the outbound formats. These powerful multimodal support capabilities allow MINT owners to transact using the method and format that works best for them without having to worry about how their partners want to send and receive the data. TraceLink takes care of that for you.

Shabbir Dahod

So again, there is a shared link between yourself and your partner. You both get to see what's happening. You get to integrate however you want, and you're interoperable with each other. As we move on to the next demo here, you'll start to see the end-to-end orchestrations as well.

Video Voice

Let us take a look at how the TraceLink MINT multi enterprise solution helps a company digitalize their end-to-end supply chain. Imagine I'm the regional sales manager at Mundos Pharma, and I receive an unplanned purchase order of 10 pallets of Glocobalance products. Before I acknowledge this purchase order, I need to understand my inventory levels so that this does not impact my fulfillment of existing deliveries. To determine this, I visit my inventory dashboard. The inventory dashboard provides real time visibility into the inventory levels of various products across CMO and 3PL warehouses. I first check the inventory at my 3PL warehouse, and I find that the inventory is very close to the safety stock level of 100 pallets. Shipping out 10 pallets may jeopardize the fulfillment of planned deliveries and impact on time in full and this may also lead to stock outs and penalties due to the failure to supply product. I then check the inventory at my contract manufacturer's warehouse to find the quantity of product which is ready for shipment. I find that there is more than sufficient stock available at my contract manufacturer's warehouse. Shipping this stock to my 3PL warehouse would alleviate my concerns about stock outs and penalties. I then check to see what the average time is to ship Glocobalance products from my contract manufacturer to my 3PL warehouse. I find that, on average, it takes four weeks. Now returning to my purchase order, with a single click of the acknowledge button, I am presented with a draft of a prefilled acknowledgement of the purchase order. I will review the acknowledgement and revise the delivery date, taking into consideration the average shipment time of four weeks, and submit the acknowledgement. For the first time ever, as a commercial and supply chain leader, using MINT, I can orchestrate my end-to-end supply chain because of the visibility and opportunity to

take action on real time data. I can use the MINT solution to make informed decisions quickly and efficiently, preventing potential supply chain disruptions and stock outs while ensuring high service levels to my customers.

Shabbir Dahod

So again, what you see there is a mix of the full end to end orchestration, multiple transactions, the ability to leverage reports and dashboards to have access to real time information and then make intelligent decisions. So one system, one platform, all the transaction flows and full availability for reports and dashboards at the end user level. Those reports and dashboards weren't built by some developer. They're built by end users, and they're built the same drag and drop way. Those calculations were just done in the UI. So what you see here is something that's highly accessible to everybody in the supply chain. So we'll now take a look at reports and dashboards a little more closely.

Video Voice

Creating rich visualizations with your data is easy using the reports and dashboards builder. Start by defining one or more transaction types from which you want to return data by selecting a query object, then shape the report by choosing the appropriate process network, partners, data ranges and selecting the data fields you want to include. The report will instantly populate your MINT data, and you can further refine. Using these purchase orders, for example, one can sort by expected delivery date to prioritize incoming shipments and ensure you're prepared for the most critical deliveries, group by purchase order to view all related items in one place, making it easier to track order progress and avoid missing or incomplete shipments. Aggregate product quantities to get a clear overview of total order volumes, helping you align inventory with demand and avoid overstock or shortages. And compute expected lead times by adding a calculated column to your report. With this you can easily track how long each order is expected to take from placement to delivery. This helps you track supplier performance and adjust procurement strategies to meet delivery timelines more

effectively. You next, bring your reports to life with the dashboard. It's as simple as drag and drop. Easily arrange reports side by side or layer them to create a comprehensive view of your data, whether you need charts, graphs or tables, the layout is fully customizable to suit your workflow, and as new data flows in your reports will automatically update, ensuring you always have the most up to date insights at your fingertips. This gives you an intuitive, real time visualization of your data, designed to help you quickly spot trends, identify disruptions and make informed decisions.

Shabbir Dahod

So again, those are all done by end users. They're all available in the catalog. We're filling up the catalog with reports and dashboards. You as a company can have reports and dashboards specific for your company in your own company catalog.

So you can pull things from the marketplace that we put in there. Partners can add, if they wanted to, to the marketplace catalog if they have specific reports. So it's completely open ecosystem here.

