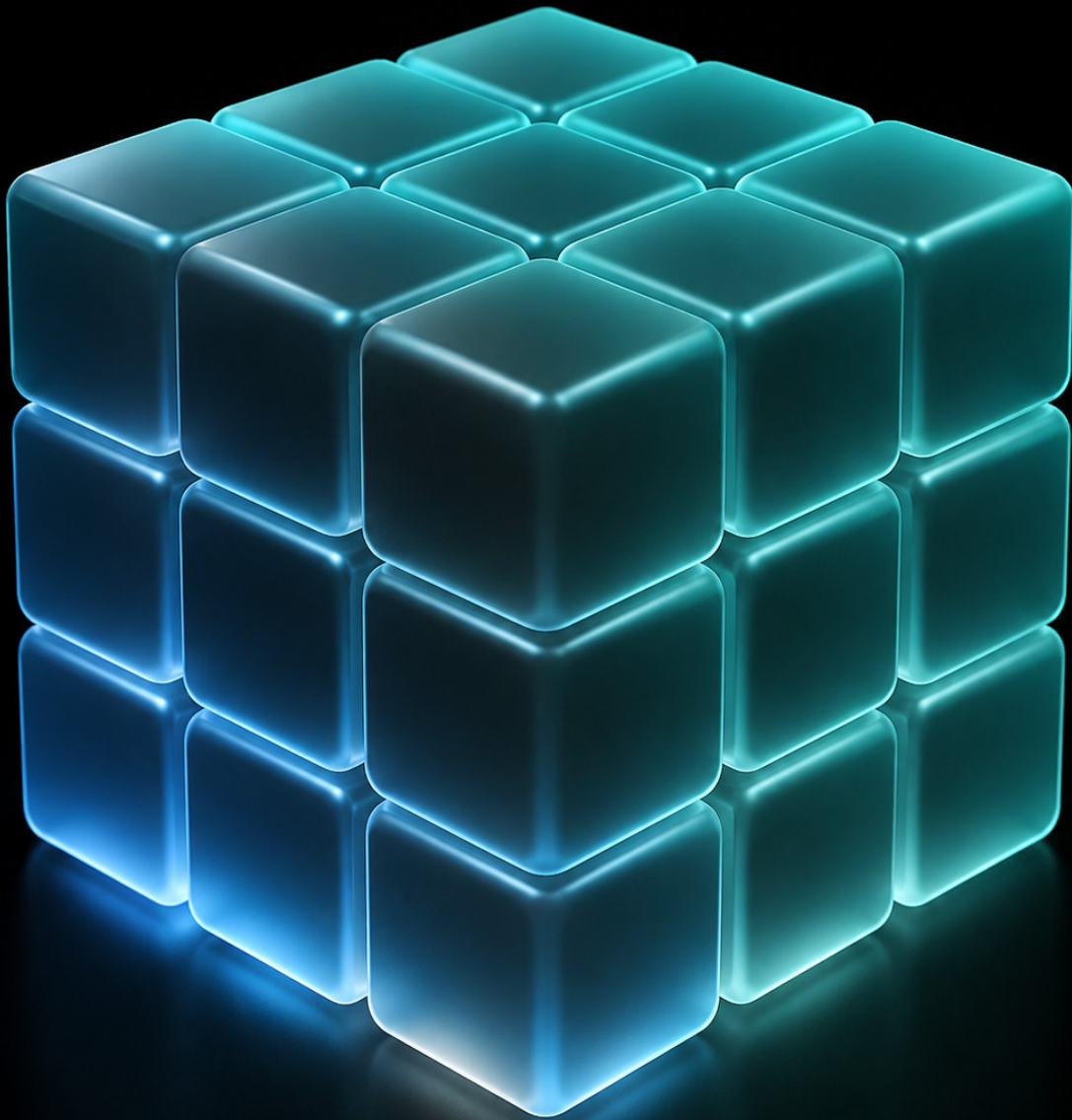


powered by *Kinaxis* Maestro

plug *Ni* plan



Integrated
Business Planning



S&Ox[®]



The innovative process-piece of the plugNplan framework



plugNplan *powered by Kinaxis Maestro®* is a comprehensive, template-based framework that entails process, process-supporting technology, data integration, change and lean project methodology. The process element of plugNplan is based on our S&OX approach. S&OX® combines S&OP, S&OE and disruption management into a cohesive setup.

KLAUS IMPING

CEO mse e2e solutions GmbH

Executive Summary

e2e integrated, AI-powered supply chain planning is imperative. **plugNplan®** is the fast track toward bestpractice.

In short:
S&OX® is the best-practice process element in the template-based framework plugNplan.

