

valantic



Project and Production Planning at Herrenknecht

How Herrenknecht Reliably Plans Complex Projects with waySuite





The Challenge

Coordinating a large number of complex projects, large-scale assemblies, and international supply chains with precision is part of everyday business at Herrenknecht AG. The global market leader in tunnel boring machines, based in Schwanau-Allmannsweiler, partnered with valantic to implement [waySuite](#), an advanced planning solution that seamlessly links projects, capacities, and material flows across the entire process. The goal: greater visibility and the ability to detect bottlenecks at an early stage.

Herrenknecht AG: A World Market Leader in Tunneling

Herrenknecht AG is the world's leading manufacturer of tunnel boring machines. Founded in 1977 and based in Schwanau-Allmannsweier in southern Baden, the company is known for record-breaking tunnel projects such as the Gotthard Base Tunnel and has been involved in numerous subway systems around the world. Its experts in mechanized tunneling technology can handle a wide variety of rock and soil conditions.

Around 2,400 employees work at the Schwanau and Kehl sites, and around 5,500 worldwide. The component factory plays an important role in the production of the tunnel boring machines. Among other things, it manufactures the rock-specific cutting tools for the cutterheads of various tunnel boring machines. When support and further development for the existing production control system came to an end, a new solution was needed, and waySuite was introduced.

www.herrenknecht.com



Project Results at a Glance



Transparent basis for decision-making

Cross-project planning data now provides a clear view of utilization, capacities, and material availability. This enables faster, better-informed decisions.



More stable planning and higher delivery reliability

Using scenario-based simulations, Herrenknecht identifies early on which projects need additional capacity or where schedule risks are emerging. This reduces time and inventory buffers and increases delivery reliability for customers.



Efficient and transparent processes

Synchronized subprocesses and a cross-project basis for decision-making result in clear, efficient workflows.



Increased productivity

Graphical visualizations and automated processes minimize planning effort and increase productivity.



Future-ready organization

The project supported the development of a process-oriented SCM organization.



The Starting Point

The foreseeable end of support for the specialized planning tool used in the component factory, the area responsible for in-house manufacturing of the tunnel boring machines, was to be used as a strategic opportunity. The team led by Tobias Seibert, Head of Production Steering at Herrenknecht, wanted to not merely create a replacement but to implement a future-proof, holistic solution for the entire plant.

The goal was clearly defined: an end-to-end planning system that meaningfully extends the existing functionality while also creating transparency in planning. The focus was particularly on a transparent material view for even more forward-looking planning, and on integrating capacity views so that utilization could be managed reliably with system support. Herrenknecht was looking for a production control system that would offer long-term stability while leaving room for future enhancements.

Specific Challenges

A Balancing Act Between Standard and Custom Builds

Planning at Herrenknecht is enormously complex because of the variety of tunnel boring machines and project types. The company constantly balances two different worlds:

Utility Tunnelling: Characterized by high production rates and a high degree of standardization, shorter lead times, tight chains of interdependent deadlines, and standardized projects with shorter durations.

Traffic Tunnelling: Defined by project durations ranging from several months to several years, extensive engineering work, and the frequent need to respond flexibly to more far-reaching replanning. Nearly all machines are considered custom builds.

The Decision: Why waySuite Won Them Over



In the evaluation of various planning systems, waySuite came out clearly ahead thanks to its transparency and flexibility. Instead of a “black box,” waySuite offers a real-time simulation component and a seamless standard SAP interface. Together, these ensure perfect alignment with the ERP system of record.

The [APS software waySuite](#) was introduced in 2023, including the module for [project management](#) and personnel capacity planning ([workforce management](#)). Workforce scheduling is essential for the targeted deployment of highly specialized teams such as welders. The following year, an MES component for shop floor data collection was added. At the beginning of 2026, valantic’s experts implemented a customized internal cloud platform to optimize communication between the project and management levels via dashboards.

