

INDUSTRIAL EQUIPMENT

A 3D VISION FOR FLEXIBLE PRODUCTION LINES

Leverage virtual twin-based quotations to enhance customer experiences while meeting unique line-building needs more quickly.

MEET OUR EXPERTS



LENING ZHANG

**Indirect Engagement Sales Strategy Director
Industrial Equipment Industry, Dassault Systèmes**

Zhang has years of experience in automation engineering, corporate strategy planning and consulting and business strategy planning under his belt. In his current role, he leverages his expertise to deliver groundbreaking sales engagement strategies that set Dassault Systèmes apart from other industrial equipment solution providers.



FRANCK COMBET-BLANC

**Solution Director
Industrial Equipment Industry, Dassault Systèmes**

For more than a decade, Dassault Systèmes has seen Combet-Blanc rise as a go-to industrial equipment solution expert. Having started as a DELMIA automation domain leader for his former company and Dassault Systèmes subsidiary, ATHYS, he is now leading the specialized manufacturing machinery industry segment.

THE CALL FOR A DATA-BACKED, DIVERSE PORTFOLIO

A photograph of a factory floor showing a production line of engines. The engines are mounted on a conveyor belt system, moving from left to right. The background shows industrial machinery and a clean, well-lit environment. The text "THE CALL FOR A DATA-BACKED, DIVERSE PORTFOLIO" is overlaid in large, white, bold letters at the top left of the image.

Flexible production lines are in demand. After all, they can support an increased need for more personalized products in the specialized manufacturing machinery market across various industries.

“Many industries, like automotive and consumer packaged goods and retail, are personalizing their products – and this is fueling a huge market need for flexible production lines that can support various customization needs.”

Frank Combet-Blanc
Solution Director, Industrial Equipment Industry,
Dassault Systèmes

As these production lines evolve, so too should the way line builders sell them.

WHY NEW SELLING EXPERIENCES MATTER

Many line builders want to change the way they quote and sell flexible production lines to meet the market need for more personalized products. By tapping into this potential with an enhanced customer experience strategy, they can thus strike gold.

However, to bank in on the production line transformation, line builders must first transcend their current limited selling capability. As it stands, much of the line builder industry still relies on 2D models to propose production lines and show project portfolios.

That said, a simple move towards static 3D models alone is not enough for line builders to display their capability to meet radical production line needs. This is where virtual twin-based 3D quotations can help them take their selling experiences to a new level.



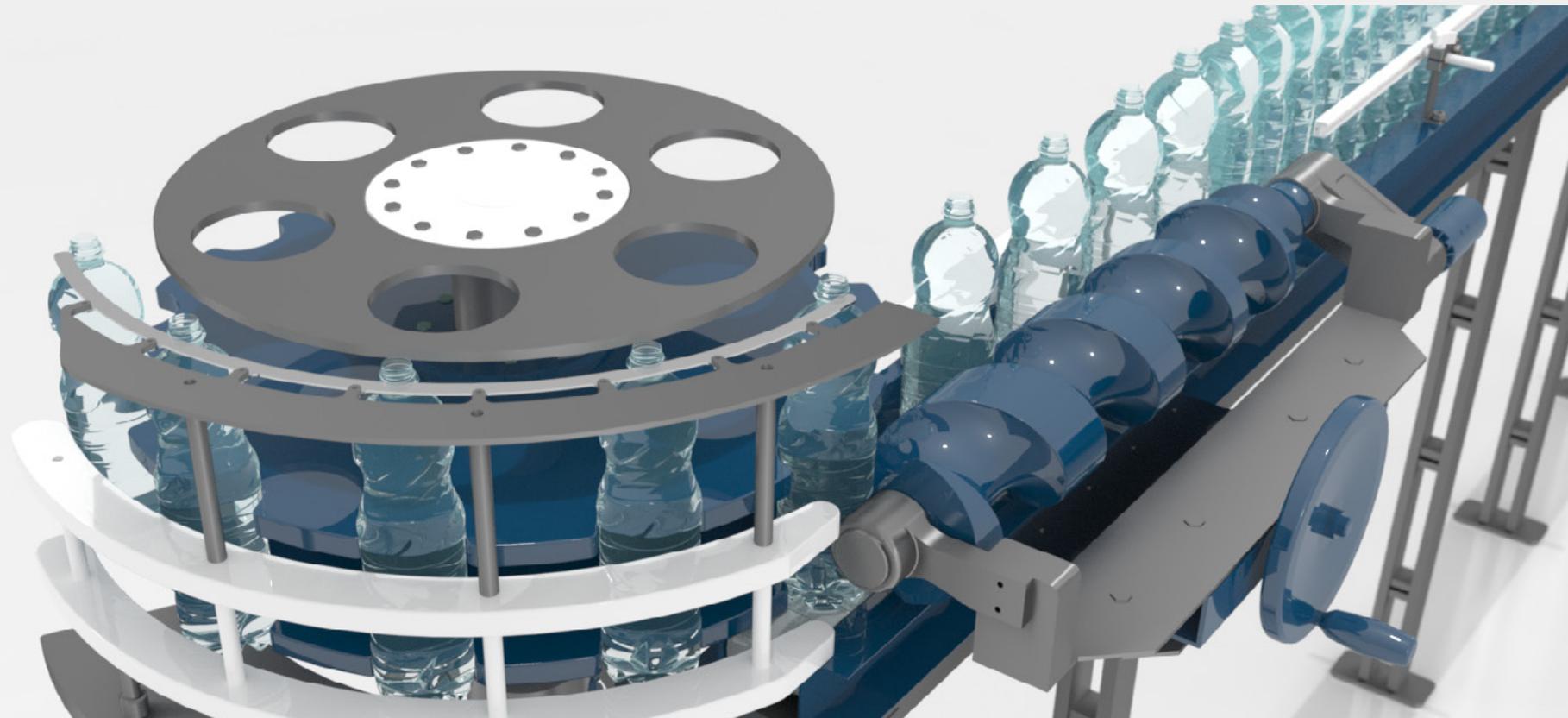
VIRTUAL TWIN-BASED 3D QUOTATIONS

Thanks to live data insights brought by the virtual twin capability on the **3DEXPERIENCE®** platform, 3D quotations can easily double as production line demonstrations. This way, line builders can support their proposals with accurate data-backed details from the get-go.

