CASH IS KING

BUT JUST LIKE IN CHESS YOU NEED ALL THE PIECES ENGAGED IN A SMART AND FLEXIBLE STRATEGY TO PROTECT THE KING AND WIN THE GAME

In times of crisis liquidity becomes significantly more important. Volatile markets require more resilience and available financing can quickly dry up. Optimizing your net working capital provides you with the needed flexibility to release trapped cash shortly, to avoid covenant breaches and to steer your company in turbulent times.

Doing so is like playing chess. If you want to win the game, you don't just need a holistic game strategy. Above all, you need to know what your chessmen are capable of, understand their inter-dependencies and efficiently divide them over the various phases of the game, and ultimately increase the pressure so that you don't lose control of the game.

As time can run out quickly, you need to have a playbook of measures that typically allows for NWC reduction up to 25%. And you need to know, which measures can help short-, mid- or long-term. Quick wins secure your company and help to start a proactive and bold NWC-strategy aiming at more flexibility and maneuverability of the entire supply chain. To win the game and protect your king. Cash is king.

1.
Understanding the NWC levers and interdependencies

Chessmen and the basic moves

In business, few issues are as broadly relevant as NWC. It runs through the entire organization from procurement via production and logistics to the end customer, and optimizing it often comes with trade-offs. This becomes particularly complex when the trade-off "harms" a different function. A holistic approach is essential, utilizing the entire playbook of levers to reduce the NWC with acceptable trade-offs. So let's take a look at the chessmen and the basic moves involved in reducing NWC.

SUPPLY SIDE

- Extended payment terms
- Switch from early-payment discount to ordinary discount
- Reduction of minimum order quantity
- On-time delivery management
- Reduction of lead times / buffer stock
- Consignment stock

OPERATIONS

- Lead time reduction
- Optimized batch size
- Earlier decoupling point
- Shift to make-to-order
- Outsourcing of component production
- Product portfolio stream lining
- Rapid manufacturing
- Additive manufacturing
- Component portfolio standardization

LOGISTICS

- Transport time reduction
- Best shipping instruction
- Incoterm optimization
- Logistics footprint

SALES & AFTER SALES

- Strict cash collection
- Service level adjustment
- Portfolio optimization

MEASURES

- short term
- short to mid term
- mid term
- mid to long term
- long term

MACRO TRADE OFFS

- Supply chain complexity
- Supply chain predictability

⇄

- Product portfolio (including MTS and MTO)
- Contract conditions for end customer (delivery time, minimum purchase quantity, etc.)

MICRO TRADE-OFFS

- Price
- Logistics costs

⇄

- Payment terms
- Minimum order quantity
- Lead time

- Setup costs
- Logistics handling

⇄

- Batch size

- Minimum order quantity
- Lead time
- Payment terms

⇄

- Price
- Logistics costs

DPO

DIO

DSO

NWC = DIO + DSO – DPO

DPO = Days Payable Outstanding
DIO = Days Inventory Outstanding
DSO = Days Sales Outstanding

1.1 The supply side

Close collaboration with your suppliers is more essential now than ever before, not only for securing your supply chain but also for freeing up cash. Besides the obvious extension of payment terms, there are more strategic measures that you can take.

There are plenty of measures that are not a zero-sum game, meaning that the financing of working capital is simply shifted to the supplier. For instance, lead times can be reduced with better forecasting systems that allow the supplier to plan ahead more effectively. With many raw material suppliers, all you need to do is reserve production capacity. The actual specification then becomes secondary and can be communicated just a few days before production begins. Even when it comes to extended payment terms, several platforms offer reverse factoring services that reduce the burden for the supplier. One of the key benefits of these platforms is that the buyer's creditworthiness is passed on to the supplier. This is extremely beneficial for large groups with numerous smaller suppliers (e.g. automotive OEMs).

