



Business Challenge

To sustain product and service innovation and continue driving improvements in on-time delivery to clients, Kennametal wanted to accelerate business processes and reporting in its SAP® ERP landscape.

Transformation

Migrating SAP ERP to SAP HANA® has dramatically increased the speed of many business processes, enabling Kennametal to serve its customers better and view key performance indicators faster.



Steve Parker
 Director,
 Application Development
 Kennametal

Business benefits:

83%
 faster reporting of product
 delivery and on-time
 performance

90%
 faster to check open orders

33%
 faster to run month-end
 financial closing

Kennametal

Delivering industry-leading customer services with a platform for rapid insight from IBM and SAP

With nearly 12,000 employees worldwide, Kennametal is a global industrial technology leader delivering productivity to customers through materials science, tooling and wear-resistant solutions to customers across aerospace, earthworks, energy, general engineering and transportation. The company is headquartered in Pittsburgh, PA, USA, and serves customers in more than 60 countries, recording annual sales of approximately USD2.6 billion.

“Our IBM and SAP solutions have improved our performance while reducing the size and cost of our environment.”

Steve Parker, Director,
 Application Development, Kennametal

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Challenge in detail

Innovation is the cornerstone of Kennametal's business—and to continue driving improvements to product development and on-time delivery, the company aimed to accelerate its business processes.

To achieve the goal, the company needed to offer reports to decision-makers faster, and looked for a new database platform for the mission-critical SAP ERP applications that support its global business.

Solution delivery

Working closely with expert consultants from IBM Global Business Services, Kennametal migrated its SAP ECC environment from Oracle to SAP HANA running on IBM Power Systems servers.

By following IBM's established best practices for migration to SAP HANA, Kennametal completed the project on time and with minimal disruption to the business—achieving an immediate and noticeable boost in performance for a number of important business processes.

Industry-leading innovation

In 1938, metallurgist Philip M. McKenna created a tungsten-titanium carbide alloy that revolutionized the machining of steel. The company he founded—Kennametal—quickly became a leader in the supply of wear-resistant tools for metalworking to the automobile, airline and manufacturing industries. Further innovations over the years, including silicon-nitride based “sialon” ceramics and cobalt-enriched substrates for coated inserts, have helped Kennametal maintain its technological leadership.

Steve Parker, Director, Application Development at Kennametal, comments, “Innovation is absolutely the cornerstone of our business. The only way we can stay ahead of our competitors is to be more innovative than they are. And it's not just a question of innovating in materials—we are constantly looking for ways to make our tools more productive and usable than those of our competitors. We stand behind our customers and make sure they can get the best out of our products, because that's where we can save them money, time and resources.”

Competing at the premium end of the market means that Kennametal must add value on top of its world-class physical products—in particular, in the form of expert services and dependable on-time delivery. Deeply rooted in innovation and technology, Kennametal has always strived to stay at the cutting edge of IT innovation. Ever since its first implementation of SAP ERP in 1995, the company has adopted the latest and greatest SAP innovations to run its operations and finances efficiently and reliably.

Kennametal started its SAP HANA journey in 2012 with the implementation of HANA Enterprise, and the company also recently implemented product lifecycle management functionality to manage CAD/CAM designs and chemical formulations, bringing product innovation within the SAP environment.

Standardizing on SAP solutions

Kennametal wanted to standardize and simplify its finance processes and began to look into adopting SAP Simple Finance—now called SAP Business Suite 4 SAP HANA (SAP S/4HANA).

“Our finance group was not able to leverage the existing tools to the best of their capabilities, and we also had a very complex financial configuration in our ERP systems,” says Steve Parker. “This was making it difficult for finance personnel to view and analyze their data in SAP. Our original goal was to go directly from SAP ECC to SAP S/4HANA with Simple Finance 2.0, so that we could get as many of the new capabilities out to our finance people as we could. However, we ran into a roadblock with what was at that time a very new solution: one of the critical features we use in ECC 6—group cost and transfer pricing—was not yet supported in SAP Simple Finance 2.0.”

