

eyeon
YEARS AHEAD

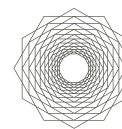


TACTICAL END-TO-END PLANNING IN LIFE SCIENCE

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1 EXECUTIVE SUMMARY

Changing market conditions and ongoing consolidation in the (bio) pharmaceutical industry constantly challenge the supply chain and force quick adaptation to change. To maintain control over the global supply chain this requires that companies plan their supply chain end-to-end.

Lengthy and complex planning networks and scattered IT landscapes however make it challenging from the start to create true end-to-end visibility. End-to-end visibility is a challenge in itself but at the same time it's one of the key drivers that enable making the right planning decisions at the tactical level.

Successful end-to-end planning on a tactical level means having overview and control of your supply network for the midterm planning horizon (generally the 6 to 24 or 6 to 36 month horizon). It's at the tactical planning level where you need to make solid planning decisions to steer your business in the right direction.

In this context EyeOn has developed a planning model that supports companies in creating end-to-end visibility and planning the end-to-end supply chain. The following elements have defined the setup of the model:

- Instant market demand propagation to visualize supply requirements – Allow for comparison of supply requirements vs current supply plan.
- Easy generation of planning scenarios – create instant insight into the effect of demand (e.g. tender demand) and supply events (e.g. API batch rejection) on your supply chain.
- Central inventory insight – with pipeline stock reports and an overview of projected inventory obsolescence.

2 INDUSTRY DYNAMICS

Companies in the pharmaceutical and biotech industry have to deal with an increasingly complex planning network. From a market perspective product offerings and portfolios are increasing/ expanding, and the high level of M&A activity forces companies to be in a constant mode of operational integration and re-organization. Furthermore “new” markets like Russia and China continue to update regulatory, pricing and fulfilment regulations, forcing companies to re-direct operations or organize to meet for example tender business requirements.

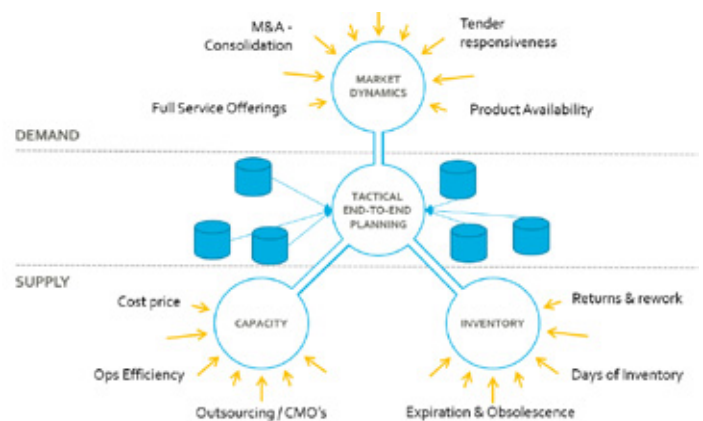
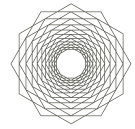


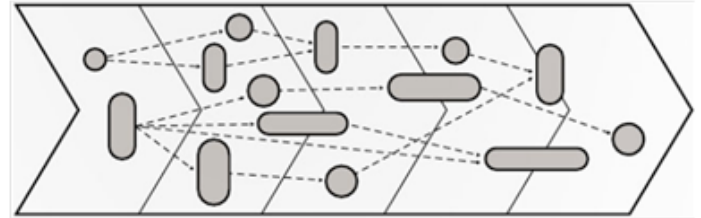
Figure 1: Pressure on the supply chain is increasing: importance of tactical E2E planning.

From an organizational perspective production is outsourced to CMO's, expanding the supply network and increasing the number of layers in planning. Next to that pressure to reduce inventories and bring down the costs of obsolescence have now also gained momentum in (bio) pharmaceuticals, putting additional pressure on the supply chain organization.

3 TACTICAL END-TO-END PLANNING



The position of tactical planning in the common business classification of planning, i.e., strategic, tactical and operational planning (Gupta and Marana, 2003) is crucial. Decisions on the tactical horizon are related to the question of whether or not the company is still on track to follow its strategy and whether or not corrective (operational) actions are required. This is related to market and price trends, potential business scenarios, customer plans and resource / capacity adaptations. Tactical planning is the link between operational planning and strategic direction.