MEASURE	NWC EFFECT	TRADE-OFFS	IMPLEMENTATION
Extended payment terms	DPO: Prolongation	None	Short term
Switch from early-payment discount to ordinary discount	DPO: Utilization of entire payment term while keeping the skonto	None	Short term
Reduction of minimum order quantity	DIO: Lower ordering quantities reduce the working stock	None	Short term
On-time delivery management	DIO: Delivery enforcement on specific date reduces DIO	None	Short term
Reduction of lead times / buffer stock	DIO: Shorter lead times reduce the need for safety stock due to faster replenishment	None	Mid term
Consignment stock	DIO: The transfer of ownership is delayed and reduces your stock level	Separated stock and potentially increase in admin effort	Mid term

THERE ARE PLENTY OF **SUPPLY SIDE MEASURES** THAT ARE **NOT A ZERO SUM-GAME.**

CASE STUDY: **STRATEGIC TOP SUPPLIER CONVENTION**

A leading electronics producer organized a convention for its top suppliers, aimed at freeing up NWC to finance business model transformation and future growth. Of course the company was also looking to achieve price and therefore EBIT effects. By spending approximately €200m, the company achieved €19m in short-term NWC effects and another €15m in EBIT effects, with over 50% becoming effective immediately. The key success factor was a strategic view of the overall situation and thorough preparation and negotiation training. Suppliers were willing to finance growth in which they could participate themselves. With many suppliers the strategic partnership was further strengthened.

The time is ripe to start renegotiations with your suppliers as their motivation and willingness to keep and expand business has never been greater. The NWC effects can be realized within 3 to 18 months depending on the portfolio of measures agreed.

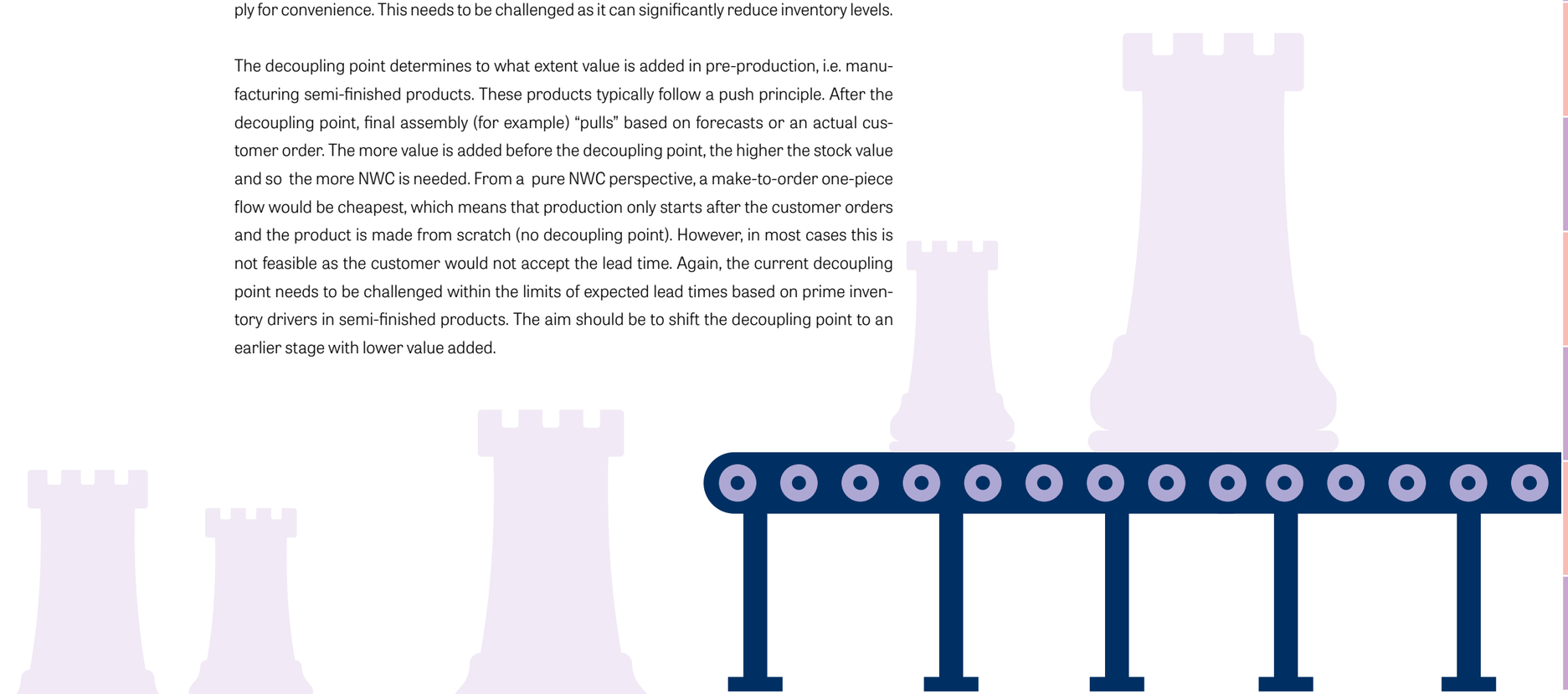
EUR 19m in short-term NWC effects with EUR 200m in spent optimized

