

We THINK

We DO

We LIFT

# DIECI

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## Our world view...

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# PEGASUS 50.21 for QATAR



With a population of just 1.5 million, Qatar may be the smallest of the Gulf states, but it is also the one which has seen the most economic growth over the last few years, thanks to a massive investment program intended to reduce the country's economic dependence on oil revenue. This investment program has had a positive impact on all social spheres, from employment to education, from health to international relations. In fact, in this summer's crisis in Qatar's diplomatic relations with the other Gulf states, Qatar has received much international support, both from European countries and from its powerful long-term ally, the USA. Qatar remains the main economic and military partner in the area, and hosts the largest U.S. military base in the Persian Gulf, which is the command and control centre for all U.S. operations in the Middle-East. The country's collaboration with the U.S. dates back to the first Gulf war in the early '90's, in which Qatari marines and Armed Forces repelled an invasion of Iraqi troops. Since 2013, the small but technologically advanced Qatari Army (numbering just 150,000 men), has been expanding its logistics network in order to harmonize it with that of the U.S..

The deployment of an intervention force (even a small one) requires an organization capable of moving considerable quantities of material in just a few hours: armaments, fuel, food, medical and electronic equipment, everything







needed to enable the military to operate, must be collected and transported, in the shortest possible time, to the designated destinations in the right order of priority. For this reason, the Armed Forces are being equipped with the very best the market can offer in terms of materials handling and storage. This includes two Pegasus 50.21 telehandlers, purchased directly from NBK Doha, the official DIECI dealership in Qatar. Apart from their military livery, the two Pegasus are completely standard machines, with characteristics perfectly suited to their assigned tasks: large load capacity, plenty of power and lifting capacity, simple to use and maintain, ultra reliable, and with all the equipment



necessary to operate in safety and comfort in the harsh climate of Doha, where, for six months of the year, the temperature can reach (and even exceed) 42 degrees!! 360° rotation, automatic inversion of drive controls, self-levelling outriggers (making it easy to position the machine on uneven terrain), the adaptive stability control system (which enables the machine to work safely in all conditions of boom extension by adapting the machine's working area accordingly) and compact dimensions, make it the ideal machine for intensive applications such as logistics, where you need to operate with great precision and to tight schedules, while maintaining the versatility and capacity for rapid adaptation to the unpredictable situations typical of a military context.

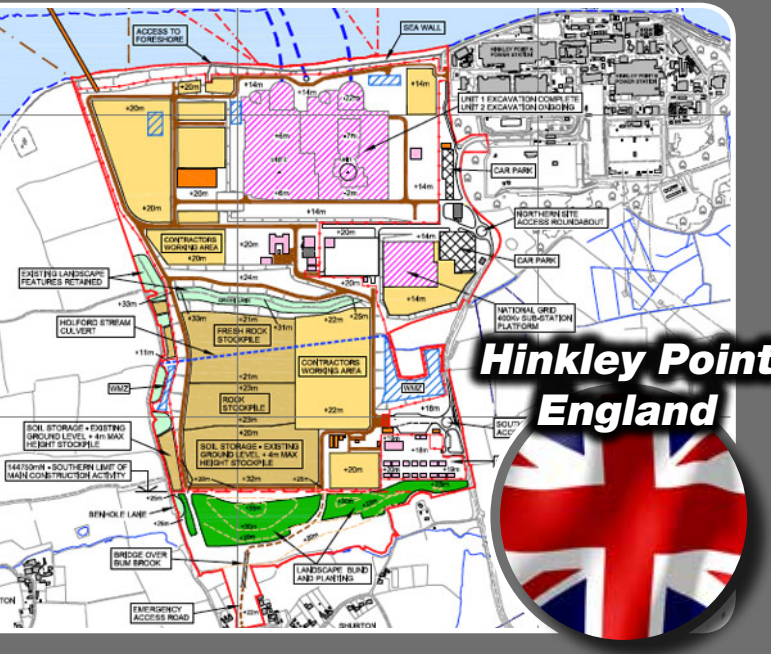






# Hinkley Point C

## NUCLEAR POWER STATION



Hinkley Point, on the Somerset coast facing the Bristol Channel, is currently the scene of intense activity: excavators and trucks work incessantly to excavate and level the ground, while scaffolding and cranes stand out against the grey February sky. And among the brown tones of the earth and the greys of the sea and sky, one can pick out the unusual white livery of numerous Dieci F7000 concrete mixers, the particular shade of white known as “Anti-flash white”. Not the usual colour scheme, but nonetheless one perfectly suited to the task in hand: our F7000s are helping to build a new nuclear power station: Hinkley Point C.

In the United Kingdom, the use of nuclear power to produce electricity dates back to 1956, when the first nuclear power station was opened at Calder Hall. The program reached its peak at the end of the 90’s, when energy from nuclear power accounted for 26% of total produced. As plants and technology became gradually out of date, some nuclear power stations were decommissioned (including Hinkley Point A and B, next to which the new plant is being built) and nuclear energy production fell to 19% of the total. The end of the state monopoly on nuclear power and the consequent opening up of the industry to private investment has given fresh impetus to the program: 8 new reactors (including the new Hinkley Point C) are now at various stages of construction.







The building of a modern new nuclear power plant is similar to the construction of an engine block: the concrete base performs the dual functions of completely isolating the reactor from the ground and supporting the weight of the nuclear island (the building containing the actual reactor), and all the auxiliary systems, such as pumps, pipework, safety devices, access tunnels, and so on. The plant must be constructed in strictly according to plan and with extreme precision, accurately creating every recess and contour destined to house a specific instrument.

