

Constructing a legend

By Christopher Logan, APAC Sales & Marketing Manager, Drilltechniques

As most of you will know, Bauma 2019 was held in Munich, Germany earlier this year and I was very fortunate to be invited to attend by renowned Italian rig manufacturer, Comacchio.

While there I took the opportunity to sit down with the three founding brothers of Comacchio: Renzo, Pasqualino and Patrizio.

I wanted to gain an insight into the history of Comacchio and how they perceive the future of drilling and drilling rigs.

The company Comacchio srl was founded in 1986. What were the three of you doing before that and what was the catalyst for forming the company in the first place?

We started in 1986 with the intention of manufacturing mechanical parts for other companies.

We had professional training and several years of experience as employees behind us, the desire to make things happen, and a great passion for mechanics.

At first the idea was (definitely) not that of designing and manufacturing drill rigs, but to produce high-precision mechanical parts for other companies using tool machines. Circumstances (or perhaps fate?) then brought us into the drilling business.

We started doing repairs on drilling rigs and on-site support.

Then, after two to three years, we had the idea to manufacture a product of our own, a Comacchio product.

For us who had started without any forethought, no model, it was a real eye-opener.

The possibility of creating a product with our name gave us a boost, a very strong incentive to go ahead and changed our lives forever.

Can you describe the first rig that you ever produced, what was its purpose and how much was it bought for?

It was only after some years, after the founding of the company, in the summer of 1989 that the first Comacchio drill rig was born.



From left, Renzo Comacchio (President) Chris Logan, Pasqualino Comacchio and Patrizio Comacchio at Bauma 2019, Munich, Germany.

We did not own a veritable factory at that time; the first rig was manufactured in a cowshed used as a workshop at our parents' farm, with very few technical and economic resources. It was a crawler mounted micropiling rig in the 15 tonnes weight class providing 1200 daNm torque.

The rig has been working ever since 1989 in a number of projects around Italy and we are proud to say that it is still in operation.

From your perspective, if we look back over the last 33 years what have been the three biggest innovation milestones in drilling equipment that Comacchio have led?

From the very beginning, Comacchio stood out for its ability to meet market needs and to assimilate ideas, insights and different practices and turn them into finished products that met the specific needs of the customer.

The company's first big innovation was in 1988/89 when it created a new concept of mast articulation. This made it possible for Comacchio drill rigs to perform drilling on the side of the track (front the wall), providing a greater range of movements than had been known previously and extending the range of use of these machines.

The introduction of this rich variety of movements, consistently applied throughout the whole product range, earned Comacchio recognition from all industry players nationally and internationally.

The second milestone was the application of radio-controlled technology to micropiling machines.

Started, once again, from the desire to meet the demands of a customer, Comacchio produced an MC 1200 rig with a remote radio control capable of controlling the drilling and tramping functions. This offered the operator freedom of movement and better management of the drilling and tramping phases. This simplified work and increased production, but also offered enhanced security due to the ability to work at a distance from the machine, while maintaining a complete vision both of the borehole and the surrounding site area.

The rod-loading devices were also equipped with radio control, initially separated from the main one.

The use of the radio control soon became a standard for the foundations construction sector and was adopted by Comacchio's main competitors.

In recent years we have invested a lot in the development of rod-handling systems that make the drilling processes safer, faster, more efficient and more cost-effective.

We are now offering a number of solutions that are tailored to specific application needs, for example our GEO 909 GT features a patented rods and casings carousel that holds a massive 126 meters of rods and casing and a super-efficient fully automated feed system.

Thanks to this system, a single operator can easily and effectively handle the rig and working time can thus be dramatically reduced with virtually no manual handling.

What do you think has been the key to Comacchio's longevity and success throughout so many challenges over the last 33 years in both Italy specifically and across the global landscape?

One of the keys to success and longevity is unity and teamwork. Not only do the three of us always share the same vision, but everybody in Comacchio is committed to working in the same direction.

Comacchio's philosophy has always been: we do not just sell the customer a product, we offer him a complete service. It's of vital importance that the customer always be able to count on our technical service, on our flexibility to meet his needs and on immediate assistance anywhere in the world.

The three of us take care of these aspects personally and scrupulously.

We have worked for years to build a relationship with our customers and distributors that often goes beyond mere professional collaboration.

Listening humbly to their requests and being at their disposal has allowed us over the years to bring new ideas and technological improvements to this industry.

We owe our customers a heartfelt thank-you, for all these years in which they have allowed us to assist them in their work, giving us valuable ideas and insights, that are a source of inspiration for our continuous product improvement and development process.

How many models and variants do Comacchio produce and what is the most popular geotechnical machine (and why do you think that is so)?

The Comacchio range includes over 80 models when both standard and special applications are taken into account.

These include large diameter piling rigs, micropiling and anchoring rigs, drilling attachments, geotechnical and exploration drill rigs, as well as waterwell and geothermal rigs.

Each of our models can be customized thanks to a wide selection of accessories, some of which have obtained patent protection.

We do not offer generic solutions



Renzo (left) and Patrizio Comacchio in the "Cow-shed workshop" on the farm.

to individual requirements: all the configuration details of the rig are thoroughly discussed with the customer to ensure that the rig meets the application needs.

There are over 3400 Comacchio machines working on different projects worldwide and each of them is different from the other.

No other manufacturer can provide the same variety of solutions.

The GEO 205 and GEO 305 are the most popular models for geotechnical and geo-environmental site investigations.

These are very compact and flexible units that can support a large variety of drilling methods, which makes them ideally suited to almost any general site investigation contract.

What is the next big thing for Comacchio from an innovation viewpoint?

We are currently investing in the safety and the environmental sustainability of our rigs.

We want our rigs to incorporate the most advanced engine design and post-treatment technology and we are investing a lot in efficiency improvement through the use of intelligent electronically controlled heat dissipation systems and high-efficiency hydraulics. This not only allows to optimise performance, but also to reduce environmental impact in terms in noise, emissions and fuel consumption.

The other big challenge is safety: safety awareness in the industry is growing and machinery legislation in various parts of the world is becoming more restrictive on people having access to any dangerous part of the machinery and manually handling the equipment.

What do you see as the future of

drilling rig manufacturing, what do you think a geotechnical drill rig look like in say, 2030?

We expect that design of geotechnical drilling rigs in 2030 will incorporate automatic rod handling systems that will considerably reduce if not eliminate the severe risks associated with manual handling of the equipment.

They will increasingly incorporate principles of electronics and computing in the control systems, with a focus on easier and safer operation and on the (remote) control and monitoring of drilling processes.

We expect that technological advances like virtual engineering and integration of mobile and cloud applications will change the way people work on job sites and will, therefore, require an increased integration of such technologies in drilling equipment as well.

We are already experiencing how the extension of internet connectivity into physical devices and everyday objects is changing our lives. This process will increasingly involve heavy machinery and will probably expand to geotechnical drilling as well.

For more information, contact Chris on 0448 009 304 or manager@drilltechniques.com.au



Comacchio's MC 1200 photo taken in 2005.