The case for virtual twin-based quotations is exceptionally strong. According to McKinsey & Company, [virtual twins can effectively address customer expectations for enhanced operations](#). This is because they can provide live updates and connectivity to a broader ecosystem of related products and services.

By developing their advanced quotations on the platform, line builders can easily enhance their customer experiences while accelerating flexible production line development with data-driven accuracy. They can stand to win businesses more easily by leveraging data-backed engineering aspects captured in the quotations at the pre-sales stage. These aspects can also accelerate detailed design, virtual acceptance, installation and operational stages down the line.

Read on to discover how virtual twin-based quotations can enable line builders to move forward, leaving their days of guesswork-based proposals behind.





Chapter 1

FIT FOR CUSTOMIZATION

Quoting, selling and delivering flexible production lines requires a paradigm shift. With the virtual twin experience on the **3DEXPERIENCE** platform, this shift is not only possible but also more intuitive.

By optimizing their production line quotations on the platform, line builders can easily enhance their selling experiences while increasing their business agility and maintaining a digital thread.

INCREASED OPERATIONAL AGILITY

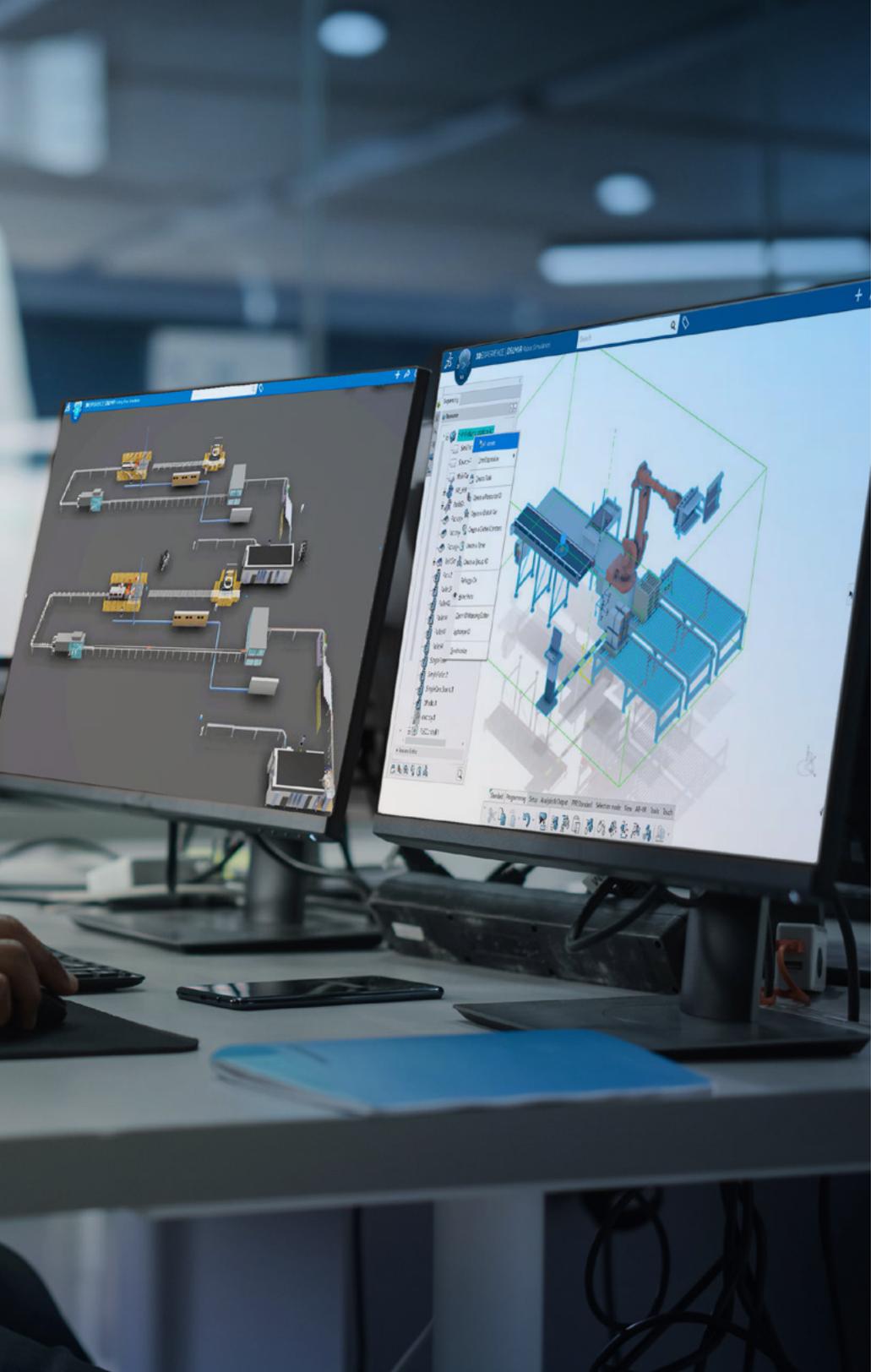
Due to the pandemic, supply chain disruptions are still ongoing. As such, line builders must be able to increase their operational agility to overcome them.

“Disruptions impact the market greatly. Often, many line builders cannot get the right parts on time to assemble lines. As such, they have to redesign the lines at the last minute.”

Lening Zhang

Indirect Engagement Sales Strategy Director, Industrial Equipment Industry, Dassault Systèmes





Since many line builders cannot access the right parts easily, they would have to use alternative ones for their modification work so they could quickly ship their machines. “This situation has eventually increased the need for more flexible production lines,” Zhang said.

