



CUSTOMER REFERENCES

PLANNING & OPTIMIZATION VOLUME 1



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3BFIBREGLASS



“DELMIA is a great support for our scheduling teams and it will go along with the future evolution of our organisation and our processes.”

– Françoise Beckers, Global Planning Leader, 3BFibreglass

Challenge:

To meet increasing global demand for composite materials, 3B needed a modern, more powerful and scalable solution to pilot its three glass fibre production facilities that operate without interruption 24/7.

Solution:

The company uses Dassault Systèmes' DELMIA Ortems advanced planning and scheduling solution to create optimum schedules of its production sequences and to monitor work over the various plant resources.

Benefits:

With a coherent and overall view of its plants, 3B can plan production according to sales forecasts, stock levels on a global scale and production constraints, so as to always respond to customers specific product needs.

3B has acquired extensive glass fibre expertise in its 50-year existence. It has manufacturing facilities in Belgium, Norway and India, an R&D facility in Battice, Belgium, as well as a customer service centre in Brussels, Belgium.

The fibreglass products manufactured by 3B are:

- Long fibres or direct rovings, either made of E-CR glass or of high-modulus glass (HiPer-tex®)
- short fibres, also called chopped strands
- non-woven mats.



DELMIA Ortems defines an optimal schedule for each production process



“Production runs 24/7 with no interruptions, with a major part of our products being make-to-stock.”

— Françoise Beckers,
Global Planning Leader, 3B

“DELMIA Ortems is a powerful and scalable solution with an intuitive and easy to understand user interface that can evolve with us over time”

— Françoise Beckers, Global Planning Leader, 3B

LEADING SUPPLIER OF GLASS FIBRE SOLUTIONS

The need for a greener planet requires companies to develop products that take advantage of innovative materials and solutions to reduce their carbon footprint. Glass fibre is a material of choice for the production of composite materials, which are widely used in cars, wind turbines or other everyday products.

Belgium-based 3B-the fibreglass company develops high-performing glass fibres, used for automotive and wind energy applications. Glass fibre reinforced composite parts are an alternative to heavier metallic parts. It is key for the automotive industry, as it continuously seeks ways to lighten parts, in an effort to reduce fuel consumption and CO2 emissions. In the wind industry, the new generations of wind turbines are larger and larger to produce cost-effective green energy: high-modulus glass fibre reinforcements are required. 3B is committed to working hand in hand with its customers to help them address these very challenges. Sustainability is the main growth driver for this business.

CONTINUOUS IN LINE PRODUCTION

3B has a well-defined and proven production process. “Production runs 24/7 with no interruptions, with a major part of our products being make-to-stock. Therefore, my job consists in defining the production schedule for all three factories and making sure our stock is sufficient and well-balanced to meet customer demand. I also closely follow the quantity of raw materials available for the manufacture of our glass fibre products” says Françoise Beckers, Global Planning Leader. Until recently the company was using a scheduling solution developed 25 years ago and originally customized to fit their specific processes at the time. However, this solution was no longer maintained, rendering it obsolete. “The tool we

were using did not cover our evolving needs or the software evolutions of SAP” explains Charlotte Neumann, Supply Chain Specialist at 3B. “So we set out to find a new solution, starting with 12 prospects and narrowing the list down to three, two of which were eventually found to either be too dependent on customizations or too expensive. The solution that we finally chose was Dassault Systèmes DELMIA Ortems. We saw it as a powerful and scalable software able to evolve with us over time. We also found that it had an intuitive and easy-to-understand user interface, that it could integrate beautifully with SAP. It was also in line with our budget.”

Today, DELMIA defines an optimal schedule for each production process and pop-up messages inform production planners when their attention is required. “For example, if the initial planning suggests a production change during the weekend - which actually is not feasible in our organisation - DELMIA requires the manual intervention of the scheduler in advance”, Beckers explains.

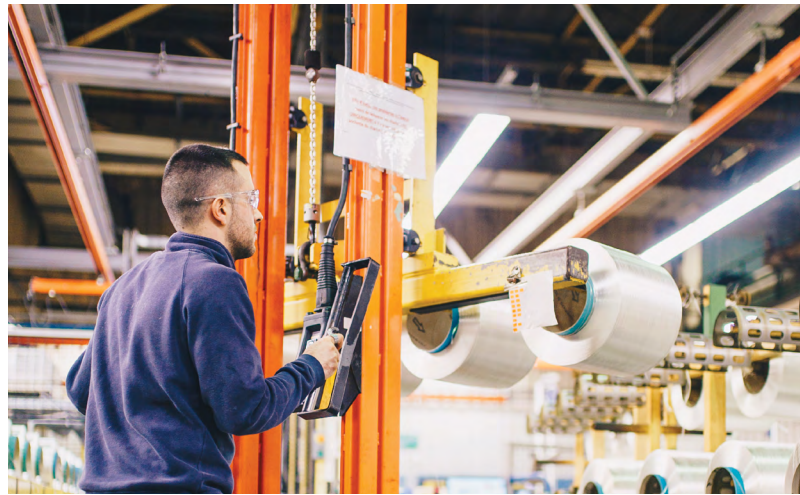
“Now with that visibility in the solution, we can better anticipate”

— Françoise Beckers, Global Planning Leader

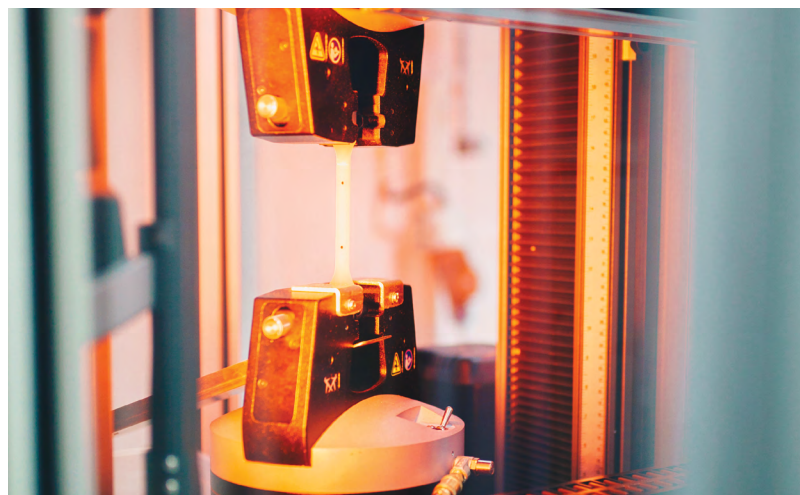
“Moreover, what DELMIA Supply Chain Planning & Operations Solution does that our previous solution didn’t is to pre-create production orders in accordance with our forecasts. By entering a forecast in the system, DELMIA will look at the customer orders, the forecasts, as well as our stocks, and create a production order if stocks are below critical levels. DELMIA offers a useful overview of all parameters. Another advantage: a production report for each plant can be issued automatically. Now with that visibility in the solution, we can better anticipate”, says Beckers.

