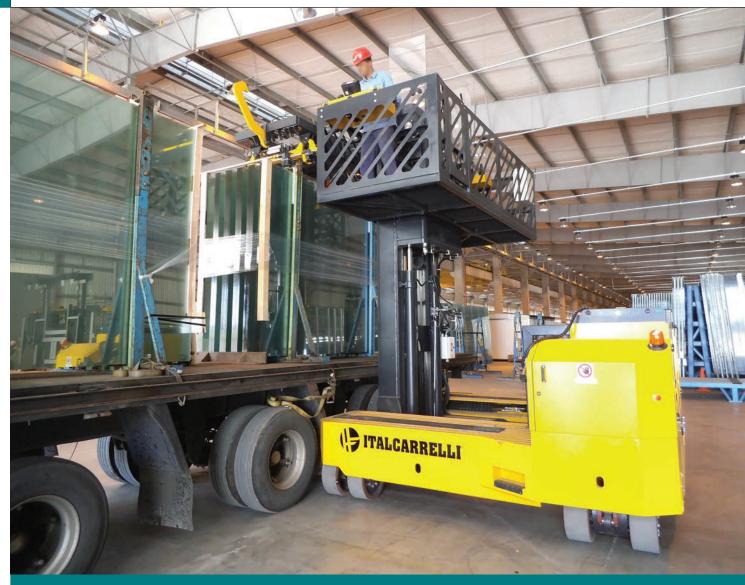
COMPANY DEVELOPMENTS





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ince our last meeting, we have successfully concluded the supply of all the machinery ordered for six new float glass plants: Sisecam in Turkey, Russia and Bulgaria (more than 50 machines in total), Caspian Float Glass in Daghestan -Russia, AGC in Guaratingueta and VIVIX in Recife, both in Brazil.

Alongside these important projects, we have also carried out other important supply contracts such as the new coater for Pilkington

Russia, as well as the supply of a series of new machines for Euroglass Haldensleben and Homburg, as well as Glastroesch Alsace..

We are extremely proud of the results, and above all of the satisfaction of our clients. We have worked really hard to satisfy their requests, supplying innovative solutions and developing systems that enable to facilitate the handling of glass sheets even more, with increasing speed and safety.



TALCARRELLI

We focussed a lot on the design and use of special components to further increase the established reliability of our machines, and also to reduce maintenance requirements, thus guaranteeing our clients considerable reductions in terms of running costs.

NEW MACHINES

We have designed new special machines, including a new type of side-loader that enables to handle and transport glass in collars and also



on racks - the EN4L 150C. This multi-directional sideloader can handle weights of up to 15t, and has been designed above all for our clients in Brazil, where packs of glass are mostly handled by means of special supports called collars or special racks.

The EN4L 150C can handle both these types of glass 'packaging' and, thanks to sensors and automatisms, can also handle racks and collars fast and in complete safety.

We have also developed a new type of platform transporter for the transport of racks of laminated glass. This platform has a special telescopic-extendable that loads and unloads the racks of glass from the autoclave. Thanks to this system, there is no more need to install the autoclave at ground level, and the diameter of the same autoclave can be smaller, resulting in considerable savings for clients.

The numerous possibilities of personalization and adapting of each single machine to the specific needs of each client, together with the continuous development of functions and automatisms to simplify handling operations and make them safer, are, and have always been, the strong points that guarantee Italcarrelli's leadership in the glass sector.

We are now finalizing an innovative system of remote maintenance, with which users can request the control of their machinery at any given time and anywhere around the world.

Logistics aspects of the glass sector are also moving more and more towards automatisms, and in this respect, Italcarrelli has years of experience, also with regards to automatic guided vehicles (AGV) in other sectors, including metallurgic and aerospace. We have recently received numerous requests and already carried out a

COMPANY DEVELOPMENTS



series of installations for automatic guiding, including a packaging line in a float line in Russia. This plant also includes one of our PTN330 inloaders, which have an optical guiding system that enables to automatically identify and follow a route painted on the floor. By means of this optical guiding system, the machine can also automatically and highly-precisely stop in an indicated position, ideal to place racks on automatic packaging lines, unloaders, transformation lines,

Right now we are working on many more interesting projects for new plants and updating of existing ones. We recently signed an important contract with Duzce Cam regarding the supply of a second float line. Duzce Cam is one of the most important manufacturers of float glass in Turkey, and is setting up its second float, of which we are pleased to be supplier.

STARTING AND MAINTAINING **GLOBAL PRESENCE** AND LEADERSHIP

Italcarrelli started to supply its products to the glass market in 1995 and, since then, has continued to observe the market closely, following the continuously changing demands for glass transporters. If we just think about how the size of glass sheets has – and still is – continuing to increase, we can see how Italcarrelli has to be present and follow the development of glass in all its specializations.

At present, Italcarrelli works with all the most important glassmakers around the world, and also develops machinery for more emerging markets.

The biggest machines that Italcarrelli now manufactures are for 50 tons of glass,

which is the maximum requested by the market, also due to the specific weight and dimensions of glass.

With regards to the important requirements Italcarrelli often receives, we can speak about reliability, precise movements, absence of vibrations. And in fact, it is reliability, most of all, that is behind the success of Italcarrelli.

The company's machines, in fact, need to work 24/7, 365 days a year, following the lifecycle of a float glass plant. Other than guaranteeing the continuous availability and reliability of our machines, we also need to guarantee



SISECAM

Viridian*

VELUX®

САРАТОВСТРОЙСТЕКЛО

vetro solar



minimum maintenance and down time too.

Patents are another important aspect of Italcarrelli's machines. A 'historical' patent is for the Sicurlift lifting system, while other patents include the one for the loading of glass packs in closedtop containers. More and more glass is transported in containers, and these operations are extremely dangerous for operators - who need to be inside the container to make sure that the glass is positioned correctly. With Italcarrelli's machine, the operator is always at a safe distance, and there is no person needed inside the container. The machine enables to load the container flexibly and quickly and, more important, in complete safety.

This flexibility can be seen, above all in Italcarrelli's inloaders, which can be customized as per the needs of the different production units they are going to be used by – even in the same company. Another strongpoint is the machines' low maintenance costs which is possible because for Italcarrelli all machines are special, and are created with ease of access with regards to components to enable quick maintenance. And since all components used are supplied by European manufacturers, good functioning is ensured at all times.

OPERATOR COMFORT AND EASE OF USE - MADE IN ITALY

The comfort of the operators who use Italcarelli's machines is also an important part of their design, and the perfect example of this can be seen in the company's Sideloaders, with wheels in hard rubber (due to the weight that the machine transports), and the operator position above the glass (to have the best visibility). The driver's position is equipped with special shock absorbers, which reduce vibrations to a minimum.

All machines have both battery and electronic control, which transfer power to the motor. There is also a diagnostics unit, with software developed in-house for self-diagnostics. The assistance centre or the person trained to carry out maintenance can verify the conditions of the machine without any need for a consol.

All work is carried out in-house – starting from the design of the machine and software - right down to engineering and final assembly and delivery of the machine to the client, with Italcarrellli specialists.



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