MITIGATING SUPPLY CHAIN RISKS: WHY IT BEGINS WITH END-TO-END VISIBILITY

DASSAULT SYSTEMES

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MEET OUR EXPERT

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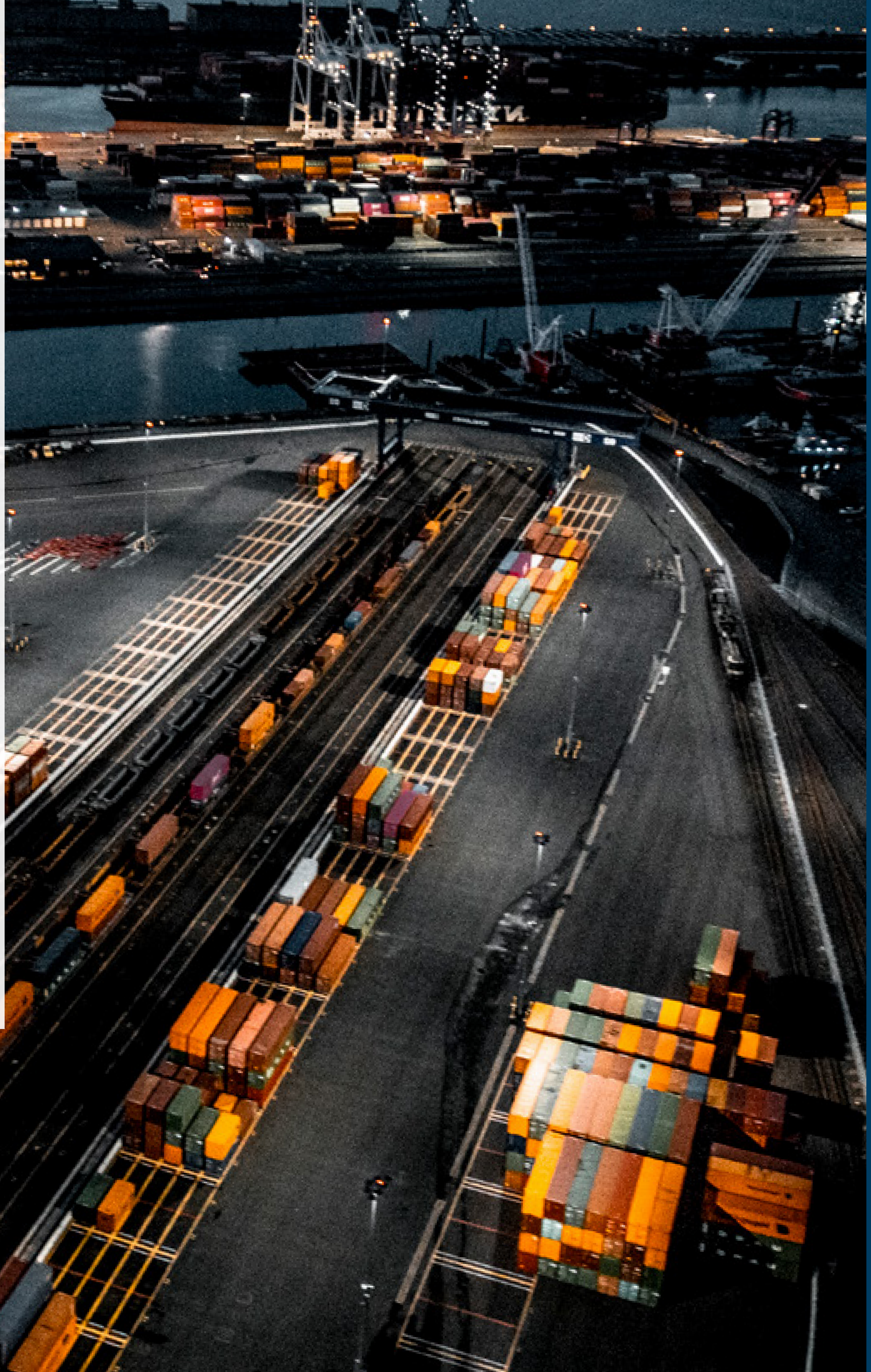
Adrian has spent over 20 years in customer-facing positions ranging from sales and marketing to fulfilment and account management. His career focus has been on problem solving and development within emerging and rapid growth segments to enable customer success across a wide range of industries from high tech to retail and logistics and across multiple disciplines such as supply chain, manufacturing simulation and analytics.



