

# GeoDrilling International



## Marine drilling

Drilling over water presents a wide range of challenges that need to be overcome if a project is to succeed

## Rotary drilling

The latest trends and new developments in rotary drilling from around the world

## Extreme drilling conditions

Whether it be in a desert or on an iceberg, drilling contractors are working in ever more extreme conditions

# Eurodrill offers new solutions for the global energy transition

As the world transitions to sustainable resources, Eurodrill is rapidly developing new technologies to improve drilling efficiency in emerging markets

**T**he transformation of energy systems is gaining momentum as governments and businesses around the world are embarking on the path to a more sustainable energy policy. Now due to the constantly changing and evolving global political situation, this process is accelerating even more rapidly.

Fossil fuels have become immensely more expensive in the short term, and even their availability could become critical in some areas. All of this means the use of geothermal energy, which is a free energy source available in practically unlimited quantities and can be used to help reduce energy consumption to a minimum when used for heating and cooling buildings, will play a significant role in the transition to sustainable energy sources.

The current trend in the geothermal market is towards larger and deeper boreholes. This change is coming about because, in the past, geothermal energy was mainly used to heat single-family homes, but now it is also increasingly being used to heat larger properties, company buildings, hospitals, etc.

## GEOTHERMAL APPLICATIONS

Eurodrill has been supplying single and double-head drilling systems for a long time, which have been used successfully on many geothermal construction sites. Its high-performance, double-head drilling system DH 32, for example, has been successfully used for well construction.

Based on its experience and with a view to the increasing demands of the fast-growing geothermal energy market, Eurodrill has now taken the proven double-head

technology to a new level. The latest generation of Eurodrill drill heads has been developed using the most modern design and manufacturing methods.

In addition to higher torques and traction, a high rotation speed for removing the rods is also important to keep the times or costs per drilling job low. An extremely powerful new drill head concept, which has previously been used for piling heads, has been implemented, which allows a large power consumption when required and at the same time enables an enormous speed – torque range.

Cutting-edge computer programmes allow for the precise design of the gearing parts and this allows Eurodrill to produce perfectly working systems that are optimised while also being minimal in size and yet very stable and reliable at the same time. The efficient drive system is, therefore, very quiet and requires no additional cooling systems even at maximum speed.

The use of lightweight materials in combination with extensive FEM analysis allows the design of light and compact gearboxes that can withstand the sometimes harsh requirements.

At Bauma later this year, Eurodrill will present the DH 40 GT, a double-head drilling system developed especially for geothermal energy. This drilling system is designed according to the 'plug and play' principle, it contains all the details required for geothermal energy such as tip out system, preventer, 3in flushing head, etc.

## ELECTRIC DRILLING HEAD

Another way of driving the energy transition forward is the electrification of the drilling system itself.



Eurodrill is not only interested in replacing the usual diesel engines with electric motors, but also in the electrification of the largest consumer of energy within the rig – the drilling head.

Hydraulic pumps, motors and long hoses lines significantly reduce the overall efficiency of the equipment. Eurodrill's goal is to improve this significantly by doing without all those components. To this end, during Geofluid 2021, in Italy, Eurodrill successfully presented a series of e-heads for large drilling rigs, the available torques are 55 – 155kNm.

At Bauma, Eurodrill will present the first all-electric drill head for an anchor drilling rig. As a global technology leader and experienced specialist for solutions that are perfectly customised to the needs of its partners' systems, Eurodrill is looking forward to integrating this new all-electric generation of drill heads on its partners' drilling rigs. ▼

*Eurodrill's DH 32 with a maximum drill depth of 250m with a maximum diameter of 250mm is being used to drill a water well for agricultural use in Trentino Alto Adige Region*