The tool’s user-friendliness is a major asset that enables a new employee to prepare a production schedule without requiring extensive planning experience. “With our previous tool, only an expert planner with thorough knowledge of the production process would have been able to generate a planning that could be accepted by production,” Beckers said.

3B first deployed DELMIA in its Belgian plant, then in Norway. Implementation will be done in India in a few months. “75% of the core model of our Belgian facility will be used in our two other facilities, which we will then tailor to their specific production constraints,” Beckers said. “When this is done, we will have better visibility over our global operations. We’ll be able to react faster to sales requests. Moreover, we will have a real-time view of where we are with respect to raw material availability because it is linked to the forecast. DELMIA is a great support for our scheduling teams and it will go along with the future evolution of our organisation and our processes.”



DELMIA Ortems takes into account customer orders and forecasts to create a production order



Focus on 3B Fibreglass

Leading developer and supplier of glass fibre solutions for the reinforcement of thermoplastic and thermoset polymers.

Products: dry-used chopped strand, wet chopped strand, direct rovings, continuous filament mat, choppable roving, chopped strand mat

Employees: 1,000

Headquarters: Battice, Belgium

For more information
www.3b-fibreglass.com/



DELMIA QUINTIQ BACK TO THE OFFICE TEAM PLANNING SOLUTION



“For me there are two big challenges. First, reopening in a safe way. And second, convincing the people that it’s safe to come and work.”

– Florence Verzelen, Executive Vice President, Industry, Marketing, Global Affairs,
Workforce of the Future, Dassault Systèmes

Dassault Systèmes, the **3DEXPERIENCE®** Company, is a catalyst for human progress. It provides business and people with collaborative virtual environments to drive sustainable innovations and success in the real world.

Our **3DEXPERIENCE** platform and applications create ‘virtual experience twins’ for our customers to model value networks, design better consumer experiences, and engineer breakthrough inventions.

THE CHALLENGE

As governments across the world enforced lockdowns to halt the spread of the coronavirus (COVID-19), the Dassault Systèmes Executive Committee needed a solution to **schedule the progressive return of its employees to offices worldwide** when country lockdowns eased up.

The solution must balance four priorities:

- Minimize the impact of business disruptions
- Engage and empower employees for workforce resilience
- Adhere to health and safety protocols as well as government regulations, which entail capacity restrictions on the number of employees allowed in the building, on each floor and in the offices
- Provide a decision-making framework that accelerates responsiveness to disruptions

As the Executive Committee worked on this unprecedented project, they had to consider a number of important factors:

- Business requirements such as having the right combination of people and roles on-site for project success
- Site-specific constraints like building capacity and public transport restrictions
- Employee preferences for ‘on-site’ and ‘at home’ days, and constraints like childcare responsibilities at home

The Executive Committee’s goal for the solution was to **deliver higher workforce efficiency for the new normal** – by planning the right people to be on-site on the right days, taking into account individual wishes and each employee’s business role during various project phases.

THE SOLUTION

The Back to the Office Team Planning solution was developed based on existing solutions from one of Dassault Systèmes’ own brands, DELMIA, which includes DELMIA Quintiq.

DELMIA solutions help industries and service providers connect the virtual and real worlds of value networks to reimagine operations that will achieve excellence. Suppliers, manufacturers, service providers, logistics operators and transportation operators use DELMIA Quintiq solutions to plan and optimize their logistics, manufacturing operations and workforces.

DELMIA Quintiq solutions can be configured to suit any business model and take into account each organization’s rules, regulations and requirements, and business processes. This flexible foundation enabled the Dassault Systèmes Executive Committee to put this urgent project on the fast track.

The Back to the Office Team Planning solution provides flexibility, optimization and the ability to process dynamic data input to efficiently plan operations.

The solution enabled the company to:

- Have a central overview and global visibility
- Manage local details
- Facilitate efficient communication and collaboration with employees

The optimizer in the Back to the Office Team Planning solution allowed KPIs to be set for quantitative targets such as:

- Maximize overall onsite presence
- Aim for on-site presence targets per role
- Spread the on-site effort between ‘equal role’ employees by aiming for two or more days on-site per employee per week

To create optimal schedules that respected employee constraints and preferences, the solution considered employees’ answers to questions such as:

- Are there vulnerable people in your close circle?
- Do you need to stay at home to take care of kids?
- How will you travel to the office?

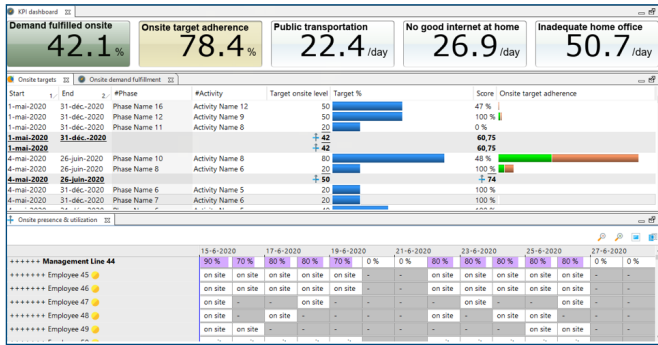
The plan incorporated business demands and employee preferences while adhering to the capacity of each office. This ensured adequate social distancing and compliance to rules for on-site presence and travel quarantine.

The solution’s optimizer scheduled employees by business and role priorities (while considering employee preferences) until the capacities of each day were filled.

The planner can simulate multiple scenarios or options across capacity requirements and see the plan’s compliance, for example, to employee preferences. Manual override allowed adjustments to be made to the plan.



MEASURING COMPLIANCE TO EMPLOYEE PREFERENCES



The solution shows the plan's compliance to employee preferences

Each employee received a roster that informed them of the days when they would be required to be on-site the following week. They could request for short-term changes if they had personal constraints such as the need to care for children at home.

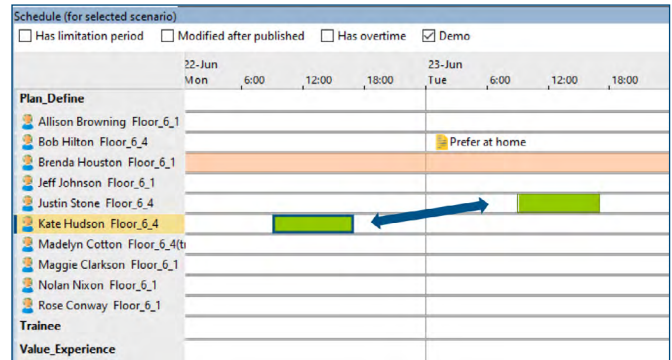
The solution's flexibility allowed managers to adjust plans to meet specific project requirements or accommodate employee preferences. Any changes to preferences were updated seamlessly in the Back to the Office Team Planning solution.