To stay agile, line builders can leverage live data insights in the virtual twin of a flexible production line – right at the quotation stage. This supports them to help their customers successfully move from engineer-to-order (ETO) to configure-to-order (CTO) processes and operate more modularly.

“The virtual twin capability helps line builders create a catalog of machinery, equipment and production line templates with IP protection. From here, the sales team can already configure and access a final production line at the pre-sales stage,” Combet-Blanc said.

“CTO processes require a digital ability to input any requirements in one place, right during pre-sales. Being able to just drag and drop equipment from the library into the virtual production line during this stage helps speed up entire design cycles,” Zhang said.

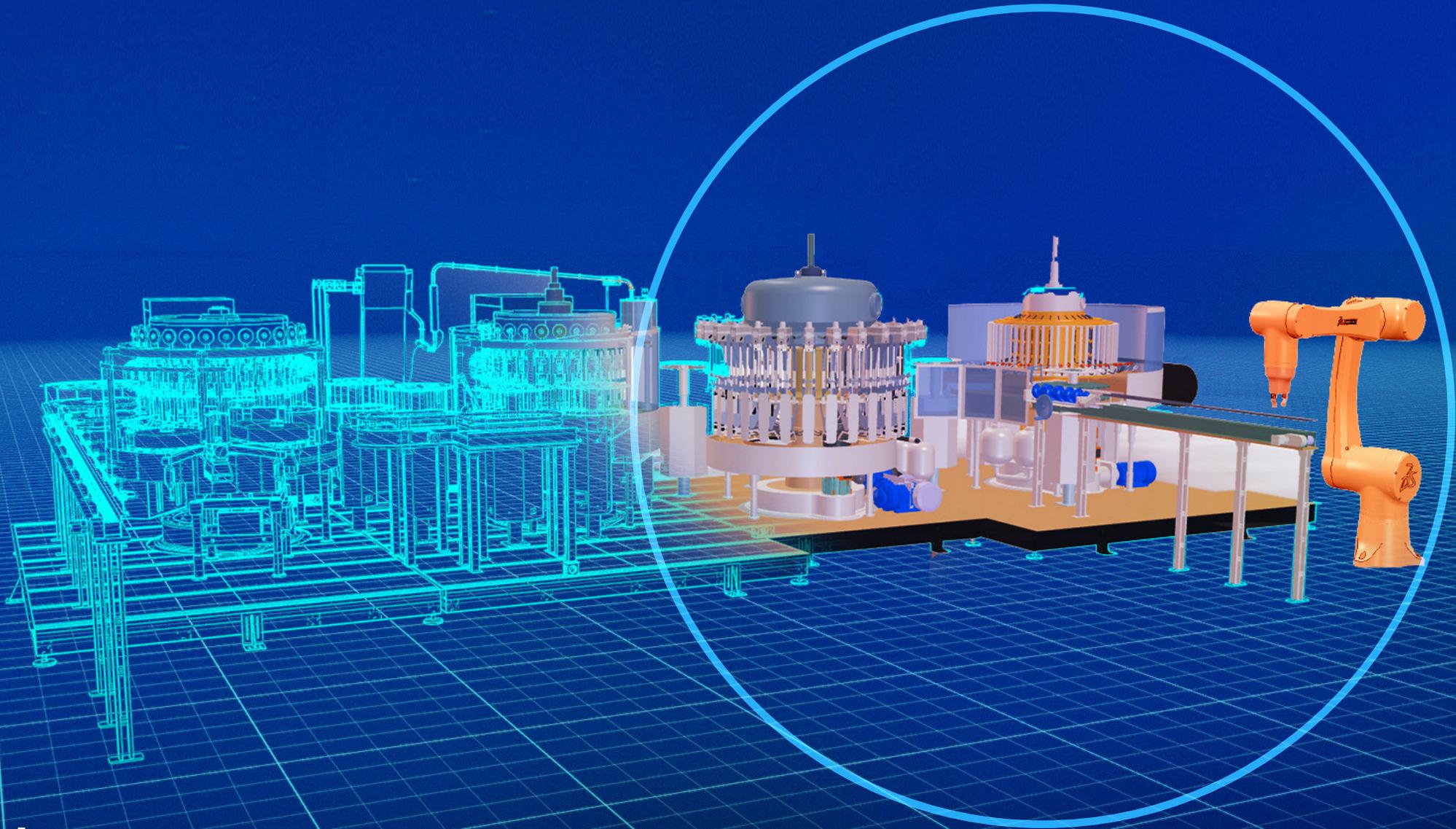
A DIGITAL THREAD

Line builders can park as many quotations as possible in their portfolio by using different virtual twins to quote different customizable production lines on a single platform. This enables them to meet multiple unique customer demands while hitting their own sales targets with ease.

Line builders can also leverage a single source of truth to maintain a digital thread between all quotations. This way, they can reuse single-source data models of crucial line-building information from a previous quotation to support the development of a new one.

“With data continuity and 3D model capability accessible in the same place, line builders can configure their information systems and update their quotations much more easily,” Combet-Blanc said.





Chapter 2
FROM 2D TO 3D

In the age of accelerated product personalization, line-building customers are no longer satisfied with flat estimations from 2D proposals.

With 3D quotations, line builders can reduce industry-wide dependency on 2D models. Through advanced capabilities on the **3DEXPERIENCE** platform, they can expedite this transformation in four ways: Improved accuracy, versatile asset utility, integrated collaboration and enhanced building information management (BIM) tasks.

