



-MARIO CONCI-



-CRISTIANO CARLEVARO-

24 months to spread the smart retail experience across Europe From Trento, MIMEX is the Micro Market Experience project

by FRANCESCO ALTAMURA

A European project lasting 24 months and an international consortium to develop it. The goal? To reconceptualise the retail shop, offering a complete and financially sustainable solution for the setup of a self-checkout micro market. We have talked about this with Cristiano Carlevaro and Mario Conci, respectively the Managing Director and the Project Manager of Spindox Labs.

Cristiano, [MIMEX](#) is the Micro Market Experience project that was selected within the EU programme [Fast Track to Innovation \(FTI\)](#). If you had to explain it to people who don't know about it, where would you start from?

Undoubtedly, I would start from the business proposal: our retail shop proposition entails a more dynamic engagement of the client base and a fast, swift shopping experience. The innovation lies in essential aspects to the user journey we designed: necessarily safe, increasingly automated and more responsive to proximity criteria. The new part also consists of the commercialisation we are looking at: 'zero-mile' and 'short supply chain' are not slogans or empty words. To lead the customer closer to the local products and to interpret retail distribution as a community service is among the goals of the consortium, representing added value.

Coordinated by [Spindox Labs](#), the consortium includes the Turkish e-commerce operator [Hepsiburada](#), the [Bruno Kessler Foundation](#), the Spanish Research & Development company

Metrica6 and the CEFLA group, specialised in the engineering and shoplifting industry. Would you like to illustrate the premises of the project proposal?

At first, analyses in the retail area showed a generalised delay in the updating of technologies of the points of sale. The retail system is now facing changes in dimensions and management costs: today's opportunity is creating economies of scale that a small retailer would not be able to achieve alone.

With the [SpinRetail](#) project, Spindox Labs had already developed systems to monitor movements and customer behaviour inside the points of sale, with the aim of preventing shoplifting. From there, with the collaboration of the research units in [Energy Efficient Embedded Digital Architectures \(E3DA\)](#) and in [Technologies of Vision \(TeV\)](#) of the Bruno Kessler Foundation, an AI platform was created that could generate real-time alerts of out-of-stock products and could advise the customer on what to buy according to what was already in their cart. Such profiling of the shopping habits was made possible by employing Deep Learning techniques in the Computer Vision area, storing large amounts of Data that could be processed through Data Science.

Cristiano, could it be said that MIMEX takes place around this core technology and that the participation to the Fast Track to Innovation program (FTI) is instrumental to further develop the original nucleus of SpinRetail and to bring it to the market?

Of course. MIMEX is an experience now ready to be placed in the business of the Vending Machine Market. AI, Computer Vision and Internet of Things are avant-garde technologies, necessary for the organised distribution for speeding up sales and facilitating customer flow. Regarding these technologies, we boast a wide range of competencies, developed further through the SpinRetail project precisely. The other side of the know-how, the part related to System Integration, derives from Spindox Spa, our parent company. I've been in Spindox since 2010, after a degree in [Electronic and Telecommunications Engineering](#) at the [University of Trento](#). At first, I dealt with digital transformation projects relating to the businesses of the area. Later, my interest shifted from sensor technologies for the automotive industry to Large Organised Distribution. It is precisely in this transition that I realised how much delay the retail industry was accumulating, in terms of innovation and especially regarding the smart management of the points of sales. Today, we have the opportunity to optimise it, as the protraction of the health emergency has brought the need of tools that guarantee the compliance with social distancing rules. This is truly an unmissable opportunity.

Mario, you had the chance of dealing at various times with technology and customer experience. In this sense, you also conducted a long study activity in the research unit of [Intelligence Interfaces and Interaction \(i3\)](#) of the Bruno Kessler Foundation. How did your specialised education intersect the smart retail area?

The initial interests I had about the interaction between human and artifact go back to my degree in [Cognitive Sciences](#) at the University of Trento. The Master's in Assistive Technology at the [University of Trieste](#) later allowed me to explore potential connections between Artificial Intelligence and social inclusion techniques, like the role of technology in support to people with specific needs: specifically, the elder population. The step towards innovation policies and the valorisation of the territory is then shorter than one would think: in terms of design, smart city and citizen engagement are two aspects that necessarily have to be addressed.

Based on the experience you have gathered in terms of European planning and also in terms of aspects that are more closely related to management and administration, you were trusted with the role of coordinating the proposal. What is the current development stage of MIMEX?

For the past months, at [the branch of the Bruno Kessler Foundation in Povo](#), Spindox Labs has curated, in collaboration with CEFLA, a testbed to test the efficacy of the applicable solutions to the retail points of sale. The space has a basic structure of a store and is designed for the development of solutions that are applicable in different contexts. The next step is the creation of two pilot installations: an indoor one at the operative centre of Hepsiburada in Istanbul; the other, outdoors, in the [Technological Park of Andalusia in Malaga](#). In both scenarios, the solutions developed in Trento will be further expanded. The goal is to reach, within 24 months from the project proposal, a validation of such technologies which necessarily comprises the evaluation of the impacts of the solutions proposed in real contexts. After that, MIMEX will finally be ready to explore market opportunities: the road ahead of us will have to lead us towards a penetration strategy that might be implemented on a European scale.