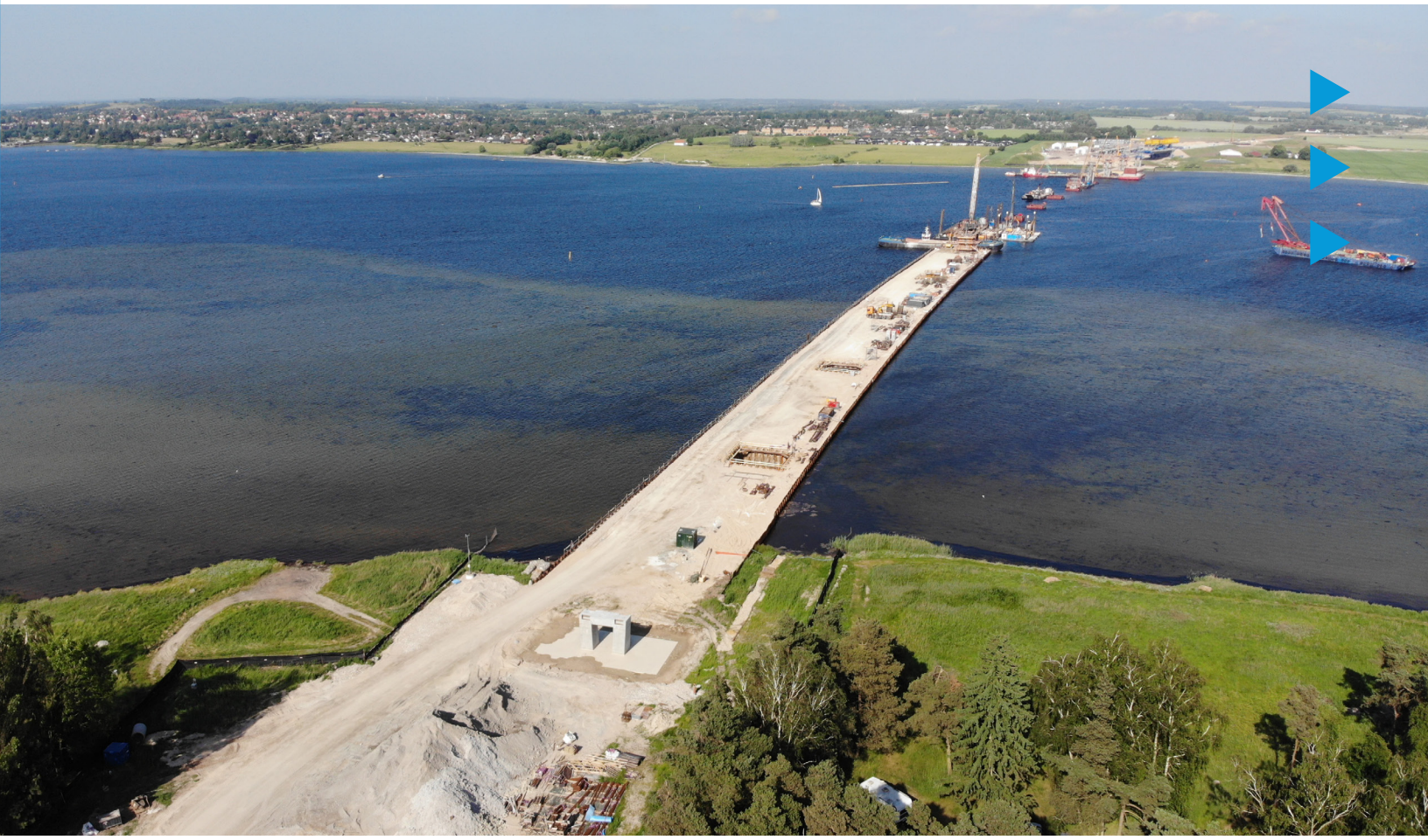
Trimble Earthworks Excavator Automatics Functionality Increases Operator Speed and Accuracy



Danish Contractor M.J. Eriksson puts Trimble Earthworks Grade Control Platform to the Test in Side-by-side Comparison

Experienced operator - 41% faster and 75% increase in accuracy with excavator automatics from Trimble.

Beginner/intermediate operator - 28% faster and 100% increase in accuracy with Trimble excavator automatics.