All the solutions, all the reports and dashboards, all these capabilities are on a single open platform that everyone can use and is highly usable at any individual level.

And what we see is the opportunity in the US supply chain, which is very unique, is the ability to actually marry EPCIS data with MINT. And so I know this is something that I've been asked about multiple times already, but yes, we're going to be making available the serialization data from US Compliance to Reports and Dashboards to SIT information through reports and dashboards.

And as we move forward, we'll open up more and more data through reports and dashboards, including SPI to leverage the same reports and dashboards capability.

And when we seize the opportunity to leverage it, the combination of serialization

information with your business information to improve all the different processes.

I won't walk through all of these, but they start from procure to pay and take you all the way to compliance as well.

So we, in the US, have a tremendous opportunity, because we are a full Track and Trace, network, and so the combination of adding more of this business information with the Track and Trace information can help everyone's operations get even better and better, better than probably most other industries, because of the unique nature, even though it's been a long journey, a unique nature of how we've implemented the end to end digitalization of the supply chain, and we want to continue to work with you to identify more of these types of use cases that we can continue to enable by the marrying of the EPCIS information with the business information.

And so as part of supporting that, one of the big requirements that the industry is having is the ability to move from the ASNs from as a compliance document as you start getting using EPCIS to be able to use them and the ability to continue to use them for commercial purposes.

So what we're announcing today is that we are going to enable you to be able to leverage MINT for free for ASNs. So as your partners continue to ask you to continue to have the ASNs flow, or as you continue to want to need ASNs from your partners, we can move those ASNs from product track to MINT and be at no cost to you.

So, hopefully we'll get some applause out of that. But I had to beat back the business management team that wanted to charge you guys. So hopefully you all are happy about that.

But MINT is transforming partner relationships, but there are many other processes we do throughout the supply chain that are very much so people to people based within the company. They're people to people based between your partners.

And so we've always been investing from again, from day one, from 2009 we first put out our batch record review process, change management processes, etc., to how do we actually redefine the ability to do process orchestration, and we went through a bunch of learning on this particular path.

And so what we did was really understand the fact that this, this type of collaboration that you do internal to a company through collaborative systems. You really need to have that ability to do that between partners as well and having a multienterprise collaboration system that can be highly configurable and customizable to your specific business process needs, is what POET is all about.

And so with POET, what we're able to do is really create a foundation, a foundation that is built on top of OPUS and all those no-code capabilities with some very core objects, what we term as like a work item which has a due date, an item which is just a generic object that you can use, and you can then configure it and customize it as you need, documents, the ability to manage documents, index, searchable, so forth, list of items with those core capabilities and the power of the OPUS platform.

There are many, many different types of use cases that we can support. And so Compliance Exceptions is one that we'll go through, that you guys have already been, using in the current SCWM that we're now updating to POET, but there's many others that we've also identified, and some partners have already started to build out as well.
So I'll give you a quick demo of POET right now.

Video Voice
Introducing TraceLink's POET, a powerful platform designed to unify your operations, streamline your processes and empower your team. With POET, you don't just manage workflows, you design them in a no-code environment, connecting people, data and decisions across your ecosystem. We're now looking at how POET brings the DSCSA Compliance Exceptions process to life based on guidelines published by the Healthcare Distribution Alliance, the solution replaces

manual workflows with a process that's tailored for a serialized supply chain. Exceptions can be created standalone through email or via multiple means of integration. Warehouse operators may initiate exceptions right from the floor in an automated manner using TraceLink's native applications. Once created, suppliers are notified through their preferred means of communication. Reports and Dashboards are where POET turns exception data into actionable insight. Get real time visibility into exception activity, filtered by status, supplier due date, or assign use ready to go templates or create personalized views to track performance across your organization and network, all from a single, centralized workspace, and it's all powered by TraceLink's integrate once model. POET makes supplier connectivity simple, scalable and built to last from custom workflows to real time collaboration, it keeps your operations compliant, connected and ultimately focused on what matters most, patient care.

Shabbir Dahod

So this is POET, which is the gen two of Supply Chain Work Management. But what we've done with Compliance Exceptions is we made it completely configurable so we support all the standards that everyone has been asked to follow. But you can also then configure it to be specific to your needs as well. And so that is now going to be available in the, I believe, June time period. And then we'll also be adding more and more solutions at a very, very fast rate. So here's an example of one that we'll be releasing, called Change Management.

