TECH
DRIVE

THE LATEST IN TECH & BUSINESS

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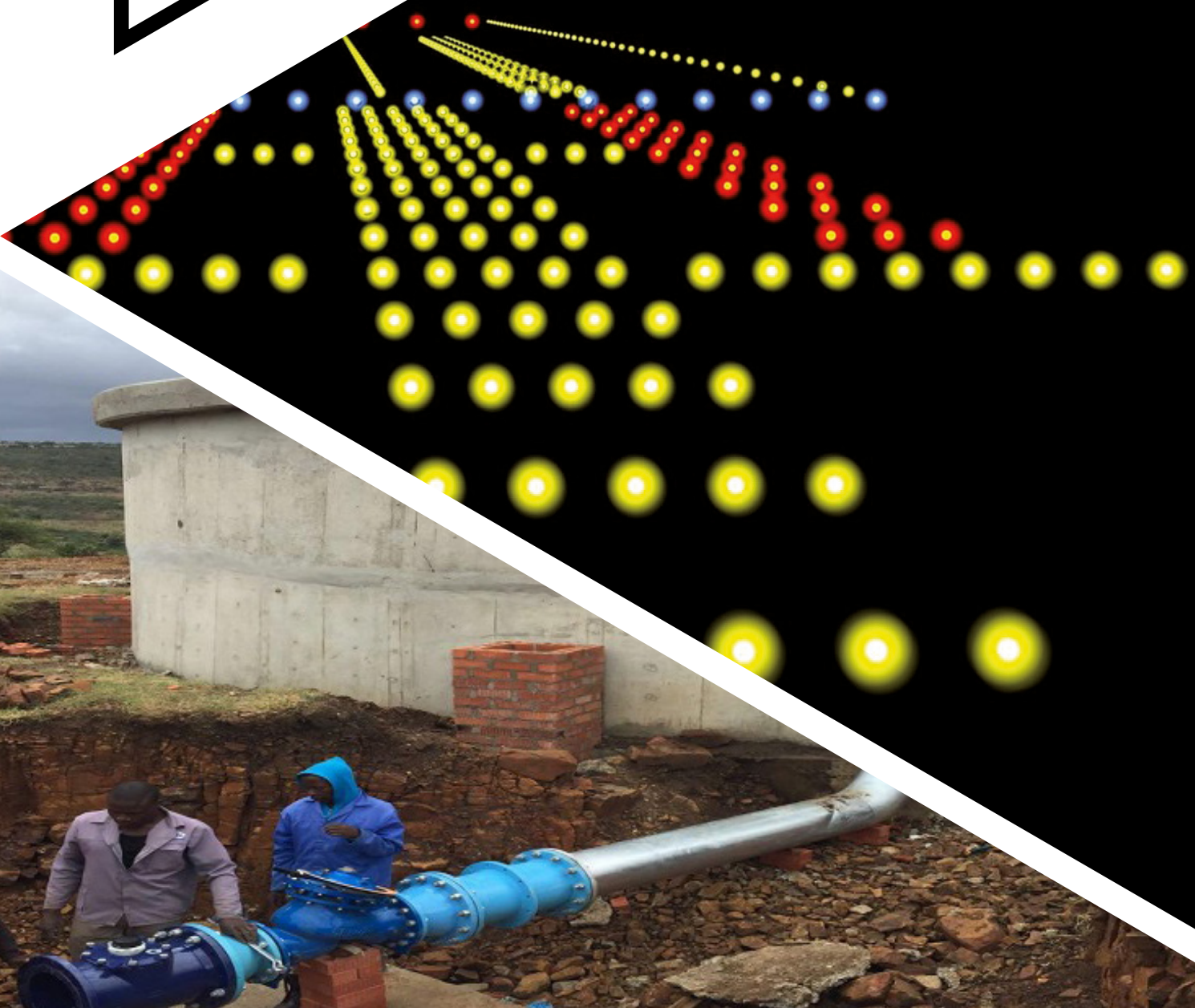
MC Solutions

Keeping the lights on when
it matters the most

MC
SOLUTIONS

LIGHTING THE WAY IN AIRPORT RUNWAY SAFETY

MC SOLUTIONS

Umberto's son Maurizio took over the reins three years ago.