"The Back to the Office Team Planning solution produces optimized plans and gives us visibility of the expected on-site presence of each person on each day. This helps us balance between meeting the company's business goals, adhering to safety measures, and respecting our employees' personal preferences."

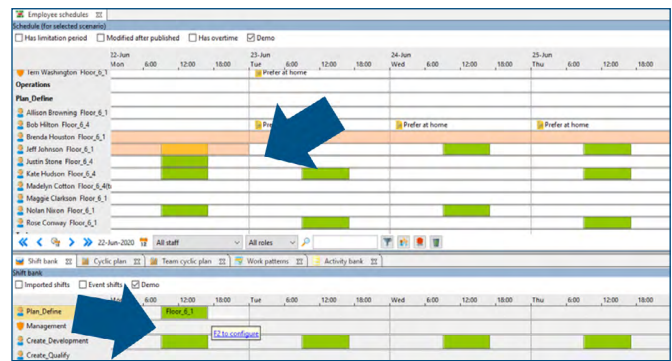
— Pascal Daloz,
Chief Operating Officer & Chief Financial Officer
Dassault Systèmes

ADJUSTING THE PLAN

Here are two examples of plan adjustments:

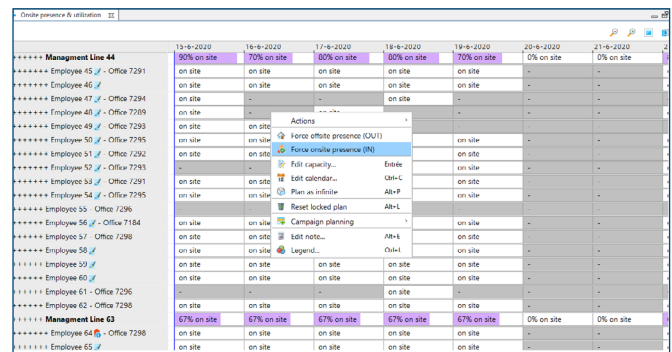


Shifts can be swapped between two employees



If an employee calls in sick, the shift drops to the bank, indicating an opportunity is open for someone else to choose to work on-site

At the local level, the solution considered area-specific constraints such as the different containment zones that employee residences and work sites fall under (e.g., green, orange and red). It also took into account the zones employees had to travel through to get to their worksites.



Last-minute exception management and adjustment of plans



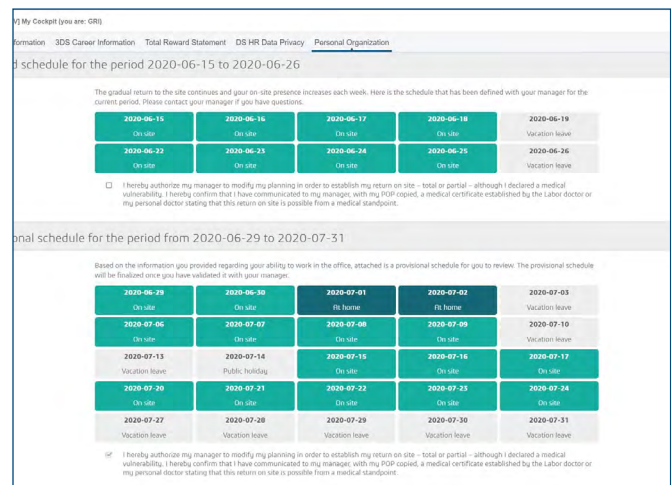
“Schedules that fulfill the demand for different roles while achieving optimal use of the different offices mean we can get back to ‘business as usual’ sooner.”

— Philippe Laufer
Executive Vice President
Dassault Systèmes

“Besides complying with predefined capacity restrictions, the schedules respect physical distance rules. Our employees can return to the office with the full confidence that we’ve taken all steps to ensure their safety.”

— Florence Verzelen
Executive Vice President
Industry, Marketing, Global Affairs and Communication
Dassault Systèmes

The Back to the Office Team Planning solution was developed to address COVID-19 restrictions for a safe return to the workplace. Nobody knows what the future holds, but one thing we do know is, a solution which provides visibility and control over workforce planning and scheduling, will help employers cope with tomorrow’s challenges.



My Cockpit: A dashboard that gives employees clear visibility of the Back to the Office Team Planning roster. They could also indicate their preferences for the upcoming weeks

So far, the Back to the Office Team Planning solution has been deployed across several regions to plan the return to office of close to 10,000 employees and contractors. More offices will get on board as more countries relax or remove travel and work restrictions.

By balancing the capacity of these facilities and the flow of people, the solution helped prevent employees from overcrowding at facilities such as transport stations, shuttle buses and building elevators at certain times of the day, like the morning rush hour.

Based on feedback from managers with team members who may not fall under their direct report, the solution has been improved to enable a team-based planning approach. The Back to the Office Team Planning solution can now assign a higher on-site frequency to managers too.

At the management level, this solution gives key decision-makers and stakeholders **visibility of the entire company’s workforce**; and **centralized control** to quickly and easily schedule the return of large numbers of people to multiple sites.



“It was the proof of concept with DELMIA Quintiq Optimized Planning that made our decision for us. We needed an agile system to handle what-if scenarios and it could do that and more.”

– Tiina Lahti, Head of Ground Resource Planning, Finnair

Challenge:

Finnair, the airline with the shortest connection between Asia and Europe, needed a powerful workforce planning solution to manage the complexity of rostering hundreds of employees in maintenance, passenger services, cargo handling and catering. To cope with the challenging business environment airlines operate in, the company needed a solution capable of producing the most efficient schedules, while ensuring compliance with working time regulations, labor laws and individual characteristics such as skills, shift preferences and vacation leave.

Solution:

To ensure smooth and efficient operations, Finnair partnered with the DELMIA brand of Dassault Systèmes and uses the DELMIA Quintiq solution to plan its ground operations workforce. The centralized system provides all the functionality required by the company to handle the planning challenges of different departments, generating rosters that factor in all unique scheduling constraints.

Benefits:

With its modern planning system, the company can optimize its workforce and run leaner, smoother and more cost efficient operations. Finnair planners now use a single solution to manage employee schedules across all departments, ensuring everything complies with all labor agreements and regulations. Backed by powerful insights, they can plan ahead strategically and make truly informed decisions.



“Not only has the amount of manual work we do been reduced, but we’re now able to optimize our processes and end up with better results.”

— Tiina Lahti,
Head of Ground Resource Planning, Finnair



CENTRALIZED PLANNING, EFFICIENT WORKFORCE

The workforce planners at Finnair have the important role of making sure each department across the Finnish airline has exactly the right number of workers on shift to ensure the smooth running of the business at all times. They are tasked with managing the rostering for hundreds of ground operations employees, setting monthly agreements and forecasting resource needs months in advance. The airline, which connects Europe with Asia and North America, has over 1,350 employees across its maintenance, passenger services, cargo handling and catering departments when running at full capacity.

