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NEW SR-45

More performance
more versatility

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New Drillmec AHEAD

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colophon

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Simone Trevisani, Managing Director.

Soilmec, a year full of novelties!!

The new year started with positive sensations. Small but encouraging recovery signs can be seen at the horizon. Hoping that these are not just mere sensations, in Soilmec we keep on working with commitment and dedication in order to find solutions that are more and more suitable for meeting our customers' needs. The debut of the new SR-45 in the American job sites was very positive, as well of the SR-75 (this issue will show you another interesting case history) and of the SC-90HD which is at work in Singapore; all this is supporting and encouraging us in keeping on working towards the direction we took long ago. The small diameter drilling sector has also received great appreciation from the market. This is confirmed by the prize won by our SM-5 (as can it be read in this issue) and by the positive performance of the new SM-4 introduced on the occasion of Intermat, the next exhibition in Paris.

As for the rest, our "journey" among the job sites worldwide continues, just where all Soilmec equipment and services are employed. We will see, in details, the project which is being carried out in Mexico and that covers the construction of 2 tunnels to speed up the connection between the airport and the city centre of Acapulco. As for the Oil & Gas sector, I would like to draw your attention on the presentation of the most advanced Drillmec range of drilling rigs called AHEAD (*Advanced Hydraulic Electrical Automated Driller*), that has been designed to meet the highest HSE standards and to guarantee high performance. So, I hope you will enjoy reading this and ... see you at Intermat!

Simone Trevisani



Trevi for Riyadh metro line

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Trevi Group has recently acquired a number of contracts in the Middle East. Among the most important, the project of the new metro line in Riyadh

The Trevi division has recently been awarded new major contracts in the Middle East: in the UAE, Oman, Saudi Arabia and Qatar to carry out ground consolidation for infrastructure works. Among the primary ones, we highlight the civil engineering works and special foundations for the realization of different lines of the Riyadh metro in Saudi Arabia.

The Riyadh metro will be 178km long with six lines and 85 stations including underground, elevated and at-grade sections. Project includes three major "mega station" (photo above, project of "King Abdullah Financial District" Metro Station). The metro trains will be operated in automated mode. Each train will have two cars. The driverless metro train will be 36m long and 2.71m wide.

Construction of the Riyadh metro has started in April 2014 and is expected to be completed by 2018.

The contract includes more specifically the execution of large diameter piles, micro-piling and anchoring which will be carried out with special equipment produced by the Soilmec division. The works will be performed by Trevi for relevant international partners with the immediate start of jobsite operations.

This major contracts confirm the active presence of the Group in the large infrastructure market of Saudi Arabia.

All civil works will be carried out with the latest technology provided by Soilmec that will ensure maximum efficiency in carrying out the work.

New offshore contracts for the Caspian Sea

Drillmec S.p.A., a Trevi Group company, has been awarded the supply of an offshore oil drilling rig 2,000 HP from Globalstroy Engineering, a leading Russian engineering company. The rig will be installed on the platform LSP2 in the Filanovsky field, operated by Lukoil in the Caspian Sea.

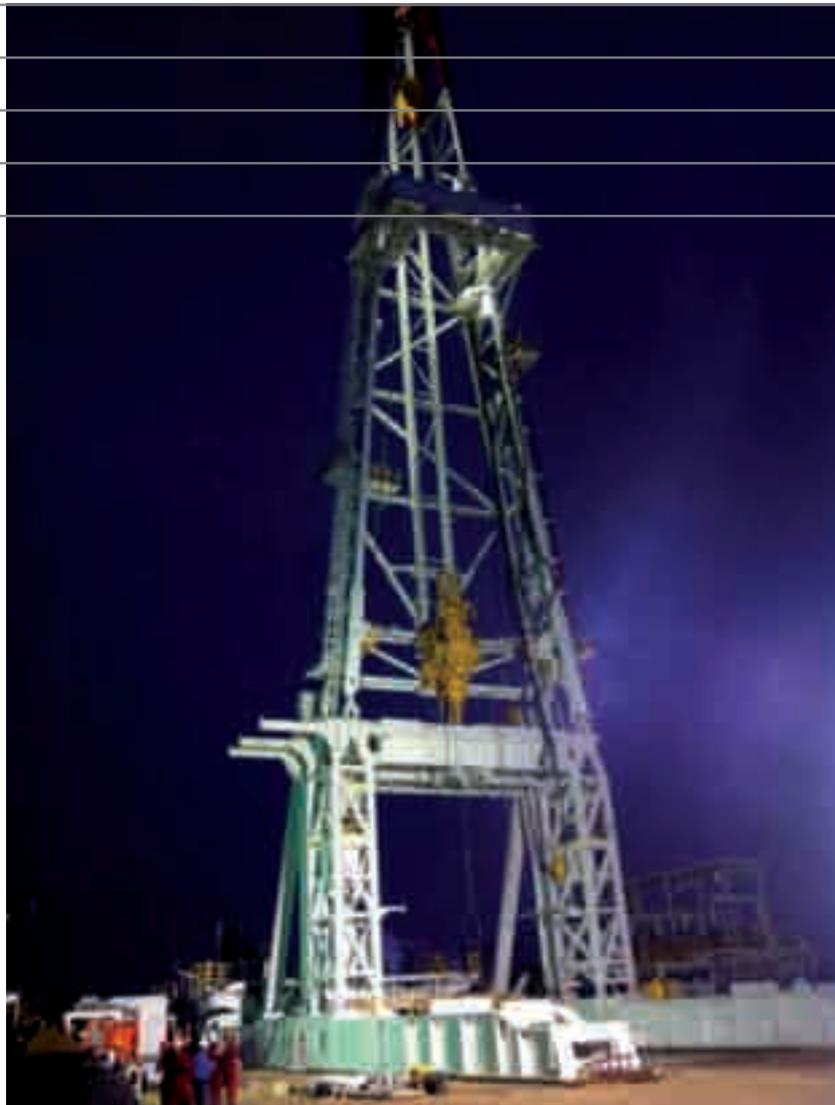
Drillmec has also signed a contract for the supply of an automatic hydraulic model HH-300 offshore with SOCAR-AQS LLC. The rig will be installed on a fixed platform in the offshore region of Absheron West, owned by the state company SOCAR. This contract is for Drillmec the opening of a new market of great interest when considering the abundance of energy resources and the wide availability of investments.

