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 **Ecological energy for generations: The 16 t telescopic crawler crane 613 E lays district heating pipeline in Ulm, Germany**

**On behalf of the energy service supplier Fernwärme Ulm GmbH (FUG), the specialist for plant and pipeline construction Kraftanlagen München GmbH is taking care of the further expansion of the district heating network in Ulm. In order to ensure the reliable supply of ecological energy to the areas in the north-west of the city, a new, more than 1.2 km long pipeline is being laid. Exactly the right application for the compact 16 t crawler crane from SENNEBOGEN, which knows how to perfectly master the narrow and steep space conditions along the pipe trench.**

With a share of more than 60% of renewable fuels, FUG in Ulm places great emphasis on cleanliness and sustainability over generations in the provision of thermal energy. The energy service supplier is constantly expanding its network. In order to be able to offer an absolute guarantee against outages, an additional "university pipeline" is now to be built, which will supply heat to the Technical University and the University Hospital on the hill of the Eselsberg, among others. For the commissioned pipeline builder Kraftanlagen München GmbH, this means that the planned 1.2 km long district heating pipeline coming from the inner-city power plant has to be laid uphill, where it joins the central heat transfer station. Steep slopes and tight spaces make access to the construction site trench difficult – for SENNEBOGEN's compact 16 t telescopic crawler crane, which can easily master inclines of up to 20°, this job provides the perfect opportunity to show off its advantages.

**Compact and strong: the perfect combination for pipeline construction**

The installation of the pipelines is carried out in several stages. In the first step, civil engineering prepares the trench. Once that is done, the 613 E telescopic crawler crane comes into play, which Kraftanlagen München GmbH has in long-term rental from SENNEBOGEN dealer Fischer & Schweiger for this job. The crane takes care that the district heating pipe can be installed properly. To do this, it first lifts the pipes out of their transport rack and places them near the future site of installation. They are then picked up again and lowered into the trench, where they are connected to the other pipes and welded. To be able to guarantee that the pipeline really transports the heat energy safely and with as low losses as possible once it is completed, the seams are then inspected for any leaks using an ultrasound device. During all these operations, the fitters are assisted by the SENNEBOGEN 613 E, which, with its continuous telescopable full power boom, lifts the pipes, that can be up to 12 m long and weigh up to 4 t, with pinpoint accuracy. Even the delicate "threading" of the massive individual elements into the row is child's play thanks to the sensitive control.

The accessible areas of this extremely tubular construction site are in part not much wider than 4 m, which is why the compact dimensions of the telescopic crane are an absolute must here. "For laying our pipelines along the tightly dimensioned routes, the 613 E with its 16 t lifting capacity offers exactly the right combination of lifting capacity and compactness. The working movements can also be controlled very precisely, so that we have everything under control during every lifting and driving activity. This makes us feel absolutely safe," states site manager Ludwig Lang.

**Particularly convenient: operation by remote control**The operation by remote control is also very convenient and safe, as the fitter still has full freedom of movement and an excellent view of the load at all times. With the radio remote control, the crane can not only be moved as a whole and even in pick and carry mode with the load on the hook, but also all additional functions can be controlled. This has the advantage that the precision of the lifting maneuvers is enhanced and therefore also the productivity on the construction site is further increased.

**Maximum flexibility and off-road capability guaranteed**

Just as this construction site moves up the mountain from day to day, the telescopic crawler crane obviously follows it and is there on all inclinations and ground conditions. In order to keep the range of applications as open as possible – and if necessary, even to be able to drive short distances on concreted or otherwise paved ground – the flat track shoes of the crawler tracks are equipped with rubber pads that are gentle on the ground.

The telescopic crawler crane is also optimally prepared for the steeply sloping route at Eselsberg, because the electronic load moment indicator (LMI) is set for lifting at 2° and 4° inclination as well as for pick-and-carry operation in all main boom and fly jib modes, including all possible ballast and track variants. Maximum safety is therefore "preprogrammed" here in the truest sense of the word.

**Captions**:

Picture 1: *The compact crawler crane lifts the pipes, which are up to 12 m long and weigh up to 4 t, with pinpoint accuracy so that they can be safely connected to the existing pipeline.*

Picture 2: *The 613 E telescopic crawler crane masters the work on the narrow and steeply sloping terrain perfectly.*