



ACCENTURE AND SAP - INTELLIGENT ASSET MANAGEMENT

VIDEO TRANSCRIPT

Mark: Welcome everyone. Good morning. Mark Pyatt, as she mentioned, I am part of the Norfolk Southern account, pleasure working with you Lynnanne on a weekly basis to look at the projects. She's our overall primary speaker. Today, you'll hear about, what we see here. That's not my slides. The slides aren't forwarding now. Sorry about that, guys. Technical difficulties.

Lynnanne: Yeah. Give me 1 second.

Mark: There we go. Yeah. Okay. Today, we'll hear about how this project with Norfolk Southern, their business goals and objectives. What considerations should be made to define digital transformation, to enable asset lifecycle management. How to identify the right Norfolk Southern resources to manage and support this project. So these are three kind of goals we've talked with. Next slide, please. The agenda today, discussion is going to be about defining linear asset management, developing the LAM blueprint, and then ensuring LAM's success. And then will have a Q&A session at the end if any of you have questions for Lynnanne or myself. So again, thank you for joining us. It's now my pleasure to welcome Lynnanne Catron, the EVP of information technology and executive sponsor for the project and the visionary leader who is driving this digital transformation project for Norfolk Southern. So Lynnanne.

Lynnanne: Okay, Thank you, Mark. So to get started, I wanted to just share a little bit about our company who Norfolk Southern is, and why it's important that we invest some of our technology dollars towards optimizing and really accelerating digital transformation in the space

of linear asset management. So as a company, most of you probably know we're freight transportation, railroad. Some people like to say that the railroads move our economy. One of the new taglines that we'd like to, to put out there is that we're in the business of a better planet. So we believe in freight transportation, rail industry as a more sustainable way to move our goods around the country. So we're very sustainable, sustainably focused, sustainability focused. We have recently launched a best-in-class carbon calculator to help our customers and potential, potential customers understand just how, how carbon friendly we are. So that's all really exciting. We are also a very capital intensive company and industry. So we manage, support, maintain, build, construct assets on a very regular basis. If we don't have our assets in the right place, the right condition at the right time, we can't deliver on our customers' expectations. So we have 40 plus billion dollars of assets. We spend several billion dollars a year and capital and expense dollars acquiring, optimizing, maintaining the infrastructure. We're also technology forward company. There's a lot of really exciting technological advancements going on in the rail industry. And actually railroads have, have always been very tech forward. A lot of innovative technology has come out of the rail industry through the couple of 100 years that we've been around. So we're also a safety driven company. So everything that we do, we do with safety first as our mindset. And it's very important for us as we look at investing in more and more technology that we're always looking for ways to make the work that we have to do safer for our employees. So with that, we will move on. So



what I wanted to share here is a little bit of our strategic approach to using SAP at Norfolk Southern. Now I'll give you just a little bit tidbits on, on our journey with SAP. So we implemented it way back in 2012, which I know is only a decade ago, but we were actually a late comer to the ERP party. When we were moving into SAP, it was very much driven by technical currency. We had a very old materials management system that had to be replaced. We either had to build a new one or we had to figure out another way to service the activities that needed to occur and what's known as the sourcing to procurement source to pay source procure pay lifecycle. So we made a strategic decision to go into an ERP. We picked SAP, and we decided at that point in time that we did want this to not just be technical currency, but how could we replace the majority of our enterprise services that happened then? And what people call the back office. And how could we do that in a way that we could deliver future value out of the ERP. And so we brought all of our HR, our core record to report or financial accounting functions and then also the source to pay, right? Everything that has to do with inventory materials management, procurement. And we did that very strategically, knowing that the opportunity to deliver year over year value to the company, return on investment was wrapped up in enterprise asset management and environmental health and safety. These are processes that, you know, are very tangential to people and finances and materials, right? Everybody needs those things to really accomplish their business processes. So as we did that, we we needed to get that core foundation in and stabilized and we did that in 2012. And then we started on the journey of looking for opportunities to retire additional legacy applications and bring them into the ERP. And specifically in enterprise asset management, we think it's really important for us to have building blocks in that ERP. And then each iteration we get better and we, we deliver more advanced capabilities. And so we started with some base functionality around some facilities and then our roadway machinery equipment which is at Charlotte Roadway Shop,

