Height Safety System Firmware Development for Limpet Technology Ltd

Background

Edinburgh based Limpet Technology Limited have pioneered the concept of Total Height Safety with their LIMPET® multifunctional height safety system.

The LIMPET® intelligently controls the payout and take-in of a rope such that a person on the end of the line can be raised, lowered, assisted in climbing, accurately positioned and securely held in the event of a fall.

The LIMPET® comes in several variants and has applications in any industry where safe access and/or safe working at height is required, as well as in leisure activities, such as indoor wall climbing.

Figure 1: LIMPET® multifunctional height safety system

Limpet Technology approached Timestar to bid for the initial software development contract when the product was at the proof of concept stage, initiating a long and successful relationship as the many features and operating modes of the LIMPET® were expanded and refined over the following years.

Project Details

Timestar carried out the software development at their Newcastle offices, involving constant liaison with Limpet Technology staff by telephone, email and face to face meetings.

Software was developed for the main control unit which controls the rope speed via a software controlled inverter unit. The LIMPET® is marketed globally and therefore the control algorithms allow for a high degree of configurability to suit widely different operating conditions and application types.

Limpet® systems may be controlled by either a cabled display control unit, for which Timestar also wrote the software, or by a handheld RF remote.

After completion of the initial development, Timestar was awarded a succession of further contracts to add the many features which the product now supports.

The safety critical nature of the entire system, including the software, requires extensive product and software testing, including the maintenance of an extremely rigorous documentation regime and the certification of the software by an independent software certification body.

Success in service

The LIMPET® is now being used in such widely diverse applications as eliminating the need to use scaffolding for the inspection and maintenance of 40 metre high steel furnaces in India, greatly improving the productivity of wind turbine blade inspection in the UK and facilitating access for spotlight operators at rock concerts in the US.

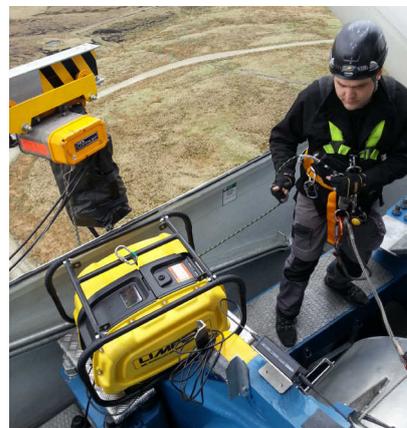Timestar is proud to be a part of Limpet Technology's ongoing success story.

Figure 2: LIMPET® system in use on a Nordex N90 wind turbine

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