Video Voice

With the OPUS solution environment, you can build and deploy custom workflows on POET in just hours, dramatically reducing time to value. In this example, a manufacturer flags a compliance violation during procurement due to a mismatch between the forecast and the actual delivery from a supplier. POET captures this variance through a structured change request process, giving both parties a clear, data driven view of the issue. And here's what makes it truly powerful. This entire process was designed and deployed using OSE's intuitive low code editor, making

it easy for business users to turn ideas into action without writing a single line of code. We're looking at two supply chain members collaborating within the system, leveraging integrated master data pulled from the enterprise's control vocabulary, ensuring consistency across reports and logs, everything from notes decisions to resolution status is logged, auditable and visible in real time via POET's dashboard. With instant notifications and deep visibility into life cycle progress, no update is ever missed. With this approach, POET doesn't just automate a process, it brings clarity, speed and accountability to even the most nuanced operational issues, empowering your teams to make faster, smarter decisions in today's complex pharmaceutical landscape.

Shabbir Dahod

So you've seen, would Compliance Exceptions, but now Change Management, and what we've seen is that we have a wealth of customers that have already adopted Supply Chain Work Management, they'll be moving towards POET, and they're all in the process of moving towards implementation.

So you've got over 100 plus customers here, I think close to 150 that are in different stages. Some are in production, some are in implementation, and then they're planning implementation.

So what we see is the opportunity, via Compliance Exceptions, to get everyone to be able to use POET, to learn from it, and then from there, be able to expand on that, because we think there's so much opportunity in POET, there's so many different processes that can be digitalized across your end to end supply chain, whether it's in quality management or it's in regulatory affairs or procurement or manufacturing execution.

And we have some partners that are actually making really good progress, they've started to build out these solutions, leveraging their early versions of POET.

And it's quite exciting, because, the idea, the reason why we call it POET is that we

want you to be creative with it. we want you to take your ideas and be able to, very quickly, be able to create a digitalization of that process and then be able to adopt it within your organization and bring your partners on board and be able to drive more and more digitalization.

And the beauty is that this digitalization creates information that you can drive analytics on real time, analytics with it as well.

So again, we're, we're at a very fast pace of innovation right now. And what you're seeing from us is now that we have our mature platform with OPUS, you're seeing a very, very, fast pace of innovation and being able to drive more and more capabilities into the marketplace.
And obviously we are going to continue and to, support all the different global requirements. From a Track and Trace perspective, it's our bread and butter, it is the majority of our of our business.
And so as we continue to track global requirements, we will continue to implement them, but we'll implement them on OPUS. We have them on OPUS, but we implement them on gen two.

So we are fully committed to every single global compliance requirement, assuming it's possible for us to implement, we will continue to support it.

Obviously, we've got done Uzbekistan, Kazakhstan, Indonesia. Now all the different Middle East, UAE, Bahrain. We will continue down this path.

We are fully committed to the security and safety of product at a global level, and so don't think we're, the that's something old, it's something that's new, and it's something that we are constantly focused on and will continue to deliver on.
And we've seen that with EPCIS in the US, obviously, there's been a significant adoption of EPCIS. Us being the core network that everyone relies on, we've been able to bring customers and those links live on an end-to-end basis.

Hopefully TraceLink customers are the most prepared customers out there. I know

that, and we're always willing to help anybody else, even if they're using a competing solution, to get them on the network, make them successful.

We do spend a lot of time on that, with their errors and stuff like that, but, we're fully committed to make sure that all of our customers, on an end-to-end basis, will be completely ready for all the different deadlines that are forthcoming here.

And part of that is also the fact that we're looking at the opportunity to drive more and more value from the information that we've got.

So obviously, Targeted Recalls is an area that we've invested in, because we think that the ability to have this lot level information compared with the shipping information can dramatically improve patient safety by us cutting down the time it takes to actually find the products that could harm patients.

So we'll do a quick demo of that next.

