



INNOVATION

ENGINEERING

OPTIMIZATION

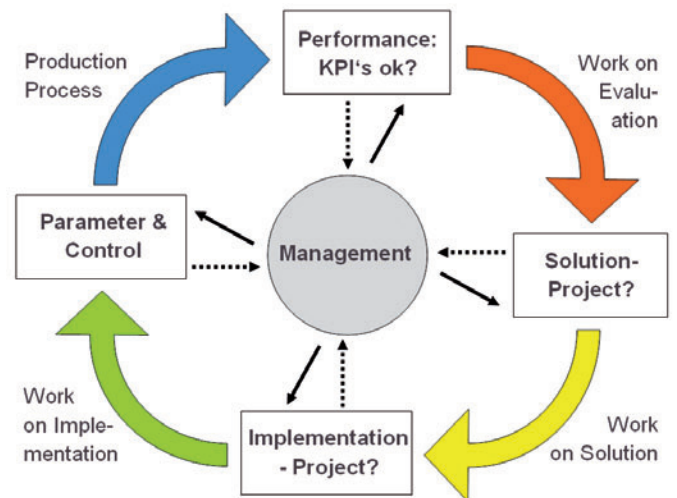
Operational Excellence

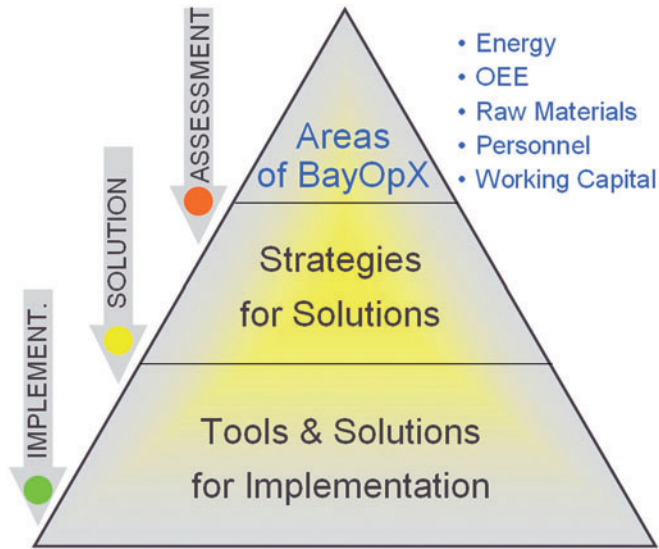


The Operational Excellence program brings customer needs, process knowledge and methodology to the forefront. It includes facets of energy, raw materials, plant efficiency, current assets and human resources, and is based on the key competencies of Bayer Technology Services. Our approach combines consultancy competence with technological expertise and proven hardware and software tools. The program's foundation is a stringent methodology based loosely on Six-Sigma, yet it also allows for flexibility. We work closely with customers to develop solutions and on behalf of our customers deliver concepts for increasing the availability of plants and apparatus, for utilizing energy and raw materials more efficiently and for guaranteeing product specifications. Integrated production management today means monitoring the entire life cycle of a plant. The success of our BayOpX® approach is based not only on the continuous collection of process and apparatus data, but also on the methodology employed to incorporate operator expertise and put it into practice. The integration and analysis of all data enable us to develop process-specific key performance indicators (KPI) in cooperation with our customers. BayOpX® is an integrated program for reducing costs and sustainably adding value in production processes and production networks.

Sustainable cost reduction by efficient use of energy and raw materials:

Optimization potential within complex production networks can be found not only in higher utilization of capacity and improved integration of all plant sections, but also in a significant reduction of the specific energy consumption. To identify and quantify this optimization potential, Bayer Technology Services has developed the „Bayer Climate Check“. We use this tool to analyze plants and production processes with respect to their climate-relevant CO₂ emissions and their energy use. We then derive effective reduction measures from the results. These measures can range from simple operational improvements in production to the complex routing of heat flows to optimizations in power generation. To ensure that these gains are sustained, Bayer Technology Services offers powerful tools for daily performance monitoring, process diagnostics and operator support.





High availability and optimized performance:

With the help of our plant asset management tools, we have developed maintenance strategies for complex production facilities that sustainably improve the availability of all plant sections. Innovative risk-based inspection methods are used to extend inspection cycles and significantly reduce downtimes. Our risk-based asset management ensures a continuous availability of all energies. We poured our practical expertise into the development of the powerful KBIS software: a customer-friendly solution with numerous additional features that successfully closes the gap between risk-based inspection and daily inspection management.

Top efficiency and assured quality:

One of the main aims of our Operational Excellence program is to use raw materials as efficiently as possible while ensuring consistently high quality. We use proven and innovative production technologies such as microtechnology to intensify chemical-pharmaceutical processes and ensure the best possible utilization of raw materials in complex production facilities. Our particular expertise lies in the efficient – i. e. precise and cost-effective – performance of chemical reactions and process steps. Sustainable gains in plant performance and product quality can be achieved with the support of our innovative process management methods, such as online analytics with BaychroMAT® and SpectroBAY®. We can convert process expertise into a clear cost advantage.

Supply chain optimization for more liquidity:

The optimization of working capital with an eye on the overall process is another step on the way to improve operational excellence. Our many years of experience with work flow optimization and solving supply chain challenges in complex production processes is also reflected in our special software tools. Our BayAPS® software, for example, generates delivery reliability by means of flexible inventory management in which lot sizes and safety stocks are optimized in accordance with service level requirements. This enables need-based production planning and reduces current assets. We complement this approach with concepts for the optimization of complex supply chain networks to minimize global production and distribution costs without compromising flexibility or supply readiness. The final result is your enhanced competitiveness.

High performance through organization and integration:

Complex production processes are challenges for personnel and communication processes. The ability to organize, select and efficiently integrate the wide variety of production data for use by the employees is another particular competence of Bayer Technology Services. We offer proven and powerful software tools for the visualization of process data (PerMonDO®), which we tailor to your specific production situation to achieve effective performance and change management in near time. Our experience with the use of training simulators also pays off quickly for you. Your employees will be trained efficiently and learn how best to manage plant conditions with respect to safety and quality. Startup and shutdown procedures can be shortened appreciably with training on our plant simulators, which sustainably supports change processes in employee behavior. We implement a culture of efficiency.

