

Cash-to-Cash Cycle: Measuring and Shortening Capital Commitment in the Supply Chain

The cash-to-cash cycle (also cash conversion cycle, CCC) describes the period between paying money out to suppliers and the inflow of payments from customer sales. It links procurement, production and sales into a single liquidity-relevant metric. For buyers, it is a central steering lever, because payment terms, material inventories and manufacturing lead times have a direct impact on the company's capital commitment.

Key facts

- The cash-to-cash cycle results from inventory coverage, manufacturing lead time and the difference between supplier and customer payment terms.
- A negative cycle value means that customers pay before suppliers are paid – a sign of particularly favourable working capital management.
- Buyers can actively shorten the cycle through payment terms, consignment stock and lower inventories.
- Typically the value in manufacturing lies in the range of 30 to 120 days, strongly dependent on industry and business model.
- Supplier financing models such as supply chain finance can reduce the cycle without burdening suppliers' liquidity.
- Extremely long payment terms can cause supplier risks and higher purchase prices and should be assessed holistically.

Definition: cash-to-cash cycle

The cash-to-cash cycle measures how many days elapse between the outflow of payments to suppliers and the receipt of customer payments. It thus covers the entire capital commitment period in the value chain and is considered one of the most meaningful metrics for working capital. The shorter the cycle, the less debt capital the company needs for day-to-day operations.

Formula and components

In practice, the cash-to-cash cycle is often calculated using the following formula: cash-to-cash cycle = inventory coverage + manufacturing lead time supplier payment term + customer payment term. Some versions combine the first two variables as days of inventory. What is decisive is a consistent definition across periods so that the metric remains comparable.

- Inventory coverage: days between goods receipt and consumption or sale
- Cycle time: days from material provision to completion
- Difference in payment terms: customer term minus supplier term

Distinction from classic working capital

While metrics such as the quick ratio or net debt are based on point-in-time balance sheets, the cash-to-cash cycle depicts a time flow. It shows how long each unit of currency remains tied up in the operating cycle. This makes it better suited for operational steering and for discussions with procurement and sales on an equal footing.

Relevance for technical procurement

For buyers of technical products, the cash-to-cash cycle is directly affected: material inventories, consignment arrangements, Incoterms and payment terms all feed into the cycle. A procurement function that only focuses on unit prices can lengthen the cycle unnoticed, for example when Incoterms CPT increases capital commitment through longer transport routes. The cycle should therefore be explicitly considered in procurement decisions.

Methods and approach for shortening the cycle

Shortening the cash-to-cash cycle requires a coordinated approach across procurement, production and sales. Isolated measures, such as one-sidedly extended supplier payment terms, often only work in the short term and trigger counter-reactions among suppliers. A structured analysis of the three components – inventory coverage, cycle time and payment terms – has proven effective.

Reducing inventories

Material inventories are usually the biggest lever. Starting points are smaller batch sizes, shorter lead times through regional suppliers, more consistent delivery schedules and better forecast quality. An inventory health dashboard helps identify slow-moving items and reduce them in a targeted manner. Improved warehouse management, such as prompt dock-to-stock processing, also reduces actual capital commitment because goods become available faster.

Negotiating payment terms in a structured way

Payment terms are an effective but also sensitive lever. Long supplier terms improve the cycle on paper but can lead to higher purchase prices, poorer delivery reliability or supplier failures. In practice it has proven worthwhile to consider payment terms as part of the overall negotiation package alongside prices and service levels. Models such as supply chain finance allow suppliers to be paid earlier while extending the company's own payment behaviour – the bank finances the difference.

- Always assess terms in combination with price and delivery performance
- Do the early-payment maths: short payment against a price discount can improve the cycle despite a shorter period
- Consider financing models such as supply chain finance for strategic suppliers

Optimising processes and framework agreements

A call-off agreement with defined collection intervals stabilises inventories and reduces safety stocks. Likewise, a clean three-way match check between purchase order, goods receipt and invoice contributes to invoices being released for payment faster and without errors – which also indirectly strengthens reliability towards suppliers. The process capability of the entire order-to-pay process is a frequently underestimated influence on the cycle.