to maintain our track structure and help help deliver what our engineering department does. And then we started focusing on equipment assets, freight cars, IoT, these which are a device that slaps onto the back of the train, the to let you know about the, the back-end of the train. And then our locomotives RM process. And now we're stretching out into engineering. And it's a very exciting time because our engineering department is really, really good at what they do. We, we are best in class and a lot of publicly published benchmarks and metrics. So from a cost perspective and, and, uh, delivering outcomes, we have an excellent Engineering Department, but they never, they never stop, right? They want to always get better. And they know that technology and especially with the advancements in the last decade or so around digital transformation, we have a lot of opportunity to continue to optimize how they deliver work. And so that's what this program is all about, is how we can really be the technology delivery arm for our engineering teams and help them to continue to deliver more and more value at, at lower costs. So how did we go about, do you know when you think about enterprise asset management? I mean, what what does enterprise Asset Management mean? What does it encompass? What kind of pictures does it generate in your mind when you hear the term enterprise Asset Management? I suspect that each of us has a different lens that we see it through and a, and a different point of view on where the value is and what the most important thing is to attack. So I think we all can agree though, that it's a massive undertaking and there's a lot of complexity wrapped up an enterprise asset management. So one of the first things that we did and we knew was going to be very important to do is we wanted to build a framework, something that represented on a page what we would do and what we're talking about while we're doing it. And that everybody can have an anchor, if you will. When we start talking about a particular topic, we know what it's, what it's relating to. And so this representation here is, is that on the left-hand side we talk about maintenance. Maintenance is a critical piece of Enterprise Asset Management.



Once you get the asset in place, you gotta get the life out of it and you have to properly maintain it. And a lot of the maintenance activities that we do are very reactive. We do a tremendous amount of inspection work and we're regulated to requirements. I didn't say that very well. The regulatory requirements that we have really forced us to do a tremendous amount of inspection work. And then of course, inspection identifies defects and then we have to get those resolved. And so one of the key outcomes of any effective asset management program is going to enable you to move away from reactive work and more into proactive work, right? The more work we can plan and execute, the more efficient we can be at delivering that work. So on the left-hand side, we're always looking at how can we move away from reactive and then towards prescriptive maintenance. And then in the middle, this really helps us understand what the scope of enterprise asset management is. Across the top of it, we talk about plan, design, acquire, construct. I can't read it, operate, maintain and retire. And that's the life cycle. Right? And where we're focused right now is on the maintenance aspect of it because that's really where the money is, right? I mean, these are long lived assets. They're installed and we expect them to produce value for many, many years. And so we have to get the most effective maintenance work that we can. So the boxes here really categorize the functions within the maintenance step, if you will, of Enterprise Asset Management for us. So that's the kind of art, conceptual, functional framework. And then the next area of the slide talks about the people, right? Because it's all about the people. It's the people who're on the railroad maintaining our assets. And that's where the real work is occurring. And so we've taken a very user centric, persona based approach. And we're working with not just subject matter experts in the office, but we are out in the field. We're bringing in experts in each of the different types of activities that are going on to be part of the process. Because again, we want to automate and, and, and empower our employees with tools and technologies. And so the persona base is a big focus of our program.

And then on the far side, obviously we don't want to spend a dollar unless we're gonna get a dollar bag or more than a dollar back. So we're always talking about what are the KPIs, what are the operational metrics? What are the things that these investments are going to materially move the needle on. And so a focus on those KPIs and time those benefits back to the investment really is how we prioritize what we do first, second, third, fourth. So it's been a, it's been a really good process for us to go through to spend some time. And this is a business centric approach to this work. So this is our engineering department working with our technology consultants and specialists in this space. But it's really a business centric process that, that we're engaging in. All right, so this is a busy slide. There's a lot of stuff on here and I really don't want to spend too much time here. I think the most important thing for us to, to understand is that we knew we had to slow down a minute to be able to go fast and we wanted to deliver our, our linear Asset Management Program following Agile methods. Using Agile methodology. And so we went through 12 weeks workshops with all of the subject matter experts, the leadership in the engineering department. And we talked about all the different activities that we do and brought it into manageable buckets of capabilities. And then we blew out in more detail the features that are necessary to really get the value out of that capability, right? And so we wanted to also be able to tie the work back into our corporate strategy and strategic plan. So the reds, the yellows, the greens are really the primary corporate strategic pillar that, that work aligns with. So when we think about explaining to our, our senior leaders how this investment is going to deliver value back to the company. It's not just engineering and being able to, to work more efficiently or more effectively, but it's that we are impacting safety measures. We are impacting our financial costs and help him to deliver on the o our goals that we have. So that's what we did. We organized our work around capabilities and features and then that helped us to prioritize our roadmap. And so this slide is really kind of the, the lynch pin of the work that we're doing when. And what this represents here is it's very