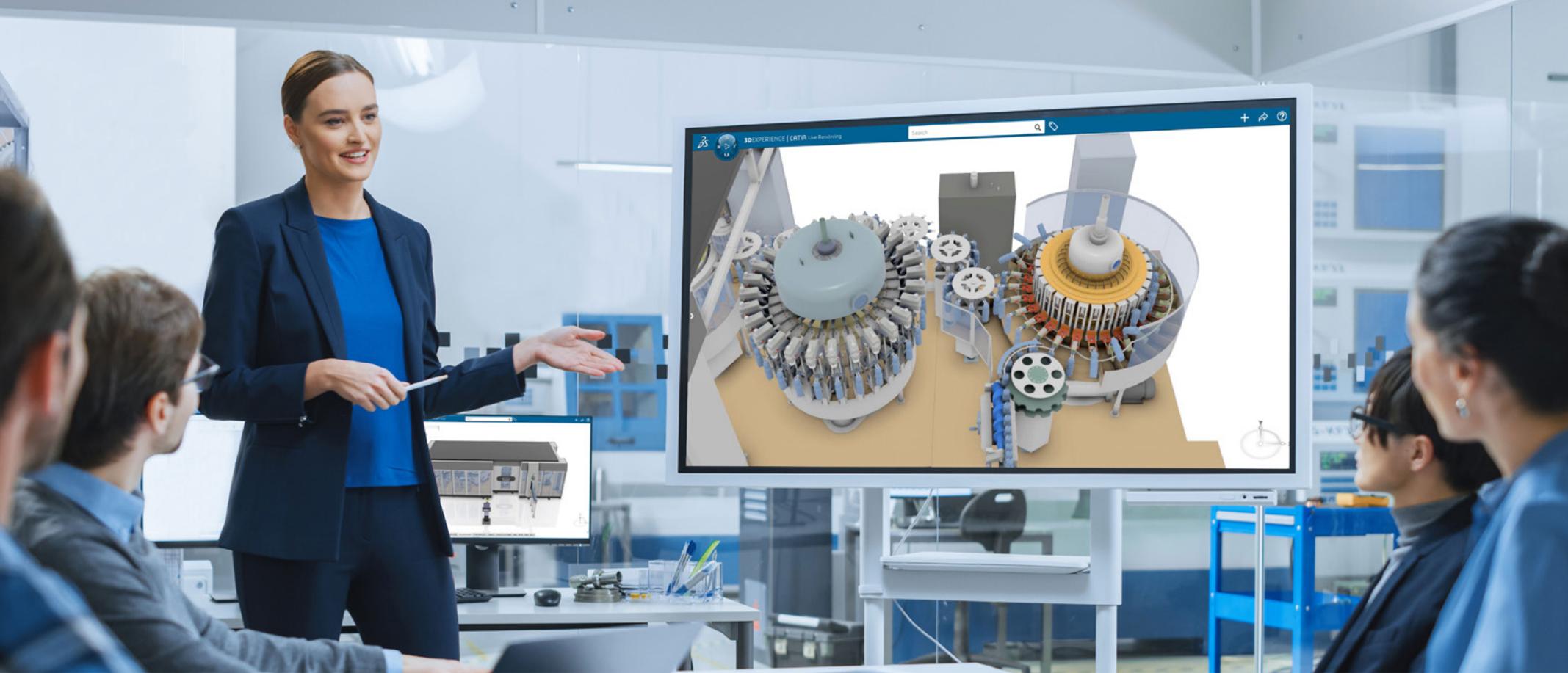
IMPROVED ACCURACY

Many 3D quotations out there are not, in essence, 3D models. “Most of them are 3D animation files. These files are essentially videos to show how machines work, without any data to verify production line details,” Zhang said.

Meanwhile, virtual twin-based 3D quotations can support accurate and realistic production line proposals. “Essentially, the end user can see a replica of the production line system in one place, from the start,” Combet-Blanc said.

With a single source of truth accessible on a single platform, line builders can rely on their engineering team to fact-check all product-related details in all quotations. This capability ensures that their customers can receive accurate insights into how their production lines will appear and behave in real time.





Accurate data insights also help line builders prove that they can fulfill their customers' personalized line-building needs and goals faster. Consider the success of [CenterLine \(Windsor\) Limited](#). On the **3DEXPERIENCE** platform, the industrial automation process and technology company simulated data-backed virtual work cell designs and physical equipment to test and optimize them. This way, they could deploy them onto factory floors with guaranteed safety and precision.

Now imagine the same success assured right at the quotation stage. With all data-backed details of a production line already visible early on, customers can already see how they can cut development time and errors, and shorten their time to market.

In 3D quotations, line builders can create a line layout direct or import data from a library or site scan. Then, they can simulate different virtual line flows to compare and evaluate their performances before choosing the best configuration. This entire process is often quicker, more accurate and less tedious than a siloed, 2D-based approach to production line customization.

VERSATILE ASSET UTILITY

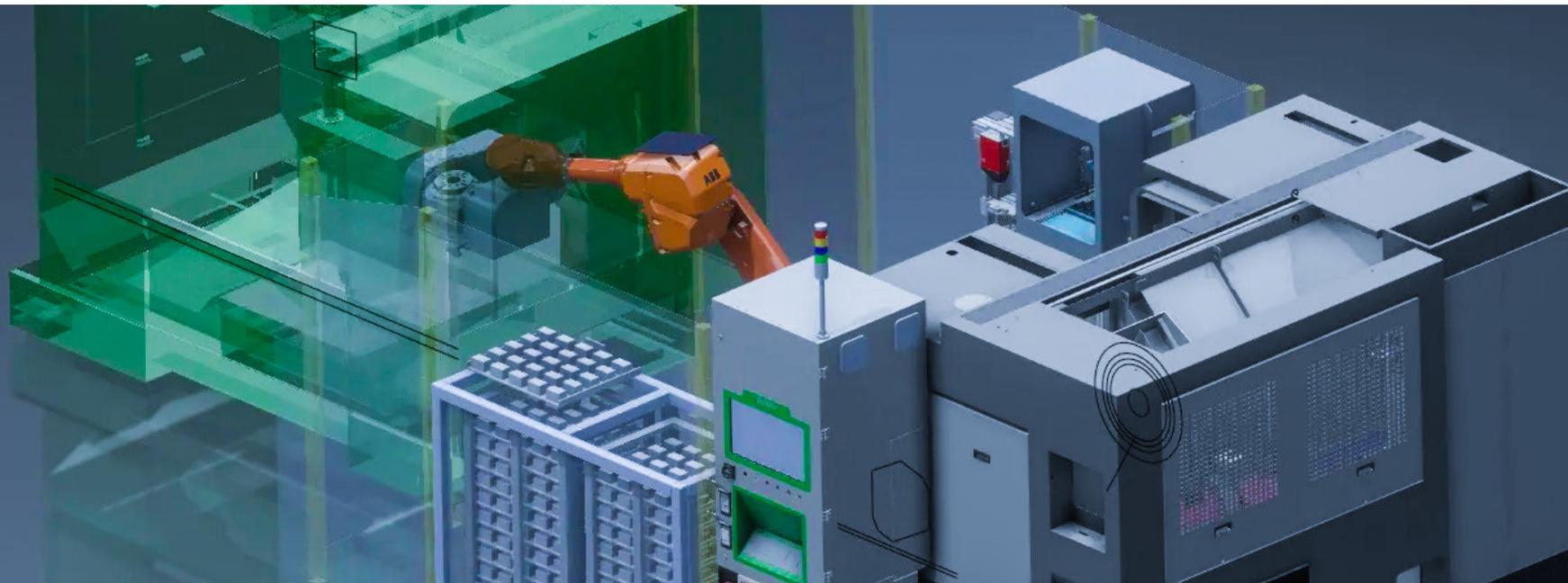
Versatility is a winning trait of 3D quotations. On the platform, line builders can easily convert these quotations into production line demonstrations for optimal downstream utility.