He adds, “Even though the timing was not right for Simple Finance, we decided to go ahead with the adoption of SAP HANA by migrating our existing SAP ECC environment to run on the new technology. In doing so, we wanted to take advantage of the improved performance on the HANA platform, and we believed that it would

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provide easier access to our SAP data. We also knew it was a crucial stepping-stone to adopting other technologies, including the SAP Fiori® UX. And finally, we still planned to move to Simple Finance as soon as it was practical to do so, and it made sense to take the first step on our digital transformation journey and get the HANA adoption under our belt.”

Selecting an expert partner

Performing the migration of a large ERP landscape—with more than 6,000 SAP ERP users at over 100 global locations—was potentially a risky activity. Kennametal wanted to engage an expert



83% faster reporting
of product delivery
and on-time performance

implementation partner to ensure a successful and non-disruptive migration, and ran a tender process to find the best partner.

Steve Parker comments, “The IBM® Global Business Services® team had the strong technical knowledge around SAP HANA that we needed. The IBM approach and documentation for the proposal were both impressive.”

Strong partnership

Working closely with consultants from IBM Global Business Services, Kennametal migrated its SAP ECC environment. This was a major project, not least because the SAP ECC environment weighs in at an impressive 9.5 TB. The joint team drew partly on the experience built up during the initial attempts to deploy the full SAP S/4HANA solution.

“At that point in time,” recalls Steve Parker, “no-one had attempted a direct migration from ECC to S/4HANA Simple Finance, and we went through a pretty steep learning curve. When we changed the scope to migrate to the HANA platform instead, things went much more smoothly. The IBM team had extensive prior experience of ECC on HANA.”

Facing this complete scope change in the middle of the project, the IBM Global Business Services team was fully committed, from the senior leadership down to the individual delivery consultants, to make the program successful and to go live within both the original schedule and the original budget. Kennametal was able to keep to its initial go-live date, and the cut-over ran very smoothly, with the on-time release of SAP ERP on SAP HANA to the internal business community.

Steve Parker comments, “The IBM Global Business Services team were a very professional and highly dedicated group who committed long days and evenings to completing the project on time. They were often on calls in the night, working with SAP developers in Singapore and Germany, and were willing to do whatever it took to keep us moving forward. Whenever we had questions, we always felt we could rely on best-practice recommendations from the IBM team every step of the way. The strength of our long-term relationship with IBM gave us confidence throughout the project that we would achieve the desired outcomes.”

The IBM team used its established best practices, runbooks and accelerators for the migration to SAP HANA. Among these assets was Best Practices for migration to S/4HANA, written and published jointly with SAP itself, which includes

a detailed checklist of step-by-step, transaction-by-transaction instructions and which helped to accelerate the migration and minimize disruption. IBM also drew on Best practices for HANA-tization and optimization to repair custom codes that were impacted as a result of the migration to HANA and, above all, introduced procedures to identify and optimize the codes that deliver the important business benefits described in the summary and later in this case study. Thanks to these IBM accelerators, the transition to SAP HANA was significantly simplified.

High-performance server platform

Based on its successful experience of using the IBM Power Systems™ platform to run its SAP ERP landscape for more than a decade, Kennametal also deployed the new SAP HANA landscape on IBM Power® processor-based systems. Today, the HANA environment is hosted on an IBM Power E870 server with IBM POWER8® processors. The same server hosts development, sandbox and QA environments running on IBM PowerVM®, and a single production instance.

Steve Parker comments: “Our platform team was confident that IBM Power Systems would offer more scalability and better maintainability for SAP HANA. As well as improved flexibility with virtualized system provisioning and management, we obtain more effective CPU and memory management from the hypervisor to the level of individual partitions. By making more effective use of our memory and CPU resources—for example, by transferring available

Benefits in detail

- 83% faster reporting of product delivery and on-time performance
- 90% faster to check open orders
- 33% faster to run month-end financial closing
- 25% faster for web users to search online product catalog

Key components

Applications: SAP® ERP on HANA, SAP Fiori®, SAP S/4HANA

Services: IBM Global Business Services®

Hardware: IBM® Power® System E870

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resources to the applications that have the greatest need for them—it was clear that we could support a large environment with ease. Looking to the future, memory upgrades will allow us to continue to scale the hardware around the growth of our business applications without exceeding design specifications of the hardware platform.

“All of our critical business applications run on the IBM Power Systems platform, and we have been very satisfied with the service we have received from IBM. Equally, choosing both hardware and services from IBM made the solution landscape simpler, as it meant there would be just two major vendors involved: IBM and SAP. We felt that this would ensure the best level of support and a lower cost of engagement in the longer term.