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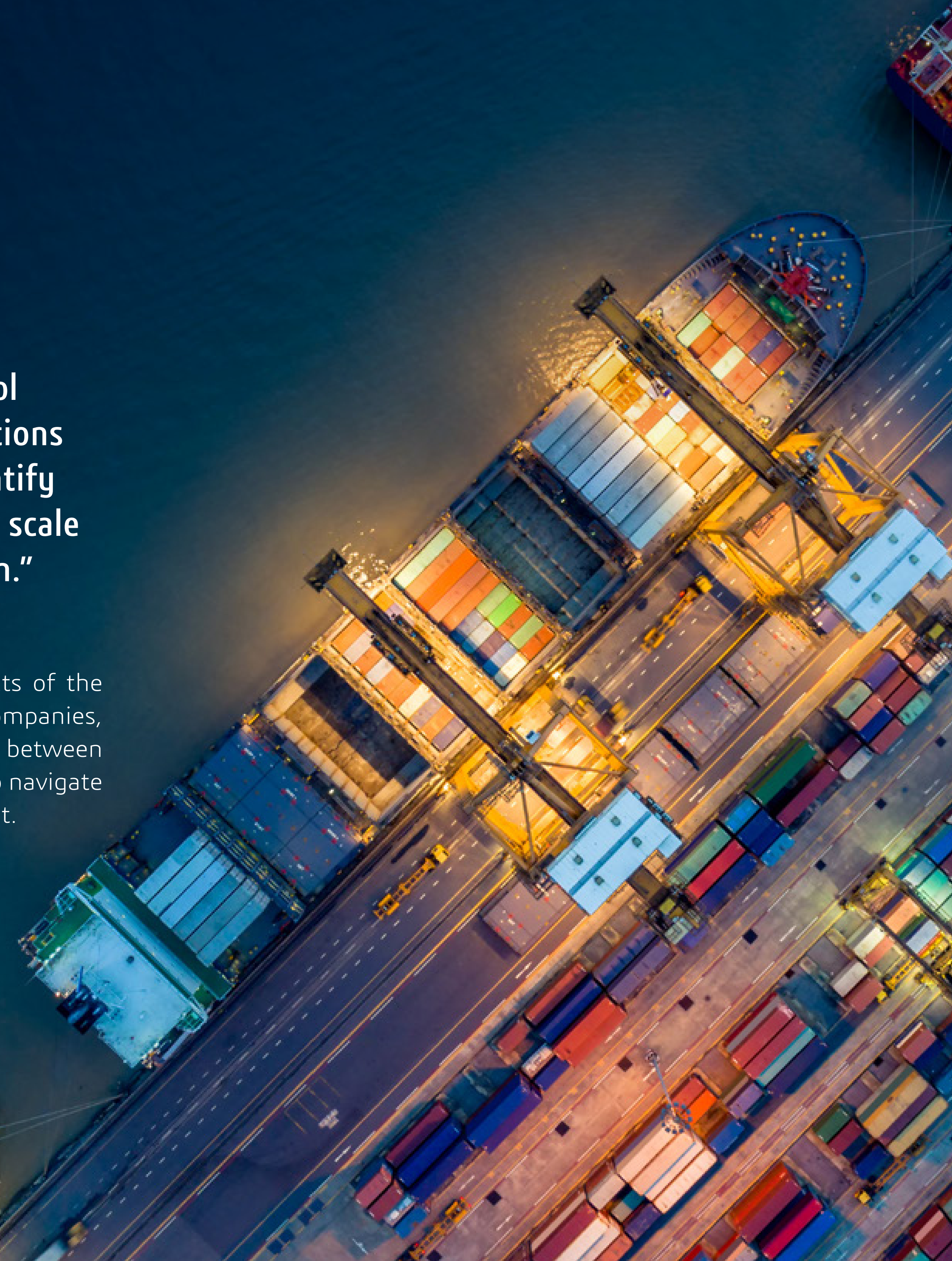
HOW WELL DO YOU KNOW YOUR SUPPLY CHAIN?

