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Henkel:

How Digital Transformation Accelerated Speed to Market

Case Study

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01

The Opportunity for Transformation

"We had never initiated a project and commercialized a product that quickly. Albert has the potential to significantly accelerate the process from development to market launch."

Kevin Becker
Product Development Head

A Snapshot of Success

Read on to learn how Henkel Adhesive Technologies drives the digital transformation of its innovation processes by leveraging Albert.

›2,800
Scientists, technicians, and engineers using Albert across multiple labs, 4 central testing facilities, and 36 countries

›580,000
Experiments across 480 end-use applications

Significant
Potential for reducing Time to Market and achieving cost-savings

›Millions
Cleaned and structured data points

›160,000
Formulas and products across 170 technologies

Henkel Overview

The Chemistry and Materials Science industry is at a crucial juncture, grappling with heightened competition and evolving market demands shaped by climate change and sustainability mandates. Renowned for its legacy of innovation, Henkel AG & Co. KGaA operates with two business units: Henkel Adhesive Technologies and Henkel Consumer Brands.

The Adhesive Technologies business unit is the global leader in the market for adhesives, sealants and functional coatings. As part of its global digitalization strategy, senior management aimed to leverage the immense value residing in its massive amounts of data collected through decades of research and development.

More than 2,800 innovators across multiple laboratories could not fully harness the potential of hundreds of thousands of formulas and millions of experiment outcomes. Thus, Adhesive Technologies identified the need for a comprehensive platform to aggregate and manage precise, uniform information, globally accessible to enhance operational efficiency, expedite time-to-market, foster collaboration among scientists, elevate job satisfaction, and harness machine learning capabilities.

R&D: Connecting the Dots

To increase the efficiency and future-readiness of its innovation processes Adhesive Technologies was looking for a solution to connect the different dots and to close the existing gaps of information sharing. Until then, the R&D teams used different solutions for data storage around the globe — including local spreadsheets, hard drives, electronic lab notebooks, and paper lab notebooks. With the introduction of a centralized digital system for managing raw material characteristics, formulations, inventory, and task sharing, the business unit aimed to improve several areas:

01. Efficiency Gains
Enabling innovators to access all data and information within one single platform instead of using localized systems around the world would save precious time, avoid double efforts and increase the speed of the innovation processes.

02. Machine Learning Opportunities
Leveraging artificial intelligence as a future driver for innovation, which would require clean, harmonized, structured data.

03. Driving Sustainability
Responding to increased customer expectations for transparency of sustainability data to underline Henkel´s ambition as a leader in sustainability would require a comprehensive platform for setting realistic objectives and measuring progress.

04. Attracting and Retaining Talent
Facilitating state-of-the-art technology to respond to a "digital-first" approach of today`s university graduates would be necessary to attract and keep the brightest talent.

> "Albert is fundamentally changing the way we collect, share and leverage innovation data across the organization."
>
> **Michael Todd**
> Head of Global Innovation

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The Transformation Timeline

"With Albert, we're developing new products faster than ever before. I could never go back to using paper and Excel again."

Stefan Hinote
Chemist

Lighthouse Pilot

Henkel deployed Albert's end-to-end R&D platform in multiple phases, starting with a "lighthouse" pilot in the Mobility & Electronics business area with approx. 40 employees across three locations. This phase involved critical change management, and Albert's engineers actively addressed feedback during this period, improving the platform daily. This pilot phase highlighted Albert's capabilities over other digital R&D systems Henkel evaluated in tandem, and allowed the teams to identify potential challenges to be addressed prior to further scaling.

Expanding Reach and COVID-19 Impact

Shortly after the initial pilot, Henkel expanded its deployment of Albert into a second area. A few months later, the outbreak of COVID-19 impacted Henkel's labs globally and required reduced on-site workforce with scientists and administrative personnel partly to work from home. The business areas already using Albert maintained high levels of productivity even while partly working remotely by sending tasks to Henkel lab locations across the world right from their home locations. This demonstration of effectiveness across multiple business units solidified the commitment of business leadership to pursue a global rollout.

Global Rollout Begins

Henkel initiated a global rollout, prioritizing 12 major sites across the organization and then expanding to smaller locations, starting in Europe, followed by the US and Asia. While the global rollout was in progress, Henkel also deployed Albert in its new state-of-the-art centralized Inspiration Center Düsseldorf in Germany.

Fueling Global Innovation

By April 2021, 25% of Henkel's global innovators were using Albert, and by June 2022, this number soared to 95% (2,800 users), encompassing nearly 100 smaller global sites. Since December 2022, Henkel has additionally deployed Albert to help interface seamlessly with its growing number of automated laboratories, which accept tasks from any R&D scientist across the organization.

Henkel Leverages Albert to Create their State of the Art Innovation Center

Albert's data-driven technology platform is the foundation for Henkel's global "ICD" Innovation Center with 34 laboratories and more than 650 scientists.

"Data-driven technologies are transforming R&D — our Inspiration Center is a powerful demonstration of this in action. The team in the new facility uses advanced digital tools and processes to improve knowledge sharing, increase efficiency and promote open dialog. This includes Albert, our cloud-based tool for leaner, faster and more collaborative innovation."