1.2 Operations

The material, product and service level complexity throughout the organization culminates in operations – from inflated product portfolios and wide component variety to exaggerated service levels. All these parameters are key drivers for inventory levels on the operations side. However, for most of these measures operations cannot decide by itself. Here, an aligned holistic approach is necessary to assess and decide upon trade-offs.

However, there are two key parameters that can be adjusted by operations itself, namely the batch size in production and the so-called decoupling point. The batch size is the number of units produced during one production cycle and therefore determines the working stock. Each shifting between products requires a new machine setup and therefore causes setup costs and reduces active production time. Typically, operations aims at large batch sizes simply for convenience. This needs to be challenged as it can significantly reduce inventory levels.

The decoupling point determines to what extent value is added in pre-production, i.e. manufacturing semi-finished products. These products typically follow a push principle. After the decoupling point, final assembly (for example) "pulls" based on forecasts or an actual customer order. The more value is added before the decoupling point, the higher the stock value and so the more NWC is needed. From a pure NWC perspective, a make-to-order one-piece flow would be cheapest, which means that production only starts after the customer orders and the product is made from scratch (no decoupling point). However, in most cases this is not feasible as the customer would not accept the lead time. Again, the current decoupling point needs to be challenged within the limits of expected lead times based on prime inventory drivers in semi-finished products. The aim should be to shift the decoupling point to an earlier stage with lower value added.



A prerequisite for most measures is process stability in operations. If lead times cannot be reliably met, a shift to MTO will harm sales as customers will not receive their orders on time. The same applies to reduced batch sizes. Process instabilities here can cause quality issues and therefore additional costs.

MEASURE	NWC EFFECT	TRADE-OFFS	IMPLEMENTATION
Lead time reduction	DIO: Safety stock reduction due to shorter replenishment times	Less buffer in production	Short to mid term
Optimized batch size	DIO: Smaller batch sizes reduce working stock	Setup costs, production capacity	Short to mid term
Earlier decoupling point	DIO: Lower valued stock due to earlier decoupling	Lead time, production complexity	Mid term
Shift to make-to-order	DIO: Lower stock levels in finished products	Lead time, production complexity	Mid term
Outsourcing of component production	DIO: Inventory necessary for preproduction shifted to supplier	Higher dependency on supplier	Mid term
Product portfolio streamlining	DIO: Less variety brings less finished products stock	Sales loss	Mid to long term
Rapid manufacturing	DIO: Demand-based manufacturing with no/low time on stock/less scrap risks	None	Mid term
Additive manufacturing	DIO: Reduction of time on stock, production and transport due to on-site "3D printing"	Depending on use case may not be economically feasible	Mid term
Component portfolio standardization	DIO: Less variety means fewer raw materials and semi-finished products	Higher exposure to component failure	Long term

1.3 Logistics

The logistics footprint and choice of transportation are key drivers for stock levels. Whether you have local sales distribution in Germany, Austria, Italy, the Czech Republic and Slovakia or whether end customers in these countries are served from a regional hub is a huge inventory driver. As the ratio can be up to 3 to 1 it is crucial to look into that driver thoroughly. While local storage facilities remain sacred cows for some companies, the time is right to objectively assess the benefits and trade-offs.

