



DEME'S AWARD WINNING RETRACTABLE LADDER DESIGN

DEME is very proud that its retractable ladder, specifically designed for hydraulic track excavators, won the prestigious IADC Safety Award 2022, and especially because the design of this invaluable piece of safety equipment is now being shared with other IADC members.

Jeffry Bolsens, DEME's Project QHSE-S Manager, explains how this ingenious but simple solution came about. "Stepping on and off excavators is always risky. The standard access steps to these excavators are located inside the boundary of the tracks and when covered in mud, sand and clay it is very easy to slip, which regularly results in accidents, leaving our operators with the risk of cuts and bruised shins."

DEME talked to its operators and the majority said they all have a risk to get scars on their shins as a result of contact with the tracks while stepping on and off the excavators. The QHSE-S team knew

something had to be done and a year ago, they started to consider the advantages of deploying a foldable, retractable ladder. "We saw that there was a significant problem and looked for a safer solution which could replace the existing steps," says Jeffry. "The very large excavators have fixed platforms at the back of the machines that operate automatically, but with smaller reclamation units there is the continual risk of operators' shins making contact with the tracks."

EN 1090 certification

In a clever solution, the retractable ladder, which has an EN 1090 certification and

complies with all the latest regulations, can be folded up just below the topside of the excavator. Crucially, at all times the operator has a 3-point contact when stepping on and off. Within the Benelux alone, DEME operates approximately 60 track excavators and has 120 operators. These excavators have all been fitted with the new ladder and DEME has also constructed new ladders for its projects worldwide.

Preventing injuries by sharing knowledge

Jeffry stresses that it was important for DEME to share this vital safety tool with the wider industry, so that other dredging

companies can also prevent injuries occurring to their employees. "We have already had several requests from some of our competitors for the design drawings. Our management took the decision that any company requesting the design should be given access to it. Ultimately, we want every company using this equipment."

"Additionally, many of the big projects we perform are joint ventures with other IADC members, therefore it is important to share lessons learnt, particularly when it comes to the safety of personnel," Jeffry adds. "We want to improve safety for everyone and that each company has the same high standards as DEME." The QHSE-S team were absolutely determined to find a solution to this issue and carried out tests on an existing foldable ladder design. "We could immediately see the potential, with the addition of some modifications, to bring it in line with DEME's stringent safety standards."

Initially some of the excavator operators were not enthusiastic about using the new ladder and there was some resistance to a new way of working. However, when Jeffry sees them onsite nowadays, they are all using it and appreciate that they are much safer.

Robust design requiring minimal maintenance

The ladder itself is made from a single piece of galvanised steel and is designed for the tough conditions on busy project sites. Self-retracting after use, the ladder can be bolted or welded at the same location as the original access platform. Additionally, it features a standardised, simple system that can be retrofitted on any existing hydraulic excavator.

Another major advantage is that the area between the tracks and upper cabin stays completely free, so there is no contact with sand or mud sticking on the tracks. It can also be conveniently stored without additional risks during operations and transportation. As well as this, it requires minimal maintenance.

A DEME Safety Success Story

The new ladder is also a DEME "Safety Success Story". Always keen to continually improve safety within the company, DEME promotes the "Safety Success Stories" initiative, where everyone is encouraged to share best practice and tips about improvements they have made in their

department, on a project site or on vessels. These success stories are then judged and the best ones are highlighted on the annual Safety Moment Day.

Jeffry emphasises, "By equipping excavators with the new ladder, our operators can safely

access their machinery under all conditions. We avoid injuries caused by contact with the tracks or falling off the tracks when stepping on and off the excavator. And we are very happy to share this innovation so that every IADC member can equip their excavators with a safe access."



FIGURE 1

Eric Tancre (left), Managing Director Activity Line Infra and Activity Line Dredging, accepts the IADC Safety Award 2022 presented by Frank Verhoeven, IADC President.



FIGURE 2

The ladder ensures the operator has a 3-point contact at all times when stepping on and off.