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Ingenuity for life



# SIMOCRANE Basic Technology

Innovating basic motion control  
for reliable crane performance

[siemens.com/cranes](https://www.siemens.com/cranes)

## Flexibility to ensure better results

Siemens sustains 90 years of world wide experience in a ready to run crane control solution which contains configurable standard function modules. These modules are integrated within a SIMOTION D controller: the most performant motion controller available on the market. With SIMOCRANE we provide "off the shelf" proven technology to secure reliable crane performance, simple engineering and fast commissioning. Besides all the proven crane control solutions in SIMOCRANE you still have the flexibility to customize the solution to meet your requirements.

SIMOCRANE Basic Technology is a system comprising hardware and software packages to automate cranes. This supports you in obtaining the maximum performance from your crane application. The Basic Technology covers special motion control of all main drives such as hoisting, gantry, trolley, slewing, luffing, boomhoist as well as holding and closing gear of a crane.

## One modular solution for all types of cranes

The features integrated in the new platform lie in getting the best productivity, flexibility and availability against lowest lifecycle cost and energy consumption out of each crane application. Based on this principle, all functions that have proven themselves in practice are also incorporated in the new SIMOCRANE Basic Technology. The latest requirements have also been taken to improve the solution.



SIMOTION D is the compact, drive-based version of SIMOTION. Powerful thanks to a range of technology functions.

# High-performance modular scalable applications for all types of crane

## New solution features:

- New closed-loop control concept for synchronous operation and positioning with a time-optimized position controller,
- Ability of adapting to customer-specific requirements, i.e. a package that permits:
  - “Ready-to-Run” – the solution only has to be parameterized – as well as
  - “Ready-to-Apply” – can be adapted by the user
- The SIMOTION D motion control system is the technological basis, not only for Basic Technology, but also for Advanced Technology, like Sway Control
- A web based commissioning and diagnostic tool. SIMOCRANE WebStart provides the customer a highlight of usability for this solution

## Application area

The SIMOCRANE Basic Technology has a modular software design. The application solution can be used for various crane types. In areas including:

- Harbor cranes
  - Ship to shore cranes
  - Rail mounted gantry cranes
  - Grab ship unloading cranes
- High and medium performance industrial cranes with a specific crane technology, like coil-cranes, gantry cranes and slipway cranes

## Design of the axis group

Configuration of an axis group with SIMOTION D435-2 is designed with:

- A SIMOTION D435-2 control unit, designed for the open-loop and closed-loop control of a multi-axis drive group
- A SIMOTION CX32-2 Controller Extension for more than 6 axes
- Several SINAMICS S120 Motor Modules (power units)
- Several SINAMICS DC Master axes
- Additional drive components such as power supply, filter, reactor, etc.
- The connection between SIMOTION D435-2 and the SINAMICS S120 Motor Modules is realized using DRIVE-CLiQ, guaranteeing axis redundancy
- The connection between SIMOTION D435-2 and the SINAMICS DC Master is realized using PROFINET IRT for data processing in exact clocked cycle
- A CU320-2 control unit for the open-loop and closed-loop control of the infeeds connected in parallel (up to a maximum of 4 Line Modules)
- The infeed unit is separately controlled by a SIMATIC S7 PLC

## Basic software for SIMOCRANE products

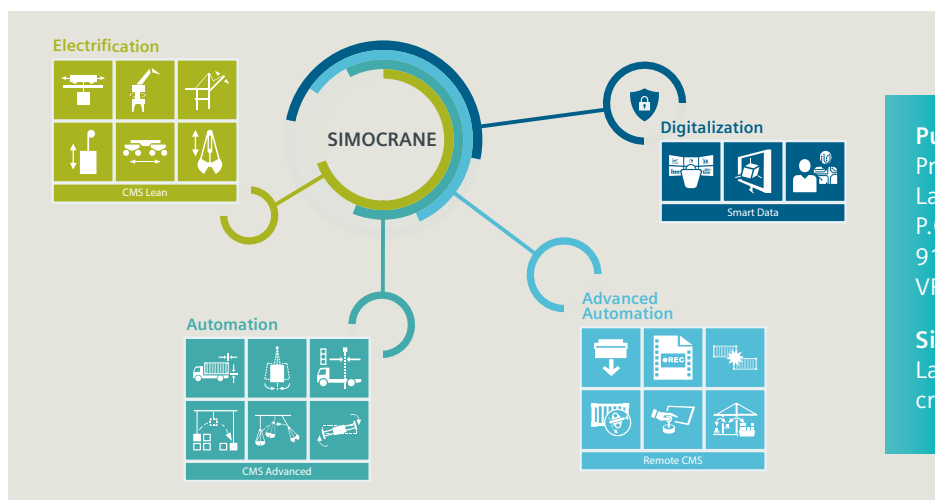
The SIMOCRANE Basic Technology package provides not only the basic functionality of SIMOTION for motion control and its standard libraries, but also the Crane Basic Technology package with two libraries. Beyond this, the package also includes many complete standard applications for different crane types.

## Benefits to use SIMOCRANE Basic Technology:

- Standard applications significantly reduce the engineering time.
- Simple adaptation and expansion to address specific customer requirements
- One platform for all crane technologies allows various advanced crane technologies to be added.
- Web based Tool-SIMOCRANE WebStart.

## Great results:

- Interfaces will be reduced by using SIMOTION D
- Engineering and commissioning costs optimized
- Simple and easy through standardization



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