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Rethinking inventory management in defense

Defense companies will have difficulty unlocking cash as their balance sheets become increasingly burdened with unbilled receivables. A new inventory-management approach can help.

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With competition growing, defense companies have been increasing R&D investments, boosting capital expenditures, and aggressively pursuing inorganic growth through M&A. These ventures, requiring vast amounts of cash, have recently put working capital in the spotlight. Adding to the attention, the COVID-19 pandemic has prompted governments, investors, CEOs, and others to take a closer look at the working capital of any potential contract partners, since this can serve as a proxy for their resilience.

Traditionally, defense companies have tried to optimize working capital through strong inventory management. A disciplined approach, they reasoned, could quickly generate enough cash to satisfy their obligations and provide a cushion against tough economic times. But a new revenue-recognition framework, Accounting Standards Codification (ASC) 606, has complicated their strategy. Under the updated guidelines, companies must reclassify much inventory held on balance sheets into one of two new categories that were previously less relevant: unbilled accounts receivable (A/R) and contract assets.[1] Both categories reflect revenue for products or services for which a customer has not yet been billed.

With ASC 606 creating much higher unbilled-A/R balances, inventory management morphs from an operations task to a cross-functional challenge requiring the close involvement of CFOs, chief procurement officers (CPOs), COOs, and contract leaders. Now with a broader group of executives rightly involved in managing inventory, a relook at everything from incentives to processes and key performance indicators (KPIs) is needed to optimize cash.

The defense industry has been under a higher regulatory burden than many other sectors because most of its business involves large products for which the government allows it to recognize revenue and bill costs over time. We estimate that the top 50 defense companies worldwide could free up over $32 billion in cash that is currently tied up as unbilled A/R on their balance sheets.

Our experience leading working-capital transformations has allowed us to develop a new approach to managing inventory and unbilled A/R. It involves four critical activities:

— simplifying product portfolios to match customer demand

— optimizing the end-to-end material-management process to reflect production needs

We estimate that the top 50 defense companies worldwide could free up over $32 billion in cash that is currently tied up as unbilled A/R on their balance sheets.

[1] A contract asset is an item (either a good or service) for which a customer has not yet provided any consideration. The right to reimbursement depends on something other than the passage of time, such as satisfactorily meeting performance standards. Items fall into the unbilled-A/R category if the customer has not paid any consideration, but the right to reimbursement is unconditional and depends only on the passage of time. For simplicity's sake, this article will just refer to unbilled A/R, although the same principles apply to contract assets.

- rightsizing production-cycle times to accelerate material through the factory floor

- optimizing billing and performance milestones during customer negotiations

By following this approach, defense companies can become more agile partners to government customers because they will have more cash on hand to respond to customer requests, such as those for new products. It takes time to build the necessary capabilities, however, and companies should act now to maximize their advantage.

The repercussions of ASC 606 for inventory management

The reclassification of inventory as unbilled A/R occurs because ASC 606 accelerates the recognition of revenue associated with customer contracts. Rather than waiting until the time a final product or service is delivered, companies recognize a portion of revenue on their balance sheets when they meet specific performance milestones or dates specified in their contracts.

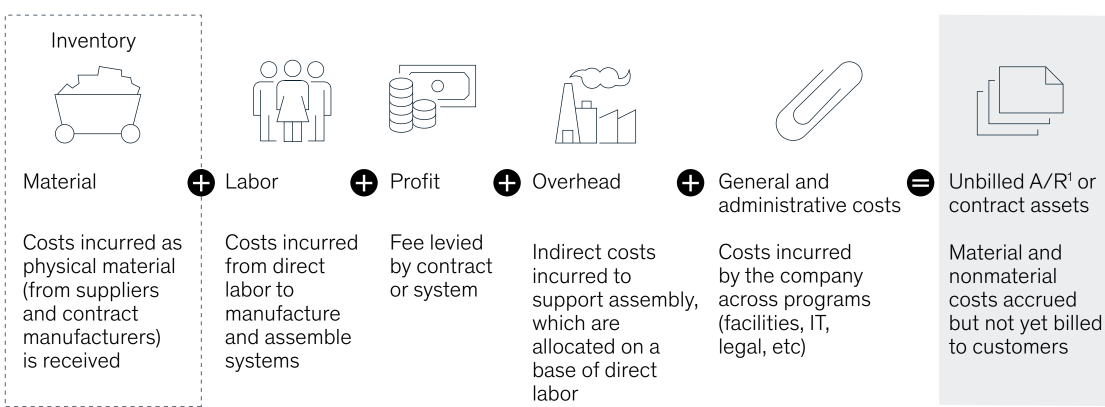
ASC 606 also specifies that labor, profit, overhead, and general and administrative costs must be considered when calculating unbilled A/R (Exhibit 1). These costs, which were not traditionally bundled with inventory, are periodically recognized and billed to customers throughout the life cycle of a product or service, with the frequency varying by contract.