The way your supply chain operates determines your market performance. It influences your capital commitment, as well as your costs and efficiency. That is the reason effective, agile and efficient supply chain management is essential! Reactive approaches, firefighting and a lack of transparency are ineffective. The collaboration of all employees involved in the supply chain based on local Excel tools, which are laboriously coordinated in weekly or monthly cycles, is inefficient and no longer up to date. Even worse: it limits growth and scalability.

But what exactly needs to be done? It is about a systematic, integrated solution approach for your supply chain management. Create a proactive “navigation system” for your market performance and the orchestration of all those involved. A change from local and fragmented action to integrated and orchestrated interaction, from reactive to proactive action patterns.

e2e integrated, AI-powered supply chain planning is uncharted territory for most. How to mitigate the risk?

While software vendors and system integrators come with a blank sheet of paper and ask you for the requirements of a to-be state that you never experienced, plugNplan *powered by Kinaxis Maestro®* comes with a framework of best practices. Not only with respect to the technology used, but also with respect to process, people and change. This in combination with powerful technology will guide you to your target operating model, applying e2e integrated, AI-powered supply chain planning. Safely.

This Whitepaper outlines the concept of S&OX®, the best-practice process element in the template-based framework plugNplan®.



Read more about the conceptual background on page 17 – or jump straight to the last page and find out about the massive advantages.

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S&OP and the “Missing Link”

No matter how good your monthly S&OP process is, one thing is certain: Reality always deviates from the plan. Whether it is disruptions in the supply or unforeseen, short-term market, sales or customer inquiries – things turn out differently!

Since it was first mentioned in 1988, Sales & Operations Planning (S&OP) has been considered the most important addition to transactional activities at ERP level. S&OP is intended to balance the multiple conflicting goals between the sales side and the supply side once per cycle – usually monthly – and thus contribute to a smooth flow of the supply chain. **That’s the theory.**



S&OP is defined as a cyclical process. Why actually? Two reasons:

1. The sales side is usually not planned continuously, but in monthly cycles.
2. The balancing of demand and supply, including the consideration of capacities, is complex. This was hardly possible at the beginning of S&OP – and is often still the case today. After all, it is often a largely manual process that brings together complex data from different sources, mostly Excel-based, into a complex context in order to enable decisions.



And ERP? Enterprise Resource Planning was the promise of salvation for the consulting and IT industry at the end of the 20th century. But ERP – to put it simply – has unfortunately not progressed beyond the integrated booking of transactions. There is hardly any trace of planning support for decisions.

What remains unresolved as a “missing link” between the worlds of ERP and S&OP is the planning, operational decision support at the pace of change in everyday business. And this rhythm is not monthly, but is determined by daily deviations from the plan: the postponed order, a production batch with quality problems, a machine breakdown, a customer order brought forward at short notice, the spontaneous sales promotion to respond to the competition, or the unplanned ad hoc request.



Without systematic support for this operational planning process in line with business reality, the consequence is clear: firefighting, decisions without transparency regarding the associated collateral damage, high effort with little added value, disappointed customers ...

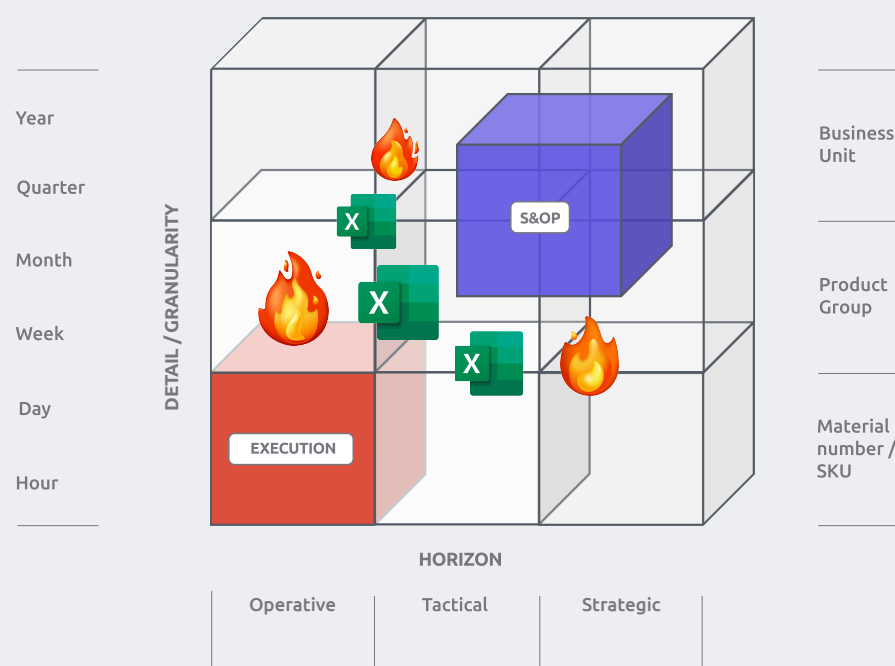


Fig.: The “missing link” between S&OP and the executing ERP level usually leads to manual, excel-supported processes.