Like many airlines, one of the biggest challenges Finnair faced was ensuring each employee schedule complied with multiple labor agreements and regulations, taking into account enforced breaks, shift preferences, planned vacations and so on. Before the company modernized its workforce planning solution, its planners used multiple systems to manage all these specific requirements across individual departments. Manually creating and maintaining these employee schedules was very time consuming and labor intensive.

Today, the daily tasks carried out by the Finnair workforce planners have been transformed for the better, thanks to the new DELMIA Quintiq workforce planning solution they now use. All of the functionality they need is available in a single system, allowing them to generate rosters that factor in all unique scheduling constraints, seek optimal alternatives, better manage disruptions and plan ahead with true insight.

CHOOSING THE BEST FIT

Finnair’s journey to DELMIA Quintiq was a long time in the making. The company’s resource planning managers were charged with finding the right solution for the business and consolidating all resource planning processes. A team of Finnair experts then headed up a thorough procurement process before eventually deciding on DELMIA Quintiq.

“We started with an enhancement project, aiming to make incremental improvements to our workforce planning processes,” said Tiina Lahti, head of Ground Resource Planning at Finnair. “But we quickly realized we needed to make bigger changes and we began looking into the systems available on the market that could help us.”

Over two years, Finnair assessed multiple systems that could meet its specific requirements.

“As we have many different service level agreements and local regulations as well as labor rules and requirements in different units, we quickly found that most solution providers couldn’t offer all the functionality we needed within one system,” Lahti said. “But this was out of the question for us. We had to find a centralized system. In the end, we narrowed our choice down to a couple of solutions, but it was the proof of concept with DELMIA Quintiq Optimized Planning that made our decision for us. We needed an agile system to handle what-if scenarios and it could do that and more.”

Finnair worked with Dassault Systèmes’ partner and local workforce planning specialist Roima Intelligence to implement DELMIA Quintiq and achieve its business goals.

“Roima handled the implementation alongside DELMIA Quintiq,” Lahti said. “They really got to know us and understand our business needs to ensure the solution and support agreement was the right fit for us. When you’re trying to figure out complex labor rules and technical issues, it’s so handy to be able to talk to a supportive team in your native language. It really helped us navigate this complicated, multi-faceted project.”

After defining the requirements for the system across all its business units, Finnair implemented DELMIA Quintiq. The implementation took place between September 2017 and December 2018, covering ground resource planning, technical and kitchen operations.

“Roima’s dedicated team helped us navigate the technical issues we experienced in removing the legacy systems and making the transition to DELMIA Quintiq,” Lahti said. “Today, we continue to work closely with them.”



EMPOWERED PLANNERS

Finnair’s planners use DELMIA Quintiq to manage the entire workforce planning process across all ground operations departments, including short-, mid- and long-term planning. As they’ve transitioned away from time-consuming, manual processes to a more agile, automated approach, they are able to work more efficiently and effectively than ever before.

“Their processes are totally different today,” Lahti said. “They’re able to access the information they need directly from the system and it’s presented to them far more intuitively. It means they now carry out far more interesting work and are empowered to think strategically as they can look ahead and see the entire business. They have a lot more responsibility and can make a huge impact with their decision-making.”

Feedback from the planners about the new solution has been positive.

“They find DELMIA Quintiq easy to use and can carry out many of their everyday tasks intuitively without instructions,” Lahti said. “They can now see further ahead in terms of their planning and can try different optimizers for different shift structures. It has transformed their work into a more strategic role and they know they have a powerful tool that they can rely on. They appreciate that it’s modern and industry leading. Everybody has embraced this modern approach and wouldn’t want to return to our previous ways of working.”

The new system has been well received by all shift workers too, as they now have far greater visibility of their working arrangements.

“They can see more information about their working quotas, check how many hours of overtime they’ve done and how many vacation days they have banked,” Lahti said. “Everything is far more visible and it means they have to ask fewer questions of our workforce planners. They can check most things themselves.”

More streamlined and automated processes have also translated to efficiencies and cost savings across the business.

“Not only has the amount of manual work we do been reduced, but we’re now able to optimize our processes and end up with better results,” Lahti said.



“DELMIA Quintiq successfully demonstrated how a single system can manage the planning challenges of different departments.”

— Jaakko Schildt, COO, Finnair

Focus on Finnair

Finnair flies between Asia, Europe and North America. Its extensive network connects 19 cities in Asia and 7 cities in North America with over 100 destinations in Europe. Founded in 1923, Finnair is one of the oldest continuously operating airlines in the world.

For more information

<https://company.finnair.com>

Focus on Roima Intelligence

Based in Finland, Roima Intelligence empowers people to reach the optimal and sustainable outcome for business, society and environment through digitalization and artificial intelligence in manufacturing and logistics. The company boosts productivity through innovative automation solutions, intelligent use of digital technologies, and continuous improvement. Roima's experts are leading professionals in their industries, who already serve over 300 growth-oriented customers both in Finland and around the world.

For more information

www.roimaint.com

PLANNING AHEAD EFFICIENTLY

In recent months, Finnair has faced an extremely challenging time as it navigates travel restrictions and reduced air travel demand as a direct result of the COVID-19 pandemic. With a smaller workforce offering a limited service, Finnair is using DELMIA Quintiq to optimize its resources and keep costs under control.

"Even though we have fewer people at work, we're still following the same processes and we can optimize regardless," Lahti said. "It means we're still able to offer the best quality service despite the huge changes."

As Finnair looks to the future and positions itself for brighter times ahead, it knows it has a reliable, future-proof workforce planning system it can rely on.

"Smooth and efficient operations at our hub is a must," said Jaakko Schildt, COO of Finnair. "DELMIA Quintiq successfully demonstrated how a single system can manage the planning challenges of different departments. This project is yet another example of Finnair's determination to maintain operational excellence and improve both customer and employee satisfaction."



“I recommend DELMIA for clothing companies around the world who want to have better visibility and control over their production. In effect, the solution meets all of our company’s expectations.”

– Onesia Liotto, Director of Rosa Maria

Challenge:

To improve the efficiency of its business, Rosa Maria, a Brazilian textile company, specializing in the manufacture of women's clothing, needed to control its production capacity to meet evolving consumer demand. The company also needed to adapt its production process to be more agile and flexible to fulfill the requirements of both local and global markets.

Solution:

The company adopted DELMIA Ortems' Advanced Planning and Scheduling solution for Supply Chain Planning & Operations to enhance visibility, flexibility and coordination of its production lines and for inventory management.

