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In the spotlight

Dear Reader,

Delivery bottlenecks, extreme weather conditions, tight transportation capacities and rising fuel prices are posing great challenges for businesses around the world.

Against this backdrop, we are witnessing on a global scale how supply chain management is gaining in importance as businesses focus more on the active management of supply chains. This is supported by the growth in digitization, which also makes it possible in the first place.

As a supply chain optimization specialist, 4flow is an expert in recognizing and using the right levers. As a technology company, we work together with the competence of our customers in the digitization of logistics and supply chains.

In this issue, we introduce you to two interesting software solutions for reducing costs and emissions. The first is a RapidResponse application, that integrates transportation optimization into S&OP processes. The second is 4flow TORO (Transport Optimized Release Orders), which as an SAP

add-on, is a quick-to-implement serverless solution with which call-offs can be consolidated and the number of shipments reduced.

In addition, we've opened our first Spanish office in Saragossa to support local customers with the continuous optimization and development of their supply chains.

We are also thrilled to welcome Alain Joyeux to our Paris office. As vice president, he will be responsible for developing our business in France.



A handwritten signature in black ink, appearing to read 'J. Schulcz', written in a cursive style.

Julian Schulcz, COO at 4flow

How Schneider Electric and 4flow designed a new logistics site

Integrating and optimizing regional materials supply and finished product distribution for leading industrial manufacturer



As an expert in the digital transformation of energy management and automation, Schneider Electric has a global presence with more than 135,000 employees in over 100 countries and regions. With leading energy and automation digital solutions for its customers, the company aims to empower all to make the most of energy and resources by bridging progress and sustainability.

To regroup existing plant warehousing activities for raw materials and finished goods, Schneider Electric is establishing a new logistics site in Beijing, China. With a total size of 12,000 square meters, the site is adjacent to Schneider Electric China's biggest plant. However, discrete manufacturing with rapid product iteration has increased the complexity of material management for over 16,000 SKUs. In addition, high picking throughput with over 12,500 order-lines per day called for high-automated warehouse solutions to optimize labor efficiency. To maximize cost effectiveness as well as operational efficiency, Schneider Electric partnered with 4flow to collaborate in developing a Schneider-tailored warehouse concept.

Planning step 1 - Preparation of solid planning database

With joint data collection and validation by Schneider Electric and 4flow, master data, transactions, inventory and forecasts were aligned and frozen for data analysis. Planning

premises were defined for specific cases, such as building restrictions, special packaging, and storage conditions. The holistic planning database also points out the strategic direction of the future concept.

Planning step 2 - Definition and evaluation of scenarios

Based on the solid planning database, the warehouse concept was defined with various solution portfolios by automation degree, process maturity, layout fitness etc. Advanced storage and picking automation solutions for small case warehouse, such as, multiple shuttle, mini load, auto store, Skypod and Kiva were all evaluated to look for the best fit. To cope with the uncertainty of future growth, "modular, scalable, and adaptable" key principles were used to evaluate the different design scenarios.

Planning step 3 - Development of detailed plan

The detailed plan was developed based on decisions about conceptual design. 3D layout modelling was designed for better visualization and feasibility checks, while 2D material flow simulation was developed with real time data to determine traffic bottlenecks. The detailed plan was also proven in a positive commercial business case including financial indicators such as return on investment (ROI) and payback period.



Planning step 4 - Road map to the new logistics site

Together, Schneider Electric and 4flow applied a systematic and iterative planning approach for the new site including target planning, conceptual design, and detailed planning. Within the 3-month project period, the warehouse processes, site layout, IT landscape and the operational organization were comprehensively designed and optimized. The final concept was transferred into an implementation plan with full consideration of required investment and operating costs.

“Working with 4flow, Schneider Electric will be able to maximize cost effectiveness and operational efficiency at our new logistics and warehouse site. Our labor efficiency is expected to improve by 30%, thanks to 4flow and the selection of the right automation solutions for us,” said Cyrille Pacaud, Schneider Electric Project Manager.

About Schneider Electric

Schneider’s purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all. We call this Life Is On.

Our mission is to be your digital partner for Sustainability and Efficiency.

We drive digital transformation by integrating world-leading process and energy technologies, end-point to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centers, infrastructure and industries.

We are the most local of global companies. We are advocates of open standards and partnership ecosystems that are passionate about our shared Meaningful Purpose, Inclusive and Empowered values.