Solution

Trimble® Earthworks Grade Control Platform for Excavators

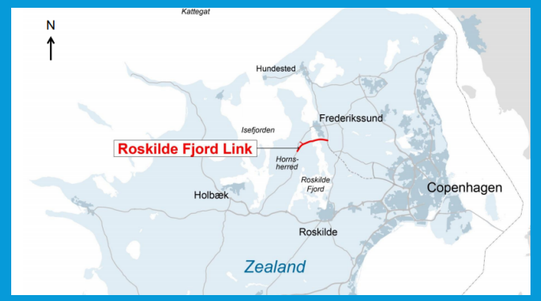
Find out more at construction.trimble.com/earthworks

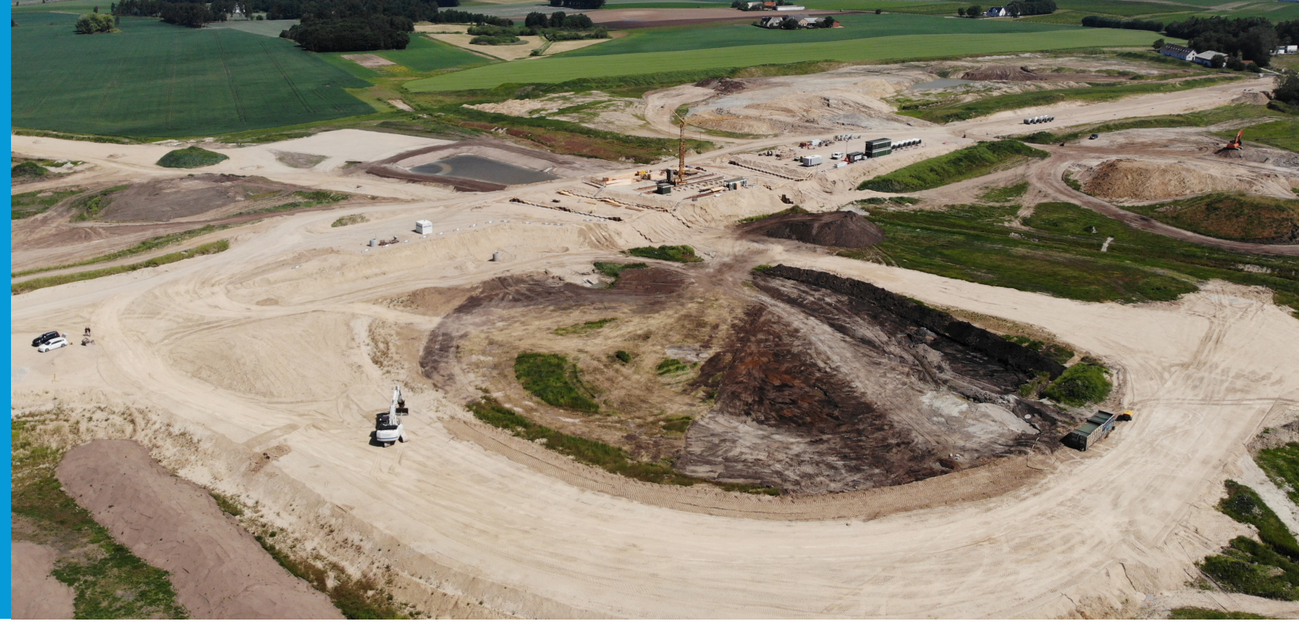
overview

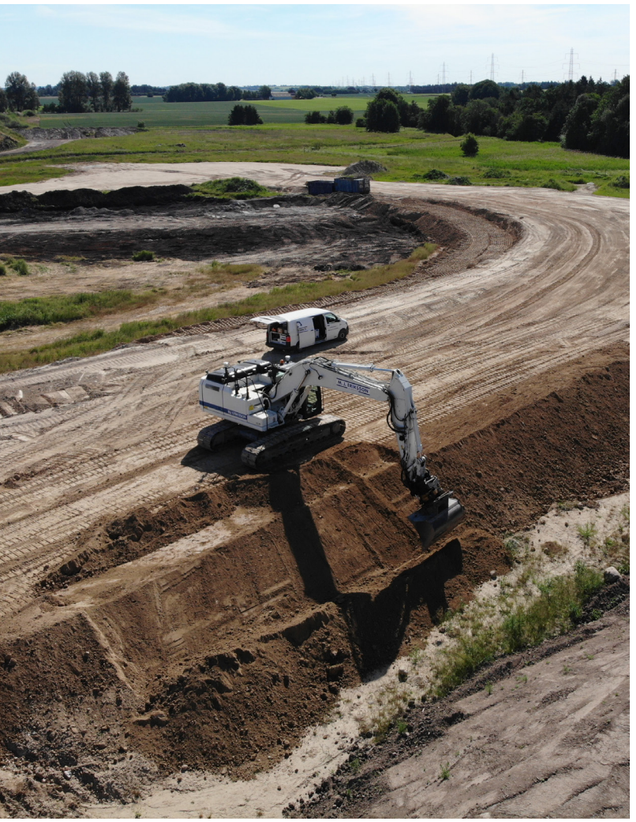
M.J. Eriksson A / S helps develop and expand Denmark through construction projects that include infrastructure, energy and supply, environment and sewage, construction and renovation, climate adaptation and much more. Founded in 1945, M.J. Eriksson has a long history and has grown into a company with over 600 employees working nationwide in Denmark.