business centric terms. The, how the capabilities are going to be delivered over time and work in an agile framework. We know that we can't put prescriptive dates on when these things are going to be delivered because we're always learning as we move through the process. But we know and we knew early on that we had to take enough time to build the foundation correctly. And for any program to be successful, we do have to focus on process and people. And then the technology and I know everybody on this call has heard consultants and Technology Specialists say, well, we not, we have to get the process right first before we add the technology to enable it. But we don't always really do that, right? We want to rush into the technology and let's get technology out there and we'll figure out the process and the people later. One of the things that I think we're doing really well on this program is that we're not losing sight of the people in the process before the technology. And so we know there's a lot of foundational work that has to be done. We have to standardize how we approach certain work activities. The railroads, a big company, were spread out over 23 states. We have lots of different divisions that are out there responsible for territories. And we need to bring standardization into work management and work execution so that the data that's coming into our system is more consistent, more accurate. We can roll data up, we can centralize planning activities when we have data coming into in a standardized way. So we're spending a tremendous amount of time kind of in that bottom left corner and the foundational activities. But those foundational activities are not just tools and technology. There are about processes there about data definition. How do we, how do we really need to represent our data in the system? How's that day they're going to get into the system and thinking about those business processes and then working with the people right early in the process. So that we are educating and acclimating and people to the changes that are coming. Because when you think about it, this is, this is a tremendous amount of change and how we work. Okay, I'll pause there and go to the next slide. So let's talk

about the people. I mentioned early or earlier that we are taken very persona-based approach to this. And we want to understand exactly what it's going to empower the employee to be as effective and excellent at doing his job or her job as possible. And so these persona base maps or a Day in the Life maps really talk through each step of the process and helps us to identify where technology and automation is being answer versus a re-engineering of a process being the answer. But regardless, organizational change management is critical. And one of the things that we were very focused on as we selected our system integrator or a partner, was that we needed to have a high degree of confidence that they understood our culture and that they understood the impact of the changes that are being talked about and proposed. Because when you think about it, if our people are not able to adopt or embrace the technology and use it to the fullest extent possible, will never deliver the, the benefit downstream. So it's been very important to us that we constantly are consistently are engaging with boots on the ground, with the people that are actually doinh work. Socializing, testing, iterating, and ensuring that it's going to work, right? That we can actually put it out there. What do you think about it, we're not going to necessarily change what a signal maintain or dies like the tools of his trade and the way they fix a signal or a communications box uhm doesn't change. But the way they record the work that they're doing, the way they get their work instructions, the way they can have access to more insights into how to go about fixing that particular defect. We can really enable people with a lot of tools and eliminate administrative overhead and burden in getting data into the system. And that's where mobility comes into play and making sure that we have disconnected mobility and that we can work wherever we are and we can give people the, the data that they need to, to make the best decision on the work they're about to do. All of that comes into play and OCR should not be under valued or underestimated. It needs to be invested in. Make sure I've covered all my points there. Okay, so this slide represents a very high level of our architecture. One of the key points in



our program. And while we do have a core competency around SAP and taken advantage of and using our SAP platform in the most effective way. It's not our entire solution, right? Our approach has never been to SAP is the answer and the only answer for all things, linear asset management, that's not realistic. We have operating systems, we have defect management systems. We have the ability to collect insight. We have internet of things out there. We have sensors that are telling us information about our assets. So we want to gather all the goodness that we already have deployed and we want to bring it into a more fine-tuned and well-engineered in the end process. So the things on the left are some of those external systems and processes are enterprise GIS system is, is exceptional. We've invested a tremendous amount of them technology over the years in an enterprise GIS system. And so that's a big part of our solution is taken advantage of that. And then, as I mentioned early on, when we implemented SAP and we have our people and our financials and our materials and demand driven procurement activities in the ERP. Now we bring enterprise asset management capabilities online and things about defect identification or notifications and work management, planning, work scheduling, work dispatching, work, capturing the work that's being completed out in the field by our workforce. All of those things. That's bread and butter for SAP. And we want to use that to the fullest extent possible, all of that natural integration. And then at the end of it, we need to produce actionable insights, right? Nobody wants to spend a bunch of money on an asset management system if it's not going to help us be aware of and get in front of issues that, that may be out there so that we can get ahead of it. So the analytics are a big piece of the ongoing program. And you know, years ago, decades ago, our our investment in projects, you do an IT projects typically left reporting and analytics to the end or we would come back after the fact and add that in. Really the approach has switched where anything that were due and we're thinking about what's the insight we need? What's the KPI that needs to be created from