Reducing emissions and transportation costs

Integrating transportation optimization into S&OP processes

The past year has drastically changed not just our daily lives but also the way we do business.

The supply chain industry has had to face significant new challenges caused by multiple national lockdowns and an overall transformation in the market needs and mindset. But this time of tremendous challenges has also opened up new opportunities – across all sectors, supply chain decision-makers have recognized the growing importance of establishing enhanced supply chain transparency, digitization and efficiency.

To achieve this, Kinaxis and 4flow have partnered to build a native embedded RapidResponse application that integrates transportation optimization earlier into sales & operations planning processes (S&OP) to leverage the power of concurrent planning.

The increasing importance of transportation management today

In today's supply chains, transportation is becoming increasingly important. Optimized transportation processes that are integrated into S&OP planning have a significant impact on process efficiency, overall costs and sales successes for customers in many industries.

Transportation makes up a large part of the overall end-to-end supply chain. Depending on the industry, transportation costs can be up to 200 percent relative to warehousing costs.

Kinaxis Inc.

is a leading company based in Canada that offers cloud-based software-as-a-service solutions (SaaS).

Kinaxis RapidResponse®

is a platform and unique concurrent planning engine for managing supply chains. It connects data, business processes and people within supply chain networks, allowing them to work concurrently and make confident decisions.

Kinaxis Transport Load Optimizer by 4flow

is an embedded RapidResponse® application that optimizes load planning to reduce transportation costs, increase profitability and speed up the loading and unloading of transportation units.

Semiconductor shortages, extreme weather, container availability, fuel shortages due to pipeline cyber-attacks, closed borders and pandemic lockdown restrictions – businesses are facing unprecedented challenges globally across their supply chains. All modes of transportation have been constrained with issues such as significant spikes in demand, rising fuel costs, reduced available transportation capacities and challenging extensions of transit times and delays.

Now more than ever, companies need to incorporate transportation optimization into their supply chain planning and S&OP processes. Having the right tools to secure material availability, increase shipment utilization and ultima-

tely reduce the number or required shipments in the supply chain is crucial for success.

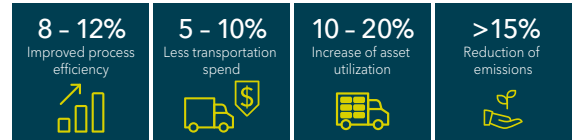
Emissions reduction, sustainability, and your strategic priority

Considering transportation constraints early in the S&OP processes helps businesses to achieve more efficient results and reduce costs while also reducing emissions. With the current global commitment to net zero carbon emissions, sustainability has become a strategic priority for the industry. As mentioned by a study in The Guardian, this has reached the point that sustainable corporations now even perform better financially than the competition.

More sustainability and lower transportation costs - Advantages of planning with the transportation optimizer

The Transportation Load Optimizer (TLO) is a new Kinaxis RapidResponse application designed to drive efficiency and significantly reduce freight spend and CO2 emissions for greater sustainability.

The switch from conventional S&OP solutions to Kinaxis enables companies to know sooner and act faster while also considering transportation constraints.



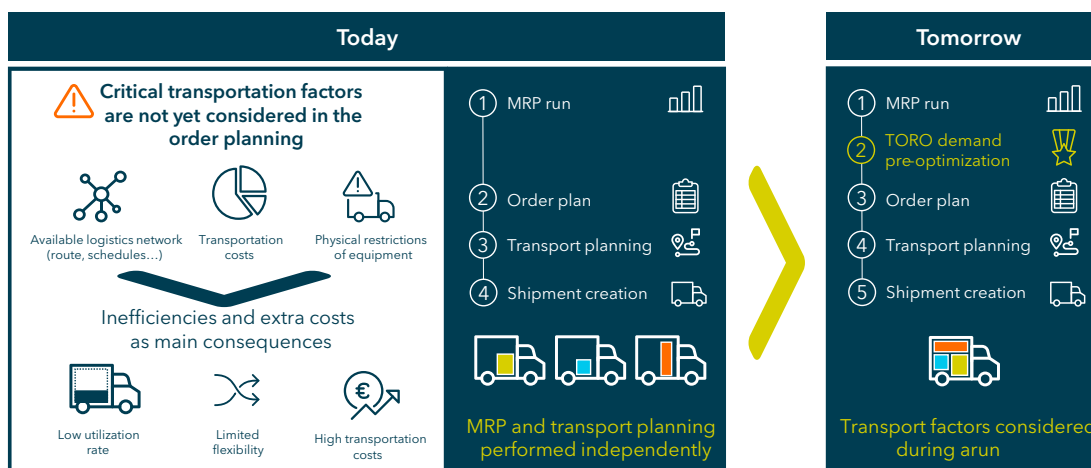
More efficiency, lower transportation costs and lower emissions with Kinaxis Transportation Optimizer by 4flow