The Roskilde Fjordlink is a 10 kilometer, dual lane highway that includes a 1.4 kilometer bridge. The project is expected to be complete in 2019, with an estimated cost of 370 million euros.

M. J. ERIKSSON A/S







Trimble® Earthworks Grade Control Platform is the industry's first integrated 3D after market grade control system with excavator automatics capabilities. The platform includes intuitive, easy-to-learn software, is extremely customizable, and allows each operator to personalize the interface to maximize productivity, regardless of his or her experience or skill level.

When the excavator is placed in "Autos" or automatics mode, the operator controls the stick, and Trimble Earthworks controls the boom and bucket to stay on grade. This essentially automates the excavator operation and allows operators to achieve grade at a very consistent rate, with high accuracy and in much less time.

TESTING SCENARIO

Danish contractor M.J. Eriksson recently tested Trimble Earthworks excavator automatics on a project constructing a new highway, including a new bridge across the Roskilde Fjord in Denmark. The team wanted to evaluate the productivity and accuracy achieved using the system by two different operators: Operator #1, who is very experienced, and Operator #2 who has beginner/intermediate excavation experience.

Both operators used Trimble Earthworks on a Cat 329 E excavator. Both were also asked to follow the design, which was to shape the side slope of the road approximately 25 meters wide, meeting a tolerance of +/- 3 centimeters. Operators worked first without using Trimble Earthworks excavator automatics, and then once with automatics activated. Crews measured 40 control points after each round using a Trimble SPS930 Universal Total Station to verify accuracy.

Operator #1 - Very experienced

Operator #1 has 17 years of experience operating different machines and heavy equipment, with 13 years of experience operating primarily excavators.

- *Following the design without automatics* - Time: 37 minutes and accuracy 43% within tolerance.
- *With Trimble automatics* - Time: 22 minutes and accuracy 74% within tolerance.

Operator #2 - Beginner/intermediate

Operator #2 works with machine control and has not been working as an operator daily. He operates machines from time to time, but he does not see himself as skilled.

- *Following the design without automatics* - Time: 43 minutes and accuracy of 38% within tolerance.
- *With Trimble automatics* - Time: 31 minutes and accuracy of 75% within tolerance.

The very experienced operator was **41% faster** and had a **75% increase in accuracy** when using Trimble automatics.

The beginner/intermediate operator was **28% faster** and had a **100% increase in accuracy** when using Trimble automatics.

RESULTS

Operators achieve improved grading productivity and accuracy - at all experience levels.

The results clearly show that both very experienced and less experienced operators benefit from using the Trimble Earthworks grade control platform with excavator automatics. While a less experienced operator can´t generally handle the machine in the same smooth way as an experienced operator, with help of Trimble Earthworks automatics new operators can complete their jobs faster, with greater accuracy and with a higher-level of confidence, saving significant time and money on the job site.

Trimble:
Transforming the Way the World Works

Trimble provides the tools and support to let you integrate planning, design, site positioning, machine control and asset management information throughout the construction life cycle for more efficient operations and higher profits. Contact Trimble or your local dealer today to learn how easy it is to utilize technology that makes significant improvements in project workflow, dramatically increases your production, improves your accuracy and lowers your operating costs.

YOUR SITECH® CIVIL CONSTRUCTION TECHNOLOGY PROVIDER

Trimble Civil Engineering and Construction
10368 Westmoor Drive
Westminster, Colorado 80021 USA
800-361-1249 (Toll Free)
+1-937-245-5154 Phone
construction_news@trimble.com

© 2018, Trimble Navigation Limited. All rights reserved. Trimble and the Globe & Triangle, and SITECH are trademarks of Trimble Navigation Limited, registered in the United States and other countries. All other trademarks are the property of their respective owners. PN 022482-4019 (08/18)