Stock in transit can also be a significant NWC driver. Especially for expensive components and finished products, a faster, albeit more expensive, mode of transportation might be beneficial. Calculating capital costs versus logistics costs makes the trade-offs transparent and ensures an optimal decision.

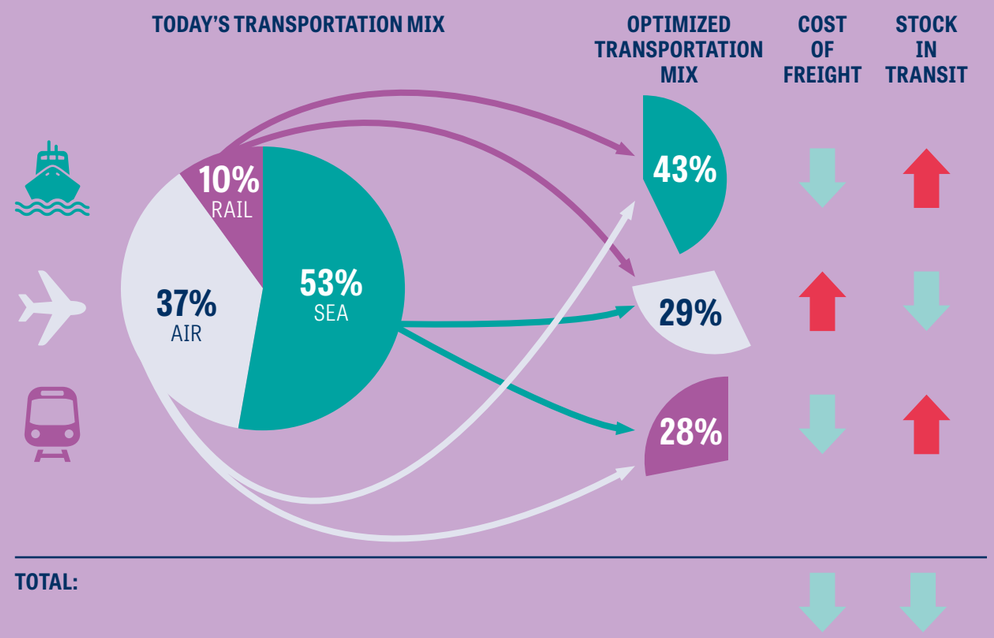
MEASURE	NWC EFFECT	TRADE-OFFS	IMPLEMENTATION
Transport time reduction	DIO: Planning of production slots to optimally meet transport slots (e.g. weekly container ships)	None	Short term
Best shipping instruction	DIO: Optimized stock in transit	Transportation costs	Short term
Incoterm optimization	DIO: Earlier transfer of ownership shifts DIO to customer and reduces stock in transit	Gross margin due to potential additional discounts	Short to mid term
Logistics footprint	DIO: Lower local stock	Transportation costs (typically outweighed by lower OPEX with centralized hubs) and delivery times	Mid term

STOCK IN TRANSIT CAN BE A SIGNIFICANT **NWC DRIVER.**

CASE STUDY: **BEST SHIPPING TOOL**

An international electronics manufacturer deployed a best shipping tool comparing the costs of capital on stock in transit to the transportation costs of different means of transportation. It made the trade-offs transparent, allowing the company to select the optimal mode of transportation for each product and route. As a result, the company realized EBIT effects from lower transportation costs AND lower NWC through less stock in transit. Generally speaking, very expensive components and finished products were sent by air while lower-value ones were transported by ship and rail.

Over 5% stock in transit AND 10% in logistics costs reduced



1.4 Sales and aftersales

Sales is all about selling, right? Well, not entirely. As sales is a key complexity driver for the entire supply chain and requires massive amounts of NWC due to receivables financing, it needs to have clear responsibilities for cash management. To start with, strict cash collection is essential in times of crisis to avoid unnecessary financing of customers.

MEASURE	NWC EFFECT	TRADE-OFFS	IMPLEMENTATION
Strict cash collection	DSO: Reduction of outstanding payables reduces DSO	If communicated properly, none	Short term
Service level adjustment	DIO: Reduced service levels lower the respective inventory	If exaggerated, lost sales	Short term
Portfolio optimization	DIO: Streamlining the portfolio reduces the respective inventory	Lost sales	Short to mid term

In terms of complexity there are several levers that need to be addressed. The profitability and outlook of the product portfolio and the service promises made to customers are the two key areas that deliver the greatest impact.