Sixth Drillmec offshore rig for Caspian Sea

Drillmec has also signed a contract for the supply of a 3,000 HP offshore rig for Nobel Oil Ltd. It's the sixth Drillmec offshore rig for Caspian Sea. The rig will be installed on a fixed platform in the offshore field of Bulla Deniz, owned by the state company SOCAR. This is the sixth offshore Drillmec rig that will operate in the Caspian Sea.

news

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Soilmec innovation takes nomination

cover story

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The British Drilling Association Technical Innovation Award is for proven recent technical product innovation in the industry that has significantly increased performance, durability, safety and competitiveness. The Soilmec SM-5 Drilling Rig was nominated for this award due to the success on the Crossrail Project in-tunnel work completed by WJ Groundwater Ltd. The brief was to design a compact rig with a high degree of articulation to drill at any angle or alignment, but with sufficient power to drill up to 200 mm diameter and up to 40 m depth, while fulfilling the demands of the restricted access and working area. Key to the rig design was the double slew ring mast articulation. One slew ring on the base of the machine gave the rig the ability to work +/- 90 degrees to allow drilling over the side of the tracks. The second slew ring on the back of the mast gave +/- 180 degrees for radial drilling around the tunnel. The telescopic boom of 600 mm added increased mast movement.

A special short mast was supplied with just 1.4 m stroke for 1 m rods or augers sections. Designed to the available tunnel dimensions with a hydraulic jack at the top of the mast to secure the mast to the tunnel sides.

The clamp and breaker was fitted with a hydraulic casing extractor for 11 tonne extraction force to aid the removal of the casing.



Steph Keane, Micro Piling Sales Manager Soilmec UK, receives award.

One of the the SM-5 drilling rig sold to WJ Groundwater Ltd in action for the crossrail project.



Soilmec SM-5 drilling rig.

Tracking, mast movements and drilling operations were by full radio remote control allowing the operator excellent vision, ease of position and movement in the confined area. The interlocked safety guard and slow rotation system opened by a hydraulic sliding guard, enabling operation at any angle the mast articulation was positioned in. The SM-5 successfully installed in excess of 770 well points and 490 probe holes within the confined space of the tunnels. This compact, powerful and technically advanced rig was an innovative custom design to allow the work to be completed effectively, in safe conditions and with high production.

cover story



Soilmec In the world

The development of the actual market for highly sophisticated construction equipment in Germany goes back approximately sixty years. After the end of the Second World War, Germany experienced a major economic upswing. The totally ruined economy and infrastructure had to be rebuilt all over again. It was during this “rebirth” that many companies were formed that are still active today in many areas of the German construction and engineering industries.

From often very humble beginnings, companies developed that are now major players



Soilmec world

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Soilmec Germany

in their national and international markets. An additional impetus to the boom in Germany followed from the fall of the Wall in 1989. It was during an international phase of stagnation that this event provided the impetus for an unexpected boom in the German construction sector and for growth in the construction machinery sector. It was against this background together with an ongoing focus on exports that the development of German companies in the construction and engineering sectors took place. This explains why Germany, together with Italy, is one of the countries of the Western Hemisphere, which has the most manufacturing firms for special-purpose civil engineering machines.



Bodo Berendt, Managing Director
Soilmec Deutschland GmbH.



The German plant of Soilmec.



The Trevi Group has long been active in Germany and Austria. Trevi Germany has consequently been associated with some very specialized and also prestigious construction projects in Berlin, Leipzig and Stans, Austria. From the construction work in Stans, for example, Trevi was able to register a number of patent applications relating to processes.

The activities of Soilmec on the German market have taken place for the most part over the last fifteen year. At the start of this period, collaboration was agreed with

Soilmec world



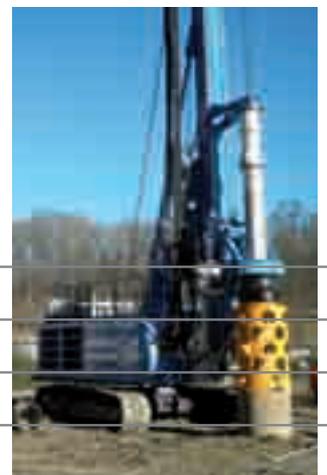
“New generation” Soilmec SR-75 in blue livery.



a company in Germany for the development and marketing of drilling rigs. This collaboration led to equipment known on the market under the Ecodrill name. Although they now date back many years, some of these machines are still in operation. Subsequently, the decision was taken to act as an independent company in Germany and this led **in 2008 to the founding of Soilmec**

Deutschland GmbH (referred to here as Soilmec Germany).

There were two strategic factors in the formation of the firm, the first being, the establishment of a distribution base for the north of the Western European area, Soilmec Germany in the early years being very successful, for example, in Scandinavia, while the second strategic factor was the opening of a production facility for small items of equipment and components in Germany. The unexpectedly severe worldwide financial and economic crisis of 2009 demanded, however, a revised strategic alignment. It was consequently decided in 2013 that Soilmec Germany should concentrate exclusively on the market in the German-speaking area. Furthermore, the



Soilmec world

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decision was taken not to invest in additional manufacturing capacity in Germany. Since that date, a small team of six persons handles sales, after-sales service and business management in Germany and Austria. We also maintain a small technical office that deals with the necessary modifications for the use of our equipment on the German market. A challenging project in this connection is the development of a magazine for double rods or ram drill tubes as they are also termed. Magazines such as these are often used in Germany for anchor and micro pile work.

It is to be noted that **Germany is indeed an important market for specialized civil engineering equipment** but also that at the present time this market is not expanding. New investments are principally made for the modernization of equipment, to take account of current waste-gas regulations, for instance. There has been a public discussion, however, in which more investment in the maintenance and development of the transport infrastructure is being demanded. Should the Government come to a positive decision here, there could be the prospects of a noticeable upturn in the construction industry.

Apart from some items of equipment that have already been sold in Germany, the emphasis in marketing concerns the machines exhibited for the first time at the BAUMA in Munich in 2013. The SM-17 universal drill with the wide range of movements of its drilling mast and the load sensing hydraulic system for powering even heavy-duty drilling mechanisms has a great potential on the German market. Since the start of 2013, an SM-17, equipped with a double head drilling unit, has been used at various construction sites in Germany and has already clocked up 1,000

In the pictures, Soilmec SR-75 drilling rigs in action in various job sites in Germany.

hours in operation. It is planned to equip this series in Germany also with a double head magazine or a vibratory drive unit. For full coverage of the market, collaboration has been agreed with ThyssenKrupp Bautechnik, a German company. ThyssenKrupp Bautechnik distributes material and equipment for specialized civil engineering applications and flood prevention and disposes of 14 branches in Germany.