3.2 TRUE DEMAND PROPAGATION

To be responsive to changes in the market companies need to manage their business demand driven. Many companies have adopted this outside in view, coming from a more inside out approach historically.

As a first step the demand planning process should structure and align the demand signals coming from the market into a transparent and agreed demand forecast. In turn, companies need to find a way to instantly propagate their market demand through the global supply network and generate network supply requirements at every level in the supply chain for both their internal and external operations. Not only does this information create significant visibility for the supply chain team, it also enables to quickly identify the overall impact of market changes and act accordingly.

In addition to insight in supply requirements companies will also have to check their unconstrained requirements vs current production plan and supply capacity. This will enable the planning team to (re-) balance supply and update production plans to be aligned to changing market conditions.

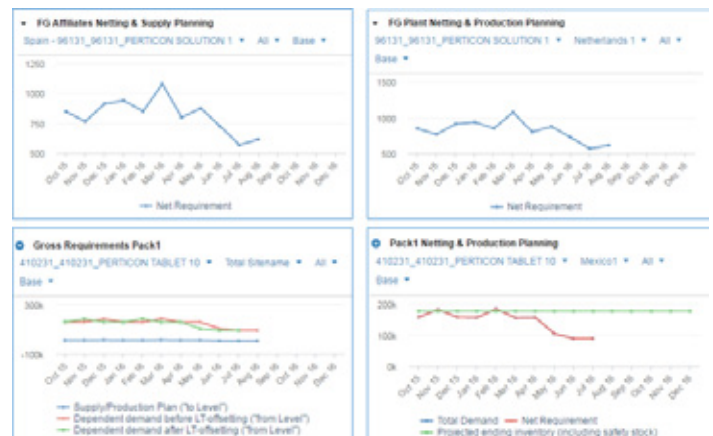


Figure 3: Example of an integral demand propagation flow through the supply network.

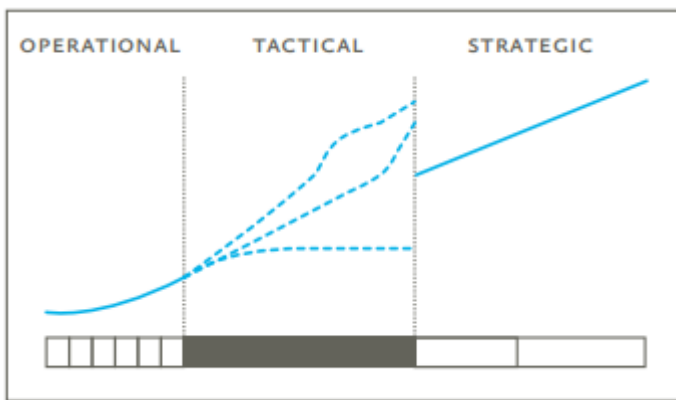


Figure 2: Tactical planning as a link between operational planning and strategic direction.

To drive tactical planning for the end-to-end supply chain companies need to:

- Create end-to-end visibility
- Enable rapid market demand propagation – allow quick insight in supply requirements based on changes in market demand
- Have the ability to run scenarios and assess impact
- Manage inventory control for the end-to-end supply chain

3.1 E2E VISIBILITY

The main driver to enable tactical planning in a complex supply chain is end-to end visibility. This requires connected planning processes at different levels in the organization. Visibility needs to transcend sole plan optimization in organizational units or individual factories (both on functional and geographic level) and is evolving in end-to-end and real-time chain planning. Some of the proven benefits are inventory reductions, insight in end to end processes and lead times, one number planning and fully integrated planning and scheduling activities. The challenges of realizing end-to-end visibility come down to organizational fit, end to end processes, and tools enabling full visibility & transparency.

3 TACTICAL END-TO-END PLANNING

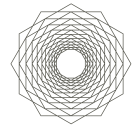
3.3 SCENARIO PLANNING

Supply chain planning is obviously not a static routine. Companies constantly need to anticipate to demand (e.g. tender demand) and supply (e.g. low production yield or material quality issues) events. Best performers in the industry are setup to allow for fast and efficient scenario planning to assess the impact of changes and respond in a timely manner. Having the ability to assess changes for your end-to-end supply network instead of going from supply level to supply level – from plant to plant – saves companies a lot of time. Having this insight on the tactical level allows companies to make timely decisions and guide their operations in the right direction.



