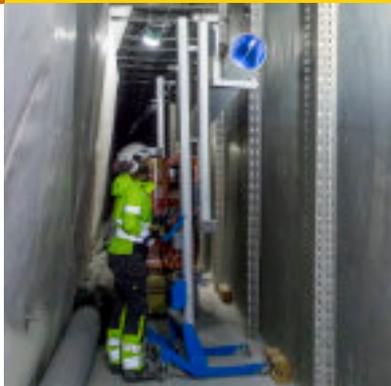




SUBTERRA 

WHEN SPACE FOR LIFTING IS MISSING

When Hans was looking for a solution that could safely lift 6 meter long pipes weighing 120 kg, 3,4 meters up for mounting, it was only Pronomics Lift&Drive that was up for the task.



 **PRONOMIC**[®]

THE CHALLENGE

The client Subterra need to mount a pump system used for draining storm water from tunnels which are built as part of the E4 Stockholm Bypass project.

They contacted us when they needed to lift 6-meter-long drainpipes for mounting behind concrete walls down in the tunnels.

“Usually we mount the pipe systems prior to putting up the concrete walls, but unfortunately the fastening of the walls themselves required these be mounted first prior to attaching the pipes. This resulted in a new challenge for us as it created a narrow culvert with limited space for working” Hans Torstenson explains.

The culvert between the tunnel wall and the concrete wall measures 1,4 meters in width. Each pipe were 6 meters long and needed to be mounted 3,4 meters up. Each pipe weighed 120 kg, mounting them became a challenge due to the narrow space, wight of the pipes, the height they needed to be mounted at and the workplace health and safety requirements.

It was important to consider Subterras systematic commitment to health and safety which includes strict policies to create a safe working environment. Their work involves regular analysis to identify possible risks that can lead to incidents and accidents, which laid a foundation for finding the right solution; this needed to have the capacity to perform the task efficiently as well as fulfilling the health and safety requirements in equal measures.

“It is my responsibility to create a safe work environment for anyone working on the Bypass Stockholm project” says **Ulf Wallin, health and safety officer at Subterra**, and he adds *“It was especially important to find a solution that could fit the available space, and still had enough lifting capacity to elevate the load to where it needed to be in a safe and reliable way.”*

After searching the market for potential solutions, the choice landed on Pronomics Lift&Drive.

THE SOLUTION

Narrow spaces require tailored solutions.

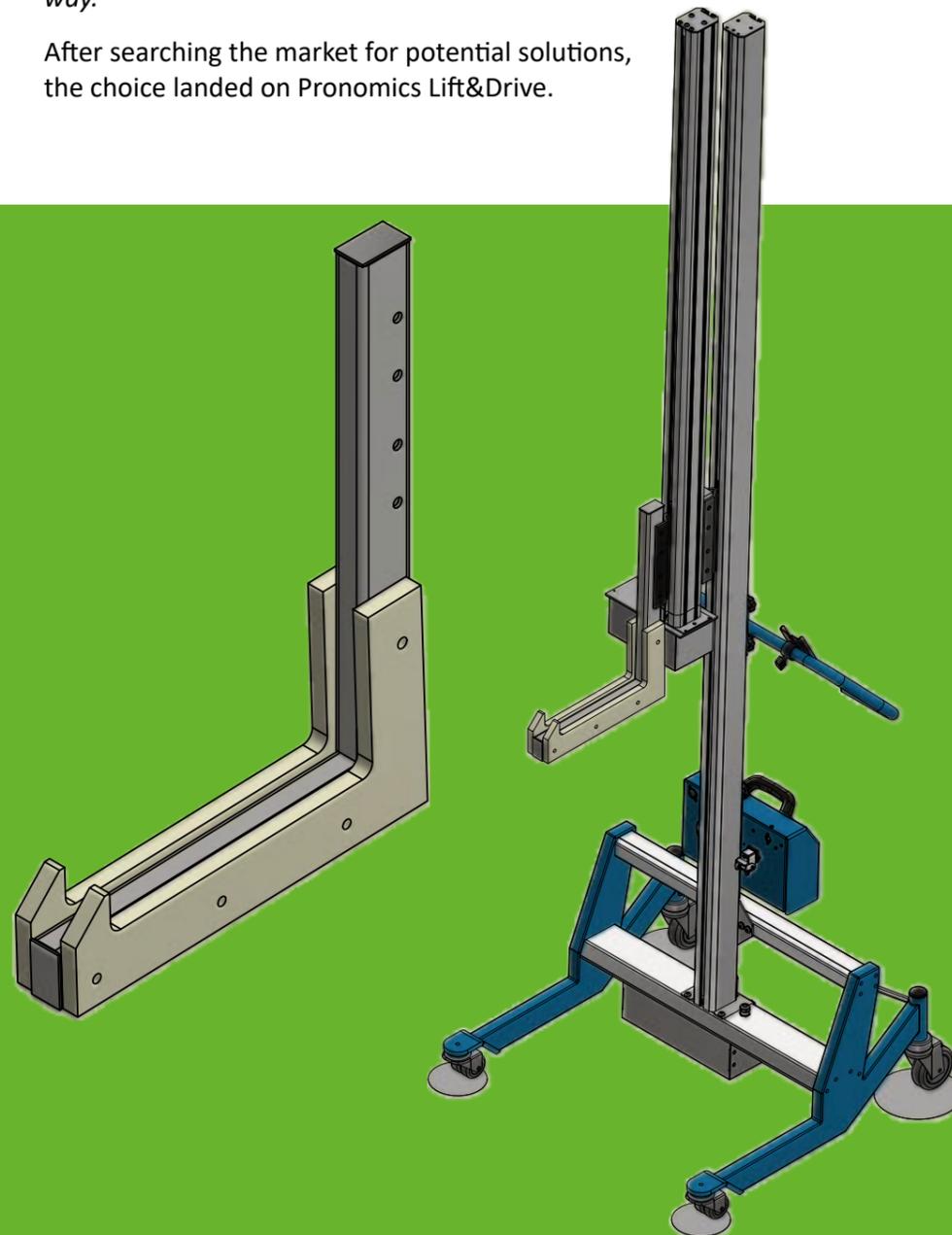
Due to the narrow space available and the length of the pipes, the solution we came up with were two lifting trolleys lifting each end of the pipe at the same time. Both lifting trolleys have a telescopic mast, a stroke of 3,4 meters and a lifting capacity of 70 kg each. The trolleys are light weight and easy to manoeuvre in tight spaces. Despite the lift height they only weigh 70 kg each.