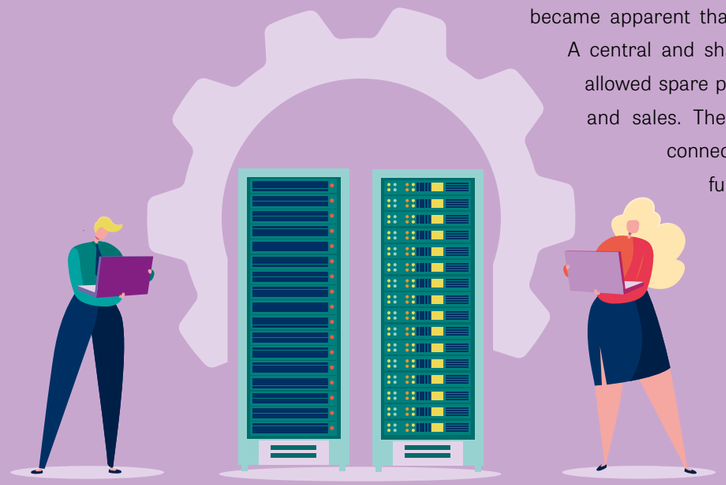
The service level promised to customers is often far above market standards and not costed. In particular, promises of high product and spare-part availability require large inventories, which ties up a lot of cash. Service levels above 90% trigger an exponential growth in inventory to cover all eventualities. Paired with limited transparency and flexibility in routing stocks, cash is bound up to an unnecessary extent.

CASE STUDY: RECEIVABLES MANAGEMENT: 360° DASHBOARD

Customer satisfaction is both the key to, and the payment for, long-term success. With a global footprint it is difficult to keep track of the various receivables and especially AR overdues. Each region has different payment mentalities and there are always reasons – good or bad – why a customer fails to pay. One of the leading industrial manufacturers devised a holistic cash collection program based on the principle of transparency. It features a 360° view of the receivables portfolio across the organization for optimal steering. But, of course, transparency alone is of little use without thorough execution and close monitoring. To this end, a comprehensive receivables portfolio management system was created, including everything from a sophisticated assessment of the payment risk to clear responsibilities and dunning dates and access to a factoring platform. Within three months, three-digit EUR million receivables had been collected and a fast and holistic receivables portfolio management system had been established to keep the AR overdue rate below 5% of revenues.

CASE STUDY:
SHARED INVENTORY MANAGEMENT

While functional organizations have their merits, they become inefficient when managing inventory. At a large corporation with a strong aftermarket business, inventory makes up 50% of tied-up working capital. Organization-wide management is key to keeping the cash burden low. When the different business unit "silos" were analyzed, it became apparent that 20–30% of parts were replicated. A central and shared inventory management system allowed spare parts to be used flexibly in production and sales. The system goes one step further by connecting suppliers to the platform, thereby further boosting flexibility and speeding up delivery times.



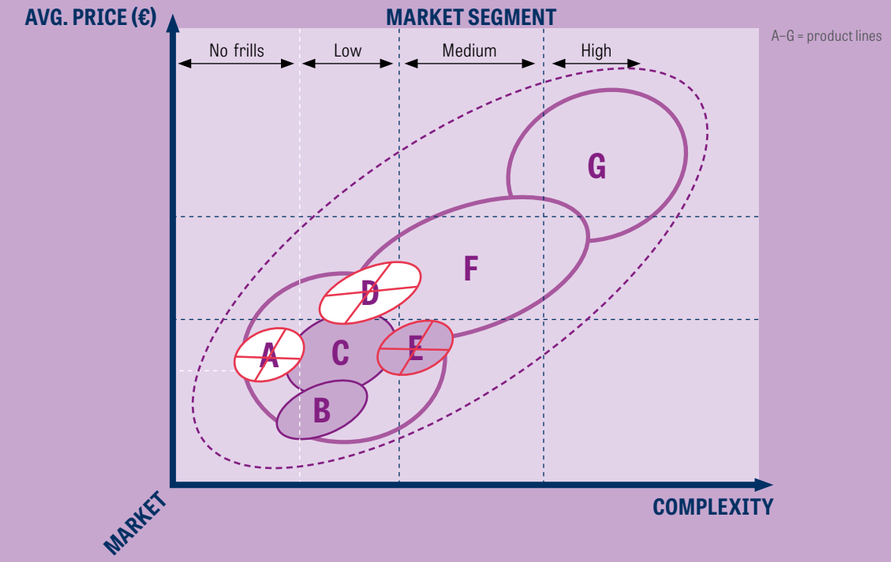
EUR 400m inventory through >100 measures sustainably reduced