“Kennametal very much values the reliability, flexibility, scalability and consolidation capabilities of the IBM Power Systems platform, which enables us to plan landscape growth and environment management flexibility as our operational requirements change. If we decide to pursue a strategy of infrastructure consolidation and simplification, it’s good to know that we have a ready-made platform to support that.”

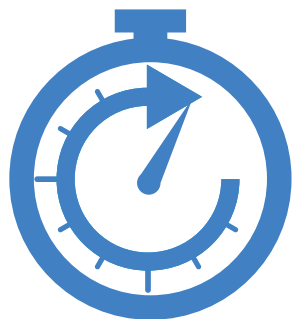
Cutting time to insight

Thanks to the combined efforts of the Kennametal and IBM Global Business Services teams, the migration of the SAP ERP environment to SAP HANA on IBM Power Systems was completed on time and with minimal business disruption. The migration delivered an immediate and noticeable boost in performance for a number of important business processes.



“The run-time for a critical daily report for calculating product delivery and on-time performance went from 4.5 hours to just 45 minutes—83 percent faster than before,” says Steve Parker. “This reporting acceleration enables us to check performance multiple times during a single working day—something that would have been impossible before.”

He continues, “Similarly, the time to run the report that checks our open orders has shrunk from one hour and seven minutes to just seven minutes—an improvement of 90 percent that offers near-real time visibility to the business. Our finance function is also experiencing benefits; one of our key month-end batches completes 33 percent faster than before: in 12 hours compared to 18 hours previously.”



90% faster
open order checking

Delivering added value to customers

The IBM and SAP solutions are delivering benefits that reach far beyond Kennametal's internal operations — facilitating its ongoing effort to transform its customer services.

Steve Parker explains, “Without question, working with IBM Global Business Services to plan and execute our successful migration to SAP HANA on IBM Power Systems has transformed our ability to deliver responsive service to our customers. For example, performing a full search of our product catalog via the e-commerce website — which calls on our SAP ERP solution — now takes less than 14 seconds, 25 percent faster than the 18 seconds it took before.

“Maintaining our industry-leading position demands constant innovation, and thanks to our IBM and SAP solutions we can react faster than ever to changing customer needs. Today, we generate reports on our open orders on the same working day — 90 percent faster than before — which enables our people to plan more quickly and accurately, and deliver even more proactive, high-quality services to our customers.”

Ready for the future

Based on the success of its migration, Kennametal is already planning for the future.

“We are confident that we can continue to shrink our time to insight across the business,” says Steve Parker. “One area that we are particularly interested in is our



reporting on materials planning, which has important implications for the way that we schedule our manufacturing processes, and therefore on our operational costs.

“By accelerating materials requirements planning reports with SAP HANA, we will be able to provide our decision-makers with up-to-date information on orders in the pipeline, and empower them to optimize costs and minimize delivery times to our customers. We aim to support our customers with value-added services that help them work more efficiently and cost-effectively — and our IBM and SAP solutions will continue to be a key enabler of that goal.”

He continues, “We see SAP HANA running on IBM Power Systems servers as a winning combination that will support us as we grow the business. Since migrating our SAP ERP solution from Oracle to SAP HANA, our CPU utilization has dropped by 80 percent, while SAP dialog process response times have fallen by 60 percent.

“Currently, we have eight application servers running alongside our central

SAP ECC instance. Based on the server utilization that we're now seeing, it may be possible to decommission several of our application servers, which may produce a significant saving in our hardware licensing. Crucially, our improved performance offers us the headroom to give our 6,000 users access to richer datasets for analysis, which will ultimately drive better-informed decision-making.”

Steve Parker concludes, “Over the course of the migration project, we have built an extremely strong and valued relationship with IBM Global Business Services, who impressed us with their technical knowledge, professionalism and willingness to go the extra mile for our success. In particular, the IBM team was able to take a complete change of scope in its stride and commit to delivery within the original timescale and budget. As a result, our IBM and SAP solutions have improved our performance while reducing the size and cost of our environment. Doing things faster, more efficiently and based on deeper insight helps us to deliver added value to our customers — helping us to maintain our industry-leading position.”

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33% acceleration in
month-end closing process

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