S&OX – The Evolution of S&OP into the Digital Age



For the effective management of the supply chain from different perspectives and levels of detail, integration is fundamental – hence S&OX.

S&OX merges the cyclical S&OP process with operational planning, which is usually referred to as “S&OE” (Sales & Operations Execution). The “X” of S&OX thus stands for the merging of the “P” of S&OP and the “E” of S&OE into a holistic, integrated approach.

The cyclical S&OP process usually has two tasks:

1. The comparison of the rolling, operational plan with the financial planning, be it the annual plan, sales plan or budget plan.
2. The determination of the medium and long-term framework conditions for the demand and supply side, for demand and supply. Based on the comparison of demand and supply in the “capacity” dimension, forward-looking decisions are made here that, due to their lead time, cannot be left to the short-term horizon. These include, for example, adjustment of capacities, investments, load distribution across locations, etc

The continuous S&OE process includes short-term planning, its implementation at the execution level, and the treatment of all relevant plan deviations and disruptions. The latter involves quickly identifying effects and causes and developing alternatives with the least possible negative impact along the entire value chain, end-to-end, from the material to the distributed finished product.

S&OP and S&OE from long- and medium-term sales, distribution and supply planning to short-term planning to execution with its disruptions and deviations – everything is mapped in the same model, everything uses the same data, everything is connected. Only the levels of observation differ: for long-term planning, more aggregated in terms of time and content, for short-term planning and execution, more detailed.



S&OX also introduces a third dimension with “scenarios”.

S&OX also introduces a third dimension with “scenarios”

For the effective management of the same situation, but from different perspectives and levels of observation, integration is fundamental - hence S&OX. S&OX also introduces a third dimension with the so-called “scenarios”: “What if...?” Working with different assumptions and models of future development, taking the effects into account, is an essential requirement and ability of agile supply chain management. This affects all horizons of planning, regardless of whether it is about long-term demand scenarios or alternative courses of action in response to an anticipated disruption.

“What if...?” is the third dimension of the integrated S&OX process model.

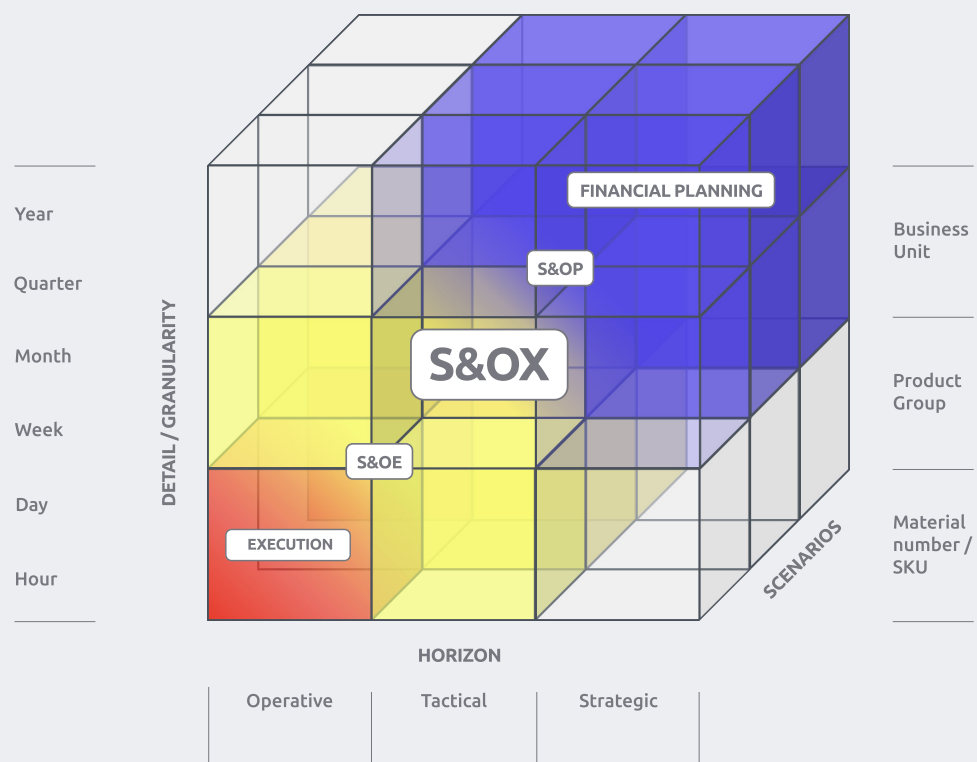


Fig.: Functions along the value chain – Isolated decisions lead to redundant buffers

The S&OX Process Model

The S&OX process model integrates the cyclical S&OP process with the continuous S&OE process into a single combined process model.