Many companies have grown their product portfolios in recent years in order to better meet customer needs or simply enter new market niches. For many of those products, the hoped-for success did not materialize and/or the outlook has worsened significantly as a result of the crisis. While these products may still be delivering some sales, they need to be rigorously examined in light of clear top-down targets. Portfolio adjustment not only helps save significant NWC but also reduces supply chain complexity and allows for better component standardization.

CASE STUDY:
PRODUCT PORTFOLIO STREAMLINING

An engineering company focused its product portfolio by eliminating redundant product families. A significant reduction in product and component complexity was achieved, shrinking the inventory by almost 10%.

Almost 10% inventory reduction along the supply chain



1. **Identifying and eliminating** redundant product families
2. **Implementing** improved product management processes (QFD, release of product requirements for new developments, etc.)
3. **Redesigning R&D** project management
4. **Strengthening "construction kit" approaches** to development to reduce the number of different parts

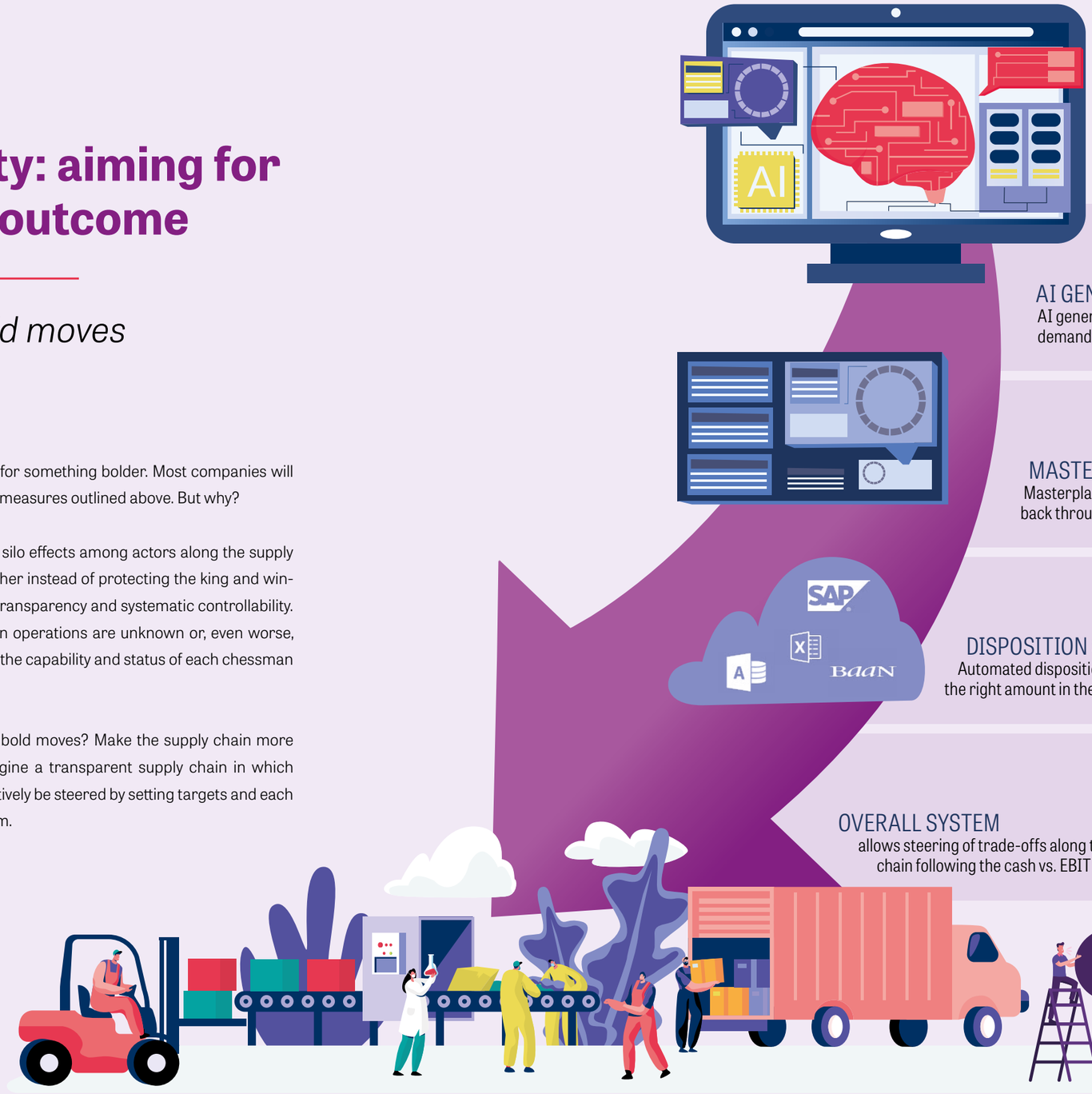
2.
Maneuverability: aiming for the target outcome