this work that we do and, and making sure that as we deliver feature and function, the analytics and the insights are there, ready to go. And our business partners have the insights and the ability to act on them immediately. It's, it's a really big piece of the puzzle. And, and here I was just going to talk a little bit more about running this program using Agile. Norfolk Southern, like many companies, has been on a journey to transform how we deliver technology. And I guess, I don't know if we're late to the game or or not, but we started our Agile transformation journey about three years ago and we've been systematically working through our application teams and working to move them into an Agile framework. And of course, anybody who's been on the Agile journey knows that it's, it's an enterprise journey. It's not just an IT journey. And so, you know, our business partners also have to acclimate to new ways of working and we have to restructure and create these product owner teams and figure out what a product is and how we're going to establish Scrum teams and it's a work in progress. I will not say that we've nailed it all in that we're a 100 percent there. But we knew out of the gate starting down this path with engineering, we wanted to be working the way we are going to be working in the future, right? We didn't feel like it was going to be helpful to start in one methodology and then how to transfer over to a new methodology that we've really accelerated a bit in that regard. From an SAP perspective, running Agile projects and an SAP environment is not necessarily an easy thing to do either. And one of the things that I think helps us is that we're starting this linear asset management journey in our new S/4 ecosystem. So another piece of the complexity for Norfolk Southern is that we are retiring systematically retiring our legacy ECC environments and moving everything up into our S/4 ecosystem, which is a Cloud-based HANA Enterprise Cloud environment. So that does introduce some complexity where we have to have. Good governance and control lever our architecture decisions and design decisions. We need to make sure that we're moving our core system forward in a very sustainable way. And then the



asset management activities are consumers of those services. It, it's been really powerful to see how well this, this transformation has been going for this, this particular portfolio. I'm really excited about how our business is embracing it and really drop in the program. This is not an IT-centric or IT-led initiative. This is a very business centric initiative at Norfolk Southern. So our engineering team is big. There's a lot of different assets when you think about all of the things we have to maintain from a railroad perspective. The defects are a big piece of it and we want to consolidate that so that we have all of our different sources of insight coming into a common place and then being able to generate work orders and work instructions out of that, our bridges and structures have some nuances about their data and their regulatory requirements that they have to do. And so we have a separate bucket really focused on bridges and structures. And then we also have communications and signals. But all of those teams are working together towards one kind of common high-level process. And then we are creating our customizations, if you will, in the user experience and the user interface, right? So we'll drive that to the mobile applications or to the very asset specific requirements that we might have. So we want to enable the competency or the capability or the activity, but then have the nuances for the asset class built out and the UI/UX. So we've been running Agile for about a year and we're getting ready to do our second program increment, where we'll plan out our next 90 days of work across each of the different areas. And so far so good. I think everybody's really excited with our ability to come see what's coming up and then actually deliver what we said we were going to deliver in the, in the timeframe. So lastly here I wanted to just expose, I guess some of the KPIs that we've been talking about and working with our business partners. Obviously, all of these KPIs would not be delivered at day one. It's, you know, it's a journey and it's a program. And we were working with our business partners to really understand what are those things that you look at on a daily basis or weekly or monthly basis that really drive your decision-making or help

you anticipate how you can be more effective or answer up to senior management or drive decisions on on retire, replace, repair, those types of activities. So KPI's are a big piece of the puzzle and there's lots of different areas. One of the things that I forgot to mention earlier is just the opportunity when you think about a \$20 billion of assets in this space and spending a billion or more a year in this maintenance activities and construction activities, incremental improvements. I mean, a 0.5% percent improvement in your overall portfolio really pays for the technology. Mean you pin, you can get a lot done for 10 or 15 million dollars and technology and that's an incremental improvement in those those costs. So the opportunity is big. There's a lot of different ways to, to move the needle in this space. One of the things that we discovered early on in our enterprise asset management journey. It was, it was a bit of a surprise was how much opportunity we had around warranty, um, and warranty repairs and different types of materials that we didn't have a really effective way to manage warranty and are are seeing a lot of opportunities to, to eliminate costs by taking advantage of the warranty that, that we have in certain, certain areas of material. So lots of opportunity in this space, and we're really excited about it. And with that, I will leave just a few minutes here at though at the very end for questions, if anybody has any.

Moderator: Awesome. Thank you. We do have a couple questions. The first question is what preparatory steps to Norfolk Southern, both IT and asset operations takes you to get ready for this transformation?