Benefits:

DELMIA cut production lead time by 50%, reducing product delivery from 90 to only 45 days. By improving production capacity, simplifying workload balance and inventory control in its own production line and that of its suppliers, DELMIA helps generate important gains, such as a reduction of Rosa Maria's total inventory by 37% and that of its intermediate stock by 23%.



"Our greatest dream has always been to organize and plan production with world-class quality and excellence. Now, with DELMIA, we are making that dream a reality."

— Onesia Liotto, director of Rosa Maria

VISIBILITY, FLEXIBILITY & COORDINATION: CHALLENGES OF A COMPLEX PRODUCTION

Rosa Maria, one of Brazil's leading women's fitness fashion companies, needed to manage a complex environment with more than 45 different suppliers and production of more than 300,000 articles per month. Its clothing is distributed in 30 of the most important retail chains in Brazil and in more than 15 stores in Argentina, Chile, Colombia, Peru, Mexico and the United States. These daunting challenges required Rosa Maria to improve its agility and to simplify its processes to remain competitive.

"Our challenge has always been to organize and plan production involving dozens of suppliers and hundreds of machines," Onesia Liotto, director of Rosa Maria said. To address this issue, the company decided to look for an advanced production planning and scheduling (APS) system that could improve the performance of its production unit. DELMIA ORTEMS Supply Chain Planning & Operations solution, developed by Dassault Systèmes, was selected based on its advanced features for scheduling and control of production flows.

"With the support of DELMIA, we are able to align our production capacity with evolving business demands," Liotto affirmed. She said that using the solution will help position the company on a global level within the sportswear production market, by enhancing visibility, flexibility and coordination on production lines and by improving inventory management. Investing in technology and through continuous development, the company seeks to ensure on-time delivery to major retail brands with which it does business.

Rosa Maria's director affirmed that the main goal of the company with the adoption of new digital solutions was to improve operational efficiency, overcoming the challenge caused by the lack of control over the pace of production which, in the past, generated interruptions in the factory and considerable waste of raw materials.

FROM EXCEL TO ADVANCED PLANNING AND SCHEDULING

Rosa Maria began to implement the Advanced Planning and Scheduling (APS) solution from Dassault Systèmes, initiating a true internal transformation with a new digital environment. Until 2015, production control of the factory was done manually using EXCEL spreadsheets. "Factory planning was time-consuming and generated errors," Liotto said. "Defining a two-week production schedule used to take 12 hours of work. Today with DELMIA, planning production for a full-year takes only 30 minutes, with more accuracy, and complete control over inventory and raw materials," she said. Thanks to a simple and intuitive interface, only one person is needed to plan and monitor the annual production of thousands of articles.

Solving the complexity of its industrial environment was essential to Rosa Maria's business transformation. "We reduced our production lead time by 50%, shrinking production delivery from 90 to only 45 days. This enabled us to optimize our production capacity, increase our ability to process new orders, including those linked to specific campaigns, and to expand sales throughout the country," Liotto declared. "I recommend DELMIA for clothing companies around the world who want to have better visibility and control over their production," she said. "In effect, the solution meets all of our company's expectations."

INVENTORY REDUCED BY 37% THANKS TO ENHANCED PREDICTION OF RESOURCE UTILIZATION

DELMIA has also improved the company's operational management, simplifying workload balance and control of inventories in the production line and at its suppliers. According to Liotto, in addition to decreasing the time required to produce and organize the plant's planning, the project generated important benefits, such as a 37% reduction of its total inventory and a 23% reduction of its intermediate stock.

DELMIA provides planning and scheduling capabilities for collaborative production, enabling manufacturing companies to more accurately predict the resources needed throughout their operations, from receipt of orders to delivery of the products to retailers and customers. "It also improves our flexibility and the ability of our production managers to make the right decisions, even when changes occur in the process," Liotto said.

DRIVING INNOVATION WITH AN APS

DELMIA is also able to analyze and manage more than 70 constraints, such as type of product, color, size and delivery due date, which are required to optimize the complete scheduling of operations. "We have more visibility, integration and control over raw materials used and a plant's workflow," Liotto said.

"Without this solution, it would be impossible to expand our production as we have done in recent years and, at the same time, deliver orders on time and in compliance with each retailer's specific characteristics," she said. In effect, according to Rosa Maria's director, the company today can claim that it is more competitive thanks to the digital transformation enabled by state-of-the-art technology from Dassault Systèmes.

The integration between its commercial and production activities also helps to increase the company's competitive edge, positioning Rosa Maria as a player capable of handling new demands from its customers who change their preferences with each season. "Rosa Maria is ahead of the market thanks to the use of DELMIA," said Vanessa Maciel Husemann, sales director, responsible for sales and deployment of the DELMIA Planning & Scheduling solution at Rosa Maria.

PLANNING AND SCHEDULING TO ADVANCE IN THE FUTURE

Rosa Maria is always looking for ways to improve its products and to continuously innovate to help ensure its sustainability. Today, the company is able to expand its production and distribution of sportswear. "Our greatest dream has always been to organize and plan production with world-class quality and excellence. Now, with DELMIA, we are making that dream a reality," Liotto said.

"We reduced our production lead time by 50%, shrinking production delivery from 90 to only 45 days. This enabled us to optimize our production capacity, increase our ability to process new orders, including those linked to specific campaigns, and to expand sales throughout the country"

— Onesia Liotto, director of Rosa Maria.

Focus on Rosa Maria

Manufacturer of women's sportswear.

Products: fitness and sports clothing for women

Employees: 140

Headquarters: Brusque, Brazil

For more information

www.rosamaria.net.br



Rosa Maria manages a complex environment with more than 45 different suppliers and over 300,000 articles per month

About G2A

G2A is a Brazil based consultancy company specializing in ERP implementation and Planning & Scheduling Solutions.

Since 2009, G2A has been a partner of DELMIA Ortems Advanced Planning and Scheduling Solutions successfully developing numerous large scale projects across various industries within South America.

For more information

<http://g2a.net.br/>



Inventory management is operated without interrupting production



“We have multiple systems that deliver data to SOPRE, covering interfaces for rolling stock as well as timetables. The data imports take place every five minutes, giving us a constant wave of updates to the system. This information is then exported to applications used by the train crew. The system is in a constant state of motion. Real-time planning requires a high performing, future-proof system like DELMIA.”

– René Moraske, Senior Project Manager, SBB

Challenge:

Swiss railway network operator Schweizerische Bundesbahnen (SBB) needed a robust workforce planning and optimization solution to handle the thousands of train drivers and attendants it employs in the most efficient way, while offering the best possible customer service. The system needed to be scalable, operate in real time, and be capable of handling a multitude of complexities, including unplanned events and local employment laws.