Key KPIs around the cash-to-cash cycle

The cash-to-cash cycle only becomes effectively steerable once it is broken down into sub-metrics. These metrics can be assigned to individual responsibilities: inventories more to logistics and planning, payment terms more to procurement and sales, cycle times more to manufacturing.

Metrics on the inventory side

Inventory coverage and inventory turnover show how much capital is tied up in materials. In addition, procurement costs, the quality of the inventory composition and the inventory turnover rate provide indications of optimisation potential. Those who measure turnover over several periods recognise early whether safety stocks are too generously dimensioned or whether planning rules are outdated.

Metrics on the payment side

On the payment side, relevant metrics are the average payment days to suppliers, compliance with agreed payment terms and Days Payable Outstanding (DPO). On the customer side, Days Sales Outstanding (DSO) reflects the receivables situation. The difference between DPO and DSO is the real financial lever of procurement. The capital commitment period of individual material groups can also be considered separately in order to take a targeted approach.

Operational driver metrics

Alongside the core financial metrics, it is worth looking at operational drivers such as dock-to-stock time, the expedite rate as an indicator of urgency and disruption, and delivery schedule adherence, which reveals how reliably the company's own planning operates. Complaints assessment and quality gates before the release of batches also indirectly influence the cycle, since quality problems tie up inventories and delay payments.

Risks and controls in cycle management

Shortening the cash-to-cash cycle is not an end in itself and carries risks if pursued one-sidedly. Payment terms that are too short for suppliers or inventories that are too lean can jeopardise supply security and, ultimately, be more expensive than the capital commitment saved. A balanced control system is therefore essential.

Risks of one-sided optimisation

Those who stretch supplier terms to the extreme risk higher prices, lower priority in shortage situations and, in the extreme case, supplier failure. Those who reduce inventories too aggressively increase the risk of production stoppages if a supplier fails or a batch is defective. The cost of poor quality (COPQ) from missing parts can quickly exceed the working capital benefit. Supplier evaluation via a supplier scorecard should also reflect financial stability alongside price and delivery reliability, in order to recognise risks from overstrained suppliers early.

Internal controls and compliance

Changes to payment terms and inventories should be incorporated into a documented audit checklist. This applies in particular where payment runs, approvals or group policies are affected. An established whistleblowing system can also help uncover improper agreements on terms or order volumes. In the quality area, effective quality management in procurement with defined certificate-of-conformity requirements ensures that defects never enter the inventory in the first place.

Contractual and process certainty

Contractual framework conditions such as Incoterms with clear risk transfer, a clear catalogue structure and a well-maintained parts catalogue prevent disputes and delays in the payment process. A clean three-way match check and a consistent complaints process safeguard that only verified and correctly delivered items are released for payment. Regular review of the process capability of the order and invoice run completes the control system.

Current developments: digitalisation and financing models

The cash-to-cash cycle is increasingly in the focus of digital tools and financing innovations. Data quality and automation are decisive here, as the cycle arises from many individual processes that must interact seamlessly. Companies that modernise in this area achieve measurably shorter cycles and more stable supplier relationships in practice.

Artificial intelligence in working capital management

AI in procurement is increasingly being used to analyse payment flows, inventory developments and price information. Predictive models can recognise shortage situations and excess inventories early, before they feed into the cycle. Automated supplier selection and terms analyses also support the controlled shortening of the cycle. What remains important: decisions with financial implications should continue to be made by people with contextual knowledge.

Supply chain finance as an established instrument

In recent years, supply chain finance has become a standard instrument in many corporate treasuries and mid-sized groups. Suppliers can sell invoices before the due date at bank-financed rates, while the buying company makes use of the agreed payment terms. A fair and transparent implementation is important so that the instrument does not act as a hidden means of pressure. In practice, success depends heavily on supplier acceptance.

Sustainability and reporting

Not least due to sustainability requirements such as the GRI Standards, the financial impact of procurement on suppliers is also coming into the focus of reporting and stakeholder expectations. An extremely extended cash-to-cash cycle can be perceived as a sign of unfair payment behaviour and carry reputational risks. Companies are therefore increasingly linking working capital targets with supplier evaluations and sustainability criteria. The cycle is thus read not only as a financial metric but also as an indicator of partnership-based supplier relationships.