With a converted quotation, all detailed design and simulation tasks will be quicker to complete, as many design perimeters captured during pre-sales are already established for later stages. Just look at [the case of Italian production line solutions specialist Robots at Work](#).

By leveraging live data-backed 3D modeling capability on the **3DEXPERIENCE** platform, Robot at Work could optimize its production capacity accurately. The virtual optimization enabled the company to improve its production lines' setups exponentially. The company's case proved that line builders can save up to 30% in time across all stages, from sales proposal layout to manufacturing design.

Meanwhile, virtual twin-powered digital continuity also enables line builders to reduce commissioning time during installation. "This step is achievable due to early validation at this stage. It's crucial as commissioning is expensive," Combet-Blanc said.

With the same digital capability, line builders can use quotations beyond pre-sales. "They are reusable in engineering and manufacturing phases, reducing the chance for errors," Combet-Blanc said.



By reusing the quotations, line builders can effectively flesh out production line designs and keep production processes smooth within a single project. They can also mitigate potential errors early via predictive analysis enabled by digital continuity. In the virtual twin, they can simulate 3D-modeled production line configurations in real-life scenarios to best inform their business decisions.

INTEGRATED COLLABORATION

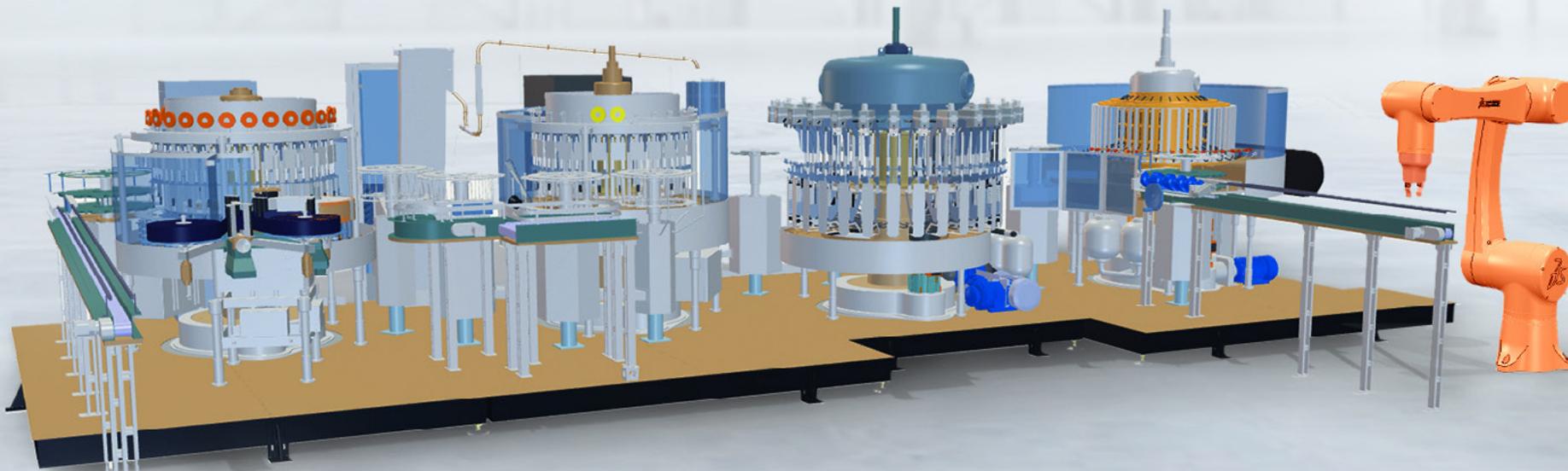
The fluidity of the virtual twin experience cultivates optimal collaboration along a production line project. All line-building stakeholders — from suppliers to customers to representatives from sales, engineering, management and purchasing — can collaborate at any point of a production line virtual twin. This way, no details they are responsible for are lost and they can promise facts instead of error-prone guesswork during pre-sales.

Integrated collaboration can even elevate existing customer experiences. On the platform's easy-to-use dashboard, line builders can provide their customers with sufficient access to the virtual production line. This way, they can overview all moving parts of the line-building process as early as possible.

“As line builders approach a reality where production lines are increasingly flexible, they must move quicker than ever. By improving all levels of teamwork, the virtual twin capability supports this accelerated pace.”