Solution:

SBB built a system called SOPRE (Simulation, Optimization, Planning of Resources), powered by DELMIA Quintiq. This comprehensive, on-premise planning solution covers SBB's timetables and human resource requirements, empowering it to plan ahead effectively and manage its daily operations with real-time data.

Benefits:

With its high-performing, future-proof system, SBB can feed huge amounts of data into SOPRE to determine the best possible workforce schedules, optimize its resources, and react quickly to live events. The company can redistribute resources at a moment's notice and make best use of the staff available each day. DELMIA supports SBB to remain compliant with specific legal workforce requirements and is constantly adapting with its changing business requirements.

SIMPLE, PERSONAL, CONNECTED TRAVEL

New technologies and digitalization continue to drive developments around mobility. For railway network operators like Schweizerische Bundesbahnen (SBB) in Switzerland, this momentum presents both challenges and opportunities. More than ever, competition between transport providers for a place in the mobility chain is intensifying, operating costs are rising, public funds are growing scarcer, and other modes of transport are becoming cheaper. That's why SBB is on a mission to harness technology to become more efficient and punctual while staying ahead of the environmental curve, building a railway of the future that is simple, personal, and connected.

With a 3,000-km track network, SBB is the main railway operator in Switzerland and manages one of the densest railway networks in the world. The company has a 30,000-strong workforce, including 5,800 train drivers and attendants, who all come together to help transport over 1.3-million passengers and 200,000 metric tons of freight to their destination every day.

SBB uses a system called SOPRE (Simulation, Optimization, Planning of Resources), powered by DELMIA Quintiq, to manage its resources as efficiently and effectively as possible. This planning solution covers three major areas: rolling stock timetable, human resource requirements, and scheduled activities, such as weekend breaks and holiday tours. SBB uses it to handle three phases of planning: annual planning, to define the general timetable and overall capacity requirements; monthly planning, which looks 20 weeks ahead, taking into account planned events, construction works, and seasonal changes; and daily operational planning, reacting to live events, redistributing staff, and ensuring the network continues to operate a good service.

"By its very nature, SBB's network is highly dynamic and unpredictable," said René Moraske, senior project manager at SBB. "Every day, several times a day, unplanned events occur, whether it's a medical emergency, a natural disaster such as a landslide, weather disruption, or track and train damage—it can lead to delays and diversions, and it must all be handled with minimal impact on the railway service. Of course, this all has an impact on our staff too. This extreme dynamic in our network demands SOPRE in real time."

A MODERN, SCALABLE SOLUTION

When SBB's legacy planning system was nearing the end of its life, the business took advantage of the opportunity to invest in an industry-leading workforce planning system that would support it to modernize its processes, run more efficiently, and establish a closer technical relationship with rolling stock planning. As such, SBB required a system with high availability and powerful enough to support all its different operations in real time.



"We are constantly developing the system to adapt to our changing needs, in terms of business and legal requirements. It's a very complicated process and the system supports us to do this, ensuring we meet specific conditions around staff rest periods, taking into account knowledge of the vehicle and travel route."

— René Moraske,
Senior Project Manager, SBB

“Our production environment is made up of eight servers, 340 cores, 15TB of memory, and 12TB storage databases,” Moraske said. “The system must be available 365 days a year so it’s distributed across two data centers. Our software distribution is complex too. We have multiple systems that deliver data to SOPRE, covering interfaces for rolling stock as well as timetables. The data imports take place every five minutes, giving us a constant wave of updates to the system. This information is then exported to applications used by the train crew. The system is in a constant state of motion.”

Scalable and adaptable, DELMIA was, therefore, a natural choice.

“Real-time planning requires a high performing, future-proof system like DELMIA,” Moraske said.

CUSTOMIZED TO HANDLE COMPLEXITY

The DELMIA workforce planning solution was rolled out in three major stages across SBB.

“We started with the smaller population of stub planners and frequency lifters,” Moraske said. “Here, the risk was the smallest, should it not work. Then, we brought in the train conductors, which amounted to the planning of 2,500 people. Finally, in the third phase, the train drivers went live. Again, that included 2,500 colleagues.”

Not only did the system need to be able to grow with SBB, but it also had to be customizable to meet SBB’s very specific and diverse requirements.

“The system needed to be operational in German, French and Italian, which makes the design very complex,” Moraske said. “We also have five departments which function with different time rules. For this alone, we have 200 knowledge tables. To reduce the complexity, we needed to simplify our processes.”

MEETING LEGAL REQUIREMENTS

One of the main challenges SBB faces is complying with the various legal requirements in force across its network, such as mandatory rest periods. These legal requirements change depending on locality, meaning that the company must continuously adapt its operations to remain compliant.

“We are constantly developing the system to adapt to our changing needs, in terms of business and legal requirements,” Moraske said. “It’s a very complicated process and the system supports us to do this, ensuring we meet specific conditions around staff rest periods, taking into account knowledge of the vehicle and travel route.”



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Focus on SBB

SBB is Switzerland's largest transport company and provides the country with links to the European high-speed rail network. The company transports over 1.32 million passengers and 200,000 metric tons of freight to their destination every day. Over 30,000 employees come together to make SBB the backbone of public transport and realize its vision for mobility of the future.

For more information

www.sbb.ch/en

OPTIMIZING THE FUTURE

SBB is expanding its use of DELMIA Quintiq to run its operations even more efficiently and hopes to further optimize its processes in the future.

"The system is now much more accurate," Moraske said. "It's helping us to automate certain business processes, saving us time in planning and allowing us to better handle the shortage of train drivers through more efficient routes. The influence of rolling stock planning has grown significantly. In the future, we also want to automate our functional tests to improve time to market and better handle maintenance. All of this will be possible thanks to SOPRE. It is essential to the success of our business."

SLOVENIAN STEEL GROUP



“To maintain our market leadership, we turned to DELMIA Quintiq for one of the most advanced planning solutions available. It was the only system robust enough to fulfill our most stringent requirements, yet flexible enough to adapt to our unique production configuration and complicated production steps.”

– Vladimir Arshinov, CIO, Sij Group

THE CUSTOMER

SIJ Acroni produces flat-rolled steel products. It is a leading producer of stainless steel quarto plates and other specialty steels such as wear-resistant, high-tensile, and tool steel plates. The company is part of SIJ Group, which is the largest Slovenian vertically integrated metallurgical group and one of the largest producers of stainless and specialty steels in Europe.

THE CHALLENGE

As a specialty steel manufacturer, SIJ Acroni operates based on a high volume of small, customized orders and a diverse portfolio of products, making production planning highly complex. The company wanted to achieve high delivery performance while maintaining profitability and making the best use of its production assets. At the same time, it was a challenge to maintain inventories at an optimized level.

SIJ Acroni's existing planning solution was based on Excel. As planning became a lot more complex, the company's planning team sought a better approach: One that would provide an overview of material flows across the production in processes from the furnace to the plate mill, and from the pickling systems to the cutting lines.