The design of the load carrier is important for safe lifting

The lifting tool was specially designed to keep the pipes stable during the lifting procedure. The tool is designed as a boom with a crate keeping the pipes steady during lifting. The pipes are mounted on wooden blocks on the floor making it easy to load the pipes onto the lifting trolley without manual lifting.

Safety functions that make a difference

There are important safety functions in the Lift&Drive trolley that ensure safe lifting without risks to personnel or the surroundings. The 3-step central brake safeguards the trolley to keep it still during lifting. The Step less control gives the operators full control of the lift with a precise positioning of the load. The lifting trolley is even equipped with overload protection which prevents the trolley lifting more than it is designed for, which prevents accidents due to the load being too heavy.



ABOUT SUBTERRA

Subterra is a construction company. They focus on sub terrain building, and the core competence is construction of tunnels through conventional drilling and blasting.

Subterra have completed and are working on project related to the building of E4 Bypass Stockholm, which is the biggest ongoing infrastructure project in Sweden. They have several other contracts signed for work on the Stockholm metro system where the biggest is building of the Akalla-Veddesta stretch with two stations planned.

Work environment is a priority

Subterra works systematically with their work environment. In all projects there is a dedicated resource that is supported by the QHSE officer or the work environment administrator. For each project, the most important issues in relation to the work environment are identified through the projects risk analysis that focus on the construction machinery, ergonomics, fire risks and unclear boundaries between work and spare time. Risks are identified and handled through risk analysis, safety inspection rounds, incident reports and health examinations. “BuildSafe” is used for reporting, follow-up and measures.

Important overall goals

As an overall goal, Subterra works to create a safe work environment through information and training to engage all employees. A safe workplace is dependent on planning and coordination, training and competence, structure, order and well-organised logistics. It is even dependent on the use of safety equipment. All employees are informed on workplace routines, emergency routines as well as incident reporting for the projects they are working on.



WORK ENVIRONMENT AWARD

The Swedish Transport Administration take the work environment very seriously and are working according to a "Vision Zero". To encourage all sub contractors to work actively to reach this vision they have amongst other initiatives created the Work environment award.

Vision Zero states that "no one will be injured, die in an accident or suffer from illness at work." According to the Swedish Transport Administration the responsibility for the work environment in construction and excavation work is shared by several different parties who collaborate to create a good and safe work environment.

The Swedish Transport Administration is the coordinating general contractor in the E4 Stockholm Bypass project. Once a year they give a work environment price to a sub contractor working on E4 The Stockholm Bypass project. Last years theme was "New technical solution for improved safety and a good work environment".

Subterra Sverige AB work systematically with their health and safety, with regular follow ups on goals and risk assessments. Subterras overarching goal is to ensure safe work places.

With the new Lift&Drive solution in place Subterra decided to submit the case for the yearly work environment award for the E4 Stockholm Bypass project and is now one of the qualified contenders in the finals.

For more than 30 years customers have chosen and kept Pronomic as their preferred supplier.

Pronomic has been developing lifting solutions for various sectors since 1989. We are world wide suppliers of lifting trolleys. Our modular ergonomically adapted lifting products and solutions help our customers to increase their productivity while simultaneously improving their work environment.



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