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Soilmec Open House 2006

More than 700 customers, potential customers and dealers and subsidiaries from 43 countries were guests of the Italian foundations and geotechnical equipment manufacturer Soilmec during a three day 'open house' at the company's Cesena headquarters at the end of September.

New and prototype machines, technologies, training programmes and project stories were presented. Guests were treated to demonstrations of some of Soilmec's latest equipment in new livery and given free rein to inspect the modernised factory and streamlined manufacturing processes, as well as talk with the company's engineers and senior executives.

"This kind of open house event is very important and valuable to Soilmec because we have our guests and dealers with us all the time. They have the opportunity to see and inspect our latest machines and some future equipment and technologies we are developing and witness for themselves equipment being built in our factory," said Soilmec managing director Simone Trevisani.

"We are able to spend much more time to talk to our guests, and of course them to us, about technologies, machines, processes and the company - unlike exhibitions, such as Bauma, where you have perhaps only a few minutes."

Soilmec also used the event to introduce a simplified nomenclature for its range of products. Machines are now prefixed with letters followed by numbers to indicate operating weight.

The letter 'S' indicates Soilmec, 'M' for micropile, 'C' for crane and 'R' for rotary. So,
for example, the previous model R 312 now becomes the SR 30, which is a Soilmec rotary rig
weighing 30 t.

The SR 30, together with other new and upgraded models were displayed in their new livery, and some demonstrated from the three main ranges of micro-piling equipment, the mid-range of rotary rigs and the top range of rotaries and cranes. Of particular interest from the micro piling range were the versatile SM 14 and SM 21 rigs for use in either micro-piling or anchor drilling applications.

The flexibility of the SM 14 was demonstrate, equipped with an innovative vibro drilling attachment as a possible faster and quieter drilling alternative to normal top hammer drilling. This new vibro-rotary technology involves the vertical vibration of a normal rotary head and drill string and bit. The vibration effectively reduces skin friction during drilling to achieve deeper penetration.

The mid and top range of 'R' series rotary drilling rigs all have new more powerful Tier III engines and more powerful and faster drilling rotaries offering more production than their predecessors.

Of particular interest was Soilmec's most popular rig in 2005, the SR 30 and the new SR 70, which can operate with high pull-down and crowd force. The new modular six model range of SC multi purpose crawler crane carriers, which can be equipped with various foundations attachments, was represented by the SC 100 and also rigged with what Soilmec calls a cutter turbo jet attachment.

This equipment is aimed at the insitu improvement and stabilising of soils to create diaphragm walls or panels. It uses two rotary cutters pushed into the ground, combined with the simultaneous injection of preset quantities of high pressure grout, to mix the ingredients to strengthen the soil.

The same SC100 carrier was also present in a large diameter pile version - the SR100. Soilmec also displayed various drilling attachments and its novel drilling bits for installing displacement screw piles generated considerable interest.

The new tools reduce the amount of feed force needed and also considerably reduce the amount of spoil ejected from the hole. The concept is similar for the two main pile displacement tools which use a type of eccentric former on the bit that pushes and compacts the soil against the wall, thereby reducing the amount of spoil ejected at the surface.

"We are currently testing this on projects of our sister company Trevi," said Mr Trevisani. "It is so advantageous and vital for us to test on Trevi jobs before we release equipment to the open market, as we can't go on other contractors' sites to test and develop our equipment."

"There is equipment here for everybody and the feedback from customers and potential customers has been very positive," said Soilmec UK subsidiary managing director Robin North.

"Some of the equipment is totally new like the SR100 with cutter turbo jet, and the SM14 with the vibrating rotary, which is completely new to me, could be very interesting for the UK as an alternative to top hammer drilling. The UK is mainly a continuous flight auger (CFA) market as about 70-80% of rigs are CFA. However, we are seeing a move back towards rotary and some contractors are looking for machines to go to 2-2.5 m with a lot going on about 1 m, so there is a lot of interest in machines like the SR 60. There is also a lot of interest at the smaller end of the rotary market with the SR 20 and SR 30."

Civil engineer and Soilmec president Davide Trevisani started his foundation contracting business in the late 1950s initially with a simple tripod piling rig. He soon moved into making his own equipment specifically for his own jobs. His machines proved so successful that rival contractors wanted to buy them. This interest prompted Davide Trevisani to form Soilmec in 1969 to design and build piling equipment to sell to other contractors. With the added support and commitment of his two brothers, Guialuigi and Cesare, this later evolved into the Trevi Group.

Soilmec's continuing strategy of developing new equipment led to a period of strong growth, finally forcing the then private family-owned Trevi Group to go public in 1999 to generate the necessary capital needed to fund and sustain expansion.

"Since going public we have seen an annual average 25% growth of the group from a turnover of about €300 million to around €650 million now," said Simone Trevisani, who is the youngest son of Davide Trevisani.

"Soilmec contributes about 30% of group turnover and this year it will be close to €200 million as we are doubling production of machines from around 180 to just over 400 this year. This expansion is the result of a lot of changes during a three year reorganisation of the company, including our mission to increase our customer base, which has led to the development of a full range of equipment and technologies and the formation of our foundations technology academy, a training school for those who wish to work in the civil engineering foundations sector. The results of all these positive changes, with all the new technologies, are here on display for all our open house guests to see."

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Michele Jamiolkowski, professor of geotechnical engineering at Turin Technical University, attended the open house as a guest speaker, presenting a paper on finding a solution to stabilising the embankment of Europe's largest copper mine tailings reservoir at Zelazny Most in southern Poland and preventing its possible collapse.

This was followed by a presentation on the installation of piled foundations with Soilmec rigs that will provide support for the first of the huge gates to safeguard the Venice lagoon from flooding.

He told his audience: "I represent academia and when dealing with such advanced companies like Soilmec and looking at all the new equipment and innovation on display, you immediately realise that there is a gap where that technology is running far ahead of our academic ability to make the necessary computations and produce designs using these new innovations, compared with traditional and established methods.

"As a simple example, the bearing capacity and settlement of a single pile is strongly dependent on the technology used to install it. Therefore, every time a new technology is developed you must adjust the necessary computation. This is what academia is lacking and needs to close the gap between academia and technology. We must be closer to the developing technologies, which we can then support with relevant research and theoretical considerations. I believe the problem can be solved by better and focused research on what is really needed, rather than unnecessary abstract research, which has little or no benefit for practising engineers.

"We must create joint research between academics and engineers. If academics could work closer with companies like Soilmec, the gap could be cut between academia and advancing technology. I am sure we will then all realise the benefits from that."