S&OP is more than just an update of the demand plan; it's about balancing demand and supply over the medium- and long-term horizon.

In the cyclical process, the demand plan is updated according to the respective individual planning concept and coordinated with the financial plan before it is subjected to the "supply review". Any bottlenecks, conflicts and imbalances between demand and supply are identified.

The evaluation is carried out in scenarios in order to be decided and activated in the S&OP meeting. As a result, the current plan is updated with the results of the S&OP cycle.

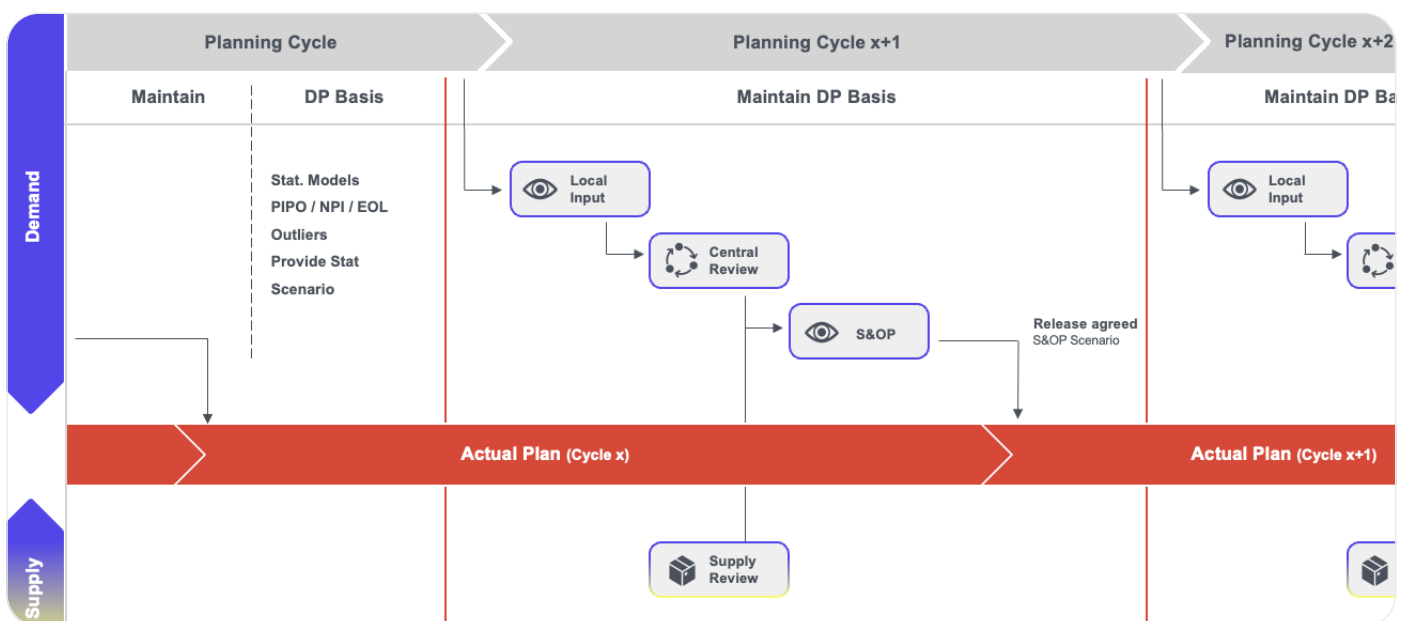


Fig.: Functions along the value chain – Isolated decisions lead to redundant buffers



S&OX is a holistic process model that not only integrates medium and long-term supply chain planning - S&OP - with short-term execution planning - S&OE - but also seamlessly incorporates the transitions to financial planning and operational execution. This is what we mean by “Integrated Business Planning”.

The S&OX Process Model

The second component of S&OX is not a cyclical process, but a continuous one.

This process translates planning into the execution level. Technically speaking, transactions such as production orders, purchase orders, and stock transfer orders are initiated for execution in the respective ERP system.