While legacy S&OP systems just improve approximate transportation utilization, the TLO shifts and groups demands to minimize total logistics costs. By adding an automatic step within the netting, the Transportation Load Optimizer reduces transportation spend and CO2 emissions. Shipments are preponed and postponed, consolidating scheduled receipts and creating fuller, more efficient loads. The impact on inventory and availability is taken into account.

The applied optimization algorithms are based on real-world constraints, including freight rates and actual transportation capacities, leading to actionable planning results.



Dr. Marc Schleyer,
Vice President at 4flow



Planning with the TLO - Maximum loading unit capacity utilization

Pre-optimization of call-offs to reduce transportation costs

Software solution 4flow TORO – Transport Optimized Release Orders

As an SAP add-on, 4flow TORO (Transport Optimized Release Orders) is a serverless software solution that can be implemented quickly, offering the possibility to optimize call-offs during material planning by taking transportation-relevant factors into account. As a result, logistics costs for inbound supply chains are significantly reduced while the planning quality of call-offs is increased.

Traditional material planning doesn't consider factors relevant to transportation

Traditional material planning does not consider transportation-relevant factors regarding costs, capacities or network restrictions in material requirements planning (MRP). In cases where there is no additional transportation management system, for example, this leads to inefficient shipments in the inbound network and higher logistics costs. Even leading ERP system providers do not offer fitting solutions in their standard products.

4flow TORO as SAP add-on for seamless material planning

With 4flow TORO as SAP add-on, 4flow offers a solution for integrating transportation-relevant factors into planning runs. Many variables and restrictions including transportation rates, capacity restrictions, route information and material master data are considered to create optimized shipments based on scheduling agreements.

The results from the standard MRP runs are transferred to the 4flow TORO application and

Benefits of 4flow TORO at a glance

- > Pre-optimization of call-offs
- > Integration of material planning and transportation planning
- > Consolidation of shipments
- > Reduction of logistics costs
- > Reports on cost savings
- > Increased quality of planning
- > High flexibility
- > Quick implementation
- > Optimization as-a-service

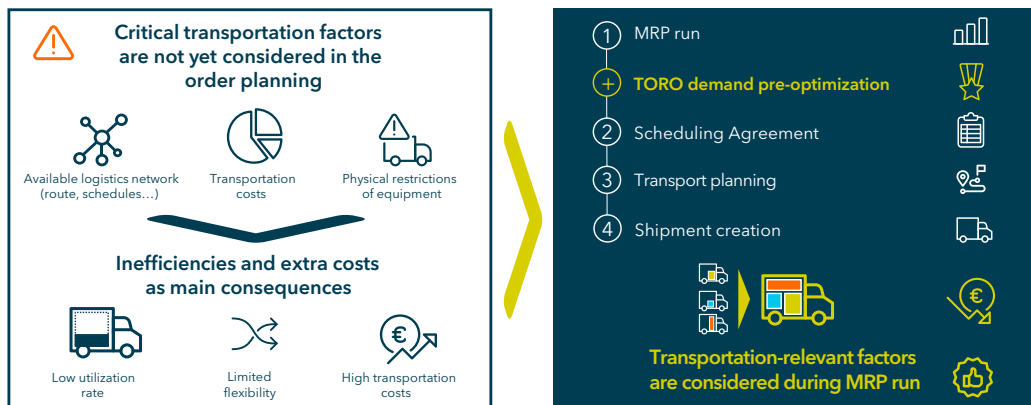
immediately optimized based on the transportation-relevant factors. Once verified, the optimized schedule lines are integrated back into SAP in the scheduling agreement. 4flow TORO enables network, transportation and planning restrictions to be taken into account during the early stages of material planning. This way, users can achieve a reduction in logistics costs without active transport management

Optimizing call-offs to reduce costs

Already during material requirements planning, transportation utilization of call-offs can be increased while logistics costs can be reduced, for instance, by consolidating schedule lines and reducing the number of shipments. With this, cost savings of 3% for the entire network and up to 30% on selected transportation lanes are made possible. The timely availability of materials is considered when optimizing the call-offs. Early integration of material and transportation planning also helps to boost the quality of planning and results in more effective release orders.

