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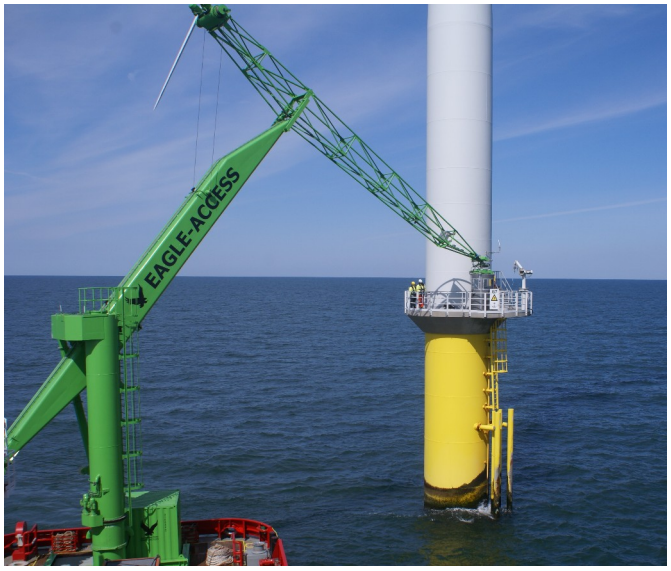
Eagle-Acesss Training Simulator

Eagle-Access

The Eagle-Access is an innovative crane for the transport of people. It is fully electric and compensates the motions of the ship. This allows passengers to be safely transported from a ship to a wind turbine. The Eagle Access is fully balanced and lightweight and uses much less energy than other transportation systems. This makes it perfectly suitable for operating on smaller ships.



Controllab has created a digital twin of the Eagle-Access, which was used for developing and testing the control software for this crane. Controllab was asked to develop the digital twin into a training simulator.

Training Simulators

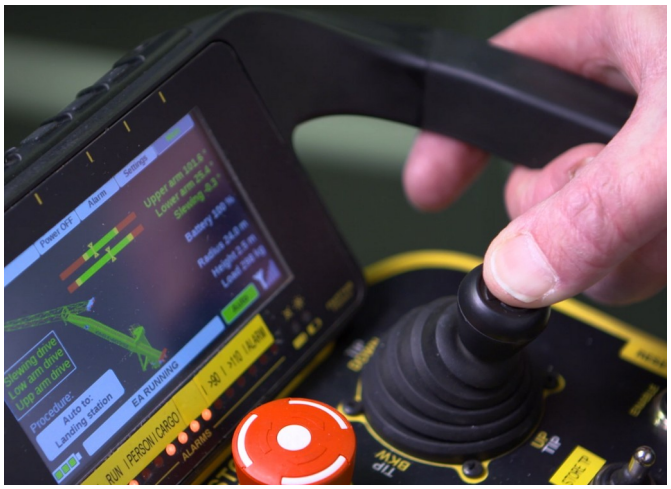
A training simulator mimics the operation of the real crane. It contains all of operator inputs (joysticks, buttons) and outputs (human machine interface) of the real crane and shows the crane as a 3D animation on a screen. With the training simulator you can train future operators how to operate the Eagle-Access.

With a training simulator you can train many scenarios with many different weather conditions in a very short time span. There is no need to travel to the ship and claim valuable operational time. And most important: on a simulator operations may fail! Any action that would damage the crane is simply repeated over and over again until the operator can run it safely.

Eagle-Acces Simulator

The basis of the training simulator is a real-time simulation model of the Eagle-Access that has been verified during the sea trials of the machine. The simulation model mimics the operation of the real machine very accurately in all conditions. The operation of this digital twin is shown as a 3D animation on 3 large TV monitors. A smaller monitor shows views of the four cameras mounted on the Eagle-Access, exactly as you see them on the real crane.

The operator stands in front of the screens. With the joysticks on the remote controller he operates the Eagle-Access. The remote controller also gives warning messages and other feedback during the operation.



The digital twin is coupled to a control PLC. It is an exact copy of the one that is running on the real Eagle-Access. The control PLC is located in the console, next to the screens. A computer monitor on top of the console shows the trainer interface. With the trainer interface, the trainer can operate start and stop the training simulator and choose the scenario he would like to train.

On a real ship there are about 8 landings on a day. On the simulator you can do 8 landings in an hour under all kinds of conditions. This would be impossible on a real ship. And most important, if you make mistakes and damage the machine, you simply restart the simulation.

About Controllab

How can you deliver machine control software on time and on budget? With Digital Twins by Controllab! Our twins will help you test your control software as if you were working on a real machine. Controllab is active in the high-tech systems and marine & offshore markets. With digital twins we help our customers to make high quality products the first-time-right.

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