Reshaping automotive glass, IOCCO engineers the next evolution

Held on April 16 at the Automotive Glass Forum at E-TECH Europe 2025, the following interview between event speaker and IOCCO Chief Technical Officer Ludovico Iasci and GTI Senior Editor and forum chair Nick Fouché offers a window into how IOCCO is pioneering the transformation of automotive glass from passive component to intelligent interface as it gets integrated into tomorrow's connected vehicles.

GTI: LUDOVICO, INDUSTRY 5.0 IS A TERM ON EVERYONE'S LIPS. WHAT DOES IT MEAN TO IOCCO AND HOW IS THE COMPANY PREPARING FOR IT?

Ludovico Iasci: For IOCCO, Industry 5.0 represents a bold step forward - a shift from purely automated production to a more human-centric, resilient and sustainable approach. We're embracing it fully. Since its founding in 1978 the company has been at the intersection of precision engineering and innovation. Today, with nearly five decades of experience, we're evolving our systems to combine advanced robotics, digital integration and human expertise. It's not just about faster machines; it's about smarter, more adaptive manufacturing that puts people and the planet at the centre.

GTI: That evolution must be particularly visible in sectors like automotive, where both scale and technology have skyrocketed.

LI: Absolutely. The transformation in automotive over the last century is staggering. Back in 1923, we were talking about manually assembled vehicles - luxury products with one car per 230 people. Fast-forward to today and we're seeing highly automated, interconnected assembly lines producing over 80 million vehicles a year. Now, there's nearly one car for every 1.6 people globally. That scale requires not only speed but sophistication - especially when it comes to components like glass.

GTI: Automotive glass has become far more than just a protective surface. How do you see its role in the modern vehicle?

LI: A hundred years ago glass in cars was flat, single-pane and purely functional. Indeed it did little more than keep the wind out. Today, it's a multi-functional, digitally-enabled surface. That makes it integral to vehicle design, safety, connectivity and user experience. Here we're talking about laminated and curved glass that contributes to aerodynamics and structural integrity while also interacting with digital systems.

Event speaker and IOCCO Chief Technical Officer Ludovico Iasci addresses the Automotive Glass Forum during E-TECH Europe 2025 at Bologna Exhibition Centre on 16 April

Glass now includes features like embedded cameras and sensors for driver-assist systems, electrochromic tinting for comfort - even acoustic layers for noise control. It has truly become a high-tech interface.

GTI: You mentioned electrochromic glass. What other innovations are pushing the boundaries of what glass can do?
LI: There's an entire ecosystem of innovation happening. Head-up displays are a good example -projecting real-time driving data directly onto the windshield. Rain sensors, heated surfaces, PDLC and SPD technologies for on-demand light control- all of these are becoming mainstream. What was once futuristic is now factory standard. Automotive glass is increasingly becoming the nerve centre for sensor-driven systems - integrating with ADAS technologies and digital dashboards.

GTI: And with such complex features, I imagine the manufacturing process has become just as sophisticated?
LI: Precisely. The production process is now a delicate blend of mechanical precision and digital oversight. We start with pre-process steps like trimming, grinding and high-resolution printing, which prepare the raw glass for its final form. From there, the glass is shaped through bending and tempering for strength and contouring. Laminated glass is carefully assembled using interlayers like PVB or advanced smart films. One crucial step is the de-airing process - ensuring no trapped air remains, which is vital for safety and optical clarity.

GTI: And how is quality maintained throughout such a multi-layered process?
LI: Quality control is deeply embedded at every phase. We use advanced inspection systems to monitor curvature, transparency and surface integrity. Even microscopic defects are flagged. But quality isn't just about checking boxes - it's about ensuring the final product integrates flawlessly with high-end automotive design and electronics. Post-processing steps, like embedding heating elements or integrating display technology, add even more complexity. But this is where IOCCO thrives - developing machines and systems that handle these challenges seamlessly.

GTI: Some might be surprised to hear how digital glass has become. How do you see its role evolving in the future?
LI: From here the role of automotive glass will only grow. As vehicles become more autonomous and digitally connected, glass will act as both a sensor platform and a display medium. We'll see more intelligent surfaces, more adaptive light controls and greater integration with vehicle software. Glass won't just be a material - it will be an interface, a communicator and even a decision-making component in some contexts. And with Industry 5.0, the production of these complex elements will become more efficient, sustainable and human-aware.

GTI: A final question, Ludovico: Where does IOCCO fit into this future you envision?
LI: IOCCO isn't just adapting to this future - we're helping shape it. Our role is to develop and deliver the machinery that makes this level of innovation possible, reliably and at scale. By combining human ingenuity with automated precision, we're ensuring that automotive glass keeps pace with the most ambitious ideas in vehicle design. Industry 5.0 is a call to build smarter, better and more sustainably. That's exactly what we're doing.