The conversion of inventory balances to unbilled A/R creates a distinction between physical and financial realities. Consider the example of a defense company that purchases $1 million in parts and other materials to build a system for a government (Exhibit 2). Based on the contract, it can immediately bill 80 percent of the value of that material—$800,000—to the government. This amount gets classified as billed A/R, and the company carries the remaining $200,000 as unbilled A/R on its balance sheet. Thirty days later, the government pays the company $800,000 for the material it received. From the second month on, the defense company incurs labor and overhead charges of $150,000 that get added to the unbilled-A/R balance. The contract specifies

Exhibit 1

Unbilled accounts receivable and contract assets include material and nonmaterial costs.

Cost components

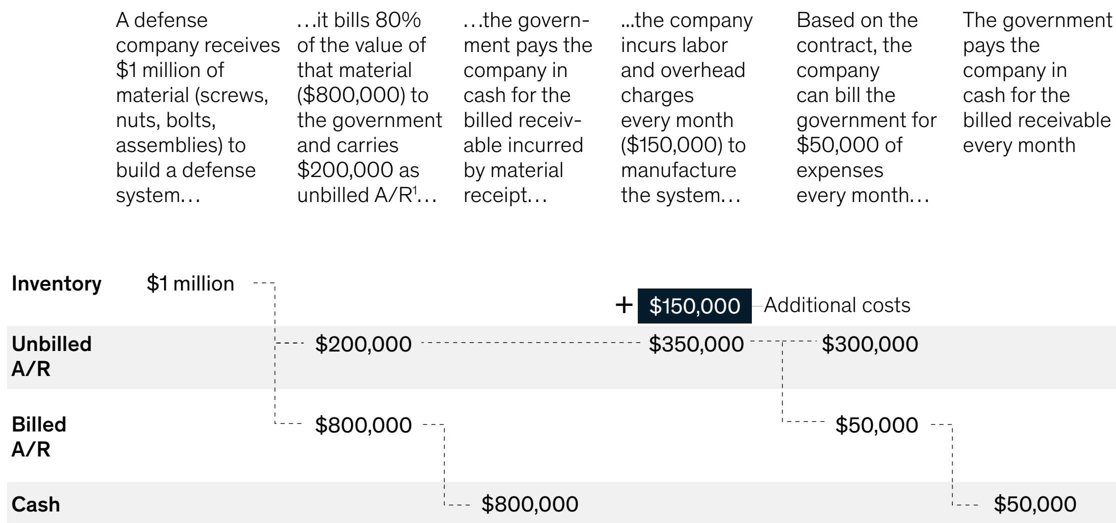


[1]Accounts receivable.

Exhibit 2

Unbilled accounts-receivable balances on the balance sheet understate the value of on-hand material.

Billing process



[1]Accounts receivable.
Source: McKinsey analysis

that the government can only be billed for $50,000 in labor and overhead each month. Before the first labor and overhead payment is received, the defense company would carry $350,000 of unbilled A/R on its balance sheet for on-hand material that is worth $1 million.

At top defense companies, over a third of their inventory—about $92 billion of the total $286 billion value—has been reclassified as unbilled A/R over the past few years (Exhibit 3).[2] Over the past three years, the 26 percent compound annual growth rate for unbilled A/R has outpaced that for defense inventory (10 percent) and revenues (5 percent). This growth shows no sign of slowing because companies are still struggling to manage unbilled A/R effectively.