Figure 4: Example of tender demand scenario planning.

3 TACTICAL END-TO-END PLANNING



3.4 INVENTORY CONTROL

Companies often lack integral visibility on stocks and maybe even more importantly the obsolescence risk that they face given in market requirements vs pipeline stock and planned production. It can be cumbersome to bring all data together, but in doing so and creating visibility on actual inventories gives companies a very strong set of information. Because enriching the demand propagation signal with actual inventory, stock shelf life requirements and even safety stock requirements allows a company to generate instant inventory projections for the full supply network. Next to that it gives a very comprehensive overview on the risk of obsolescence. This gives companies the end-to-end visibility required to assess whether the supply chain is performing in line with inventory targets, and quickly identify big obsolescence risks. Having clear insight in end-to-end inventory risk leaves room for mitigation actions but also gives an enormous amount of insight for the organization. Companies can take the necessary reserves for obsolescence that can no longer be mitigated.

	Global Material ID	Global Material Type	Global UOM	Total Inventory Quantity	Obsolete Quantity	Minimum Stock	Maximum Stock	Status
377005_377005_PERTICON SOLUTION 2	377005	FG	EA	100	0	5.333	23.000	Below
382143_382143_PERTICON TABLET 5	382143	FG	EA	50	0	130	500	Below
385534_385534_PERTICON TABLET 8	385534	FG	EA	50	0	144,4	1.200	Below
387413_387413_PERTICON CAPS 6	387413	Pack1	EA	30.000	25.753	98.814	161.423	Below
410231_410231_PERTICON TABLET 10	410231	Pack1	EA	0	0	28	541	Below
412924_412924_PERTICON SOLUTION 4	412924	FG	EA	2.018	0	6.747	15.573	Below
525517_525517_PERTICON TABLET 1	525517	Bulk1	EA	3.854	3.659	4.500	53.416	Below
99375_99375_PERTICON TABLET 3	99375	FG	EA	30.000	0	32.444	40.000	Below
116710_116710_PERTICON API 1	116710	API	KG	445	0	177	4.427	Within
376806_376806_PERTICON TABLET 9	376806	Pack1	EA	50.000	0	16.668	150.000	Within
377380_377380_PERTICON CAPS 5	377380	Pack1	EA	80.000	60.235	32.506	92.000	Within
382142_382142_PERTICON TABLET 4	382142	FG	EA	600	0	79,44	600	Within
382144_382144_PERTICON TABLET 6	382144	FG	EA	50	0	36,4	500	Within
387751_387751_PERTICON CAPS 1	387751	Bulk1	KG	1.313	92	267	63.187	Within
525272_525272_PERTICON CAPS 2	525272	Bulk2	EA	30.444	18.669	15.896	85.000	Within
96131_96131_PERTICON SOLUTION 1	96131	FG	EA	3.679	0	1.091	8.028	Within
382366_382366_PERTICON SOLUTION 3	382366	FG	EA	12.977	10.736	133,3	500	Above
385533_385533_PERTICON TABLET 7	385533	FG	EA	600	0	42	150	Above
525273_525273_PERTICON CAPS 3	525273	Bulk2	EA	3.209	3.209	0	0	Above
525274_525274_PERTICON CAPS 4	525274	Bulk2	EA	12.683	2.786	4.000	8.000	Above
525518_525518_PERTICON TABLET 2	525518	Bulk2	EA	1.825	1.825	78	1.500	Above

Figure 5: Example of Inventory Control Dashboard.

4

CLOSING

A first function of tactical end-to-end planning is to create full visibility of your supply network, getting insight in the end-to-end supply chain flow, both internal and external. In turn companies need an instant overview of supply requirements based on end market demand propagation, easy analysis of different scenarios and the tools to control end-to-end stock levels and stock risks.

EyeOn has developed a comprehensive and flexible cloud planning model that is built on these key principles. This standardized approach offers companies a way to quickly implement a tactical end-to-end planning framework that offers true visibility and supports rapid decision making.

Want to get in contact with EyeOn and learn more about our Tactical End-to-End Planning Model or any other topic in the area of planning & forecasting please contact:

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