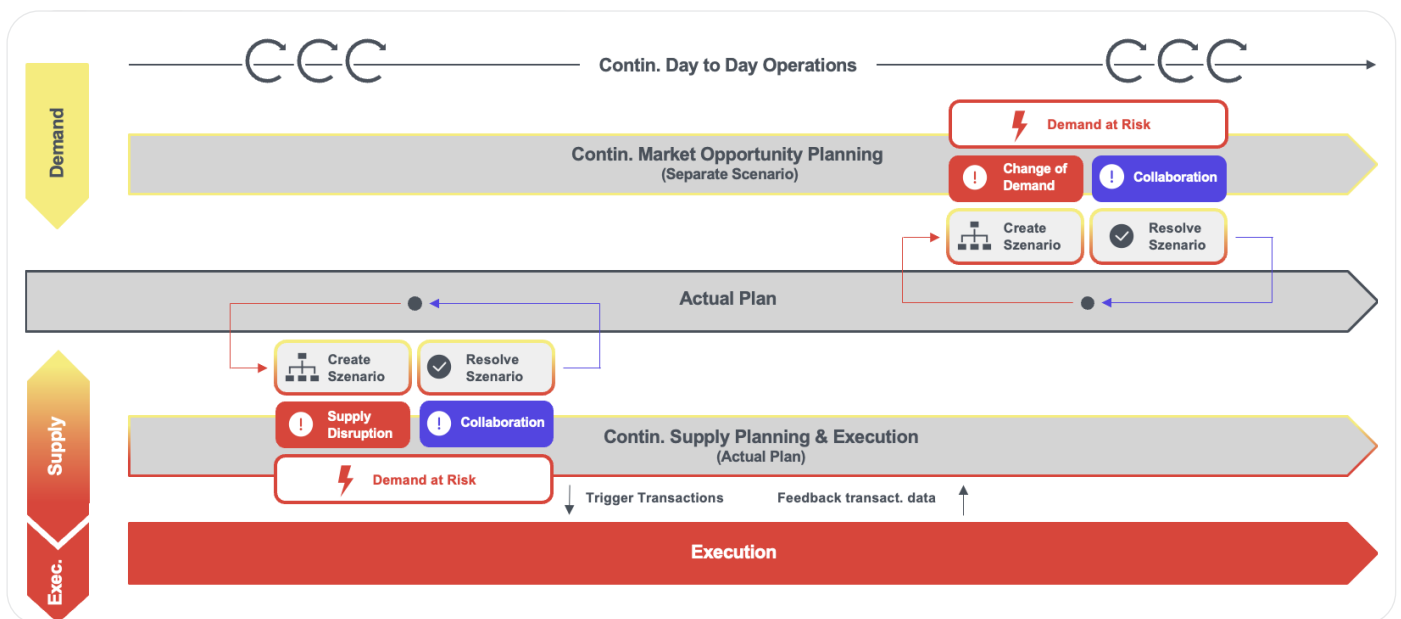


Fig.: High-level overview – Continuous Process



The continuous S&OE process addresses disruptions and deviations from the plan in the short-term horizon.

This continuous process also includes the handling of disruptions and deviations from the planned execution result. Be it a significant deviation of the actual customer requirement from the original planning, an ad hoc request from a customer, a delay in the delivery of raw materials or components, or a transport disruption that leads to disruptions in the global distribution of goods - the analysis and handling of such everyday incidents is an essential part of this process.

We already mentioned at the beginning the inseparability and mutual dependence of the two sides of the coin, of process and system support. This makes it clear: The process can only be designed according to the principle of management by exception if the incoming information that results in a disruption or deviation is immediately translated into its horizontal effects along the supply chain. If, for example, an external delivery arrives later, then we must be able to see whether customer orders are affected and, if so, which ones.

This is followed by the second aspect, where the mutual dependency becomes clear: What do solution scenarios look like? What if...? On the one hand, scenario capability is one of the core requirements for system technical support, on the other hand, the process must be designed in such a way that it uses system capabilities in a targeted manner.

The processes described here serve only as examples to illustrate the principle. Our S&OX process model is prepared at a much more detailed level in terms of process flow, roles and system-technical support. We see this as an upstream starting point from which we can quickly develop the individual S&OX process tailored to your case - your "operating model".

The Critical Point

The interaction between planning and execution is the Critical Point.

Our experience shows that there is a critical, organizational-conceptual interface in the business architecture that requires special attention when applying the S&OX model to the individual structures and circumstances: the interaction between operational planning and execution.

This involves the design of the interface between a cross-functional and cross-organizational planning and control responsibility - end-to-end - and a more functional, local execution responsibility.

Local partial optimizations include, for example, the planning and determination of production quantities based on pure utilization criteria or the determination of minimum batch sizes from the isolated perspective of a production plant without taking inventory and service effects in the entire supply chain into account.

Functional partial optimizations are, for example, changes to the

transport network from a pure transport cost perspective, again without considering collateral effects.