The search for a better planning solution was in line with SIJ Group's mission to be the most successful manufacturer of specialty steel products in Europe. In recent years, the group was able to increase the quota of value-added steel products in its product mix from 55 percent to 70 percent.

SIJ Group began looking for a technology partner to boost SIJ Acroni's production planning and drive the group's effort in sustaining its high-volume growth in specialty steels while continuing to deliver excellent customer service.

THE SOLUTION

The search ended with DELMIA Quintiq's appointment as SIJ Acroni's technology partner.

DELMIA Quintiq was the clear choice. SIJ Acroni was confident of DELMIA Quintiq's expertise in steel production planning, given its track record of successful projects for some of the world's largest steel manufacturers.

"Competition is growing in the steelmaking market, and the winners will be the companies that can consistently offer their customers the highest-quality products and great delivery performance, while optimizing the use of their internal production assets," said Vladimir Arshinov, CIO of SIJ Group.

Arshinov continued, "The goal of this project isn't merely to balance our day-to-day execution to deliver on the above mentioned three areas, but to achieve significant improvements in each one of them. To maintain our market leadership, we turned to DELMIA Quintiq for one of the most advanced planning solutions available. It was the only system robust enough to fulfill our most stringent requirements, yet flexible enough to adapt to our unique production configuration and complicated production steps."

The DELMIA Quintiq solution, Company Planner, is designed to seamlessly integrate all planning activities in SIJ Acroni's steelmaking plant as well as rolling and finishing facilities for optimized production. With the solution, the company is equipped with end-to-end visibility of its operations, from steelmaking to slitting to packaging.

The full visibility enables SIJ Acroni to:

- Integrate and improve medium and short-term planning
- Optimize resource usage
- Quickly identify and eliminate production bottlenecks
- Keep working capital in the supply chain at a healthy level

The solution's implementation took a mere eight months with great budget efficiency — an impressive feat that was made possible through excellent collaboration between the SIJ Acroni and DELMIA Quintiq teams. SIJ Acroni had in-house specialists who were trained by the DELMIA Quintiq team to maintain the system, and would have the know-how to contribute to future joint projects.

With DELMIA Quintiq, disruptions and maintenance have become easier to manage efficiently.

"We're able to rely on the solution to reduce the impact of disruptions and unexpected downtimes, and schedule maintenance according to commercial priorities," said Branko Žerdoner, General Manager at SIJ Acroni.

The solution also provides SIJ Acroni with a game changing capability in the form of KPI-based planning. The company's planning team is able to see how each decision impacts KPIs such as delivery performance, production cycle duration and inventory levels, and make the right call to align with business goals.



THE RESULTS

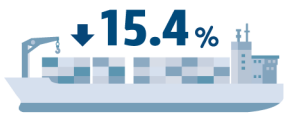
SIJ Acroni was able to quickly adjust to its new planning solution and was delighted to see a quick return on investment. The improvement in KPI performance was significant, especially in terms of delivery performance and production cycle times:



On-time, in-full (OTIF) delivery rate



Production cycle from booking to finished goods



Production cycle from booking to shipping

The company has not only overcome the complexity of manufacturing niche products, but also gained planning flexibility thanks to the solution. With a sharpened competitive edge, it can now respond swiftly to market changes without compromising on resource usage efficiency and delivery lead times.

“The solution was what we needed to better balance material flows, fulfill orders more quickly and manage inventories more effectively. With DELMIA Quintiq, we’re able to optimize bottleneck resources to make full use of available capacity. In turn, we can expand our production capacity of steel products even further,” said Žerdoner.

Next, SIJ Acroni seeks to align its sales, marketing and production for even better business performance. Based on the successful implementation and results that SIJ Acroni has experienced with DELMIA Quintiq, the company certainly intends to expand this partnership. Both parties are discussing new projects that will bring SIJ Acroni to greater heights in the world of specialty steel products.





“What I really like about DELMIA Quintiq is the transparency it provides. You can follow all data from the customer forecast all the way to production demand and through all the production steps to the very first input. This system really works for us.”

– Andreas Legner, Tribotecc

Challenge:

Tribotecc, one of the world's leading manufacturers of synthetic and natural metal sulfides for friction stabilizers, needed greater control and visibility of its supply chain. The aim was to move from a manual to an automated production scheduling and planning approach, drawing data from every aspect of its business to plan and optimize its complex supply chain. The aim: to make profitable decisions and improve delivery performance while reducing stock.

Solution:

Tribotecc now uses DELMIA Quintiq for demand and procurement planning as well as production scheduling. The solution provides industry-specific capabilities that allow Tribotecc to model, plan and optimize its complex production chain from end to end through sophisticated what-if scenario planning, collaborative decision-making, and full data transparency.

Benefits:

DELMIA cut production lead time by 50%, reducing product delivery from 90 to only 45 days. By improving production capacity, simplifying workload balance and inventory control in its own production line and that of its suppliers, DELMIA helps generate important gains, such as a reduction of Rosa Maria's total inventory by 37% and that of its intermediate stock by 23%.

A WORLD LEADER IN HIGH-PERFORMANCE METAL SULFIDES

Get in a car or board a train, plane, or bus from anywhere in the world and chances are that at least one of Tribotecc's products will accompany you on your journey. The leading Austrian manufacturer produces high-performance synthetic and natural metal sulfides. These are used as functional additives in brake pads and clutch facings as well as lubricants, polymers, powder metallurgy and abrasives across a wide range of fields globally.

Tribotecc's market-leading reputation is built on its premium products and solution-oriented approach. It uses a unique, patented synthetic manufacturing process designed to guarantee the production of metal sulfides in any required composition, quantity and of consistent quality. In the friction industry, for example, Tribotecc's friction stabilizers and comfort additives are used by automotive manufacturers to extend the durability and performance of disc brake pads and drum brake linings. But when it comes to Tribotecc's customer service, friction free is the mantra that drives its approach. The

company supports its customers through a reliable supply of raw materials, intelligent processes and high-quality products, and embraces the latest technologies to optimize its operations, including its production planning.

Annually, Tribotecc produces an average capacity of 25,000 metric tons of metal sulfides. For many years, it relied on the rough information coming through from its sales team to plan production. While this approach gave an indication of the quantities of products required in a given timeframe, the company's manufacturing plant lacked visibility of what was specifically required and in what form. It meant that the production setup had to change almost daily to keep up with demand, and this impacted changeover, work and lead times.

Andreas Legner is plant manager and Six Sigma Black Belt at Tribotecc and one of his key responsibilities is to plan the company's production processes and material flows. He knew there must be a better way and sought a more sophisticated planning solution that would deliver true operational visibility and accurate forecasting. Legner found the answer in DELMIA Quintiq.