"My father strongly believed in the value of his ideas which revolved around the latest optic fibre technology," Maurizio explains, "Today, these product innovations play an important role in airport runway safety and our business continues to provide revolutionary ideas for every sector we are involved with. "

THE BUSINESS

Passion shaped MC Solutions from the beginning. An Italian company based in Monza, about twenty kilometres from Milan, it was founded nineteen years ago by inventor Umberto Cazzani under a different name. Working with a team of young and motivated people seeking to apply new technologies to various fields in industrial electronics, the company changed to its current name when

THE TEAM

MC Solutions embodies the spirit of ongoing development and technology, possessing the energy and motivation throughout the team to keep up with the dizzying pace of this sector. It is a commitment that requires continuous updates and new designs that keep their products at the forefront of their respective fields.
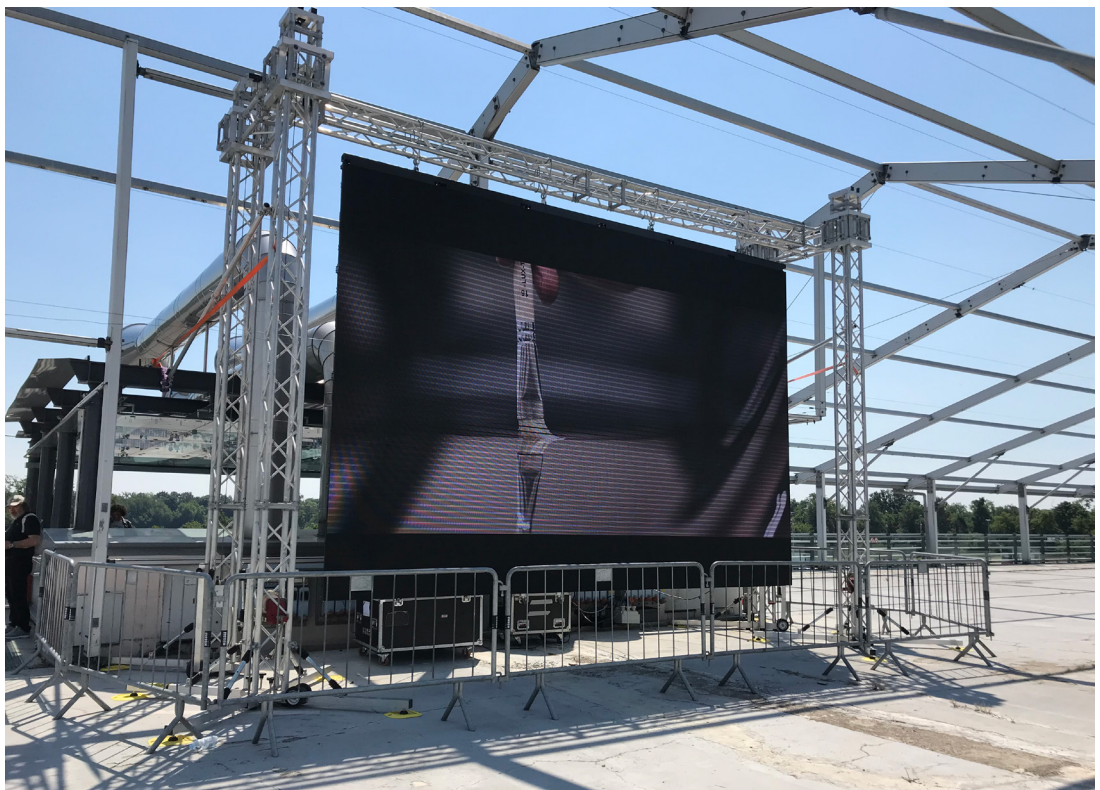
Maurizio explains that the plurality and global application of their services are supported and developed by the different professional skillsets included within the team. This allows them to maintain a reliable service while embracing all operational areas.

