James Fisher and Sons plc
Marine Services Worldwide

James Fisher
Prolec

Case study

Motorway construction

GP Papenburg

Scope of work

Major construction company GP Papenburg used Prolec's 3D excavator guidance system, Digmaster Pro, in the construction of the new German Autoroute A20.

Digmaster Pro was chosen by GP Papenburg to enhance the productivity of their excavators in earthmoving and road construction. A major reason for choosing Digmaster Prowas the intuitive graphical user interface (GUI) which, with its icon driven menu, enabled the operator to fully utilise the system, achieving optimum productivity from the first day of installation.

With the ability to upload the multi layered digital terrain map (DTM) into the on-board Digmaster Pro computer, stakeout work was reduced to a minimum. The efficiency of the job was enhanced further by the number of visual indicators that the operator was able to use. In this project GP Papenburg utilised the LED bar, auto zoom feature, on-screen grade indicator and rainbow bucket. The operator was also able to choose a variety of screen views including profile, plan and full 3D.

The client chose AS8 marine grade sensors to enable them to use the system for dredging work if required. Key purchasing factors for the client was the ability to switch easily between 2D and 3D modes, as well being able to use a 3rd party RTK GPS solution.

The results from using this machine were impressive, GP Papenburg was able to cut precise contours and slopes in a fraction of the time. The machine operators were particularly impressed with the level of accuracy they could achieve, eliminating the need for re-excavation and grade checking. Plus, operators were now able to grade check from inside the cab, saving GP Papenburg time and labour whilst removing the safety risks involved with site surveying.

Since purchasing their original Digmaster Pro, GP Papenburg has purchased two additional systems.

Benefits delivered

- Digmaster Pro records work progress against the design plan
- Optimum productivity from the day of installation
- Real time progress map
- 'As built' design output
- Compatibility with all major GNSS solutions
- Eliminates over excavation and re-work
- Reduced fuel costs
- Improved safety - grade checkers were no longer required to be near machines
- Improved labour utilisation
- Ensured all of their operators, regardless of their experience, achieved high quality results, quickly and efficiently
- Ability to switch between 2D and 3D modes

Equipment provided

- Digmaster Pro 3D guidance software
- The AS8 angle sensor utilises advanced optical technology in an innovative application to provide highly accurate and reliable angle information.
- GNSS Positioning Antenna

Summary

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