> “One thing a lot of industries realized [in 2020] was that they didn’t have a control tower view of their operations. Their operations were broken into silos, so no one could identify the full impact of the pandemic or its larger scale disruptions to their end-to-end supply chain.”

The sheer unexpectedness and magnitude of the effects of the Covid-19 pandemic served as the latest — and for many companies, the greatest — wake-up call. A stark line was drawn between companies who had a clear view of what they could do to navigate new and changing circumstances ... and those who didn’t.



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Why visibility matters

A destination is only one end of a journey. The other is the starting point. To make a plan to reach your destination, you need to know where you are. You also should know something about your vehicle. How fast can it go, what shape is it in, how soon and how often will it need refueling. If you are not absolutely clear about your situation, capabilities and limitations, it is extremely difficult to rise up to current challenges. Even worse, there is every chance of making a bad situation worse.

> “If you don’t have real-time visibility into the state of your operations, company and industry, you are not developing a plan from a strong foundation. If you set a plan for tomorrow without knowing where you are today, you will introduce risk.”

In spite of the widespread and complex nature of global supply chains, there are technologies that help you gain in-depth, end-to-end visibility. This ebook shows you how to achieve that visibility, and then how to apply it to identify, predict and mitigate any risks that threaten to interfere with your business goals.

For further reference:

“Webinar: Guarding Against Supply Chain Risks”

Watch the replay

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What is supply chain visibility?

Repeated as true for many years, it was once believed that the Great Wall of China was the only one human-made object large enough to be seen from the moon. Though long debunked, it did fire up the imagination, putting into perspective the idea of something so huge that it could only be seen in totality from a very great distance.

Global supply chains fit into that definition. And yet, to mitigate risk across your entire supply network, you first have to get visibility of your entire supply network. If this sounds daunting, it's because it is. Global supply chains are too large, complex and dynamic for the human mind to grasp in any way except in a drastically simplified form.

However, visibility is not about seeing every nut and bolt at once. It is about being able to call up any information about it, down to the individual nuts and bolts, when you need it.

In order to have true visibility, there can be no dark areas.

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Risks in time and space

Risk is inherent in — and present at every stage of — the modern supply chain. Visibility goes beyond looking at physical parts of your value network. You also have to be able to see potential risks across timelines, from the immediate to those several years into the future. What will happen to your plans if a major customer changes their order on short notice? What if a component becomes unavailable? How do you keep the right amount of inventory to prevent the costs of over or understocking? How will a proposed merger or acquisition affect your supply chain?

Predicting the known and unknown

Some supply chain risks are so common that they are expected and part of running business as usual: machine breakdowns, logistics issues, power outages and, increasingly, cyberattacks are among these expected disruptions.

When these events occur, relevant teams have some idea of how to handle them. Even companies with limited visibility, planning and optimization support have contingency plans in place.

Then there are the unexpected risks. These are much harder to plan for and most companies without the right technologies simply don't bother. First of all, they don't have historical data to help them deal with the challenges. Second of all, these events are so unusual that they are likely once-in-a-lifetime events. The Covid-19 pandemic is such an example, as was the blockage of the Suez Canal. Natural disasters fall into this category as do geopolitical events such as trade conflicts and wars.

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Size and impact

Not every hurricane is a Katrina and not every shipping delay is caused by a six-day obstruction of a major trading route. EventWatch, which monitors global events that cause disruptions to supply chains, issued 3,744 alerts in 2019. The most frequent of these by far, were small, human-made disruptions.

Of these, only 14 percent were natural disasters. Among the other 86 percent, the most frequent were factory shutdowns due to fire (587 cases) and other causes (321 cases).