This entails the use of special cement mixes that extremely resistant to heat, to corrosion and with a very low drying shrinkage. The F7000's shuttle between concrete distribution points and the various construction zones, which are spread out over a huge area (around 174 hectares) of very rough terrain, and the F7000's have been greatly appreciated for their off-road capabilities, their load capacity (5 cubic metres of concrete!) and the possibility to rotate the cab through 180°, particularly useful in the narrow spaces of trenches and of plants that extend several metres below ground level.

The completion of the works (which currently employ about 5000 people) and the start of energy production is scheduled for 2025, we therefore have a bit longer to wait before we can see the results of this mammoth construction project, in which our F7000's have played a significant part.







# GILGEL GIBE III

## The biggest dam in Africa



**Gilgel Gibe  
Ethiopia**

Ethiopia, one of the largest countries in Africa, and Italy have long-standing historical ties, first as adversaries (at the end of the 1800's and again the 1940's) and then, since 2000, commercial and political partners: Ethiopia is active alongside Western countries in the fight against terrorism. In 2013 the Italy-Ethiopia Development Cooperation Programme was launched (with an investment of 90 million Euros in each field), and both countries operate within the framework of the Intergovernmental Authority on Development (IGAD) in the Horn of Africa. This framework of cooperation has facilitated the construction of the Gilgel Gibe III, a hydroelectric power plant located 300 km from the capital Addis Ababa, capable of generating 6500 GWh per year. This is an all-Italian project, from the construction contractor (Salini Costruttori of the Impregilo Group), to the materials used. The new project will operate alongside the existing plants of Gibe I, Gibe II and Beles, which together meet 50% of the energy demand in Ethiopia, and even export energy to neighbouring countries. The plant was constructed on the river Omo, and consists of a concrete dam 243 metres high (the highest on the African continent!), a water storage capacity of more than 9 billion cubic metres, a power plant with 10 Francis turbines, and various tunnels that house the ducts and auxiliary systems. And it is for the excavation of these tunnels (which all together extend







for over 5 km) and in the subsequent laying of the reinforcement that a Pegasus was used. Tunneling through the igneous rock requires the use of explosives: the Pegasus was used to help create the numerous blast holes required to excavate the tunnels, which have diameters of respectively 12 metres (for intake tunnels and penstocks) and 8 metres (for the branch tunnels). The use of the basket has enabled blast holes to be drilled all around the tunnel excavation face, even in points in the roof of the tunnel. After blasting, the spoil is removed with mechanical shovels and dumpers and the tunnel is advanced until bare rock is reached again, at which point the process is repeated. Depending on the intended use of the tunnel and conditions of the rock, the tunnel walls may be lined with concrete (non-pressurised sections), jacketed in steel (pressurised sections), or lined with a centering system, in those sections which are to be used for vehicle transit or to house machinery. In all these operations, the Pegasus plays an important role, and no more so than in the installation of the centering ribs, each of which weighs several tonnes, and which must be positioned with extreme precision to allow their subsequent inter-connection. Today the Gilgel Gibe III dam is fully operational, and more plants are currently in the planning stage, yet more examples of the Italian contribution to development of the African continent.







# MONSTER SHOWDOWN!

Monster Truck shows are very common in America and have recently become more popular also in Europe. Every year thousands of fans pack arenas and stadiums to watch these modified pickup trucks, which can weigh as much as 5 tonnes and exceed 3 metres in height. The trucks are equipped with both 4-wheel drive and 4-wheel steering, long-travel shock absorbers, engines of 9000 cc and over producing more than 2000 hp, and tyres over a metre and half in diameter. Brightly-coloured paint schemes adorn the bodywork, which, from the outside, looks similar to a normal pickup, but which on the inside is equipped with safety systems that are every bit as sophisticated as the ROPS-FOPS cabs on our telehandlers! On the track, the monster trucks compete in speed trials and freestyle events, over courses made of obstacles and earthwork ramps, at times literally flying through the air, showing off their immense power and aggression to the delight of the crowds in the stands. Just such an event was the "Monster Showdown", held last July in Monterrey, a major city in Mexico near the border with the U.S.. This show (which was completely sold out) was staged at the "Estadio de Béisbol", a stadium with a capacity for 27,000 spectators. The only participant to appear unfazed by the aggression of the Monster Trucks was the ICARUS 40.17 telehandler: except perhaps in matters of speed, the Icarus could have taken on any of the Monster trucks on an equal footing, but for the fact that it was kept busy during the whole show in rebuilding the various obstacles and removing damaged trucks after the numerous accidents. Due to the very nature of the show, the Mexican Icarus was, in fact, kept much busier than its brother machines in service at the various Formula 1 circuits: while crashes are often seen as disastrous for the various Grand Prix teams in their hunt for Championship points, in a Monster truck show, they are actually one of the main attractions, and the Icarus was constantly called on to quickly and efficiently remove a 5 tonne monster truck from the track! Thanks to its wide range of accessories, the Icarus proved itself a model of versatility, alternating the bucket (to remodel the earth ramps) with the forks (to lift the vehicles) and the basket (to position the lights and firework installations used throughout the show). A continuous task, that starts with the preparation of the track and ends with the clearing up operation after the show! No siesta for our "Mexican" Icarus!



**Monterrey  
Mexico**