

# LIEBHERR



*Liebherr-Werk Ehingen GmbH uses SimulationX during the pre-development of mobile cranes and crawler cranes*

The Liebherr Group is one of the largest manufacturers of heavy machinery and also produces highly sophisticated machine tools, aircraft parts, machinery components and home appliances. With over 38,000 employees across all continents, Liebherr ensures they meet highest quality standards around the world.

The 2,800 employees at Liebherr-Werk Ehingen focus on maintaining a leading position in the field of mobile cranes. The portfolio comprises truck and crawler mounted telescope and lattice boom cranes. The growing trend of ever-lighter designs and shorter development cycles requires the use of simulation tools.



*»SimulationX enables comprehensive simulations of a crane's dynamic behavior including the Diesel engine, controllers, hydraulic systems, the hoist, pulleys, the bearing structure and the load.«*

Dipl.-Ing. Helmut Späth, Group Leader Simulation,  
Liebherr-Werk Ehingen GmbH, Germany

## Challenge

### Optimizing the dynamics

Before the first physical prototype is even made, it is vital to have an idea of the crane's dynamic behavior in order to minimize test efforts and the number of modifications for a more efficient optimization of the prototype.

## Solution

### Simulating the entire crane

All crane components can be modeled as part of a machine model in SimulationX which allows simulated scenarios for various operator inputs. Such a model is an excellent basis for testing a series of parameters quickly and easily.

## Benefits

### Comprehensive evaluations

Simulating the entire crane with bearing structure and drive systems permits early predictions about the system behavior. This helps to optimize the development process and confirms the chosen configuration.