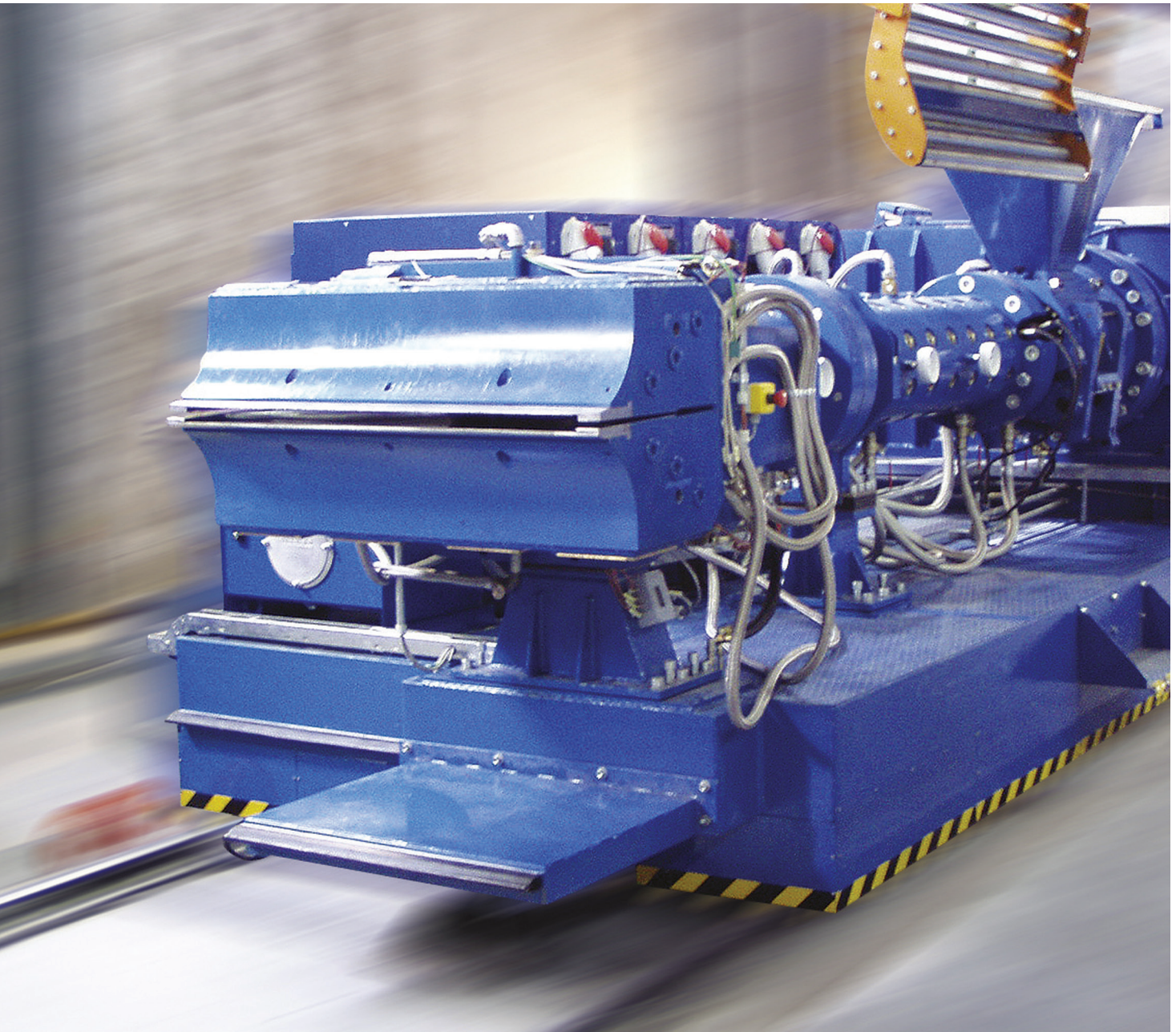


INDUSTRIAL EQUIPMENT CASE STUDY
KONŠTRUKTA-INDUSTRY



Challenge:

Konštrukta-Industry needed to produce high performance, reliable and accurate machines to respond to new challenges and trends in the tire market.

Solution:

The company chose Dassault Systèmes' 3DEXPERIENCE® platform and its Single Source for Speed industry solution experience for unified, cross-disciplinary design, production and project management across multiple sites.

Benefits:

With this unique data and workflow management platform, Konštrukta-Industry is enjoying optimized development processes. Its machines improve tire quality, use less material and reduce waste during the production process.