In regard to LDP drilling rigs, certain standards which must be observed have made their appearance over the last few decades in the German-speaking area. One example is the exchangeability of drilling tools in appliances of different makes. For this reason, Soilmec Germany has developed adapters for systems of its own rental pool, which enable the usual pressure tubes available on the market to also be used in Soilmec systems. This means that users can easily combine parts from their equipment resources with our appliances. This has enabled us in recent months to repeatedly put appliances from our rental pool in service at our customers at short notice. Customers can consequently meet their peak demands on the one hand and gain experience with our appliances on the other. **The object of all our activities** can be summed up in this single sentence: *"To convince the user that it sometimes pays to leave familiar paths and to experience the performance of Soilmec equipment"*.

This is certainly not a simple task on the home market of some of our biggest competitors but it is an exciting challenge and our activities have attracted great attention on all sides. With the proper support of Soilmec Italy, we have also been able to successfully present our company as a serious partner for specialized civil engineering in Germany.



“New generation” rigs for the Acatunel



from the site

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Soilmec’s SR-75 drilling rig at work for the Acatunel, important project to create an alternative link between the two main parts of the metropolitan area of Acapulco

The **Acatunel**, one of the most important infrastructure projects currently under construction in Mexico, is intended to create an alternative link between the two main parts of the **metropolitan area of Acapulco**. The works required for its construction, which involves the excavation of the main tunnel and the construction of an initial and a final bridge, also includes a number of important foundation structures, including the drilling of 360 piles of different diameters – 90, 120 and 150 cm, up to a maximum depth of 22 meters in a granite soil. The General Contractor has used for those works a **Soilmec SR-75** hydraulic drilling rig (provided by Soilmec Mexican dealer Maquinaria ALFO), which thanks to its characteristics was particularly suitable to the needs of the construction site.

The SR-75 was built with the new Soilmec “blue” concept design, with guidelines for extreme flexibility in order to guarantee the best solution for specific drilling requirements. The machine is a 70 ton class rig mounted on a variable gauge undercarriage with telescopic side frames complete with predisposition for a casing oscillator. The base machine structure was completely redesigned to hold a new diesel engine with new hydraulics that deliver more flexibility, efficiency and increase the overall output to 328 kW. The structure design is suited to set the machine for different drilling technologies and the use of modern material and high strength steel allows the rig to be lighter and give higher performance. The SR-75 was built to adapt to the several drilling technologies developed by Soilmec such as LDP, CFA, CAP/CSP, DP and TJ succeeding great results in terms of performance. The overall duration of the foundations works is estimated in 6 months for approximately 360 piles.

About Maquinaria ALFO

Maquinaria ALFO is a Mexican company with more than 40 years of nationwide experience in foundation equipment sale, rental, service and spareparts. The partnership with Soilmec started in 1998.



from the site

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Soilmec's "new generation" SR-75 drilling rig with the new blue livery.

Foundation works for the next Monterrey Metro Line 3



from the site

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The Soilmec hydraulic drilling rigs of the SR series are largely involved in the foundation works for the new metro line in Monterrey, Mexico

Located in the north east of Mexico, Monterrey is the capital of the Nuevo Leon state. With a population of more than four million, it is one of the largest metropolitan areas and the second financial and manufacturing city in the nation. As well as the other important industrial and business centers they have made a significant investment in infrastructure development with the intent to improve traffic and mobility within the metropolitan area, today essential to be an important commercial center.

The Monterrey Metro, known also as Metrorrey, is completely detached from other traffic, partly distributed underground and elevated, and take advantage of a bus system that uses exclusive and obligatory stops along its route. The Metrorrey was opened in 1991 and it is currently composed of two lines. Line 1 runs east-west through the city and Line 2 cross the north-south axis along an overall track of 32 km served by 31 stations.

The project

In 2013 the Mexican Ministry of Transport and Communications gave the green light for the construction of the future Line 3 that will serve daily hundreds of thousands of passengers, considering that the existing lines carry over almost 500,000 users each day. The new route will depart from the current Line 2 terminal in the Macroplaza, the cultural and administrative center of the city, to the Metropolitan hospital in the east of the city, mostly on an elevated structure. Serving a total of nine stations, on 7.5 km track, Line 3 will provide interchange also with existing Line 1 and will allow a saving of millions of man-hours and tons of CO² emissions a year.

A typical example of Monterrey subsoil.



The geology of Monterrey strictly depends by its geography location between of two tectonic areas, the Sierra Madre Oriental and the Gulf Coastal Plain. The Gulf Coastal plain extends from Florida to the Yucatán Peninsula, encompassing the whole north-eastern part of Mexico, and the soil condition corresponds to a thick sequence of clastic sediments characterized by an extensional deformation. The Sierra Madre Oriental is a mountain range, at the foothills rises the Monterrey metropolitan area and its morphology is a sequence of mainly carbonated and clastic marine sedimentary rocks complexly folded and over thrust. The Monterrey subsurface conditions include alluvial deposits of clay, sand, gravel (uncemented and partially cemented) and shale deposit overlying sedimentary rock.

Tunnel solution

The subway line 3 project plans to build a metro tunnel under the city's congested downtown, nearby the Macroplaza area. The construction method was the cut-and-cover that is one of the most used methods for the construction of shallow tunnels. In cut-and-cover" tunneling, the pavement of the street is removed, a trench is excavated from the surface within which the tunnel is constructed and roofed over

from the site

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The Soilmec SR-30 equipped with cylinder crowd system.

with an overhead support system strong enough to carry the load of what is to be built above the tunnel, then the street is restored. As the support side for the excavation walls it was decided to drill **a row of bored approached piles** developed in two parallel lines, built 12 m away from each other, to allow the installation of two metro lanes. The piles, with an average depth of 18-20 m and a diameter of 600 mm, were executed with the **Soilmec SR-30** hydraulic drilling rig equipped with core barrel and bucket with rock teeth. The SR-30 is a 30 ton class rig which makes its agility and performance the strong points. The cut-and-cover is usually an economical and more practical method but in urban areas the construction will cause interference with traffic and other urban activities, due to the limited available space. The SR-30 can be transported complete with the Kelly bar for a rapid rig up and thanks to the rotary head with a high torque value, and the fast and heavy duty crowd cylinder system, a good production rate is maintained with a very compact rig.

The bored piles is the tunnel side support walls.





The Soilmec SR-40 performing single shaft for the viaduct column foundation.

from the site

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Viaduct solution

For the second part of the route, to the North-eastward of the city, it was decided to use an elevated structure, connecting the tunnel by a transition section. The viaduct is an efficient and economical system for transporting people, and already had a great response for both the Metrorrey Line 1 and Line 2. The viaduct superstructure is a sequence of spans made up of precast concrete reinforced girders linked

The Line 3 pier structure and the drilled shaft reinforcing cage.

The SR-40 equipped with 2,400 mm diameter bucket.



together on which the double metro rails will be placed. The viaduct substructures consist of rows of pier columns directly attached to a drilled foundation pile. The structure will be subject to various load effects due to the weights, the train ride and the atmospheric agents, for these reasons a flexible connection was provided with elastomeric bearing between girder and column capital.