A disruption does not have to be a disaster. The third most frequent cause of disruptions to the supply chain are business sales, mergers or changes of leadership. While these are both expected and planned for, their impact to their respective supply chains tends to last for a much longer period of time.

Real visibility through a virtual lens

Visibility is achieved by collecting and analyzing massive amounts of data about — and continuously generated by — your supply chain.

This data is used to create a virtual twin, a highly accurate and detailed model that replicates your physical factory layouts, products and supply networks. It incorporates all functions, from engineering to manufacturing to logistics to services. It holds information about your assets, including workforce and equipment capabilities and constraints. It then presents the information in the form of actionable insights so you can identify, predict and manage risks in real time.

Now you can see your entire supply chain, end-to-end.

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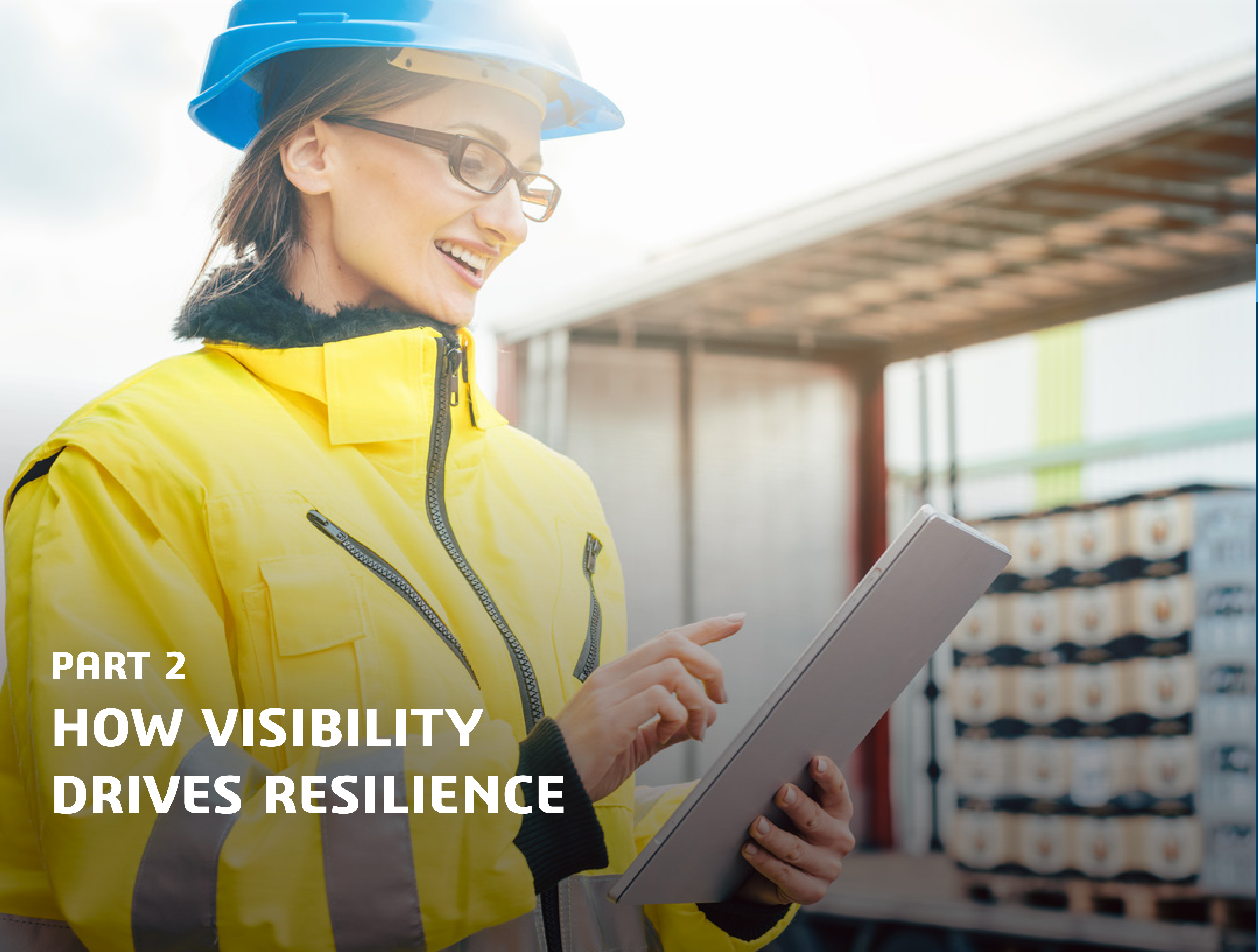