"The MC Solutions Team is constantly growing and exceeding their objectives within the group," he says, "Allowing us to expand into different fields and accept new challenges."

LIGHTING THE WAY IN AIRPORT RUNWAY SAFETY

The team's fibre optic technology innovations have shown tremendous success in the use in runway lights management, providing automatic surface guidance control and the prevention of runway incursions.

"Our team provide a complete solution in this area," Maurizio explains, *"Providing revolutionary ideas in cable and circuit separation, optic fibre data transmission and safety, speed and efficiency."*

The MIA System, which stands for Modular Intelligence Airport, has been installed at different integration levels in nine airports from northern to southern Italy. The most complete system has been successfully working since 2018 at Marco Polo International Airport in Venice, which has provided a busy and challenging environment to put the system to the test.

The pulsing heart of the MIA System is the worldwide patent pending product, the Monitor Control Lamp Optical (MCLO). The one thousand MCLO modules installed in the airfield can control about two thousand lights on a runway with greater reliability and easier management.

"Having tested the MCLO product in such an active and high demand environment we see it as being time to invite airports around the world to embrace the optic fibre technology," Maurizio declares, "Not only has this technology proved to get the job done better but it also paves the road for future development and upgrades."

Safe and efficient, optical fibre technology doesn't use powerline communication or microwaves. It is modular and interference-free and has a high fault tolerance with burn lamp detection on a runway taking less than a second to complete.

THE IMMEDIATE ADVANTAGES OF MCLO

In a sector that can sometimes feel monopolised, it falls to the smaller and more flexible businesses to innovate and integrate new ideas focussed on the essential factors that are important to clients. For example, Maurizio understands that like all busy organisations, airports are looking for reliability and efficiency. So, to achieve these two essential qualities the MCLO have had several advantages built into them.

- The system works on a low voltage (48/60V) net and is otherwise very low consumption. For 1000 light module 1000 watts are used, much like a domestic microwave oven, whereas the nearest' competitors offer 15 watt each, so 15000 watts to power 1000 modules. When one imagines the power required in an aerodrome where around a thousand modules are needed the cost efficiency speaks for itself.

- Maintenance and upgrading can be scheduled efficiently since the system is able to pinpoint the exact position, type and ID of any malfunctioning lamp.

- Upgrades and software improvements are uploaded remotely, with software credentials and hardware keys. The software is also available on portable devices for the maintenance operators that are far from the substation during intervention. The software is customized, and the real layout and programme is used as a simulation tool for the training courses to the Tower and maintenance operators.

- All of the devices are IP68, together with their special connectors they offer a plug and play product. This makes them adapt to stressing environments, such as in Venice where they operate in brackish immersion most of the time. As
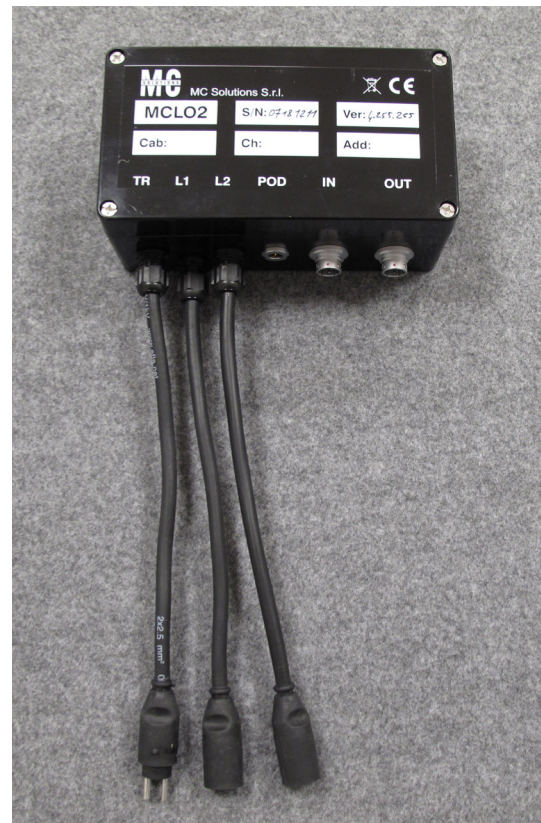
a turnkey product, maintenance operations are quick and easy, taking a fraction of the time they used to.