Typical metrics

Cash-to-cash cycle: typically 30–120 days (manufacturing)

Industry benchmarking and development across periods are decisive

Inventory coverage: frequently 30–90 days

The biggest lever on the inventory side

Days Payable Outstanding (DPO): frequently 30–60 days

Shows the actual use of supplier payment terms

Days Sales Outstanding (DSO): typically 30–60 days

Customer-side capital commitment, directly influences the cycle

Dock-to-stock time: in practice often < 24 hours with good processes

Fast availability reduces effective capital commitment

Practical example

A medium-sized mechanical engineering company with around 200 employees finds that, despite good margins, its cash-to-cash cycle stands at over 100 days. Analysis shows: high safety stocks for slow movers, unbundlable micro-purchases and inconsistent payment terms of 30 to 90 days are the main causes. The procurement team starts with a structured inventory analysis using an inventory health dashboard, introduces a call-off agreement with weekly quantities for A-parts and harmonises the payment terms for the most important suppliers as part of newly negotiated framework agreements. Within one year, the cycle in practice falls significantly without any supply gaps arising.

- Inventory analysis with an inventory health dashboard and reduction of slow-mover stock
- Introduce call-off agreements with defined quantity intervals for A-parts
- Negotiate payment terms uniformly and link them in the terms package with price and delivery performance
- Accelerate the dock-to-stock process so that goods receipts become available faster

Conclusion

The cash-to-cash cycle condenses the financial consequences of procurement, manufacturing and sales decisions into a single, easily communicable metric. For buyers, it is a powerful argument vis-à-vis management because it translates procurement decisions directly into liquidity impact. A holistic view is important: optimising inventories, payment terms and processes one-sidedly creates risks for suppliers and supply security. Those who break the cycle down into sub-metrics and steer it via supplier scorecards, audit checklists and modern financing models create lasting improvements. The cycle should therefore be a fixed component of every procurement controlling function.

Frequently asked questions

What does the cash-to-cash cycle mean?

The cash-to-cash cycle measures the number of days between paying suppliers and receiving payments from customers. It typically consists of inventory coverage, cycle time and the difference between customer and supplier payment terms. The shorter the cycle, the lower the capital tied up in day-to-day operations.

How can procurement shorten the cash-to-cash cycle?

Procurement can act through three levers: better payment terms as part of the terms package, lower inventories through reliable suppliers and smaller batch sizes, and faster processes such as dock-to-stock and a clean three-way match. Models such as supply chain finance allow suppliers to be paid earlier while still making use of the company's own payment terms. It is important not to burden suppliers one-sidedly, as otherwise prices and delivery reliability suffer.

What is a good cash-to-cash cycle?

There is no universally good value, as it depends heavily on the industry. In manufacturing, values typically range between 30 and 120 days; a negative value is considered particularly favourable but occurs mainly in strong trading or model-based businesses. Rather than an absolute value, comparison

across several periods and against competitors in the same industry is more meaningful.

What is the difference between the cash conversion cycle and working capital?

Working capital is a point-in-time measure showing how much capital is tied up in current assets at the balance sheet date. The cash-to-cash cycle (cash conversion cycle), by contrast, measures a period in days and shows how long a pound/euro remains tied up in the operating cycle. Both metrics are related, but the cycle is better suited for operational steering.

What role do Incoterms play in the cash-to-cash cycle?

Incoterms determine when risk and availability of goods pass to the buyer. Under terms where the buyer finances or bears the transport leg, actual capital commitment is extended because capital is tied up during transport. Terms such as Incoterms CPT shift the transfer of risk and should be taken into account when assessing the capital commitment period.

How does supply chain finance affect the cash-to-cash cycle?

Supply chain finance allows suppliers to cash invoices early at a bank-financed rate, while the buying company makes use of the agreed payment terms. This improves the buyer's cash-to-cash cycle without leaving the supplier in a worse liquidity position. The prerequisite is a fair and transparent implementation and the acceptance of the suppliers involved.