Making bold moves

After exploring the basic moves, it is time to aim for something bolder. Most companies will require significant efforts to implement the basic measures outlined above. But why?

Existing governance systems often help to foster silo effects among actors along the supply chain. The chessmen are playing against each other instead of protecting the king and winning the game. The second key reason is lack of transparency and systematic controllability. Many parameters such as variable setup costs in operations are unknown or, even worse, wrong. Like in chess, the game can only be won if the capability and status of each chessman is well understood and utilized.

So why not use the crisis to start making some bold moves? Make the supply chain more transparent, easily steerable and digitized. Imagine a transparent supply chain in which planning is much more reliable, trade-offs can actively be steered by setting targets and each step of the value chain aims at the overall optimum.



2.1 The supply chain plexus
Why not use a chess computer?

Sales forecasts are often little more than wishful thinking. In times of crisis they become even more unreliable as markets are volatile and unpredictable. As a result, the entire process of supply chain planning becomes a nightmare. Either you have out-of-stock situations or you increase your inventory. To address this overarching key issue, you need to make a bold move, leveraging automation and AI.

To start with, deploy an AI forecasting system that can work out correlations between COVID-19 measures, economic development and your specific market development. Very useful data stem from the fact that countries are in different stages of the current crisis. Patterns in China and some European countries that are further down the road are likely to be repeated in countries that are still at an earlier stage of the crisis. Early macroeconomic indicators such as the purchasing managers' index can support the computation. Challenge your sales teams' forecast with the AI results to derive a much more reliable prediction. This is extremely important as planning mistakes can have a significant impact on sales and cash.

In the second step, master planning shifts the sales forecasts back through the supply chain, adhering to the respective lead times. Market demand in the US in three months' time will trigger orders for raw materials and components now. In four weeks' time, production will start manufacturing the US demand and the product will reach the market just on time. Automated master planning is revolutionary as it orchestrates the entire value chain and reduces bullwhip effects when demands change.

In the third step, an automated and optimized materials management system orders just the right amount of products, components, and raw materials based on the master-planning demands. It takes into account minimum order quantities and is able to compute the optimal order quantity based on the variable costs for every single order (e.g. variable setup costs with internal orders).

Steering your supply chain becomes significantly easier as you can calculate your NWC need based on the forecasts. According to the simulations you can decide to change parameters and release more or less cash from the supply chain, e.g. by lowering the service level from 96% to 93%.

The algorithms will get better the more data runs through them, allowing for an inventory reduction of over 30%. Depending on the complexity of the company it takes one to two years to completely implement such bold moves. But there is no better time to start as AI forecasting can, depending on data availability, be set up within a few months and deliver immediate impact!