Challenges managing unbilled accounts receivable

Controlling the outsize growth in unbilled A/R will require cross-functional collaboration among leaders from operations, commercial, supply-chain, contracts, and finance functions. But even the most committed teams will encounter three challenges.

After a government makes a partial payment, it shares ownership interest in materials

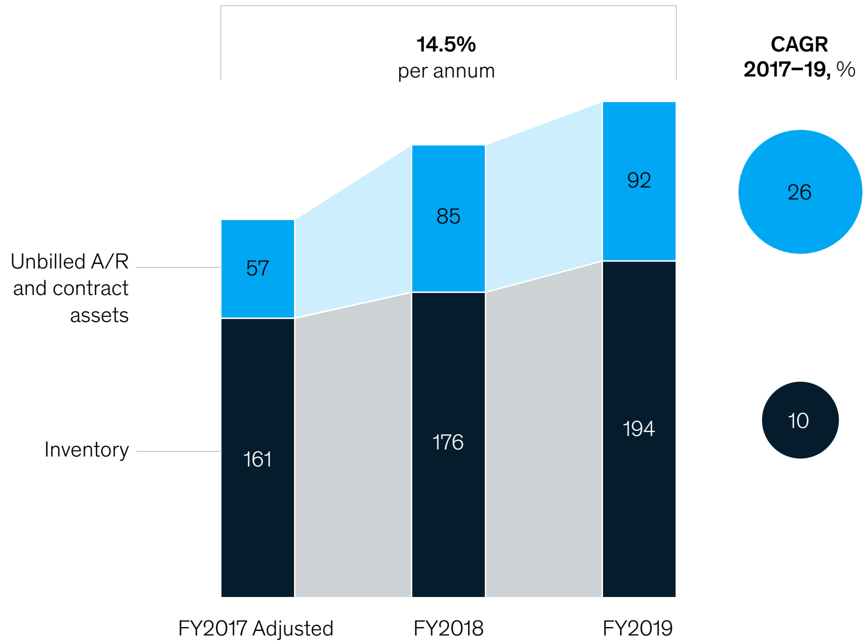
By accelerating the recognition of cost and revenue, ASC 606 also hastens the point at which purchased materials are committed to the production of a specific customer system. This occurs because a government becomes a shared owner of materials once a partial payment

[2]About 82 percent of these balances are concentrated in US companies, although international companies also have growing balances.

Exhibit 3

About 32 percent of all inventory at top defense companies has been reclassified as unbilled accounts receivable.

Defense unbilled A/R[1] and contract assets,[2] $ billions



[1]Accounts receivable.
[2]Top 43 public defense companies with revenue >$1 billion.
Source: Public company filings; McKinsey analysis

is recorded on the balance sheet. With shared ownership, companies cannot use many of the levers they have traditionally applied during inventory management, such as scrapping, selling, or repegging materials to different programs.

Unbilled accounts receivable is not tied to on-hand material

The inclusion of unbilled A/R on the balance sheet can vastly understate the value of on-hand material because it is burdened with costs that are billed for at monthly intervals. Early in a system's production life cycle, these costs will largely relate to labor, material, and overhead. When production is near complete, costs will overwhelmingly consist of profit margins that cannot be billed until final delivery. Overall, we estimate that the inclusion of unbilled A/R on a balance sheet underestimates material value by 60 percent or more at some points in the product life cycle. Such discrepancies present the opportunity for operations, finance, procurement, and contracts leaders to work together to look beyond the balance sheet and understand the end-to-end life cycle of their inventory.

The cash life cycle of unbilled accounts receivable can vary

Payment and performance milestones vary by contract, adding another layer of complexity to managing the overall balance of unbilled A/R. For instance, some contracts front-load payment milestones in the program life cycle, which makes the balance sheet appear healthy, at least early on, since unbilled A/R is relatively low. Other contracts spread performance-based milestones throughout the life cycle, which could result in very high unbilled-A/R balances if a product is delayed. To interpret and manage unbilled-A/R balances correctly, executives should thoroughly understand such operational issues, as well as contract milestones and metrics, such as the size of production batches relative to the amount of material ordered.