Video Voice

As supply chain and pharmacy professionals seeking to maintain high quality service levels for patients, you understand the significant challenges product recalls pose. Recalls not only threaten patient safety, but also consume valuable pharmacy staff time. With TraceLink's digital recall solution, all your compliance and recall management processes are integrated, allowing you to discover, track and act on product recall events seamlessly. Here's how it works. When a recall is issued, TraceLink immediately consumes the recall information from various sources, digitizes it, and then triggers a series of automated actions within your TraceLink system. In your Serialized Operations Manager, the affected inventory is instantly marked as recalled. Over in your US DSCSA Compliance solution, you can quickly search for and view deliveries containing recalled items. Digital recalls delivers instant visibility into the impact of a recall, showing teams whether they've been affected, when it was received, where it was received, and in what quantities. This clarity empowers busy pharmacy staff to cut through the noise,

quickly identify recalled products and accelerate retrieval. The result is reduced organizational risk, less burden on busy pharmacy teams, and, most importantly, enhanced patient safety.

Shabbir Dahod

We go through the process of actually digitalizing all the recalls notices that are out there. We actually are sourcing more than the FDA as well. We send that down the network. Anyone can receive it. When they receive it, US Compliance SOM can react to it, mark that particular lot to be recalled, and enable you to be able to run a report immediately, then find when you ever received or shipped out that product with that lot. So that capability, compared to what people do today, is light years ahead. Today, everyone runs around, turns things on a shelf, tries to plow through different reports. And so this is the promise of track and trace is that we can execute these processes in a much more effective way, and then we can have that as part of our solution.

So we are going to continue to drive adoption of this. We can try to make it even easier for people to adopt, so that we can actually drive patient benefit. And the team knows this. In the most recent meeting we had internally, I just said, “Look, this is not in the area that we're looking to make a huge amount of money. This is just the right thing to do.” So we're just trying to figure out, how do we get the right thing to happen in the industry, and I think we all can work together to make that happen, and we're going to continue to drive within our customer base the ability for us to leverage this information for the good of the patient.

Now I'm going to take you to what's coming up in the next six months. That also is very exciting. I know it feels exhausting already, I'm sure, but we don't stop. We continue to innovate, we continue to drive and we are very, very excited about agentic orchestration.

I believe agents and LLMs are going to be as transformative to industries as the microprocessor was transformative to all our industries. So you may ask, why do

you think such a thing? The reason why I think that is because, when I look at a microprocessor, what it did was put the ability to have this type of processing, this intelligent processing everywhere, made it ubiquitous, right? It was not something that was just in the computer room. It was something that could be in your phone, it could be on your laptop, it could be in your car. And this enabled us to really have this computing capability that made us much more effective at everything we did in life.

Agents and LLMs and specifically Gen AI is the same thing. It is a new form of intelligence that can generatively enable us to get insights and intelligence and actually do things for us that make our lives better, that make us more efficient, that make us more productive. And so the opportunity here that we have in this industry and in the society is, how do we now bring that intelligence into all parts of our operations and in all parts of our life.

And so we believe that by putting agentic capabilities inside OPUS, that we can improve on those goals, that we can dramatically improve profits, we can dramatically improve growth opportunities, dramatically improve everyone's productivity and everyone's day to day life, because there are so many mundane things we have to do that hold us back in life, because we're obsessed by doing things that we wish somebody else could do for us, and that's what an agent is. It's someone that does things that is a repetitive task that you don't need to do. So you can now operate at a higher level.

And so this type of intelligent information is intelligence can only be achieved through digitalization, because if you don't have the information flowing through your network, you cannot have intelligence, because if you don't have information and data that is understood, you cannot drive intelligence, and you will actually drive, hallucinations, right?

And so having this core digitalization of information flow through your network, flow into your systems, and to be able to take advantage of it, is critical to be

successful in the agentic world. And the agentic world, is coming very fast, and those companies that get there first will have better profits, will be more agile and will grow faster.

And how we see this unveiling is that they will be different levels of capabilities that the agents will have. So some might just be informative. We have this on our website. We have an Amadeus agent that takes all our information, all our content, and you can go ask it questions: How do I onboard a partner? Or, how do I configure MINT? Can MINT help me with my transportation?

And so there'll be more and more agents like that. That's probably what you're seeing mostly out there. But what we see next is what we're going to deliver is the agents that can actually start to take actions. You can say, generate this purchase order for me. Why do I have to sit there and fill out every field when it's the same supplier, the same material. 99%-100% of the time, it's the same fields I fill out.

Why don't I just see the fields that are just specific to what I need to do. <aybe even tell me, what were the last 50 purchase orders and the average quantities that I did, and the ship dates, and compare that against, what I actually delivered. And so that I get the right lead time. An agent can do that.