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> “What disruption has shown us is that plans don’t last very long. Changes occur all the time, every day. Some of them might be expected, but others, as with the coronavirus pandemic, are extremely unexpected. What manufacturers need is not just the ability to plan, but also to replan quickly.”

A virtual twin reflects what is happening in your supply chain in real time. It also enables you to explore the greater impact of any potential disruption or change. This power to simulate, test and optimize scenarios in the digital realm empowers manufacturers to predict and lessen the impact of known and possible risks, as well as to pivot rapidly when there are unexpected disruptions.

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A clear view of what is feasible

Without end-to-end visibility, there is the risk of creating a plan that cannot be carried out. Silos are often responsible for infeasible plans because different stakeholders have their own agendas and a bias towards their own goals. Therefore, while manufacturing is prioritizing production and equipment efficiency, finance is looking at costs and margins. Likewise, risk also means different things to different stakeholders. At the executive level, it may involve losing market share. At more operational levels, it may have to do with capacity or materials.

> "The supply chain VP, the demand planning VP, that sales VP, the finance suite of the organization, every one of them has an input to that planning process. If you don't include all of them, then you're missing a piece of the puzzle."

Plans that advance the company's strategic goals, whether they be profit, customer satisfaction, sustainability or growth, require collaboration and consensus. This, in turn, requires another dimension of end-to-end visibility: everyone working off the same information.

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Data centralization

Making the best decisions to mitigate risks requires multiple stakeholders to pull in the same direction. This can only happen if everyone is on the same page — in other words, having access to the same information and prioritizing the same goals. Data centralization creates a single source of truth which ensures everyone has access to the same, full and up-to-date information.

Collaboration and Consensus

There is no "perfect" plan. There is no one plan that satisfies the goals of all stakeholders. Supply chains are too big, stakeholders are too diverse, and often, individual goals compete with each other. For instance, at times it may be prudent to go slightly over budget if this means meeting customer service levels.

When data is centralized and insights are shared, everyone can see how pros and cons are being weighed and participate in developing the best plan for the current circumstances.

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Dassault Systèmes offers its customers the largest cloud solution portfolio for end-to-end visibility, planning and optimization on a single digital platform. Your supply chain's virtual twin is modeled and "lives" on the **3D**EXPERIENCE® platform, providing the opportunity for users to simulate, test and optimize multiple scenarios and find the best solution for risk mitigation.

> "We hold world records in our ability to solve extremely complex planning challenges very, very rapidly and that's key to addressing disruptions. To mitigate risk, you need the ability not only to generate one plan very quickly, but to generate multiple plans — a best-case plan, a worst-case plan, what-if plans — and to keep rerunning them in close to real time as disruptions occur."

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The fully integrated and collaborative **3D**EXPERIENCE platform facilitates information-sharing and improves responsiveness as well as the speed and quality of decisions. Because it runs on cloud, the platform is highly scalable, and solutions can be easily deployed to any authorized stakeholder with an internet connection. The ability to include all stakeholders in reaching a consensus plan provides the unparalleled ability to put the organization on the right path ... and pivot back to the right direction when disruptions shake things up.

For further reference:

"Ebook: How Businesses Can Achieve Manufacturing Resiliency"

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Find out how you can gain end-to-end visibility over your supply chain, minimize risks and pivot to minimize the impact of disruptions here.

Our 3DEXPERIENCE® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3D**EXPERIENCE platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 270,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit **www.3ds.com**.

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