Conversely, it becomes clear that the planning of the supply chain - i.e. the design of the interaction and the tactical-operational planning up to the initiation of material flow - requires end-to-end responsibility, that is cross-organizational and cross-functional. The detailed planning and execution of the transactions resulting from the higher-level planning, the material flow, is the responsibility of the relevant functions on site.

The art lies in the design of the interface with clear responsibility and without redundancy.

On the one hand, this requires that the planning results in a feasible, executable plan. This must take into account all relevant limitations and agreements, such as a range of production capacity or defined transport volumes.

On the other hand, the execution must be given scope for optimizations that are not relevant to planning. Examples are



The best plan is not worth all the effort if it is not executed. The interplay between planning and execution is the Critical Point.

CRITICAL POINT

the sequence planning of machine utilization or the detailed planning and commissioning of transport.

The design of this interface must be done individually in balance between local freedom for fine optimization and global flexibility for ongoing plan adjustments.

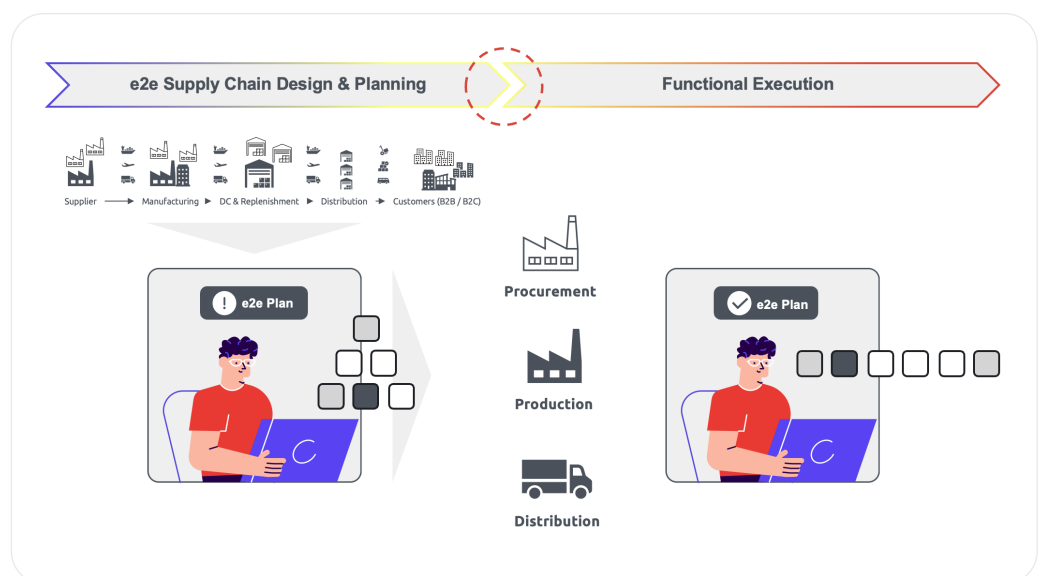


Fig.: The interaction between planning and execution is the Critical Point.

The practical design of this organizational-conceptual interface and the effective application and implementation are the critical success factor of a successful, digitally integrated supply chain operating model, end-to-end!



**Experienced expert
advice is well
invested here!**

If this aspect is not given sufficient attention in the business architecture or if the design is not successful in a practical way, all the expected effects of digitally integrated planning will be largely neutralized.

Process Support

An integration of supply chain processes using the S&OX model is not conceivable without adequate system support.

But which solution offers the appropriate functions and services to support the S&OX process? In the “Advanced Planning Systems” category, the market offers a large number of providers and systems, as analyses by companies such as Gartner show:

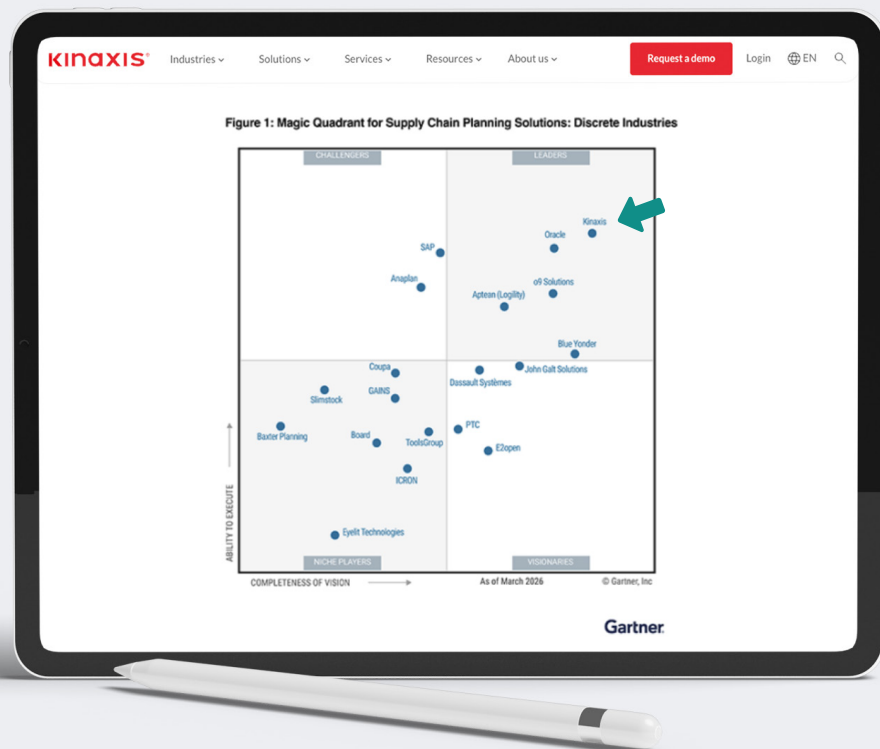


Fig.: This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. Gartner document is available upon request from Kinaxis.

So let's derive from the requirements of the process what the “right” system support must provide: It goes without saying that all relevant planning aspects (demand planning, supply planning = MPS, MRP, DRP) in different dimensions (quantities, values, capacities) are fully covered. It is also self-evident that it can be integrated with the transactional layer of existing ERP and other execution systems.

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The successful implementation of an S&OX-based operating model depends essentially on the **combination of the following three performance features:**



Generation of a feasible, executable plan

As previously explained, the creation of a feasible plan is essential for digitally integrated supply chain management. The criteria that are essential for feasibility and executability can vary depending on the context and can include aspects of production planning, transport planning or even detailed planning. The functional breadth and depth of a system, the existence of corresponding building blocks in a configurable, adaptable form is crucial.



Immediate transparency of effects

We previously called it “horizontal translation of input information into effects”. This performance feature in immediate, simultaneous, non-cascaded form is central to the application of the “management by exception” principle in the process. The mapping of the complex causal relationships across all levels and in all dimensions concurrently, without waiting time, without “manual data processing” is a key to agility.



What if...

Whether planning in S&OP, implementing in S&OE or ad hoc in disruption and deviation management, the question “What if...?” is a natural part of practical supply chain management. The ability to think and plan in scenarios is fundamental. This includes not only designing scenarios, but also designing solution options, evaluating them, deciding on and activating to adapt the current plan – all while constantly updating scenarios in process with the advancing reality.



AI and agentic Automation

Agentic AI is the key to digital process orchestration: independently detecting deviations, simulating alternative courses of action, and making or initiating decisions before disruptions have operational consequences. This shifts planning systems from reactive tools to proactive, learning control instruments that simultaneously increase resilience, service levels, and efficiency. Agent-to-Agent communication will orchestrate across processes.

The plugNplan Concept

plugNplan *powered by Kinaxis Maestro®* is our comprehensive, template-based framework for AI-powered, e2e-integrated supply chain planning.

Instead of starting from a blank sheet of paper, you start with a proven framework. Built on more than 30 years of supply chain consulting experience and best-practice planning processes. Built on three connected elements. They create a working starting point from day one. So you can focus on improving planning – instead of designing it from scratch.