- The MIA System is modular so it can be integrated step by step over a period of time. It can also fit to all kinds of lights and all kinds of CCR (Constant Current Regulator) with multiwire connection (compulsory by FAA regulation)

Preventing runway incursions. The CDU uses magnetic loops to identify the metal parts of vehicles and Aircrafts such as the landing gear and engine so that interference and false alarms caused by atmospheric agents or wave interreference. In 2001, there was an

accident in Linate (Milan City Airport) where a tragic accident occurred because the runway incursion alarm was switched off due to continuous false alarms. A tragic but important example of the value of a better system.

"It is all about a change in mindset," Maurizio says, "From a maintenance oriented behaviour to a safety oriented one; from spending-review to cost-efficiency; from emergency maintenance intervention and congested airports, to scheduling and punctuality."

Additionally, Maurizio explains that MCLO encourages a shift of attitude from diagnosis to prognosis. Since their modules and software collect all the life data about the lamp, they are able to collect real-time performance data, including position, model, how long it has been switched on and at what level of brilliance.

"Which allows us to calculate the expected lifespan," he says, "And potentially troubleshoot issues before they occur."

Thanks to the above advantages as well as a reputation for putting their clients first, MC Solutions was a smash hit at the recent 2019 Inter Airport Europe exhibition in Germany.
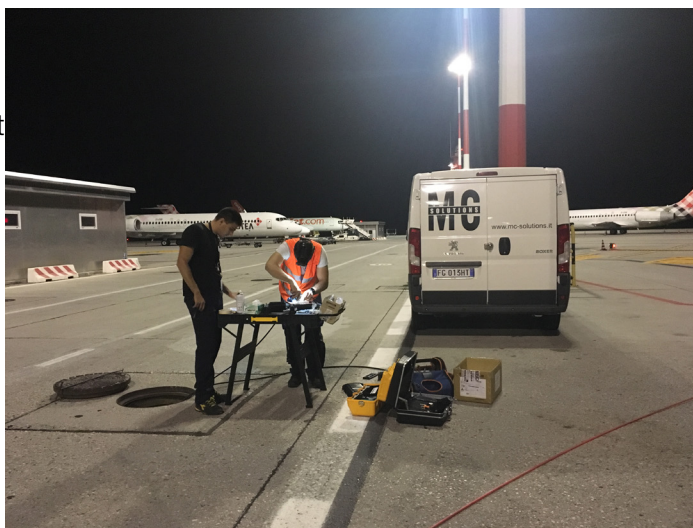
Ready to offer its expertise to the entire world they will next be exhibiting at The AIRPORT SHOW in Dubai from 22nd to 24th June 2020 www.theairportshow.com, which is one of the most important aviation and airport events in the Northern Hemisphere.

RESEARCH AND DEVELOPMENT

MC Solutions is not a company that would settle for being pigeon-holed into a single industry and are continuously developing high-tech products in other branches for many different applications. Allowing themselves very few boundaries, they have research and development taking place for hardware and software solutions for a host of industries. These include, and are by no means limited to, smart home applications, video surveillance, smart data management in gas distribution and a multitude of audio and visual service applications. They even digital video distribution for car racing circuits, such as for the world famous Monza car circuit!

"This is further proof that Italian creativity still has a great deal to offer," Maurizio says, "And is a classic story of a family company that has become a well-known and well respected brand around the world. It is also proof that if you strongly believe in the value of your team, of your projects and know-how you can bring about positive innovation in any industry you set your eyes on."

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