



Unique IOCCO solutions bolster automotive glass transformation

GTI: CAN YOU TELL US ABOUT THE ORIGINS OF IOCCO AND HOW IT WAS FOUNDED?

Massimiliano Iocco: MIocco is a family company founded 25 years ago by the initiative of my father after an experience of 17 years in Switzerland where he learnt construction techniques associated with steelworks. Upon returning to Italy his ambition was to create a company: in primis, he wanted one that served the local demand for spare parts - in the construction of spare parts. That was back in 1978.

GTI: How did the company start to work with automotive glass, and what led to the partnership with SIV?

MI: Already a few years before Società Italiana Vetro (SIV) was established which was the flagship company for automotive glass at the time,

a partnership was created whereby Iocco had become one of its main suppliers, SIV had sites in both Italy and Spain in those years. By supplying spare parts, Iocco slowly acquired the technology, as well as the ability to process automotive glass. Indeed the family tradition began as that technological knowhow was acquired. In that

At Dusseldorf in mid-October, GTI Senior Editor Nick Fouché interviewed Engineer Massimiliano Iocco, Managing Director of IOCCO, on his company's history from nationwide Italian supplier to global leader in automotive glass technology. This followed its more recent journey towards Industry 5.0 principles - always accompanied by an unswerving commitment to energy-efficient solutions and human-centered technology.





first generation of my father - the founder of the company, which had another name at the time - we were able to supply these systems at global level to SIV - which would be known thereafter as Pilkington. So even then the family was able to build most of its systems globally.

GTI: How has the focus of Iocco evolved with the second generation?

MI: With this second generation, which I represent, the mentality has been a bit different. Of course that mono client comfort zone could no longer reflect where the market was going. So in 2009 I left the family business and

founded a new company under the name IOCCO, which was immediately ready to work with all the major glass makers worldwide. By that time the company had started to bear the family name Iocco. However, that consolidated global footprint, even back then, demonstrated the consequential technological know-how it had known right from the start. Within two years we began working with large groups - first at European level, then at global level.

GTI: Massimiliano, explain some of the latest innovations Iocco has developed for automotive glass, especially in terms of energy efficiency and

new technologies?

MI: Well, the innovations to which you refer have resulted directly from our initial response to a discerned need to develop an identity within the glass market. We began with float glass accessories, so that's ancillary equipment which is the entire part of temperature control and internal free float glass flow traction, right up till the finished auto glass installation. So we had capabilities for the entire glass process just as a distinct element was being requested by the market which Iocco could do where it has been most strong. Indeed that's precisely why we invested as much time and capital in developing reverse engineering for that 2012-dated technology when it seemed more interesting for our future prospects and that was the bag furnace - a technology founded for both glass de-airing and assemblage. That was one of the most critical processes in automotive glass production. At the time windshields were all the rage. Now it's windshields, laterals and roof. We also invested with an open innovation mentality, with the support of both Italian research cen-

tres and Italian universities, whereupon we were able to produce a machine which can make electric vehicle glass.

GTI: Can you speak to why electric vehicles made sense back then?

MI: At that time there was a need to reduce the weight of laminated glass and to shield UV rays inside the car. Being able to lighten the car would also allow an increase in range by reducing the energy of the air conditioners. People started to speak about extra thin high-performing glass, Gorilla Glass and the like. Whereas thickness had theretofore been at the measured minimum of 1,6 mm, one started hearing of a reduction to 0,7 mm. There was also greater demand for a more technological infrastructure coming from the market. That's PDLC-based technology: films that will turn the vehicle roof opaque. Other films such as XIR will block UV rays from entering the car while others allow for interior heating. So various technologies are now entering into the mix. Bear in mind here that UV rays are carcinogenic. Also, the car will be rendered





more efficient by internal thermal control because the aircon will be consuming less energy.

GTI: Tell us more about those car roof solutions Iocco is offering.

MI: Sure. In 2015, we leveraged an earlier technology that we were revisiting then with the goal of embracing the Industry 4.0 paradigm. I am referring to the interconnection of all the devices that make up the machinery. This innovation allowed easy interaction on a single software platform. Another major innovation in the last two years has been alignment with Industry 5.0 EU directives. This has a different mission. While it is concerned with compliance with current regulations to move the plant towards decarbonization, it also aims at the Industry 5.0 goal of putting human beings at centre. This latter point is achieved in two ways: either by retraining, namely educating users to understand these new technologies, or by simplifying the technology to make it easier. We have chosen the latter.

GTI: Can you develop that point further, especially in relation to Industry 5.0 and its impact upon end-consumers?

MI: We first thought of training users by leveraging neuroscience, which certainly yielded some satisfactory results after we created virtual manuals. All said, that probably wasn't the best choice for the area in which we operate. In time we decided instead to envision AI as an opportunity - essentially by putting it at the service of human beings. To that end we've created a furnace software which includes a digital twin of our system which will simulate perfect production conditions every time there's a production change in the line - all presented to the operator in real time. This furnace element brings two important aspects. Firstly, it trains the operator. Secondly, it allows operators -also those less technologically skilled- to

first start and then manage production. That also introduces the aspect of energy saving. Why? Because when the digital twin simulates the process it gives the best thermal conditions to produce that glass - thereby troubleshooting the risk of operators potentially producing defective glass by manually raising furnace temperatures.

GTI: In conclusion then, Massimiliano: What makes Iocco great?

MI: For me that's easy to answer. At Iocco, we have achieved two fundamental goals. First, we put the customer at the centre; we know how to listen and interpret their needs by aligning them with EU directives and new market trends. Second, we have achieved a level of expertise and a supporting network that allows us to develop highly innovative solutions with maximum attention to production costs. For us, working with an open

innovation mindset is an established practice. The interest of most of our customers is increasingly to purchase the best technologies to be able to produce technologically advanced automotive glass with a focus on power consumption, product circularity, and ease of use. They are basically asking for innovative technologies in line with the EU directives on Industry 5.0. Thanks to intensive R&D work, till now with our Bags Furnaces, we've managed to produce technologically advanced laminated automotive glass with an electricity saving of more than 30 percent - all while reducing the CO2 footprint by an average of 1096 Kilograms per day.



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