

3D-view of a container terminal

EFFICIENT LOGISTICS SYSTEMS PLANNING WITH VISUALIZATION AND OPTIMIZATION

Your Challenge

Decisions about systems determine high investment and commitment to selected alternatives. They define the economic potential that can be achieved in daily operation. The complex task of planning of logistics systems means selection and spatial arrangement of technical systems, areas for transshipment and storage as well as developing a strategy of operation. Aspects like existing property shapes, expansion options, various technologies, capacity forecasts and operational concepts allow for a variety of possible planning alternatives. Moreover, differing stakeholder groups participate in planning projects. Regardless of this complexity, flexible, well dimensioned, economically viable, sustainable and environmentally friendly solutions have to be found in a short time.

Our Services

We support you from the definition of your requirements and the development of alternatives until the final decision about the system. We accompany your process of system planning with our expertise in planning using our innovative planning tools. Your advantages are:

- Complete set of requirements for the planning project
- Accelerated planning procedures due to prefabricated building blocks for planning
- Efficient systems design due to mathematical optimization methods
- Validated system by simulation
- Early involvement of all stakeholders due to comprehensive visualization



Planning team at the CML



Visualization of a terminal

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IMPRESSUM



Visualization on planning table...



...and whiteboard simultaneously

Project procedures in planning of logistics systems

We consider planning of port and logistics systems as cross-functional planning of system and layout of complex infrastructure and superstructure. Our planning approach can be illustrated in five stages (see figure on the right).

1. Define aims and requirements

Adjusted to your requirements we prepare a detailed set of requirements and define target levels for system planning based on current data, forecasts as well as superior project aims.

2. Plan layout and operational modes

We elaborate virtual alternatives of layouts and operational modes of your port and logistics system based on requirements and aims. We analyze all alternatives systematically regarding e. g. logistics performance indicators and spatial requirements.

3. Determine equipment and staff requirements

Subsequently, we calculate the number of required personnel and equipment of all alternatives.

4. Run simulations and optimization

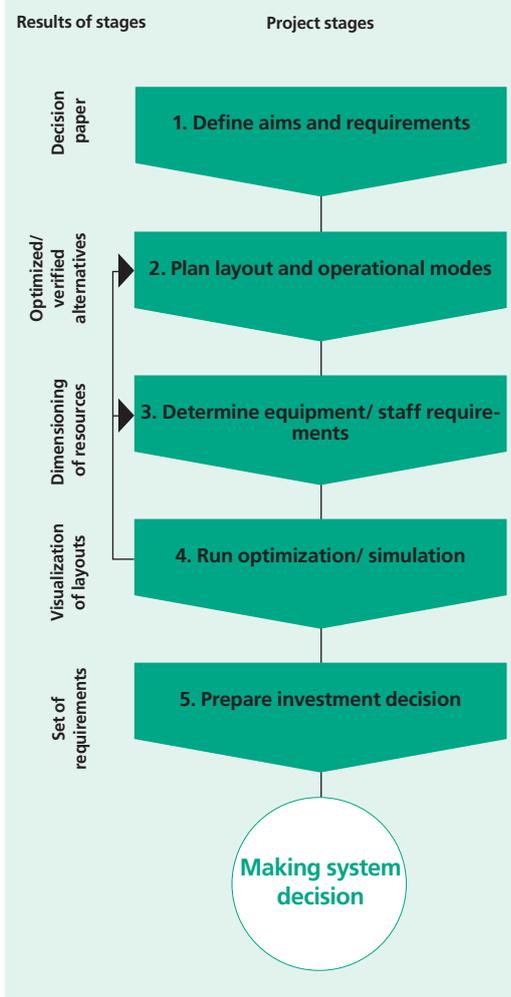
To assess alternatives, we use simulation methods and mathematical optimization. Thus, the arrangement of functional areas, technical systems as well as their logistics performance can be improved. Savings potential can be e. g. to reduce the transportation effort and to optimize the number of equipment and personnel. For validation and visualization of preferred alternatives, we apply real time 3D-simulation.

5. Prepare investment decision

In order to enable you to make a decision based on facts, we concisely provide all relevant data, information and models of preferred alternatives.

Visualized data, developed 2D- and 3D-models as well as 3D-simulations qualify all persons involved to participate comprehensively and efficiently in preparing your systems decisions.

Illustration of five stages of logistics systems planning with results of stages



Our expertise

Our planning team supports you in potential analysis and optimization of your logistics processes and systems. We use our own high-performance computers and newest software systems. We can efficiently and effectively apply our industry specific know how and our broad, manufacturer-independent expertise in technology for your planning challenge due to specifically developed, visually supporting planning tools.