RISING OPPORTUNITIES AND CHALLENGES

World demand for tires is expected to rise 4.3 percent annually to reach nearly 3 billion units in 2017, with highest growth in Asia, particularly in China and India.¹ This increase means growing business opportunities for tire manufacturers and tire machine manufacturers alike. Slovakia's Konštrukta-Industry sensed this business potential early on. It began producing tire manufacturing equipment 20 years ago, building on over four decades of manufacturing experience. "Our activities have considerably evolved since we were founded in 1953," said Ing. Jozef Santa, director of the Tyre Machinery Division, Konštrukta-Industry. "We've expanded from manufacturing equipment for the defense industry to more civil-based programs. We are now equipping some of the world's most prominent tire producers with cutting and extrusion machines."

According to Santa, as demand for tires rises, so does the number of competitors, fuel and raw materials costs, safety and environmental regulations. "Tire manufacturers face many challenges and our mission is to provide them with efficient machines to improve productivity and competitiveness," he said. "As we are relatively new to this business, we have an advantage over more established tire machine manufacturers, some who've been around for a 100 years; we are more receptive to new and innovative methods and technologies, including 3D digital design and product lifecycle management software. This gives us the competitive edge over companies tied to more conventional approaches not always attuned to today's market. We're more flexible when a customer asks us

to tailor a machine to specifications; this and our reasonable prices are powerful selling points in our favor," he said.

PERFORMANCE, RELIABILITY, PRECISION

Tire enhancements, particularly green tires, are powerful sales arguments OEMs use to attract consumers. As tire technology improves, so must the machinery behind the enhancements. "To stand out from their competitors, tire manufacturers ask us for special configurations. This is why every machine is an original, no two are identical," Santa continued. "They rely on our technological experience to design machines that will keep their production lines humming non-stop 330 days a year," he said.

Tire production is a multi-phase process. It involves combining rubber and chemicals in mixing machines, using extrusion and cutting machines to produce profiles, steel cords, textile cords, etc., and assembling these components and vulcanizing the tire. "Konštrukta-Industry comes into the picture by producing the cutting and extrusion machines needed to produce these semi-finished products," Santa said. "Our automated lines have high performance visualization features that display information, such as product quality evaluation statistics, and that contribute to reducing human error. This decreases task repetition for better operator efficiency. It's this high level of automation and computerization that our customers seek," Santa said.

A 3DS CUSTOMER FOR OVER 10 YEARS

Konštrukta-Industry has been a Dassault Systèmes' (3DS) customer since 2004 when a local 3DS business partner helped it to implement its first CATIA V5 and ENOVIA licenses for design and data management, followed by 3DVIA



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— Ing. Jozef Santa, Director of the Tyre Machinery Division,
Konštrukta-Industry

¹ <http://reportlinker.com/p01972782-summary/World-Tires.html>

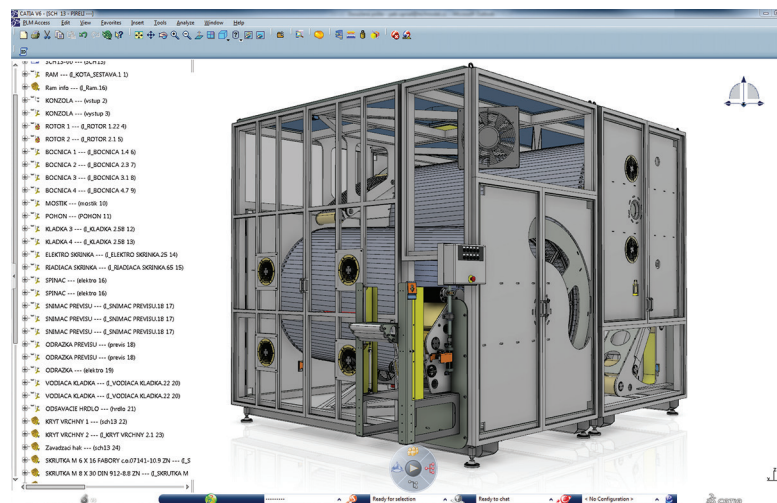
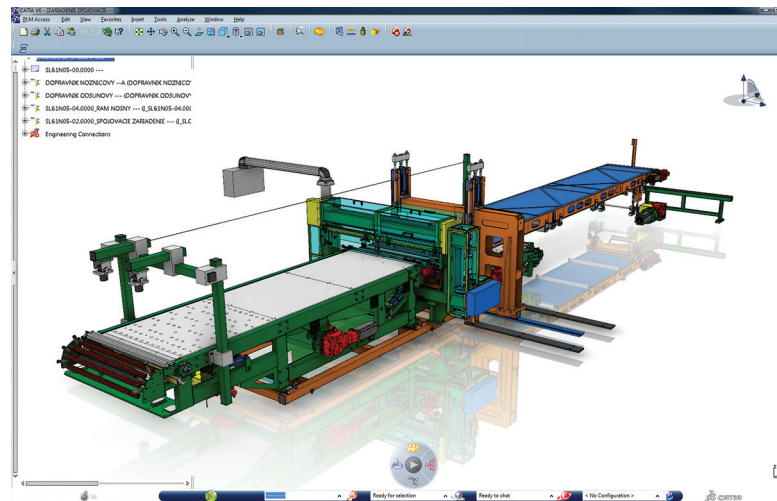
Composer for assembly and customer service documentation. "In 2010, our management asked our partner for a Business Value Assessment (BVA) of our software solutions, which also included third-party software," Karol Breuer, 3D PLM implementation project leader, Konštrukta-Industry recalled.