Plug-and-play solutions offer quick integration

4flow TORO offers a plug-and-play solution as a web service application and allows easy and quick integration into an existing IT landscape. Standard interfaces are used to exchange the required data to be used for optimization in the 4flow TORO application. The serverless application contributes to a high degree of flexibility. A modern web interface that confirms the optimization suggestions and offers user-friendly interaction serves to complete the user's product experience.



4flow TORO optimizes call-offs early to reduce logistics costs

4flow TORO offers an excellent solution for businesses using SAP in material planning without requiring active transportation management in the application.

4flow TORO's low implementation effort offers quick support in tactical and operational planning and facilitates the early and cost-reducing optimization of inbound transportation. To achieve an initial quick cost savings in a network, 4flow TORO can be piloted at a single location, for example, for selected transport relations or defined material volumes.



Dr. Markus Koch,
Software Sales



Thang Vu Duc,
Product Management

4flow news

4flow opens office in Spain

4flow has opened its first Spanish office in Saragossa in the Aragon region. The city of Saragossa is an important hub for the Spanish automotive industry as well as other sectors. With many automotive manufacturers and suppliers located in the region, 4flow is ideally situated in Saragossa to ensure the digitization, management and optimization of its customers' supply chains.

"At our new location in northeastern Spain, local supply chain experts from the 4flow team work together with nearby customers to continuously optimize and further develop their supply chains. This represents the next step in our journey of continued growth, now with a presence at 18 global locations", said Julian Schulcz, COO of 4flow.

International Supply Chain Conference from BVL, October 20-21, 2021 in Berlin, Germany

The International Supply Chain Conference 2021 from BVL, will take place as a hybrid event this year with a strong digital focus. 4flow looks forward to the opportunity to meet in-person again at its stand in Foyer Potsdam as well as opportunities to use the online conference platform.

On October 15, at 4 p.m., Dr. Laura Gellert, senior data scientist at 4flow, will give a talk as part of a think tank pre-event lecture series in English on the topic "Smart store replenishment using machine learning". On October 21 at 9 a.m., Julian Schulcz, COO at 4flow, will speak about "Creating added value - using new business models and technologies in transportation logistics", which is part of the

session "Business model transport logistics - evolution or disruption". And on October 22 at 9:30 am, Kai Althoff, CEO of 4flow, will moderate the session "Agility driven supply chain collaboration".

4flow looks forward to a lively exchange on current topics in supply chain and the challenges we are facing today.

LogiPharma USA 2021, October 19 and 20, 2021 in Philadelphia

4flow will be exhibiting at the  LogiPharma conference from October 19-20, 2021 in Philadelphia, Pennsylvania. With the theme "Building a resilient supply chain", the in-person conference will bring together supply chain experts and professionals from the pharmaceutical, biotech and medical technology industries who will attend focus panels, fireside chats and other interactive sessions where new insights and new best practices will be discussed. With the life sciences industry as a focus area for 4flow, we look forward to interesting discussions.

In the spotlight

Alain Joyeux - vice president at 4flow management in Paris

Alain Joyeux joined 4flow's Paris location in September 2021 as vice president, where he is responsible for developing the business in France. He holds an engineering degree from the renowned École Centrale in Châte-nay-Malabry near Paris; and after successfully completing his studies took on a position with the French car manufacturer Renault.

"I came to supply chain by chance - with the idea that complexity is an important driver of creativity," he said. At Renault, he worked in supply chain in a wide variety of roles in Spain and Morocco among other locations. Most recently, he was responsible for the entire inbound logistics organization at the Renault-Nissan-Mitsubishi headquarters in Boulogne-Billancourt.

Alain likes to spend his free time with his family in the South of France, where he enjoys relaxing while cooking, running or taking spontaneous trips to different towns.



Alain Joyeux - vice president at 4flow management in Paris

The decision to join 4flow and to take on the responsibility for developing the business in France is a challenge that appeals to Alain. Before starting at 4flow, he had already been in contact with

the organization and appreciated the open, customer-oriented approach and high level of supply chain expertise. "The 4flow team welcomed me very warmly, which was great for me, as is the motivation and enthusiasm with which everyone approaches this complex program," he explained. "I'm absolutely certain that we'll be successful in tackling this challenging task together."