A new approach to cash management for defense companies

Defense companies may still improve their working-capital position through some traditional inventory-management levers, such as rightsizing safety stocks by SKU, but ASC 606 will limit the application of others. Faced with these restrictions, companies should explore a new four-part approach to inventory management (Exhibit 4).

Simplifying product portfolio(s) to match true customer demand

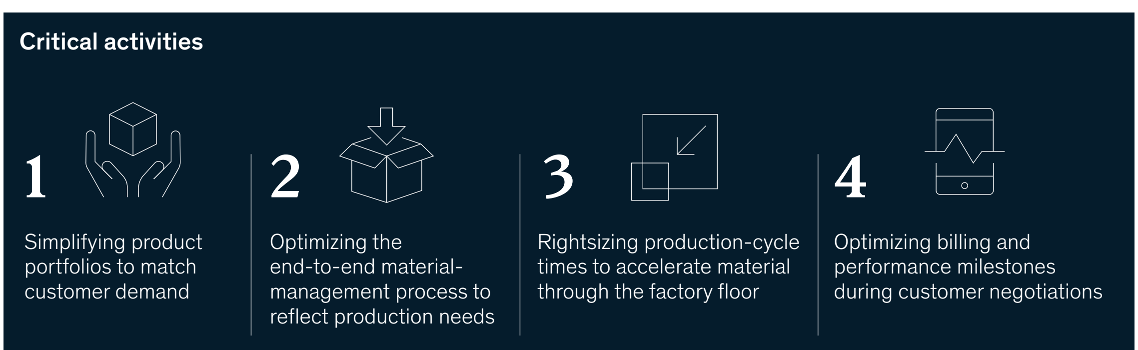
Defense companies have complex portfolios that include multiple product generations spanning decades. Traditionally, there have been limited contact points between portfolio management and cash management at these companies, since sales and engineering leads handle customer conversations about product specifications. But forging connections between cash and portfolio management can produce major benefits in both areas. For instance, companies can free significant amounts of cash if they simplify their offerings by “sunsetting” old product generations, removing incentives for sales of product lines with variable demand, and increasing the use of common parts across product lines. These actions optimize the timing of payments to suppliers for material purchases and reduce the on-hand materials required for production—a major benefit in times of uncertain customer demand.

Optimizing the end-to-end material-management process to reflect production needs

When considering inventory, defense companies must consider many trade-offs. On one hand, companies are offered incentives to bring material

Exhibit 4

A four-part approach can help manage unbilled accounts receivable to accelerate cash, build capabilities, and shorten overall delivery times.



Source: McKinsey analysis

in early to recognize revenue, reduce the financial risks associated with delays, and secure discounts from large order quantities. On the other hand, they cannot bill for materials until they meet key production or timing milestones, which could boost their unbilled-A/R balances.

Two material-management levers can drive near-term impact while increasing cash flow. First, companies can institute time-phased planning for purchase orders. In other words, they choose the time and date of purchase orders based on planned production batch sizes and schedules, thereby minimizing excess on-hand material. Second, companies can increase alignment between material receipt dates and production-need dates to minimize on-hand material between billing milestones. Applying both levers together will produce even higher gains.

Rightsizing production cycle times to accelerate material through the factory floor

As noted earlier, some contracts specify that companies will receive payments when specific performance milestones are met. But many governments refrain from paying profit margins on systems and products until they have been delivered and inspected. (There may be some exceptions to this, depending on the contract.) If companies can reduce the length of production cycles by eliminating all dead time before, between, and after various steps, they can send out their final invoices earlier and fully liquidate unbilled A/R from balance sheets.

Optimizing billing and performance milestones during customer negotiations

Billing and performance milestones traditionally vary by defense program or customer. Some contracts set firm payment milestones with very specific performance requirements, while others are more flexible. If contract negotiation is possible, defense companies can unlock significant amounts of cash by moving payment milestones forward. They could also lower the average quarterly unbilled-A/R balance by increasing the frequency of cash-billing milestones.

Defense-company executives have the opportunity to rethink their approach to inventory management to reduce unbilled A/R and maximize working capital. While COVID-19 has forced many defense companies to focus on short-term issues, they should begin preparing for the next normal by unlocking the cash needed to make strategic investments and better serve their customers.

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