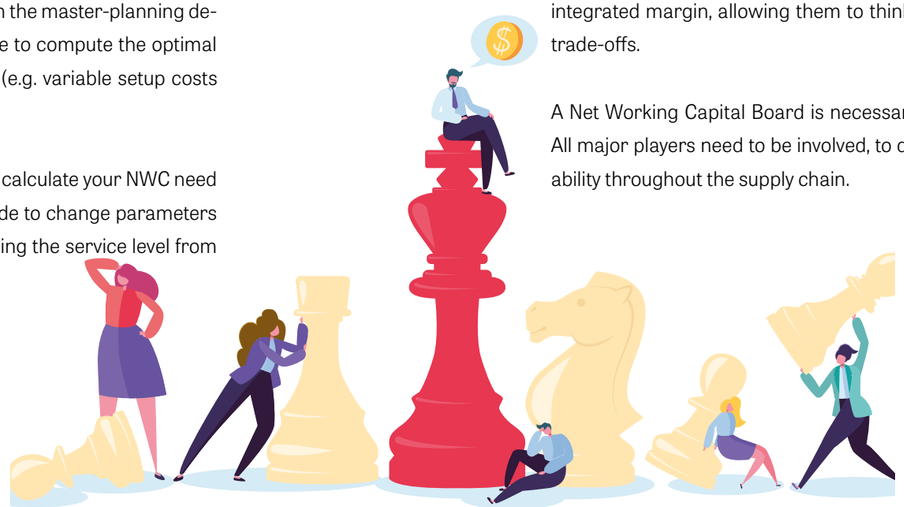
2.2 Integrated NWC governance
It's a team effort!

Managing NWC often comes with trade-offs across the entire supply chain and therefore across functions. In recent years, cash has not been the top priority for many companies as liquidity was widely available. Both factors make it necessary to implement an integrated NMC governance system in which all functions are incentivized to generate cash and optimize the trade-offs.

The first measure is to attach a price tag to the NWC and not only measure relative or absolute figures. The weighted average cost of capital (WACC) is a good proxy as other investments typically need to perform against the same parameter. This means that NWC generates costs or revenues for the respective departments. Sales receives additional costs with extended payment terms and higher inventory levels, while procurement is incentivized to go for longer payment terms and implement buffer stocks.

The next step in the process is an integrated company-wide margin for all products and services. In addition to their specific KPIs, all functions are incentivized on the end-to-end integrated margin, allowing them to think holistically and ensure an overall optimization of trade-offs.

A Net Working Capital Board is necessary for coordination, especially in a period of crisis. All major players need to be involved, to decide on measures quickly and ensure maneuverability throughout the supply chain.



CASE STUDY:
SUPPLY CHAIN KPIs

COMPANY-WIDE KPI

Integrated product margin **±9% WACC on NWC**

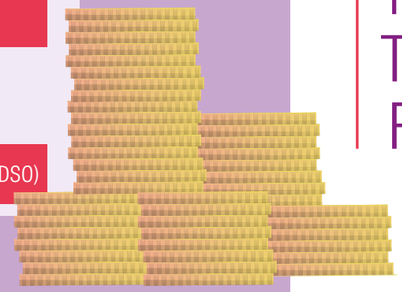
SPECIFIC KPIs

QUALITATIVE KPIs

INCOME STATEMENT KPIs

	SUPPLY SIDE	OPERATIONS	LOGISTICS	SALES & AFTER SALES
				
WORKING CAPITAL KPIs				
Per item	Stock range Purchased material	Storage range of BU disp. raw material	Storage range of logistics disp. raw material	Storage range
Per BU		Stock range Finished products		
Total				Days Sales Outstanding (DSO)

COMPANY-WIDE CONTROL MODEL WITH E2E PRODUCT SUCCESS



A CRISIS CAN VERY QUICKLY REVEAL THE WEAKNESSES IN A SUPPLY CHAIN. **REACTING FAST IS KEY.** SO USE THIS OPPORTUNITY TO MAKE BOLD MOVES TO WIN THIS AND FUTURE GAMES!

STERN STEWART RESEARCH Cash is King

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