The Monterrey strong soil condition allows using a single shaft to support the large loads of the pier foundation, a positive choice in terms of constructability and maintenance of traffic due to the narrow space required for the job site. **The shafts were drilled** with the hydraulic drilling rigs **SR-40** and one **SR-70** with dry bored piles method. The rigs were equipped with the new Soilmec reinforced telescopic Kelly bar fitted with bucket and core barrel with rock teeth. The piles were drilled up to be supported by the sedimentary rock with length ranging from 15 to 36 m and a diameter of 2,400 mm. The need to use medium sized rigs that could easily work in a narrow job site, together with the soil conditions and the large shaft dimension has made necessary to proceed with a precise drilling sequence. The first step is to use a tool of 800 mm diameter up to the required depth, by alternating the use of the bucket and of the core barrel when it becomes necessary cut a layer of rock. Subsequently they proceed to the holes enlargement by using tools increasingly larger up to the 2,400 mm diameter required. The rig used have given excellent results and especially the SR-40, which despite of its size (it's a 40 tons class machine), was able to ensure optimum maneuverability and good production rate.

The Soilmec SR-70 working on a road overpass.

from the site





from the site

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Australian company AFS constructed 472 bored piles across three North West Rail Link project locations.

The project was carried out using 3 Soilmec rigs

The North West Rail Link

Australian company AFS (subsidiary of Soletanche Freyssinet Group) was chosen by Dragados, John Holland and Thiess to construct station box retaining wall piles as part of the transport for New South Wales's **North West Rail Link project** (NWRL). The NWRL is a huge investment for New South Wales rail transport infrastructure project that will provide a link between North Western Sydney and Chatswood. The project involves construction of 8 stations and 15 km of twin rail tunnels between Bella Vista and Epping.

AFS was involved in piling works for the tunnel boring machine launch sites and three future underground stations; Castle Hill, Cherrybrook and Epping.

The works involved installing **6,950 linear metres of piles** ranging from 900 mm to 1,350 mm diameters across three project locations. The piles varied in depth from 3 m to 29 m with an average depth of 17 m. The piles have formed the supporting foundations for the station box excavation and Tunnel Boring Machine launch site. The piles were installed with a maximum pile inclination of 1% and strict toe and cut off levels were followed to prevent piles from moving inside the box excavation and interfering with the tunnelling works. These design specifications were achieved through onsite quality checks.

The large quantities of drilling and concreting involved in the project required an efficient programming sequence to be developed and implemented across the three sites. This involved a split crew of concreters and drillers and a drill sequencing pattern to achieve daily targets for each site.

The project was carried out using 3 **Soilmec rigs**.



from the site

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Soilmec drilling rigs at work for the North West Rail Link.

The new SR-45

More performance, more versatility

The new **Soilmec SR-45** rig opens new perspectives on the hydraulic drills market. The basic rig has been completely redesigned in order to offer **greater comfort and safety on site**. Casings are entirely covered with sound damping and absorbing material. The engine Cummins QSB6.7 Tier4 is capable of delivering high power (201 kW @ 2000 rpm) while maintaining efficiency and flexibility. The walkways, handrails and the camera system complete with LCD screen have been redesigned to guarantee the best possible safety for the operator. The new Soilmec "H-Cab", with sliding doors, a touch-screen DMS adjustable monitor and more ergonomic controls and knobs offer the operator a significantly greater comfort.

The rotary table of the SR-45 is designed to give a particularly compact and flattened shape to the case, bringing considerable advantages also with regard to its weight. It was also designed to facilitate maintenance operations and deliver a maximum torque of 185 kNm. The mast, which is completely new, is built with high strength steel that allows streamlining the rig for easier portability and optimizing the balance in the front part of the drill rig by improving its stability. The rig is also equipped with a device capable of automatically moving the mast from the transportation condition

new products

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Thanks to the new concept design of Soilmec, the SR-45 offers excellent performance in many activities for the foundation projects



New SR-45 drilling rig offers excellent performance in the execution of piles, bored, cased, and also flight auger piles and other.



new products

SR-45 Hydraulic drilling rig

Operating weight c/w 4x10,5 kelly bar	41000 kg	90385 lb
Maximum pile diameter (in front of/ below the mast)	1500 /2000 mm	59 / 79 in
Maximum pile depth - friction kelly	58,5 (65*) m	192 ft
Maximum pile depth - locking kelly	47,5 (50,5*) m	156 ft
Rotary drive max torque	185 kNm	136450 lb*ft
Rotary drive rated torque	161 kNm	118748 lb*ft
Maximum drilling speed	47 rpm	47 rpm
Spinoff speed	146 rpm	146 rpm
Diesel engine	Cummins QSB6.7	Cummins QSB6.7
Rated output ISO 3046-I	201 kW @ 2000 rpm	269 HP @ 2000 rpm
Engine conforms to Exhaust emission Standard	EU stage IIIB, US EPA Tier 4i	EU stage IIIB, US EPA Tier 4i
Crowd system type	Cylinder	Cylinder
Cylinder crowd system stroke	5100 mm	201 in
Crowd system pull (down/up)	140/207 kN	34620 / 62950 lbf
Main winch	controlled descent	controlled descent
Line pull (1st layer)	165 kN	37100 lbf
Undercarriage	variable gauge, telescoping side frames	variable gauge, telescoping side frames
Overall width of crawlers (retracted/extended)	2550 / 3750 mm	118 / 175 in

* c/w non self-mounting kelly bar

to the working position and vice versa, which is particularly functional because the SR-45 can be transported complete with Kelly bar hence reducing the site installation times.

Thanks to the new concept design of Soilmec, the **SR-45 offers excellent performance in the execution of the traditional bored piles** with Kelly bars – but also of cased piles – and it can be easily reconfigured to perform different drilling technologies such as continuous flight auger piles, full displacement piles and consolidation treatments with Turbojet. The SR-45 can be optionally equipped with a mast extension that allows using 5x13, 5 self erecting masts and drilling up to a depth of 61.5 m. The SR-45 can be equipped with the Soilmec DMS system in order to have total control over the rig performance and site production rates.