Frank Combet-Blanc
Solution Director, Industrial Equipment Industry,
Dassault Systèmes





ENHANCED BIM TASKS

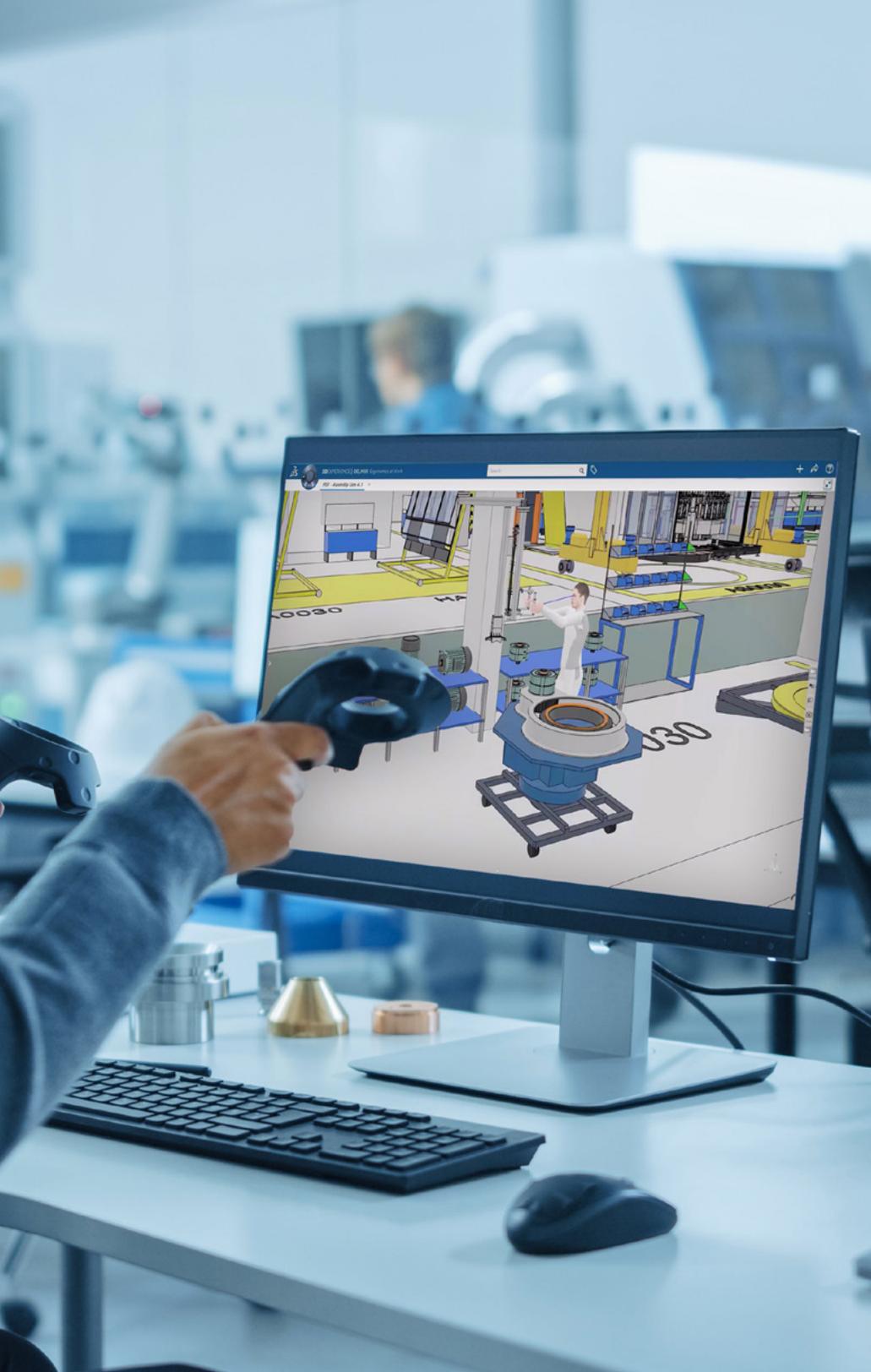
Integrated collaboration leveraging advanced 3D models on the platform can also enhance the quality of BIM tasks. In turn, these tasks can optimize the systemic relationship between flexible production lines and the plant buildings that they occupy.

By storing the data repository of entire plants in single-source 3D models, line builders and plant architects can collaboratively improve plant designs and their crucial functional systems such as airflow, water delivery and temperature control. Through plant simulation, they can also test and optimize these features in real-life scenarios. In doing so, they can ultimately ensure the plant's feasibility and safety — while preserving production line flexibility.



Chapter 3

A MARKET REVOLUTION



The use of 3D quotations does more than just enhance production line selling experiences. In the long term, it can also empower line builders to revolutionize marketing, business and industry experiences. Explore how below.

ELEVATED MARKETING

Production line promotion activities at marketing conferences can be transformed with 3D quotations.

“Let’s think about it in basic terms: A production line is big; it can measure up to 100 meters long. It is therefore difficult to capture important design and performance details in their entirety for sales and marketing conferences in a basic proposal,” Combet-Blanc said.

A 3D quotation optimized on the **3DEXPERIENCE** platform changes the game. Line builders can leverage data continuity enabled by virtual twin capability to overcome the constraints of on-ground production line promotion.

By utilizing a library of parts via the quotation’s drag-and-drop interface, customers can easily customize, experience and finalize a production line with data-backed precision — all in a digital environment. As such, line builders can already oversee unique customer needs while avoiding the use of expensive physical prototypes.

Line builders can also use 3D quotations to further enhance these customer experiences. The quotations’ versatility allows them to incorporate advanced technology applications such as virtual reality and augmented reality (VR/AR).

Having all connected data insights visible in a single quotation enables line builders to digitally show their customers how their chosen production line components can realistically appear and function in the future. Meanwhile, the quotation's immersive nature, accessible via VR/AR, can convince customers to discern a line's realistic performance values.

