



## **Insight in our competencies**

State-of-the-art logistical and production solutions form the basis upon which we provide customized factory and warehouse planning. Depending on the assignment, we prepare for you ideal locational, plant structure and building concepts, as well as models for their use. We also assist you in the selection of technology and its practical implementation. Upon customer request, we also accept the role of general planning, including building planning and all architectural services. High-performance IT applications for planning, control and warehouse management are essential parts of the consultancy services we provide within the framework of factory or warehouse planning. These applications are likely to become even more important as Industry 4.0 and digitisation progress.

## **Insight in current topics**

### **Highly automated shuttle warehouse for efficient production supply**

A range of automated solutions are available to ensure outstanding warehouse and order picking performances. There are all kinds of manual racking systems, classic automatic small parts warehouses and shuttle warehouses, each of which has particular benefits within certain application scenarios. Not only will modern shuttle technology handle storage and removal processes, it will also manage transports to the necessary destinations within manufacturing and assembly. Our proprietary solutions, developed in several projects across various industries and application cases, provide essential advantages. For instance, there is no handling stage between order picking in transport, hence leading to a reduction in logistical costs. The shuttle vehicles also manage on-transport of semi-finished products or the storage of finished products.

## **Adaptation of production strategies during factory expansion**

The economy is currently healthy, so there is a boom in factory expansions to accommodate volume growth and product diversification. They are mainly intended to create additional capacities for machinery, production and associated logistics as quickly as possible. Nevertheless, very few of them use the opportunity to optimise production strategies and the principles of manufacturing control at the same time. For instance, the benefits of material flow-oriented machinery segmentation, the introduction of pull-control systems and the adaptation of master data and scheduling principles can be implemented far better and with greater efficiency during construction of a new factory. When requested to do so by our clients, we integrate these issues as part of factory planning projects and hence create synergy for the achievement of operational excellence in the new facility.

## **From improving efficiency to the sustainable optimisation of factory logistics**

Efficiency improvement projects are recognised methods of achieving cost targets and creating urgently required capacity for new products and volume growth. The numerous factories maintained by western European companies in eastern Europe are perfect examples of this kind of project. Rapid growth and the scarcity of human resources often bring companies to the limits of their capacities, exhausting any cost benefits that previously existed. In these cases they frequently initiate reorganisation projects to achieve short-term alleviation, but usually without any lasting effects. At this point it is high time to establish sustainably optimised factory structures at these seemingly low-cost locations. Measures may include the relocation of production units during layout optimisation, reorganisation of material flows in the facilities and on the company grounds, as well as the introduction of automation technology. A variety of external warehouses and satellite locations should be consolidated and grouped around a central location through appropriate investment in warehouse/transport technology and factory structures. It goes without saying that this process must adhere to lean production principles and introduce highly automated Logistics 4.0 solutions.

## **Competencies of ebp-consulting**

### **A selection**

Whether it's for restructuring and planning or expansion of factories, production facilities or warehouses – we analyse and assess all aspects to identify optimisation potential, feasibility, efficiency and viability. By doing so, we ensure you have the necessary leeway for smooth and sustainably economic business development.

#### **1. Location concept and general development**

- Location analysis and selection
- General development planning
- Optimisation and planning of the plant structure
- Definition of the building structure

## 2. Factory structure and material flow

- Planning of the factory structure
- Development of a land usage concept
- Layout planning
- Development of a building usage concept
- Overall material flow concept, transport infrastructure planning
- Optimisation of the production control strategy and deduction of its influences on the material flow and factory structure
- Machine assembly planning
- Fit-out planning
- Derivation of requirements for implementation of the structure and building engineering

## 3. Warehouse planning

- Planning of the warehouse and logistics centre processes and structures
- Identification of purposeful degrees of automation
- Definition and design of warehouse, order picking and handling technology, for instance in automated small parts, high-bay and shuttle warehouses
- Conducting of warehouse simulations
- Selection and tendering of warehouse technology
- Definition of order picking principles, e.g. pick-by-light or pick-by-voice
- Implementation planning and support
- Support during commissioning
- Definition of requirements for warehouse management and control systems (WMS such as SAP-WM, -EWM) and implementation of necessary modifications
- Warehouse productivity enhancements, e.g. reduction in throughput times and increase in the performance indicator “picks per hour”
- Optimisation of replenishment concepts and days of inventory
- Implementation of ABC/XYZ analyses

## 4. Architectural services

- Summarisation of requirements in construction specifications
- Building planning in all phases, with due consideration of urban planning and functional aspects
- Coordination of fire protection concepts
- Support during the approvals management and contact with authorities
- Consideration of ecological aspects (blue factory)

### Contact us:

---

#### **ebp-consulting GmbH**

Handwerkstrasse 29

70565 Stuttgart

Phone: 0711/3917030

@Mail: [info@ebp-consulting.de](mailto:info@ebp-consulting.de)