The new SM-4

Specialized and compact



new products

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The new SM-4 is a compact, powerful and technically advanced drilling rig with innovative design to perform Sectional Flight Auger technology (SFA)

The **new SM-4**, exhibited at Geotechnica (U.K) in June for the first time, has been designed to perform **Sectional Flight Auger technology**. Sectional Flight Auger piles (SFA) are formed with the use of sectional lengths of hollow stem continuous flight auger. The technology is used in low head room or very restricted job sites, where a CFA rig cannot reach. Each section, commencing with a toothed lead auger, is added to the rig as the augers are bored into the ground. When the required depth is reached, grout is mixed and pumped through the rotary and down the hollow stem of the augers as they are extracted and removed. Piles can therefore be made in wet unstable ground conditions. Sectional Flight Augers are also used, in certain soil conditions, for open bore piles. The auger sections are extracted fully before the grout is cast in the open bore.

The compact SM-4 rig unit boasts retractable crawlers and stabilisers, allowing the rig to reach a min width of 740 mm and a minimum tracking height of 1,980 mm. The innovative casing clamp system is also 740 mm width to allow quick and easy access into the tightest spots, without having to remove the clamp.

A separate power pack mounted on crawlers, to allow independent tracking around the site, has 20-50 m length of hydraulic hoses between the power pack and the rig. This enables the rig to work, for example, inside a building or basement while the power pack remains outside. The powerful, low emissions, 115 kW Tier 4i diesel engine is easily accessible through openable panels for easy maintenance.

The rig unit has a fixed boom, a sliding mast and a side mast movement of +/- 45 degrees. The telescopic mast and a feed stroke of 1,500 mm up to 2,500 mm, giving

low head room operating capability and the powerful cylinder crowd system has a max. hoist force of 70 kN.

The robust high torque rotary head has 3,347 daNm maximum torque with the ability for 4" concrete injection through the head due to the large swivel and swan neck. Rotary side shift, four motors and front rotary protection for working close to walls completes the rotary head specification.

The modern and innovative radio remote control system for drilling, positioning and tracking allows safe manoeuvre and excellent visibility to the operator for both the rig unit and the power pack.

Compliant to the new Euro Legislation EN16228 standard, the double hinged safety guard and slow rotation system has a double interlock system. This enables easy removal of the front panels when working close to a wall, using the already interlocked side panels for access to the auger string for loading and unloading sections.

Soilmec Ltd have been successful in placing two new SM-4.F N"s into the U.K market, with great success.

Goldmax Ltd have had great success with their new Soilmec SM-4, piling for a contiguous wall along part of the site perimeter for a small housing estate in London, with a total of 105 piles to be completed. The rig is performing 350 mm dia open bore piles using 2 m length sectional augers down to 12 m depth. The work is really

the job for a much larger CFA drilling rig, however Goldmax wanted to use the SM-4 on this job to test the machine capacity. They have been extremely pleased with the production of the powerful SM-4 completing in excess of 10 piles a day in London Clay soil conditions.

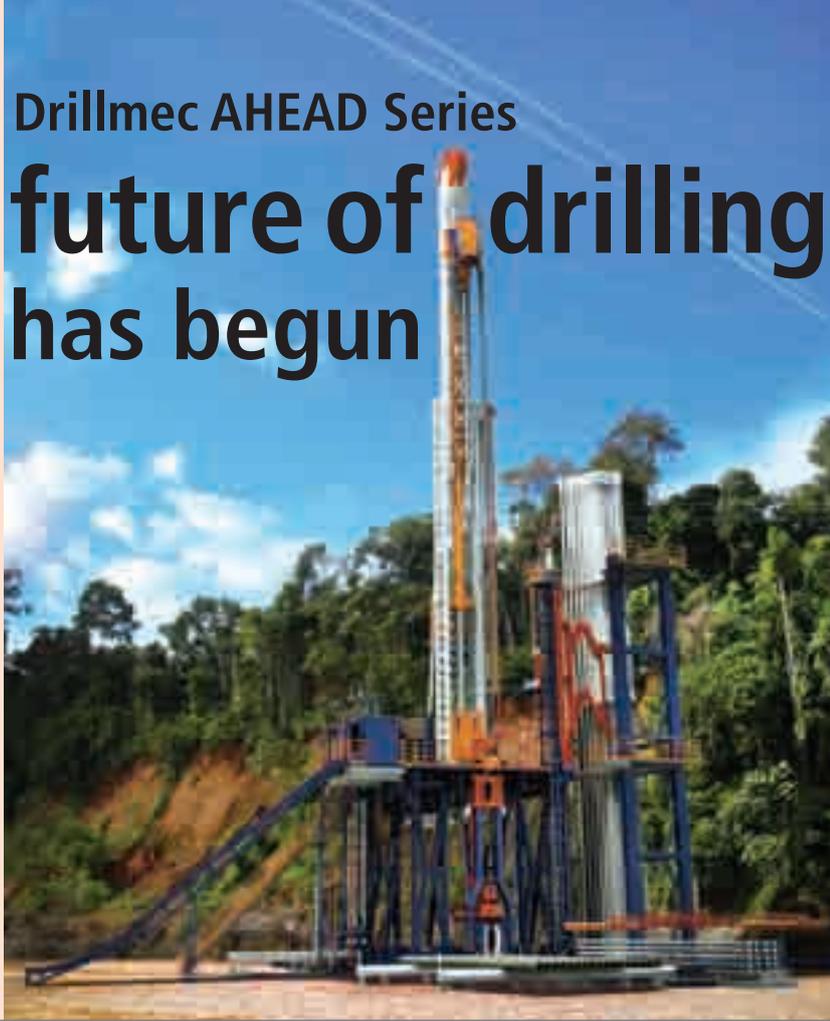
The second unit also working in London has been effective in completing 450 mm diameter augers sections, drilling down to 15 m depth. Sonic Drilling & Piling Plant Hire Ltd have been working on a high profile job at the The Kings College Hospital in London, where they are piling for the foundations to the extension of the hospital building. As the access to parts of the jobsite are very restricted, the SM-4 was the perfect machine as the rig could be lifted over the hospital building into the jobsite. Another section of the job has seen the SM-4 rig working in a small shaft while the power pack remains at ground level. They have in excess of 400 piles to complete the project. The ground conditions consists of up to 4 m of sand and gravel and London clay down to 15 m. They are also using the open bore technic, but first drilling up to 5 m of 508 mm diameter top casing through the sand and gravel then continuing with augers for the remaining depth.

This multi-purpose rig can also be configured for other drilling applications with a large range of options such as top hammer, various rotaries, water pumps and clamps and breaker assemblies.

The SM-4 is a compact, powerful and technically advanced drilling rig with innovative design to allow work to be completed effectively, in safe conditions and with high productivity.

Drillmec AHEAD Series

The future of drilling has begun



new products

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Drillmec launch AHEAD, the new generation of drilling rigs with even higher operational performance, designed to meet the highest HSE standards

Based on the experience of the HH Series rigs and their field results, Drillmec has developed a **new generation of fully automated drilling rigs, named AHEAD** (Advanced Hydraulic Electrical Automated Driller), designed to meet the highest HSE standards and to enhance drilling performance. The first rig of this kind is expected to complete construction for early 2015.