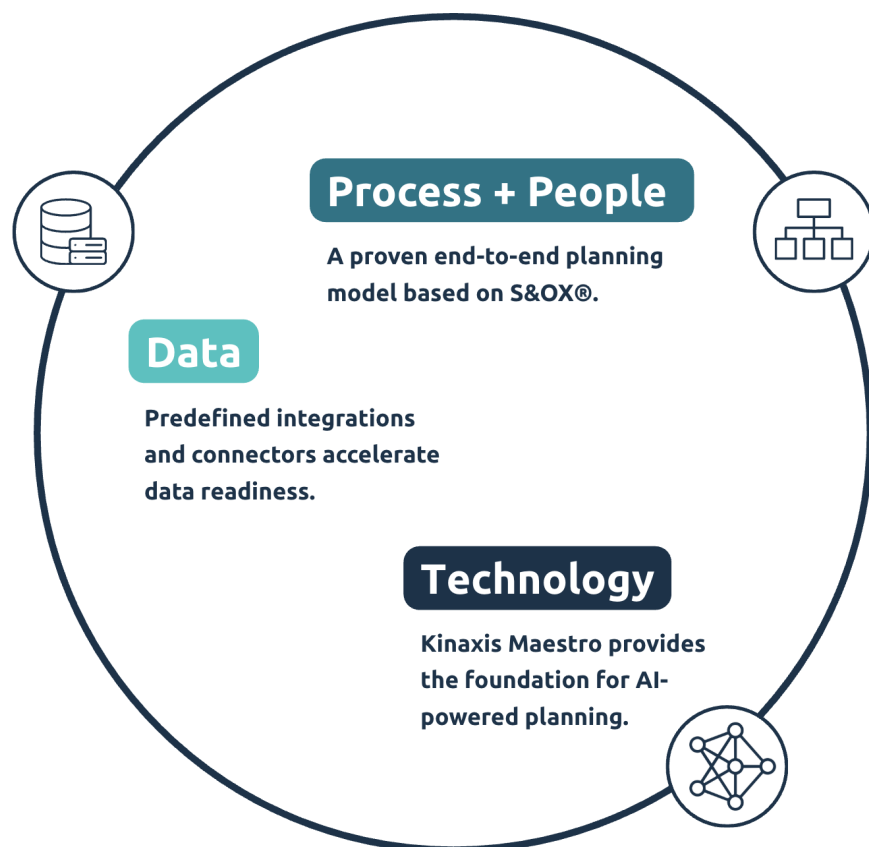


Fig.: plugNplan in a nutshell

The best of both worlds

The fastest path to AI-powered supply chain planning.

plugNplan entails decades of domain experience.

With Kinaxis Maestro as the technical platform, it is built on the world-leading technology for digital process orchestration in e2e supply chain planning.

plugNplan® combines proven planning processes, supply chain expertise and Kinaxis Maestro technology in one integrated starting point. Synergy in action: 1 + 1 = 3



Proven Framework

The first and only template-based framework for AI-powered end-to-end supply chain planning.



Leading Technology

Kinaxis Maestro® is an AI-powered supply chain orchestration platform that synchronizes data, planning and decision-making in real time, enabling faster and more informed business decisions. Recognized as a Leader in the Gartner® Magic Quadrant™ for Supply Chain Planning Solutions for more than a decade.



Accelerated Time-to-Value

Moving from planning complexity to measurable impact - fast, efficient, budget-friendly, guided, and safe.

And now?

Caution, trap! Many think: “Only large companies can afford systematic, integrated solutions for supply chain management. Excel must be good enough for medium-sized companies.” This is a misconception!

e2e Value Assessment

Business Drivers

What can e2e integrated SC planning contribute to strategic business needs which are insufficiently supported today?

ROI / Time to Value

What's needed for an e2e integrated SC planning setup, what are the benefits, how to get there and when to expect payback?

Business Drivers

How integrated is your setup today and what are the benefits that e2e integrated SC planning can contribute?

Tools + Data

Which capabilities can e2e integrated SC planning contribute that's needed and missing today?

The e2e Value Assessment delivers the decision memo to pitch e2e Integrated SC Planning or not.

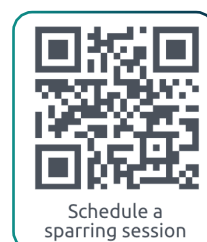
We know by experience:

- how e2e Integrated Supply Chain Planning looks like.
- the difference to “traditional” SC planning setups.
- the change from traditional to integrated must be comprehensive and needs process and tooling at the same time.

For your decision whether it's worth to “pitch” for e2e Integrated Supply Chain Planning or not, we can help you with our structured “e2e Value Assessment”. Based on our e2e Value Assessment, we help you in a structured and efficient way to get prepared for your decision to pitch e2e Integrated SC Planning or not. The e2e Value Assessment takes the as-is into consideration, points out the value contribution of an e2e integrated SC planning setup, quantifies investments and benefits and outlines the “how to?”.

Contact us today to discuss **your** challenge:

Learn more about us:
plugnplan.ai



„In many cases, we have been able to successfully demonstrate that the challenge of Excel to Excellence in Supply Chain is also relevant for medium-sized companies and the journey is both feasible and worthwhile. plugNplan® is both, accelerator and safeguard.”



KLAUS IMPING
CEO mse e2e solutions



Excel to Excellence in Supply Chain perfectly summarizes, what mse e2e solutions stands for. **plugNplan *powered by Kinaxis Maestro®*** is our comprehensive, template-based framework for AI-powered, e2e-integrated supply chain planning. As a result of decades of domain experience, plug'n'plan is fast, efficient, budget-friendly, guided, safe. In brief: **Quick time to value.**

ABOUT US

We believe that companies and leaders who have the courage to initiate the journey towards AI-powered processes in a smart way will put themselves ahead of the competition. We specifically believe that e2e integrated, AI-powered supply chain management is essential for growth and efficiency - independent of your company size. Excel in Supply Chain Management is evil! Our mission is making this vital challenge manageable – also and in particular for midsize companies.

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