"We were looking for a reliable, world-leading partner with an established planning solution on the market that would give us complete control and full data transparency," Legner said. "DELMIA Quintiq met all of our key requirements."



A PLANNING TOOL SUITED TO THE CHEMICAL INDUSTRY

DELMIA Quintiq's rich functionality and flexibility makes it ideally suited to the needs of the chemical industry. The DELMIA Quintiq team worked closely with Tribotecn to determine its business needs, understand its processes and customized the planning solution accordingly to tackle the following challenges:

✓ Challenge One

"We produce some products in bulk and it's only at the end of the production process that we decide how it's going to be packaged," Legner said.

✓ Challenge Two

"From some raw materials we use, only about 20% is used for the main product, the rest is by-product, which we use for several other applications," Legner said. "If there's a rise in demand for the main product, we will end up with more by-products. We need the ability to plan ahead and determine if we can use this by-product for other applications or whether we need to use alternative routing."

✓ Challenge Three

"We work with some materials that require so-called rework inputs," Legner said. "We need to be able to calculate this, know how much we need to keep in stock and ensure automatic replenishment, so we don't impact production."

✓ Challenge Four

"We work with more than 50 raw materials, producing 220 finished goods and 50 semi-finished goods," Legner said. "But we have overlapping process steps and up to five steps per product, and 15 different lines. So, we needed a specific sequence which reduces loss and changeover times."

DELMIA Quintiq worked closely with Tribotecn to understand exactly how it operates and was committed to helping solve these challenges.

"They demonstrated the platform's (DELMIA Quintiq's) integration capabilities, transparency and flexibility," Legner said. "It meant the software could be tailored to manage the many specific requirements of both the chemical industry and Tribotecn, such as by-products, alternative raw material input, loss, lot optimization and sequencing, over various planning horizons, allowing us to achieve our goals."

SUPPORTING TEAMS TO THINK AHEAD

Today, Tribotecn splits its planning processes between three departments, all supported by DELMIA Quintiq. Sales handles the product forecasts and estimate demand; purchasing provides the latest updates on raw material lead times and target stock, and ensures the raw materials meet Tribotecn's quality requirements; and production monitors the workforce, equipment and work order statuses.

"Because of our lead times, production is planned for up to six months and for those months I have the exact data to ensure we have enough raw materials to work with," Legner said. "DELMIA Quintiq does all the planning work and delivers the plan that we then work to."

DELMIA Quintiq provides decision support at every stage, allowing each team to analyze almost limitless options and recommend the optimal course of action. From the very beginning, then, Tribotecn can build accurate and cost-efficient schedules and optimize specific sequences, all aligned with its business KPIs. Now, all three teams work towards a plan which is updated every fortnight, bar the rare exception when they must replan for an unanticipated customer order.

"This forms the basis for our production, and it keeps us all calm," Legner said. "Everyone is now able to work with confidence, knowing that we won't be changing our production setup every day."

FULL OPERATIONAL VISIBILITY

DELMIA Quintiq brings full visibility to Tribotecn's entire sales, purchase and production chain, and ensures a seamless data flow from one stage to the next.



"I had a problem with our data for years in terms of its reliability," Legner said. "Now, I can say that all the planning outputs we work with, we can trust. What I really like about DELMIA Quintiq is the transparency it provides. You can follow all data from the customer forecast all the way to production demand and through all the production steps to the very first input. This system really works for us."

Focus on Tribotecc

Tribotecc, based in Arnoldstein, Austria, is the world's largest manufacturer of special metal sulfides. As functional additives, they are used in brake pads and clutch facings as well as in lubricants, polymers, powder metallurgy, abrasives and batteries across a wide range of fields globally. Tribotecc has also gained world leadership in technology and innovation. The company develops, manufactures and distributes both synthetic and natural metal sulfides using a unique, patented synthetic manufacturing process.

For more information
www.tribotecc.com

Focus on bisonaire

bisonaire is an agile DELMIA Quintiq Gold Partner located in Weißenhorn, Germany. They are a company of experts with extensive field expertise in planning, SCPO and project management.

bisonaire offers its services to customers around the globe across a wide range of industries with a special focus on the Metals and Manufacturing industries.

In addition to consulting, project management and support, bisonaire adds individualized customer training and assistance in the setup of customer based Centers of Excellence.

For more information
<https://bisonaire.com/en>



Backed by DELMIA Quintiq, Tribotecc now benefits from accurate forecasting and full visibility of stock levels, empowering it to increase productivity, reduce lead times, decrease inventory, reduce waste and optimize lot sizes and packaging.

"Through better organization, we've reduced our inventory by about 40%," Legner said.



"Despite a replenishment time of up to 120 days for raw materials, we are able to deliver finished products almost just-in-time with DELMIA Quintiq, as we've shifted from made-to-order production to make-to-stock production. We've boosted on-time delivery performance from 85% to upwards of 99%."

— Andreas Legner, Tribotecc

During the COVID-19 pandemic, Tribotecc used DELMIA Quintiq to adapt its operations, helping to protect employees and ensure production availability.

"Despite high demand and difficulties with raw materials supply, we kept a delivery capability of 99% and were able to strengthen our image as a reliable partner with our customers," Legner said. "Throughout, DELMIA Quintiq supported us with transparent planning. We introduced an additional four shifts in our operations, which run 24/7; we adapted to short-term changes and shifts in demand; and we carried out partial daily planning instead of 14-day planning."

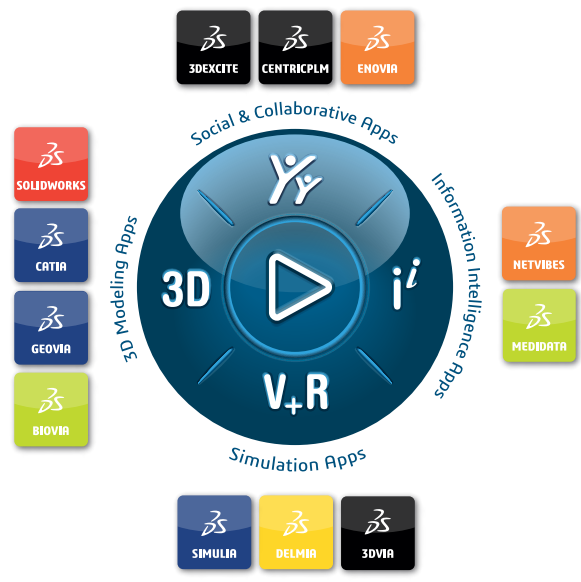
Looking ahead, the company plans to integrate DELMIA Quintiq with its enterprise resource planning system to further connect its business processes. But already, the solution has made a big difference to the way Tribotecc operates.

"We wouldn't be able to plan our entire operation as effectively as we do, connecting everyone across our different departments from sales to the shop floor without DELMIA Quintiq," Legner said. "It's a key tool to the success of our business."

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

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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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