



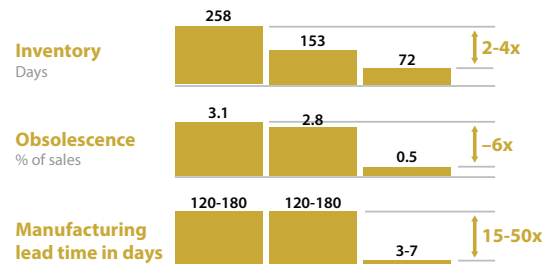
Removing Silos in End-to-End Supply Chain Planning

With improved visibility and insight to action, RapidResponse enabled MSD to plan more proactively, understanding faster where customer demand is at risk.

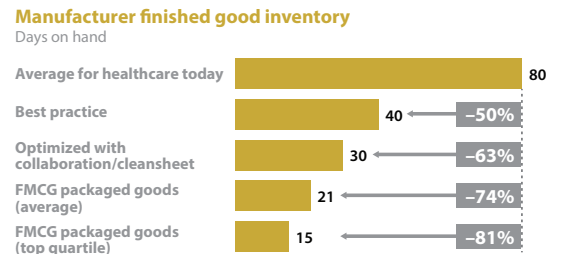
MSD (known as Merck & Co., Inc. in the US and Canada) has a 125 year history of improving people's health and well-being, from the discovery of Vitamin B1 to the development of the measles vaccine to the treatment of high cholesterol. The company's focus has always been on the patient. To continue delivering innovative medicines to patients in an increasingly competitive and changing world, MSD needed a world class supply chain.

MSD recognized, as many in the pharmaceutical industry do, that they were lagging behind other industries when it comes to supply chain. According to global consulting firm McKinsey & Company, supply chain management (SCM) represents 35% of the profit and loss (P&L) for businesses within the pharmaceutical industry. That's compared to 8-12% in the consumer packaged goods (CPG) industry. So, when setting out on their transformation journey, MSD sought inspiration from the CPG industry as a way to determine where best to focus their efforts and to gain advantages through lessons learned from their CPG counterparts.

Operational metrics suggest huge opportunities



Measure - raise the aspirations



Source: McKinsey & Company, Building New Strengths in the Healthcare Supply Chain, January 2013

The Scope of MSD's Supply Chain

MSD is comprised of more than 100 markets across four geographical regions, including four planning hubs, over 80 distribution centers, and more than 20 internal and external sites. Seeking a way to connect all of them, MSD set out on a journey to standardize its enterprise resource planning (ERP) platform. The company recognized a need to sync its supply chain data and enable access to it across divisions to support better business decisions.

The challenge became how to achieve that. Henrik Frojdh, Supply Chain Planning Lead at MSD, quickly recognized the only way to elevate planning capabilities and optimize inventory levels was with the adoption of an integrated solution. One that enabled end-to-end planning, visibility and decision-making.

The Light Bulb Moment

With expertise in the pharmaceutical industry, including successful deployments with Amgen and Genzyme, Kinaxis® approached MSD to discuss its business needs. After meeting with Andy Walker, Head of Planning Optimization EMEA, it became clear the answer to MSD's supply chain challenges could be solved by the key capabilities Kinaxis offered. Of particular interest was the concept of concurrent planning, where all supply chain nodes are planned simultaneously.

Having recently joined MSD, Walker brought with him extensive experience in consumer packaged goods, retail and electronics. His knowledge of cost-competitive, margin-constrained businesses and the need for transformation at MSD allowed Walker to very quickly calculate the benefit of Kinaxis RapidResponse®. He was able to discern the difference between Kinaxis' architecture versus the competitors and set about working with a knowledgeable team of people within MSD to demonstrate the opportunity.

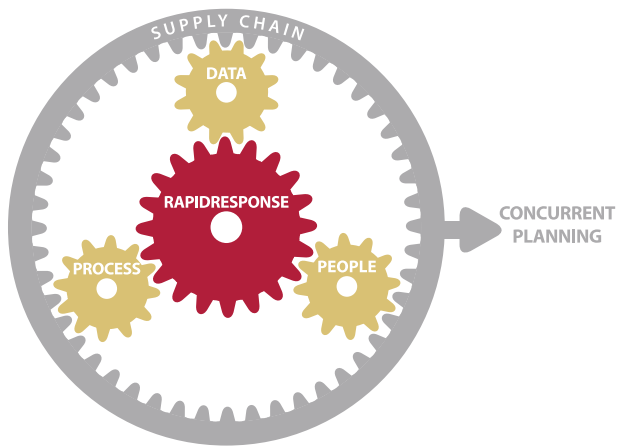
Additionally:

- ▶ Frojdh recognized what he refers to as the 'whoosh' effect of RapidResponse. With an always on, in-memory planning engine that plans concurrently versus sequentially, within seconds the plan has been calculated.
- ▶ Walker noted RapidResponse would also eliminate the question 'Where is my Truck?' With improved visibility and insight to action, MSD would be able to plan more proactively and by exception, and understand where customer demand is at risk, which aligns to its first priority – the patient.