The AHEAD Series represents the results of a strong focus on innovation, automation and continuous improvement of technology, that leads to an enhancement of the key parameters in oil & gas drilling activities: highest safety level, environmental protection, highest performance in drilling and moving operations, with substantial cost saving.

The AHEAD design allows about 50% footprint reduction compared to a conventional land rig (1,500 HP). The visual impact is drastically reduced thanks to the special telescopic mast design and the fast moving is possible thanks to trailer mounted components (total 21 loads).

The substructure can be a sling shot type or an hydraulic self-leveling elevating system, which grant fast and safe rig up without cranes, the hoisting system is based on a Telescopic Mast with Double Hydraulic Piston in tandem (Pat. Pend.) manufactured in compliance with API 4F and equipped with integrated Drillmec ETD series electric top drive.

AHEAD is also equipped with a new fully automated off-line system to make up stands of two Range 3 DP (or three Range 2 DP) directly on mouse hole. The system allows to reduce risks for the rig crew and NPT reduction as well. The Off-line System is able to handle even the casing joints, placed on special racks, positioned at ground level. The



Rendering of new AHEAD drilling rig.



new products

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You can learn more about AHEAD series drilling rigs and HoD system looking the video at <http://goo.gl/tjZuX0> or visiting our web site: www.drillmec.com



system includes a vertical and horizontal pipe handler, and a modular vertical pipe rack with a total capacity of 5,000 m of 5" ½ Range 3 DP.

The AHEAD series can also be equipped with Rig walking system, Drillmec DAS (Data Acquisition System) and DMS (Drilling Monitoring System).

Drillmec AHEAD series is also designed to be equipped with the **Drillmec HoD** (Heart of Drilling), a complete package combining continuous circulation system, high resolution flow rate monitoring and an anti-friction device, which provides a significant step ahead in drilling efficiency and the achievement of the planned T.D. in all conditions always with very high HSE levels.

The continuous circulation of drilling fluid in the wellbore, combined with the fine monitoring of the flow rate, can play a key role in drilling wells which are characterized by a very narrow pore/fracture pressure gradient, where the usual mud circulation interruption during the drill pipes connections, may cause very dangerous situations.

The HoD package is completed by an anti-friction device, integrated in the continuous circulation subs or in the drill pipe tool joints, which is able to reduce top drive and string stresses while drilling high angle or horizontal sections of ERD (Extended Reach Drilling) wells.

The combination of these three tools ensures a continuous dialogue with the bottom hole, the constant presence of two safety barriers on the well (mud circulation and BOPs) and the optimal working conditions for the top drive, ensuring the highest HSE level and enhanced drilling performances, with reduced drilling and connection times, giving a cost saving solution with always maximum control of the well.

Soilmec Arabia, successful seminar on new technological solutions for the foundation industry



On September 2014 at the Jeddah Hilton, more than 100 guests from the leading companies in the foundations sector attended the seminar: "New technologies for the foundation industry: Soilmec solutions".

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The seminar was organised by Soilmec Arabia, with the participation of several managers from the Italian headquarters, to present the new range of Soilmec products and the latest technological developments involving piles and deep diaphragm walls in rock. Proceedings began with an introduction by Abd El Fattah El Didi (engineer, Ph.D., Chairman of the Board of Soilmec Arabia) who emphasized the pivotal role of the customer in conditioning the actions and conduct of the Soilmec organisation. He also illustrated the structure of Soilmec Arabia, which boasts a staff of over 50 including engineers, mechanics and operators, and more than 13 service trucks to provide the best possible assistance to all the machinery operating in the Country. All the technological presentations focussed on the problems inherent to the subsoil in the Kingdom of Saudi Arabia and Trevi Arabian Soil Contractors also contributed with the experience it has built up over the years working successfully in the Country.



All the participants received a questionnaire about their level of appreciation of the information they had received during the event and their expectations for the Soilmec product range.

The responses fully endorsed the validity of the event and acknowledged the hard work of the speakers and Soilmec Arabia, showing that our customers appreciate opportunities like this to find solutions to problems that arise on site and learn about new technologies which they can take back and use to their benefit.

Drillmec at OTC 2014

Experts from the offshore energy industry around the world came together on May 6th to 9th for the 2014 Offshore Technology Conference in Houston, Texas (USA). Attendance at the annual conference reached a 46-year high of 108,300, the highest in show history and up 3.3% from last year. Attendance surpassed the 2013 total of 104,800 and the sold-out exhibition was the largest in show history at 680,025 ft², up from 652,185 ft² in 2013. The event had 2,568 companies representing 43 countries, including 163 new exhibitors in 2014. International companies made up 44% of exhibitors. This year's OTC event featured nine panel sessions, 29 executive keynote presentations at luncheons and breakfasts, and 298 technical papers. Speakers from major IOCs, NOCs, and independent operators presented their views on the current challenges and future directions of the industry.



Once more this year a great success was registered also at the Drillmec Booth where clients, representatives and employees from all around the world met sharing all market news and to discuss future cooperation and supplies. A special care during the event was given to the new offshore contracts in Russia and Mexico in order to present to the world Drillmec's steps forward in the offshore industry.

OTC will take place again next year from May 4th to 7th 2015 in Houston and once again Drillmec will attend to present all news and success achieved during the year.

network news

Drillmec meets the Iraqi Ministry of Oil

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On September 9, a meeting took place in Istanbul between representatives of the Iraqi Ministry of Oil, Iraqi Drilling Company (IDC), and Drillmec.

The event stands as a natural consequence of Drillmec strong presence in Iraqi market, where IDC is the main player and user of drilling services.

The meeting was attended among others by Dr. Kareem A. Alwan (Director Manager of the Ministry) and Mr. Stefano Angeli (Vice president Sales Drillmec). The event was an opportunity both for the Ministry to explain the next five years development plan for oil exploitation, and for Drillmec to present the new technologies applied to traditional on-shore drilling, which will be the basis for future collaboration.

At the end of the meeting, Mr Angeli underlined the willingness to support the Ministry and IDC in this development plan and invited iraqi representatives to visit Drillmec factory in Piacenza.



Drillmec at the “Caspian Oil & Gas Exhibition”



On 3rd June 2014 at Baku Expo Center the 21st International Caspian Oil and Gas Exhibition and Conference started. The largest and best attended event in the Azerbaijan and Caspian region’s oil and gas industry which has attracted more than 400 companies from 29 different countries.