NEXT-LEVEL BUSINESS MODELS

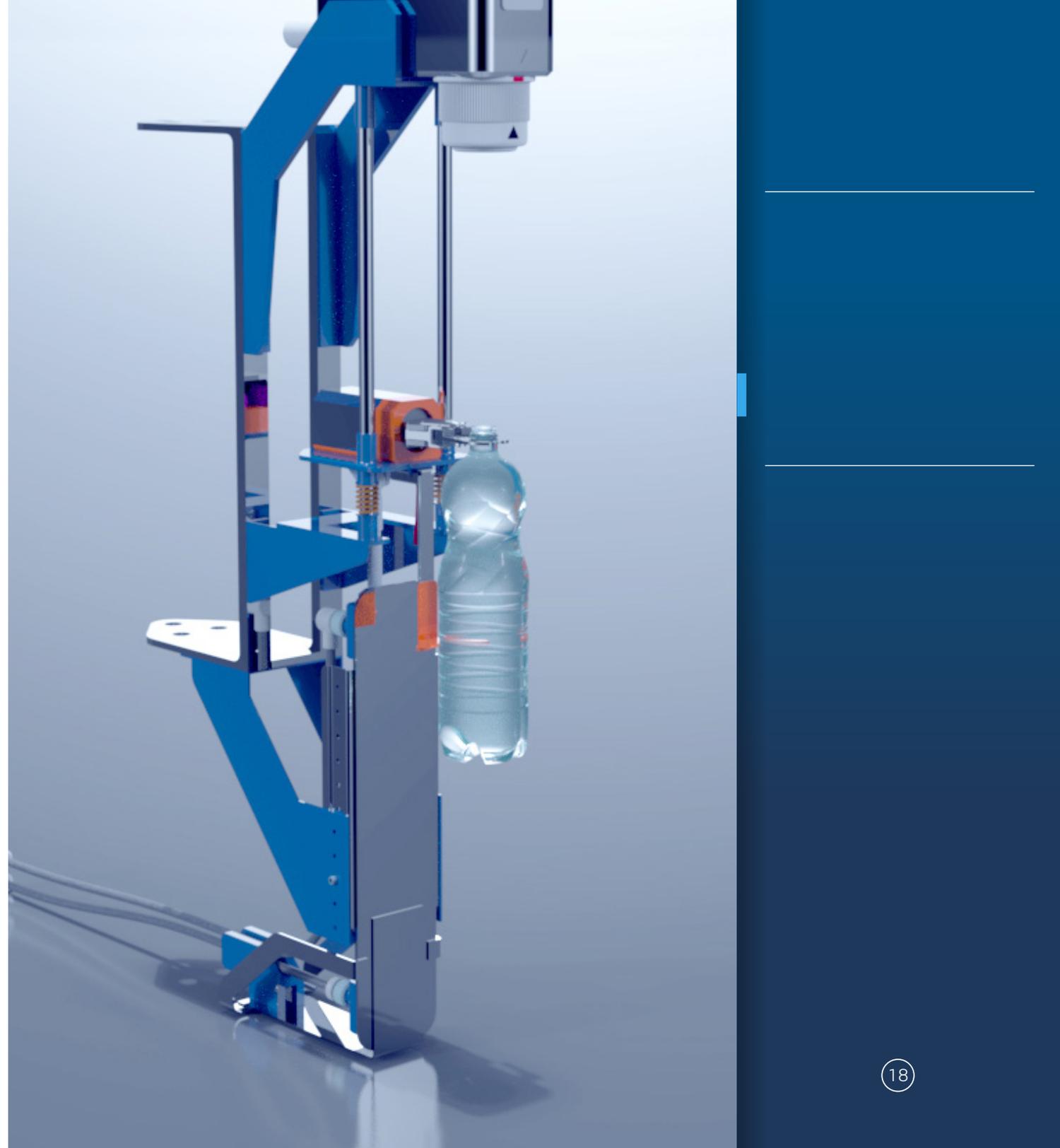
Beyond sales and marketing experiences, 3D quotations can help line builders elevate their business experiences.

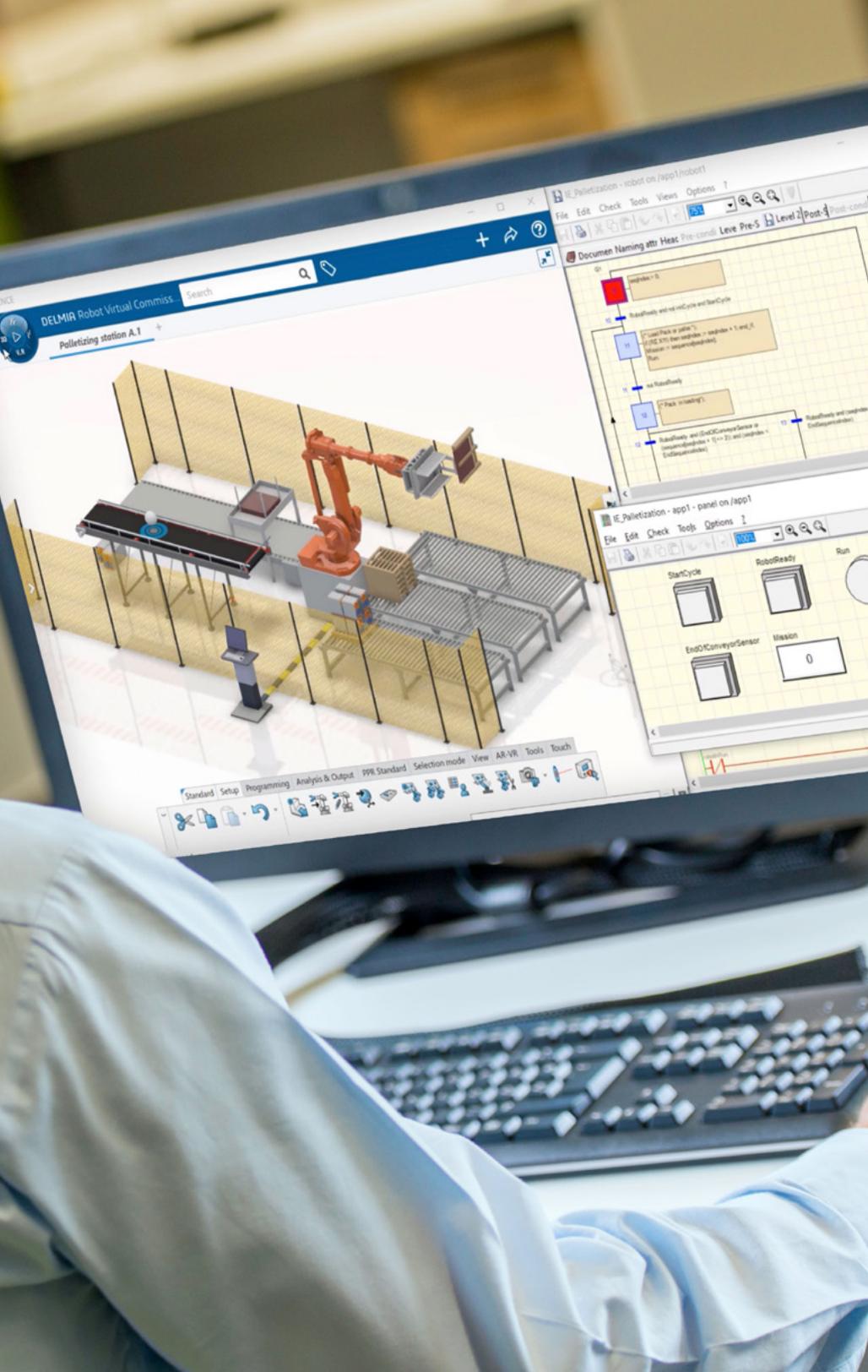
For one, the industry is set to move into outcome-based business models such as Equipment-as-a-Service (EaaS). The utilization of 3D quotations enables line builders to capitalize on this transformation.