Henkel Spotlight Magazine

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The Impact of Global Digitalization

"Our cloud-based end-to-end data platforms have the potential to help provide better solutions to our customers while accelerating our time to market."

Mark Dorn
Executive Vice President, Henkel Adhesive Technologies

Single Source of Truth

Henkel's global data platform became the central source for all R&D data by implementing four integrated Albert modules: Inventory, Worksheet, Experiments, and Regulatory Automation. Since then, Albert has collected millions of clean and structured data points, all feeding Henkel's AI and ML engines, enabling Henkel to build efficient workflows based on data-driven innovation.

Better Collaboration

Innovators have started taking a data-centric approach to inventing. Scientists continuously improve collaboration across labs worldwide which aims to result in a seamless real-time work environment in the future. This would enable them benefiting from integrated data flow and enhanced safety and calibration through barcoded samples and equipment. Team members take fewer trips to the sample rooms, and Scientists use tablets within the lab to eliminate double data entry—further streamlining data entry and efficiency.

Global Availability

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Increased Efficiency and Speed to Market

Henkel is aiming to replace guesswork with data-informed decision-making. By leveraging a clean, structured data environment, they are looking to utilize machine learning to optimize experiment designs and formulations. This automation supports scientists in reducing administrative tasks and focusing more on their core research activities. Easy-to-read dashboards will give managers the end-to-end visibility to address bottlenecks and identify improvements.

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Key Project Success Factors

01. Think Big

Instead of stitching legacy point solutions together, Henkel implemented a scalable global data platform with end-to-end, integrated functionality. Henkel understood the importance of change management in adopting an enterprise solution and realized they would face resistance.

02. Commit

Henkel's leadership was thoroughly educated on the significance of digital transformation and becoming a data-driven organization. This approach fostered internal alignment, clarifying challenges and benchmarks for success. By identifying and empowering project champions with accountability and authority, Henkel laid a solid foundation for driving this transformative initiative.

03. Be Clear

Henkel actively communicated its digital transformation vision, consistently highlighting and promoting the digital R&D strategy across various platforms, including global town halls, regional leadership meetings, and internal podcasts featuring business leaders and the Albert team. By publishing case studies from its pilot programs, Henkel raised internal awareness and galvanized support for the upcoming change.

04. Start Small

By initially focusing on a select number of locations and foundations, Henkel laid the groundwork for a broader rollout. R&D leaders traveled to the initial pilot location to see what it meant to run a paperless laboratory and to be a data-driven company. Henkel started with inventory, providing technicians with a clean database populated with transparent information from SAP and quick access to all global raw materials, pricing data, hazard information, and equipment.

05. Celebrate Success

Henkel communicated the deployment results as they occurred and celebrated the wins along the way, increasing enterprise enthusiasm. For example, the implementation of Albert transformed how teams track their vast portfolio of raw materials across experiments. With over 50,000 raw materials used across more than 100,000 products, scientists can now instantly connect with subject matter experts with just a click of a button.

06. Be Relentless

Recognizing the complexity of change management, Henkel established a dedicated digital team within its central innovation unit. This team, with its cross-business and cross- functional composition, was instrumental in driving communication, deployment, training, and ongoing digital innovation. Additionally, Henkel formed a Center of Excellence (COE) to harmonize data methods, foster integrations, ensure data quality and support internal data science teams. This relentless focus on user feedback and business objectives helped refine the development roadmap.

04

Building the Future of Materials with AI

Addressing the impact of Albert on Henkel's Adhesive Technology business area, Henkel's Executive Vice President of Adhesive Technologies, Mark Dorn, states:

AI technologies increasingly support our processes. This is best illustrated by our cloud-based end-to-end data platform that is applied in our Adhesive Technologies research labs worldwide – and Albert is an integral part of that.

Starting with material research, calculating material costs, and creating time-saving test sequences, modern digital technologies can support our expert teams throughout the whole product development and improve the processes. During the development process, they allow our experts to share an increasing number of experiment, test, and formulation designs in real-time within their innovation

network — globally. These research results and insights can be made available to other labs around the globe. With that, the technology demonstrates the potential to avoid unnecessary duplication of work and enables a new form of cross-team and cross-border collaboration.

In fact, we are still on a journey and need to constantly improve our digital capabilities day by day. But we already see tremendous potentials and improvements that make me convinced that AI technologies such as Albert will help us to provide better solutions to our customers while at the same time reducing time-to-market.

To learn more, visit www.albertinvent.com or contact:

Albert Invent

www.albertinvent.com/contact

Henkel AG & Co. KGaA

www.henkel-northamerica.com/contact-us

"I have been working in research and development teams at Henkel for almost 20 years — and Albert is something that's really game-changing... My day-to-day working environment has been transformed, and there's still huge potential for Albert to make our processes even leaner, faster, and more collaborative."

Darragh Fitzpatrick,
Lab Manager and Innovation
Leader for 3D Printing in Dublin