Lynnanne: Yeah, well, it's been a journey, right? So from the, from the IT side of the house, who manages the SAP ecosystem. We, we've been on a campaign Journey for, for many years. Like that's the building block journey slide that I talked about early on. And I think it's just being able to articulate out the opportunities and the value. And then when the, when the opportunity arises for technology investment, you know, you've, you've kinda lay the groundwork there.



But the big thing that we did was the 12 weeks of workshops with all of our stakeholders. And, and when I say all of our stakeholders, I mean leadership-level stakeholders down to field services, people that do the lawn maintenance work. So we had a cross functional cross section of resources all gathered. Now that we have a very strong relationship with Accenture. Yeah, sorry Mark. I'm not going to say Accenture's the only team out there that could do this. But for us that was the best answer for us because of the relationship that we had and some of the other work that Accenture had done for us, we had built some credibility with, with Accenture. And, and they did bring an excellent team to bear for us. Lots of expertise in the domain, railroad expertise. And I think that's really important. You have to have resources at the table that know what they're talking about obviously, but know the domain and our industry and can talk to our engineering teams. So we've spent 12 weeks and that was a bit of a negotiation. You know, our business partners want to go, they're ready, we need answers, we need solutions. But it was really important for us to establish alignment across the leadership and down the organization. We're all on the same page. We're speaking the same language and the business is leading the charge. And so really getting that, that group of people, the right group of people at the table build in this team and then that allows us to move faster. We were making decisions faster. We know who we need to talk to, we know how we need to engage. And we have a very cohesive team that's uhm, that's working together very well. So I think that 12 weeks of workshops really established. And what are the capabilities? What are the features? What does this mean? What does it look like to do foundation work? What's innovative work, what do we gotta do to get there has been really important.

Moderator: Awesome. Someone else dropped in. For data governance, did more folk implement master data management. .

Lynnanne: So that's a great question. And we, I would say right now, we're still in the process of

designing our data architecture and hierarchies and how the data is going to be structured. We will implement master data governance. I won't tell you which tool we will use for master data governance in this space. So we have a couple of options obviously. But yes, master data governance for the engineering department is critical. They recognize that. And we have to make sure as we start to get towards a production system. So our system of record, we have to have appropriate change control when and the ability to to ensure the data flowing into the system is, is accurate. But then also as we maintain that data going forward, we need to have change control process is on that. So we don't have a master data governance tool that I'm aware of selected for this yet, but we will.

Moderator: Awesome. And then a couple more voice of a couple of minutes, how we'll asset lifecycle processes changes, you adopt the new SAP EAM solution.

Lynnanne: Yeah. So I guess I would say that we are designing our asset management processes and then implementing technology to enable them. For the core functions within SAP. That the biggest changes around standardization. We have to, we will use a work order for every work piece of work that's been done. It has to be documented on a work order in the system. So those types of changes are impactful as we work with the people and the processes and, and we move people to that, that standardization. I would say that we're not. So for those core functions, we're adopting standards across that, that work management and work execution. Everything else is really I mean, the process is the process and they knew you maintain assets. You'd have to you'd have to know something's wrong. You gotta figure out how to dispatch where we got to document the work that your doing all of those insights then become very powerful to get too prescriptive maintenance where I noted before something goes wrong to get somebody out there and and tend to it. So we don't have the derailment or the outage that we want to prevent. So I would say that it's really around standardization.



We need to have, you know, one way to, to bring data in and one way to run it through the lifecycle. And that's, that's probably the most significant. From a process perspective. Drawing the standards.

Moderator: Awesome. We have one more well, we have a minute left. What advice can you give us on how to get the same type of project started for our company. What's most important?

Lynnanne: Well, it's business ownership. It's really have an alignment with, with the business and be understood the value, tie-in, tie in the investment. These are expensive project. See, you can't deliver something like this for a million dollars in three months. It just it's a lot There's a lot to take in when you look at the slides that we showed here today, though. So it has to be, it has to be strategic. It has to be something that you can tie the investment to. Real measurable returns going forward. And it has to be sponsored and driven out of the business leadership because it will change how they manage work may just well, we do a lot of paper-based. Thanks today it's ripe for digital transformation. And we know that. And so it's, it's just had has to be something that's driven out of business. And you have to have that one team working on it with that goal of getting to where we need to go.

Moderator: Awesome. Thank you. I guess we're at the end now, so thank you guys so much for speaking today. That was wonderful.