Tobias Seibert

Head of Production Steering,
Herrenknecht AG



“With valantic’s waySuite, we have a holistic planning and production control solution that gives us transparency into our capacity situation and utilization. Together with valantic, we have succeeded in optimally adapting the software and our planning processes to our specific challenges.”

Background: The Next Challenge – Space Planning

With several large-scale projects being manufactured in parallel, space allocation on the plant premises is one of the major challenges, because space requirements depend heavily on the progress of each assembly and project. Space planning therefore repeatedly becomes the limiting factor. Even internal transports within the plant are demanding because of the large components. The necessary crane

and transport capacities must be scheduled, and coordinating manufacturing, warehousing, and assembly takes considerable effort. The follow-up project for valantic and Herrenknecht is therefore the development of space planning in waySuite for initial assembly at the plant, as well as the planning of transports to final assembly at the project site.

The Solution

Integrated Project, Capacity, and Production Planning

Herrenknecht continuously manages a large number of projects in parallel, which differ in priority, country, customer requirements, and technical specifications. The individual planning decisions affect one another. waySuite can simulate precisely these interdependencies, creating a sound basis for decision-making.

waySuite makes the complexity of material availability manageable.

In particular, waySuite makes the complexity of material availability manageable. Planning must take into account highly complex material groups, some of them with long lead times, in the areas of steel structures, drives, hydraulics, and electrical systems. These material groups often depend on

global supply chains. Because of the many individual parts and assemblies and the long delivery times, schedule changes and bottlenecks have a direct impact on production planning. One concrete example of the transparency gained is the access time for material data: while loading the material overview in SAP takes several minutes, the same information is available in waySuite within seconds. This allows planners to respond much faster.

At Herrenknecht, project planning and assembly planning are seamlessly interlinked.

The first step is holistic planning, including critical path analysis and overarching scheduling of the main networks and subnetworks. In detailed scheduling, the actual requirement dates are mapped and a realistic load overview is created.

Transparency into the capacity situation

Transparency into the capacity situation and utilization makes it possible, during regular planning meetings, to address the capacity requirements of each work center in a targeted way based on the current schedule. The goal is higher productivity through balanced utilization and a clearly defined work queue. The material overview in waySuite provides transparency at all times into the assemblies and their current assembly status.