“ Instead of selling production line equipment at fixed prices, line builders can sell the targeted outcomes from their outputs. In other words, instead of charging manufacturers based on the number of machines sold, they can now charge based on a set number of products these machines can create. **”**

Lening Zhang

Indirect Engagement Sales Strategy Director, Industrial Equipment Industry, Dassault Systèmes





With a live replica of a production line, line builders can further optimize their business model. They can simulate possible outputs of the production line to determine the best outcome. This step, in turn, guides them to make the right decision on pricing.

INDUSTRY-WIDE RENAISSANCE

Ultimately, 3D quotations can tackle the complexity of future machines and production lines.

“The virtual twin approach is truly a great way to deal with this emerging machine complexity. It provides line builders with the capability to create more complex yet flexible production lines,” Combet-Blanc said.

The connectivity between physical production lines and their virtual twins enables line builders to accumulate better industrial information over time. With elevated data insights in hand, they can accelerate design improvements.

At the same time, line builders can also expand their portfolios with this connectivity. By leveraging digital continuity enabled by the **3DEXPERIENCE** platform, they can easily anticipate and analyze machine issues in advance. By honing this practice, they can eventually offer predictive maintenance of these physical machines as a service — and cultivate an industry-wide culture of advanced product improvement.

Where product improvement becomes a top priority, 3D quotation experiences and sales hit ratios will inevitably improve by leaps and bounds.

SHOW, QUOTE AND SELL

Virtual twin-based 3D quotations are the way forward. By leveraging them on the **3DEXPERIENCE** platform, line builders can meet diverse line-building needs and produce flexible production lines with success.

Thanks to the virtual twin experience on the platform, line builders can seamlessly customize their production lines at the quotation stage. By relying on a digital thread that connects all quotations, they can enhance selling experiences and business resilience early on

With the 3D quotations, line builders can lead the industry's transition from 2D to 3D models. Advanced modeling and simulation capabilities can empower them to sell flexible production lines with guaranteed data precision.

3D quotations also help line builders play their part in the emerging market revolution. They can make use of virtual twin-enabled data continuity to effectively transform marketing, business and industry experiences.

For the latest insights on industrial equipment solutions, check [out our existing resources](#).

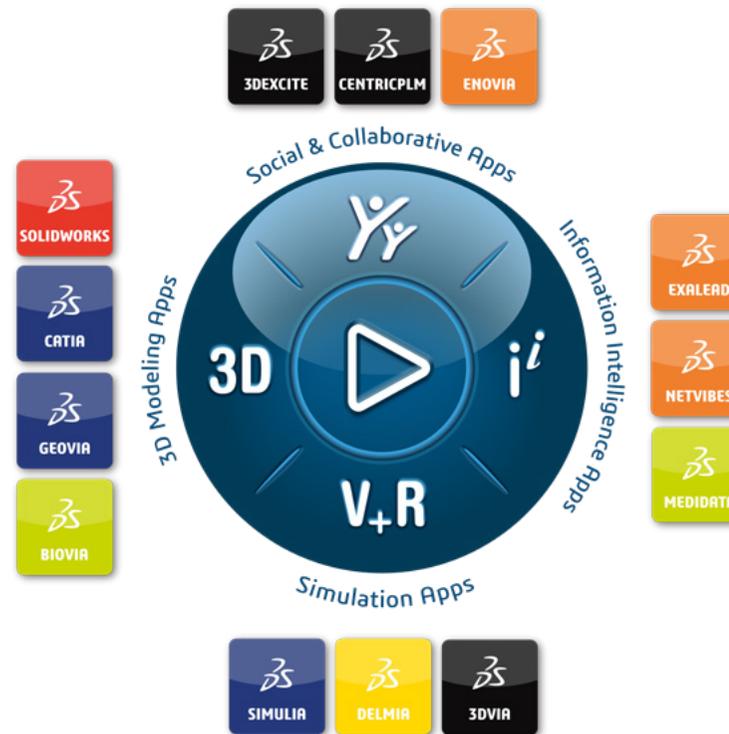
Ready to take your production line selling strategies to soaring heights with the virtual twin? [Connect with us today](#).



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

Dassault Systèmes, the **3DEXPERIENCE** 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 **3DEXPERIENCE** 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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