Azerbaijani President Ilham Aliyev, who led the official opening ceremony, as a tradition, congratulated the participants, visitors and organizers on this momentous occasion. In his speech, the head of state stressed the rapid pace of development in Azerbaijan and the role of the energy complex in the country’s economy, and

gave an assessment of the relevance and popularity of the oil and gas exhibition, which has, for more than twenty years, been the flagship industry event.

The importance of the Caspian Region for Drillmec was reflected by a very high attendance, immediate market feedbacks and overall great success registered at the Drillmec booth. All main Drillmec clients, from the region attended the event and visited Drillmec with a very important focus on the new ongoing contracts for offshore drilling rigs in Russian and Azerbaijan which, combined with the existing presence also in Kazakhshtan are confirming Drillmec role of a key player in the Caspian offshore oil & gas drilling industry.

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Drillmec at IADC Drilling Africa

The African continent has undergone sweeping geopolitical change over the last year. How will this affect one of the world’s up and coming E&P markets for well construction? IADC Drilling Africa 2014 (October 1-2, 2014, Paris, France) has explored all aspects of well construction in this vital region

Drillmec has attended the annual International Association of Drilling Contractors (IADC) Drilling Africa conference and exhibition. Drillmec has participated, because the event brought together the main key players to network and explore opportunities to support expanding operations in Africa.



Drillmec wins “Best New Technology of the Year” at the Africa Oil & Gas Awards 2014



Drillmec at SPE-ATCE

Society of Petroleum Engineers (SPE) held its Annual Technical Conference and Exhibition (ATCE) in Amsterdam, 27 - 29, October with more than 8,000 oil and gas professionals attendees from around the world. For only the second time since 1924, SPE has returned to Europe for its annual technical conference: Drillmec was pleased to welcome visitors and showcase its consolidated and latest released products and technologies, but also grab the market feedback from experts, and connect with colleagues - there were more than 300 international exhibitors. ATCE serves as SPE's annual meeting of members and offers a state of the industry



update. ATCE attendees were engineers, operators, scientists, managers, executives involved in all aspects of the worldwide petroleum industry. ATCE offers also unique opportunities for people at all career levels including young professionals and students to meet industry experts, network with peers, and access to new technologies.

network news



Drillmec, new contract with Socar

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In the picture, General Manager of SOCAR AQS Mr. Ramin Isayev, Mr. Fouad Noonoo Drillmec representative for Azerbaijan and Diego Ferrandes, Area Manager with Drillmec team celebrate the signing of the contract in Baku.

Last April, Drillmec signed a contract with SOCAR-AQS for the supply of an automatic hydraulic model HH-300 off-shore. SOCAR-AQS LLC was established in 2007 between State Oil Company of Azerbaijan Republic (51%) and Absheron Drilling Company (49%).

SOCAR-AQS is currently performing drilling works with three rigs located on two stationary platforms on Shallow Water Gunashli field and it is preparing for drilling on Umid and Western Absheron fields. Drillmec HH-300 will operate in West Absheron field owned by Azerbaijan's state energy company SOCAR's Absheronneft Oil and Gas Production Department.

This HH-300 is the first rig of its kind to be destined to the off-shore sector but 3 more Drillmec rigs are already present on the Caspian Sea in the Kazakh and Russian areas. The rig was also selected by the customer due to its specific characteristics that are well suited to offshore drilling: reduced footprint, environmental friendly, load reduction, reduced risk exposure for the rig crew, high automation.

The contract includes the supply of drilling rig, accessories and equipment and the rig was specifically designed to meet the needs of off-shore drilling by replacing the trailer with a structure interface between the rig and the platform and by adapting the rig layout to the confined space of the platform.

The rig was mainly manufactured in Piacenza factory and a valuable contribution has also been provided by our factory in Gomel where the Mud System was manufactured in due time. This contract is for Drillmec the opening of a new market of great interest when considering the wealth of energy sources and the wide availability of investment.

Simone Trevisani honored by GEI



New York, October 14, 2014: GEI Luncheon in honor of Mr. Simone Trevisani, Managing Director of Soilmec S.p.A. – Trevi Group.

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The GEI Awards ceremony in New York

GEI stands for "Gruppo Esponenti Italiani," the Group of Italian Representatives. Founded in 1974, the GEI is an association of representatives from the main Italian business and financial concerns operating in the United States, and Italian leaders in the professions, in industrial design and international affairs.

The Group's most high-profile event is the annual presentation of the "GEI Award" to Italians and Americans for their outstanding contribution to furthering relations between the two countries.

The past recipients are, among others: Gianni **Agnelli**, Guido **Carli**, Carlo **Azeglio Ciampi**, John E. **Grettenberger**, Edward M. **Kennedy**, Emma **Marcegaglia**, Vittorio **Merloni**, Leonardo **Mondadori**, Mario **Monti**, Giorgio **Napolitano**, Umberto **Nordio**, Luciano **Pavarotti**, Sandro **Pertini**, Sergio **Pininfarina**, David **Rockefeller**, Paolo **Scaroni**, Marco **Tronchetti Provera**.



New Drillmec website

On October 1st, Drillmec launches the new website www.drillmec.com, a web version that is completely renovated with many new features: firstly, the new site is optimized to be browsed by all modern "devices" (mobile, tablet, etc.); moreover it is a "product-oriented" site which contains photos, movies, 3D animations and multimedia files in general of the whole Drillmec production.



Located in Piacenza (Italy), POGaM is the new museum dedicated to the Oil & Gas.



The Trevi Group top management, represented by Davide Trevisani (Trevi Group President), Claudio Cicognani (Drillmec President) and Cesare Trevisani (Petreven President) attended the inauguration of POGaM (Piacenza Oil & Gas Museum), the new museum dedicated to Oil & Gas based in Piacenza (Italy).



The Trevi Group at POGaM's inauguration

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SC-100, the new Soilmec model

The new 1:50 scale Soilmec model, the SC-100 crane (lifting version), has been officially introduced during the last edition of Piacenza Geofluid (October 2014). The removable lattice boom, which makes possible other configurations, the working winches and the extreme attention to detail make the model a faithful replica, already highly appreciated by collectors around the world. The same machine will be the basis for the Cougar hydromill new model, which is expected for next fall.



Soilmec and Drillmec in action at...