Highlight: Automatic Optimization

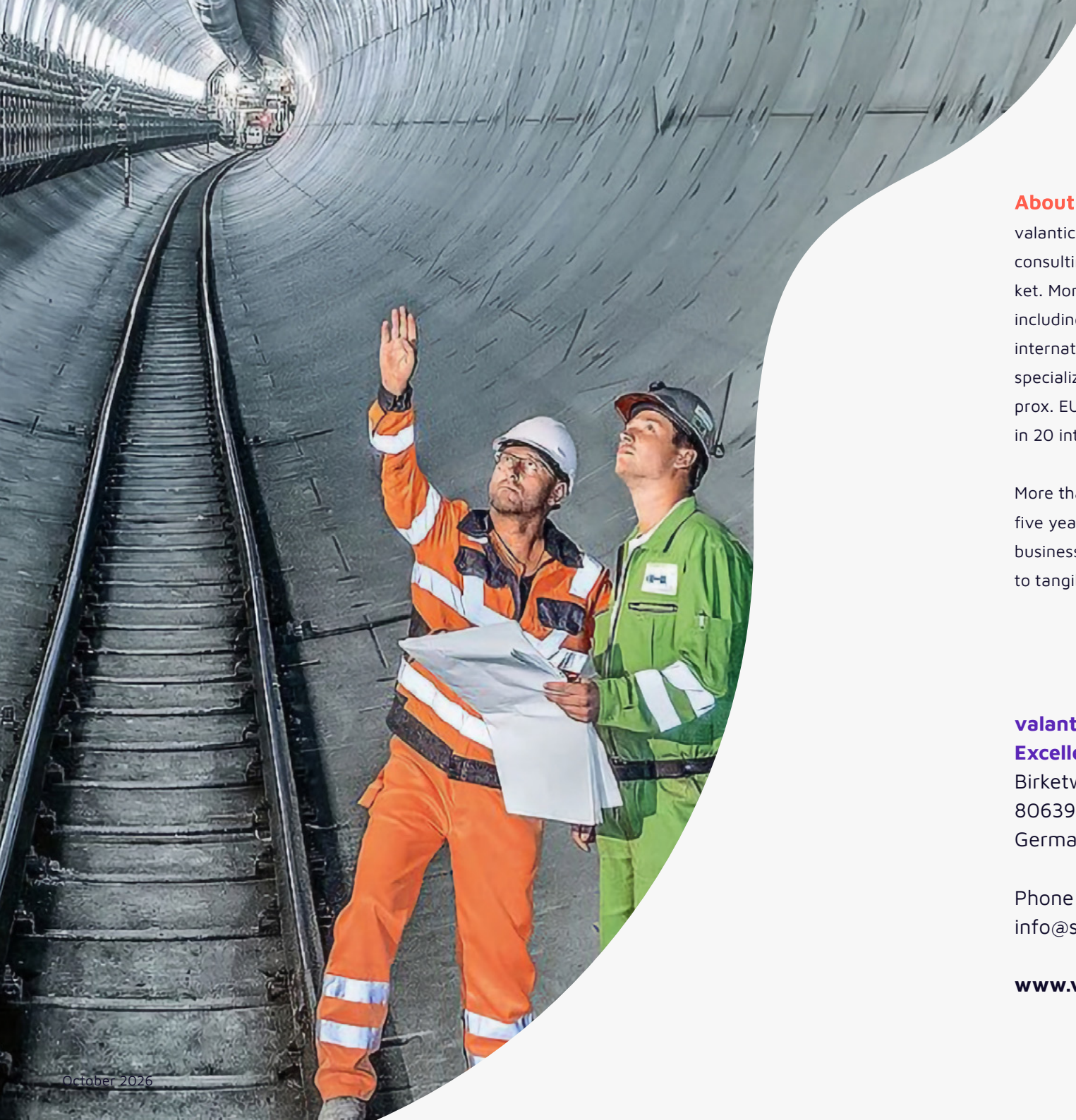
waySuite's optimization function runs every night for defined areas of production and automatically writes the optimization results back to the systems. The basis for this is around 1,000 supply chain and transaction data records, as well as the automatic optimization of approximately 100 work centers. From this data, the software's MES function generates a "supervisor's list" of clearly prioritized orders for production. This gives those responsible an up-to-date, transparent overview of the next steps in production every day.



Dominik Fischbacher

Project Manager,
valantic

"With its comprehensive use of the entire waySuite, from APS, project planning, and workforce scheduling to MES, dashboards, and custom extensions, Herrenknecht is a prime example of supply chain excellence. Given the size and complexity of the projects the company takes on, this shows very clearly the benefits of an end-to-end, continuously updated planning picture that is transparent to all relevant departments."



About valantic

valantic is one of the fastest growing digital solutions, consulting, and software companies on the market. More than 500 blue chip clients rely on valantic, including 33 of 40 DAX companies and many leading international companies as well. With more than 4,300 specialized digitalization experts and net sales of approx. EUR 650 million in 2026(e), valantic is represented in 20 international locations around the globe.

More than 2,000 digitalization projects over the past five years have shown that valantic understands the business challenges of its customers. From strategy to tangible implementation, they have the necessary

expertise to accompany projects from start to finish and make them successful. In this, valantic combines technological expertise with industry knowledge and the human touch.

valantic consults companies on all challenges of digital transformation, helps them to better manage their corporate performance and leverage the potential of data and artificial intelligence. In addition, valantic supports its customers in optimally shaping the customer experience, profitably using core digitalization technologies and optimizing company processes from end to end.

valantic Supply Chain Excellence GmbH

Birketweg 21
80639 Munich
Germany

Phone +49 89 578399-0
info@sce.valantic.com

www.valantic.com/en/waysuite

valantic