"As a result, we ended up replacing this software with 3DS applications company-wide. The 3DEXPERIENCE platform became the backbone of our PLM system. We had wanted to unify all our CAD solutions under one platform and our BVA showed us all that the 3DEXPERIENCE platform had to offer," Breuer said. "Once the system was implemented, we trained our first users. After the success of our first pilot project, we extended the system across the board to our marketing, project, production, and service departments as well as to project managers and soon we had 100 licenses throughout the company," he said.

TO ENGINEER AND PRODUCE FAST ANYWHERE

Today, Konštrukta-Industry uses Dassault Systèmes' Single Source for Speed industry solution experience from the 3DEXPERIENCE platform to handle machine design and production, as well as project and data management. "Single Source for Speed covers all our processes, from customer proposal to design, production, assembly and servicing," Santa said. "It manages estimates and pricing, serves as our project management solution and links up to our ERP system. All product information is stored in the 3DEXPERIENCE platform and readily available to collaborators at all our design, manufacturing and sales locations. This centralized access means we no longer have to ask whether the data is correct or up to date. The teams collaborate better and complete projects in less time, while improving the quality of our machines," Santa said.

Konštrukta-Industry machines help to reduce tire weight and economize on raw materials, contributing to lower fuel consumption and a reduced carbon footprint. "These important trends in modern tire design have a direct impact on suppliers of semi-finished product manufacturing lines like Konštrukta-Industry," Santa said. "Tire manufacturers require highly accurate semi-finished products that are also as thin and narrow as possible and machines that work to these specifications can help reduce overall tire weight. Single Source for Speed's 3D modeling tools and rapidity in creating alternative designs help us converge on the best precision design. We also have a components and design library that helps speed the development of new machines. Finally, operators use Single Source for Speed's virtual simulation features in preliminary testing. This contributes to confidence



Top Image: 3D digital representation of a splicing device

Bottom image: Digital model of a spiral drum cooling device

Focus on Konštrukta-Industry

Manufacturer of tire manufacturing machines and equipment for the defense industry.

Products: Extruders, spiral drum cooling devices, strip winding systems, cutting lines, special machinery for the defense industry

Employees: 360

Headquarters: Trenčín, Slovakia

For more information
www.konstrukta.sk

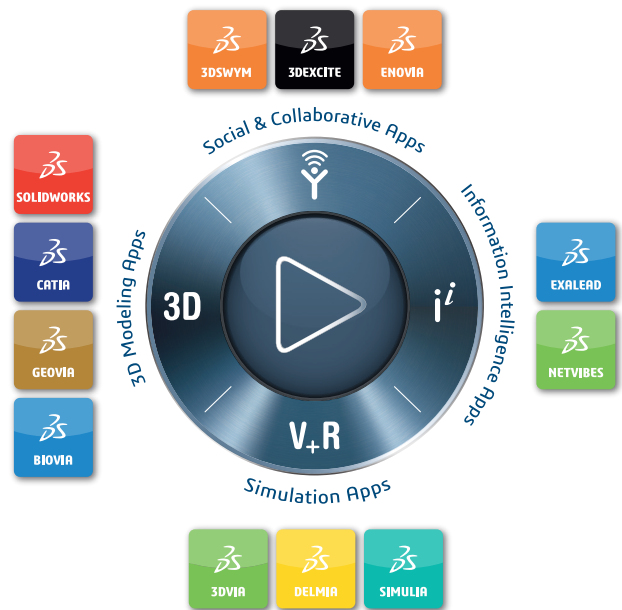
and consequently to increased safety and fewer errors," he said.

KONŠTRUKTA-INDUSTRY AND THE 4TH INDUSTRIAL REVOLUTION

With Single Source for Speed, Konštrukta-Industry is entering the 4th Industrial Revolution by adapting machines to customer requirements, improving operator experience and reducing materials use and waste for more eco-friendly tire production. But the company does not intend to stop there. It is exploring several paths for the future, including using the 3DEXPERIENCE platform's CATIA Systems application to create module-based development processes and EXALEAD One Part for multi-source information gathering to locate and reuse parts, designs and related documentation. "Cost reduction, better designed products and improved customer service – it's all possible with the 3DEXPERIENCE platform," Santa concluded.

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.



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