The Journey to Success

MSD's vision is to plan more effectively, which in turn allows it to supply high-quality products to its customers at the lowest cost and with the shortest lead-time.

In order to meet these goals, MSD has undertaken a supply chain transformation initiative spanning global demand planning, global supply planning, distribution requirements planning (DRP) and sales and operations planning (S&OP) – using RapidResponse at its foundation. Unique RapidResponse algorithms are being leveraged to perform rough cut capacity planning (RCCP) and attribute-based planning. Multi-level expiry planning is also being deployed.



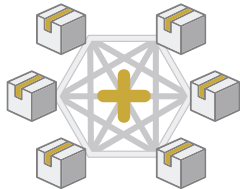
Achieved to Date



Global visibility of inventory for all finished goods



Exception-based planning for min/max inventory levels



Replenishment strategies implemented across sites and hubs

From a demand perspective, MSD will be able to generate a consensus forecast aligned with the financial plan, recognizing there will always be a gap between a financial plan and a dollar/unit based consensus forecast. This includes statistical forecast generation, portfolio management, market intelligence and visibility across all demand streams.

The forecast will drive the fulfillment process. This will lead MSD closer to a demand-driven supply chain and more effective asset utilization as compared to the push planning model typically seen in the pharmaceutical industry.

On the supply side, segmentation analysis will enable MSD to differentiate inventory policies through differing replenishment strategies of constant make, inventory replenishment levels and re-order point (Kanban), while still respecting rhythm wheels within its sites.

S&OP will enable better decision making to meet commercial and financial needs. Scenarios to model and assess alternatives will be key. Additionally, MSD will be able to do a deep dive on its top products using the same data that is used to make every day decisions in its supply chain. Everything will be connected.

It's still early in MSD's RapidResponse implementation. However, for the first time the company has achieved:

- ▶ Global visibility of inventory for all finished goods
- ▶ Exception-based planning for min/max inventory levels
- ▶ Replenishment strategies implemented across sites and hubs

MSD has also now formed a governance structure with designated work stream leaders from across the company. This group is responsible for program management, implementation, training, change management and communication.

To date more than 600 people have been trained and more than 3,000 educated on the project and its value.

Lessons Learned

What could have been done differently?

With any large corporation it takes a lot of work to get everyone moving in the same direction. MSD recognizes the importance of continually sharing a future state vision across the company. This is vital to maintaining buy-in. Expectation setting and the timely communication of incremental improvements is also critical to a project's success. The real focus should be on the process transformation, but it's easy to underestimate the time required to do that.

Another big challenge to a multi-year rollout plan is maintaining the right people within the project team. This is required for consistency, stability and focus.

What worked well?

MSD's talented team members have been a big contributor to the project's success, keeping things fun and rewarding. The close collaboration with Kinaxis also had a positive impact. "It has been a genuine team effort all the way through," explains Frojdh. "I truly feel we all belong to the same team."

Early in the project MSD completed a 'proof of concept' with Kinaxis, building a model in RapidResponse of one of its business segments. This helped prove the capability and potential of the product to sponsors and other stakeholders within MSD. It also gave the project team a lot of valuable experience before the official project kicked off.

"It was great to see the more our RapidResponse solution developed, the more our business partners started to show more and more interest," says Frojdh. "We were also receiving many different requirements from the business as well and they started to ask if we could speed up some of the timelines to make certain functionality available earlier."

Looking Ahead

MSD is continuing its multi-year global rollout across its commercial and manufacturing divisions. This significant supply chain transformation will help the company achieve its objectives of providing the highest quality product to its patients, at the lowest cost and with the shortest lead-time.

ABOUT KINAXIS

Kinaxis delivers cloud-based S&OP and supply chain applications for discrete manufacturers and brand owners with complex supply chain networks and volatile business environments. Leaders across multiple industry verticals, including A&D, Automotive, High Tech, Industrial and Life Sciences rely on RapidResponse applications to create a foundation for concurrent planning, continuous performance monitoring, and coordinated responses to plan variances across multiple areas of the business. All founded on a single product, RapidResponse's configurable applications encompass a full spectrum of supply chain processes, including such functions as: S&OP, supply planning, capacity planning, demand planning, inventory management, MPS and order fulfillment. As a result, Kinaxis customers have replaced disparate planning and performance management tools and are realizing significant operations performance breakthroughs in planning cycles, supply chain response times and decision accuracy. From a single product, customers are able to easily model varying supply chain conditions to make both long-term and real-time demand and supply balancing decisions quickly, collaboratively, and in line with the shared business objectives of multiple stakeholders.

To the best of our knowledge, this case study is accurate as of the date published. This data sheet may be updated by Kinaxis from time to time at its discretion.

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