Two new generation Soilmec rigs, an **SR-90** and an **SR-75**, at work in Chelsea, **London**, UK

[click on site](#)

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Soilmec **SM-17** drilling rig at work in the city of **Mainz**, Germany



Soilmec drilling rigs, models **SR-70**, **SR-90** and **SC-40**, involved in foundation works in **Bogotá**, Colombia



Drillmec **G-45** has recently drilled the deepest water well in Jijiga, **Ethiopia**



Soilmec **SR-50** drilling rig



Soilmec rig **SC-120**



A very old **R-622** HD



in action in **Dubai**, UAE

[click on site](#)



Soilmec rigs are working to build new lines for the **Doha Metro**, Qatar



Soilmec **SR-80** is working to build foundation piles for four new bridges in **Abu Dhabi**, UAE



Santa Rosa Beach, FL – Deep Mixing



Solution provider

SR-90 hydraulic rotary rig
Turbojet® technology



Read this QR code with your smartphone.
See Hydromill technology in function on job site

<http://goo.gl/kkj8vV>

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Drilling and Foundation Equipment

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Soilmec at Bauma China

Soilmec participated the 2014 edition of Bauma China, from 25 to 28 November at the Shanghai New International Expo Centre. The Soilmec's participation was a success both in attendance at the stand that the interest shown by the visitors for the machines and technologies developed by the Trevi Group.



events



Bauma China 2014

November 25-28, 2014

Shanghai (China)

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A sky full of stars

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Geofluid 2014

October 1-4, 2014

Piacenza (Italy)



The 20th edition of the Geofluid exhibition was held in Piacenza, Italy from 1 to 4 October, and had a specialized focus in the field of underground drilling fluids, geotechnical and special foundations, and tunneling.

The Soilmec stand, embellished for the event with a special “Starry” look, attracted the interest of hundreds of visitors who could discuss their projects in the usual atmosphere of warm hospitality offered by the staff present at the fair. All of the traditional and potential customers, both national and international, were able to appreciate the completeness of products shown, from drilling rigs to tooling.

The new “Micropile & Water” division, formed by the merger of the Drillmec “water” and the Soilmec micropile divisions, presented two medium-sized hydraulic drilling rigs for micropile applications and one truck-mounted drilling rig for water wells. The SM-9, equipped with a down-the-hole (DTH) hammer, and the SM-14, set up in jet grouting mode, were on display showcasing the new Tier 4 diesel engine and radio control. The G-45 was on display complete with a Drillmec 8DS pump, configured in the version that recently had drilled the deepest water well in Ethiopia, a record depth of 600 m.

In the photos, moments of our participation in Geofluid.



Ancillary equipment for both the mud and grout product lines were also on display, and were represented by two skid-mounted mixing plants, ET2 GI and GI ET4K, complete with self-priming Delta 120 centrifugal pumps (available in both electric and Diesel power pack versions) and with the innovative integrated plant SBT-30.34 for the preparation of the drilling mud.



The machine that received the greatest interest, the real "star" of this twentieth edition of the Geofluid exhibition, was the new SR-45, a hydraulic drilling rig for large diameter piles. Characterized by an innovative, compact, and powerful design, the SR-45 maintains the characteristics of agility and handling that have made this Soilmec product segment the most appreciated in the world. Transportable with Kelly bar as a single load, the SR-45 was exhibited with the crowd cylinder version complete with the new Tier 4 motorization. The SR-45 was particularly appreciated for its detailed manufacturing care, reduction in weight due to new fiberglass enclosure panels, simplified maintenance thanks to input from independent groups, easier access, and use of harnesses (adapted from the automotive industry). The extensive use of high-strength steel in the front portion of the drill made it possible to obtain high mechanical performance while reducing overall weight and size. Lastly, the spacious Soilmec H-Cab provides a high degree of comfort and safety.



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A brand new show

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INTERMAT 2015

Avril 20-25, 2015

Paris (France)

Soilmec will attend the next edition of Intermat with new products and a new stand at Hall 5B - Stand C042. Further to the success of the 2012 edition (96% of visitors satisfied with their visit and 87% of exhibitors satisfied with the quality of contacts they made), Intermat 2015 will be introducing a new and improved exhibition sector layout to accompany the event's new developments and perspectives and therefore deliver an enhanced visiting experience. In implementing these changes, Intermat 2015 shines a spotlight on the machines, equipment and solutions of its exhibitors and also facilitates the visits of building and construction professionals wishing to target their own specific line of business. This new show layout is also the opportunity to further promote the new developments of the exhibition, including the extension of the product and service range on offer.

Trevi Group management and Soilmec and Drillmec staff at Intermat 2012.

The concrete industry takes centre stage at Intermat 2015 which offers the entire range of concrete-related machinery and equipment. Intermat 2015 is the rock-solid guarantee of its exhaustive concrete offering through its innovation-driven specialities and its increasing responsiveness to sustainable development issues. The exhibition will also highlight the expertise of its exhibitors in demolition, recycling and re-use of materials, particularly topical subjects given the importance of protecting natural resources and complying with lower pollution levels during the installation of work sites.



GEOTHERM
March 5-6, 2015
Offenburg (Germany)



The ninth GeoTHERM expo & congress will be taking place in Offenburg (Germany). Within eight years the combination of trade fair and congress has become Europe’s leading event for geothermal energy. With 3,513 visitors from 38 nations and round 191 exhibitors the event is well set for success and clearly reflects the dynamic growth taking place in the area of geothermal energy solutions.

SPE/IADC
March 17-19, 2015
London (United Kingdom)



For more than 30 years, the SPE/IADC Drilling Conference & Exhibition has established itself as the leading drilling event in the E&P world. Alternating annually between Europe and North America, it provides the opportunity for attendants to meet and share ideas to advance worldwide drilling operations. Alongside the conference, the exhibition will showcase the latest technologies, new products and industry services from around the world.

IFCEE 2015
March 17-21, 2015
San Antonio, Texas (U.S.A)



The International Foundations Congress and Equipment Expo 2015, or IFCEE, is the premier “must-attend” event for professionals in the foundation industry. The conference will include presentations of reviewed technical papers, panel discussions and debates, indoor exhibits, an outdoor equipment exposition, educational short courses, technical committee meetings, and networking with industry leaders.

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OMC – Offshore Mediterranean Conference
March 25-27, 2015
Ravenna (Italy)



Since 1993 in Ravenna, OMC - Offshore Mediterranean Conference has been working to disseminate offshore science and technical knowledge, to promote and support education for offshore, engineers and technicians and advance the development of tools and procedures required to explore, study, and further the responsible and sustainable use of the energy resources in the Mediterranean.

OTC 2015
May 4-7, 2015
Houston, Texas (U.S.A.)



Experts from the offshore energy industry around the world will attend 4th- 7th May for the 2015 Offshore Technology Conference at NRG Park in Houston. OTC is the best event to gain technical knowledge and make valuable contacts. OTC is brought to you by technical societies that cover all aspects of the energy industry. As in the past years, Drilmec will attend OTC 2015 to present all news and success achieved around the world.



New SR-75

Blue is the colour of our tradition of excellence.

Blue is the colour of our horizon,
shining with innovation.

Blue is the new colour of our equipment,
designed for the future, ready for today.