That's probably what you do. You sit there and you click through, tirelessly figuring all this stuff out, running reports and maybe just instinctively know it. But an agent can do that.

An agent can also say, just monitor these materials. You can configure an agent and say, monitor these materials and make sure that I don't run below any stock. And as shipments come in, as production occurs, inventory is being depleted. It can constantly monitor the inventory for any particular material, a set of materials.

And if anything anomalous occurs, it can then raise an issue, generate a report, an alert for you. An agent can even go beyond that, and an agent can potentially even plan, leverage your planning system, actually start to execute a plan, run some

scenarios, present that to you.

So this is where the world is heading, and we are going to be on the forefront of it, where we are going to build into OPUS itself, the ability for you to build agents, for partners to build agents, and we will provide agents.

And the beauty of it is, is that we are so well positioned because of our OPUS architecture. Because with OPUS what you have is the metadata. All information is completely defined, described how objects are known. We don't have to guess about it. Other companies to run around trying to create metadata, say, create a data lake, do all these things. It's known inherently.

And we are teaching the LLM about OPUS. We're teaching it, oh, these are the objects. These are the relationships. These are its purposes. And here's what a supply chain does, here's the different intents and types of roles that people have, here's the objectives that they have, and we're enabling the agent to generate the actual code to be able to access OPUS information within your company, so you can then have it generate, a plan to actually call into the OPUS information, leveraging this one single interface GraphQL, to get information, to be able to process it.

And then you'll have, what we are setting up is the ability to provide you with profiles, agent profiles that are like a supply manager, a customer manager, etc. They will define those. They'll have work instructions and objectives that you'll be defined. And then you can create an agent off that profile. You can configure it appropriately for your needs, and then it will continue to learn based upon what it's doing.

So these are all capabilities that we are actively building and incorporating into OPUS. And there will be a new solution application called Amadeus that will be part of OPUS, that will be your agent tool, just like you have reports and dashboards and other things, and you'll be able to leverage agents off of the catalog that we

provide or create new ones.

You'll be able to use those agents and say, I'm the manager, and the agent will report back to you as to how it's doing. So this is real. This is happening, and we intend to be at the forefront of this, because we believe two things: we believe that the supply chain is going to be one of the largest beneficiaries of agents.

And we believe that TraceLink is in the best position, the absolutely best position to deliver on it faster and better than everybody else. And so that's what's driving us right now for our next set of releases coming out in October.

And we see that there's many different areas that we can address with supply chain orchestration, we talked about recall management. And recall comes in a set of operations and steps you go through. You don't need a person to do that. An agent can do that.

You can be monitoring the DSCSA shipments. I know I hear all the time. Okay, an ASN comes in. I have to match that with the EPCIS. Maybe have to match that with the invoice. All those things can be done by an agent.

We're also going to enable OPUS capabilities to be leveraged agents. So instead of dragging and dropping, you can say and see, say, oh, create this UI. Create the ability to, take this object and create the UI, or be able to just tell it, I want to create a batch record review process, POET process, and it can go ahead and construct that initial user interface for you, that initial set of objects, you can use it for partner onboarding, user administration.

There's so many, so many opportunities out there. Think about all the things that you have to do in any walk of your life that can now be made so much better with an agent.

And the reason why we believe that we've been successful is because of our core focus on the life science industry. We are staying 100% focused on life science, we

are going to be deep in life science. We're going to continue to drive more and more value here.

Obviously, most of what we do can be applied to other industries, but we believe that there is more value in us being able to drive more and more network growth, more and more collective network effort, drive more partners to innovate on OPUS, the ability to leverage these no-code tools, agent based tools, and be able to continue to drive more and more capabilities for analytics.

So what you'll see from us in 2026 is more analytics, more data access to enable you to get even at a higher level of agentic orchestration, because agents can then leverage that information, those capabilities as well.

So while we've been on a very steep climb, we are going to continue to raise the bar. So this is only this year's goals, but we have been on a march here of digitalizing the track and trace network, creating the core platform with OPUS, bringing out new products with MINT and POET, now with agents. And then next year, you'll see us really focus much more on analytics and the ability to leverage machine learning and predictions within that and we really look forward to partnering with you on this journey.

So thank you very much for your time. I know it was a long road, but we have a lot of exciting things to talk to you about.

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