

MIMEX, let's make the stock.

One year from its beginning, the development of the testbed continues at the Bruno Kessler Foundation.

Spindox Labs and CEFLA take us through the environments created to test the efficacy of the applicable solutions in the retail points of sale

FRANCESCA LANZONI – FRANCESCO ALTAMURA

A new, intelligent format for a point of sale in which the client is given an interactive buying experience. This is MIMEX, the Micro Market Experience, a project that began in 2020 within the EU framework of [Fast Track to Innovation \(FTI\)](#). Through sensors and cameras, the technology at the core of MIMEX can detect the customer's movement inside the point of sale. The project is being developed in Trento, within the spaces of the [Bruno Kessler Foundation](#). Here, under the supervision of [Spindox Labs](#), a first prototype for a shop has already been installed. The aim is to gauge the functionality of the different components in order to bring the improvements needed to create the format. Each shop will feature three interactive areas:

- **A check-in** to access the store, during which the client authenticates through an app that also verifies compliance with anti-Covid regulations.
- **A self-service area** in which the client performs their shopping fully autonomously.
- **A check-out zone** for automatic payment, also using our dedicated app.

The advantages of this solution are in the flexibility of the shelving structures, relies on the know-how of [CEFLA](#). This allows the retailer to adapt the layout of the available spaces and the products that are being exposed. This modularity enables a comfortable fruition of the environments and is accompanied by a particular care for their illumination. Lighting is indeed a crucial aspect of the layout, in that it creates a pleasurable and welcoming atmosphere, which encourages to spend more time in the point of sale. The correct use of illumination allows us to focus the attention on specific areas, together with creating different settings according to the categories of the goods exposed. In addition to ambient lighting, accent lighting is present on the shelves, with the aim of improving products exposure and enhancing their features.

The employment of cameras and sensors on the shelves ensures, together with space surveillance, a better management of stocks, avoiding discontinuities, a fundamental element for customer loyalty. The chance of finding empty shelves during the shopping experience is in fact less likely, with important implications: a customer that is loyal to certain brands may be induced to change point of sale, in order to find the desired product. Even the queue at check-out might be a friction point, which may cause dissatisfaction. The automation of the check-out phase is an expedient that can eliminate such a problematic issue, perceived by the customer as a waste of time.

Since last May, a researcher's Team from Spindox Labs, comprised of Luca Capra, Ahmed Jumaah, Alessandro Peretti e Marco Piazzola, have been hard at work on the development of these three interactive areas. Head of the team is Roberto Larcher, Data scientist in Spindox since May 2018: «The most stimulating aspect of venturing in the several tasks is the approach flexibility that is being demanded: in MIMEX, one know where one starts, but doesn't know when one ends up». In this moment of «a bit of development, a bit of text», says Roberto during an interview in the testbed environment, where he usually spends a lot of his time with his laptop on his knees, head bent towards the screen, «I make sure that what is being done is actually working. It may happen that some things are taken for granted as finished. At times, instead, we find ourselves in front of logical problems, such as components that don't fit together. It takes intuition in understanding what is wrong at the development stage and one needs to come up with a solution rather than a problem».

People-tracking is certainly an element around which the project revolves. Therefore, it has demanded prioritised attention at the stage of work planning. No less relevant is the hardware component in the smart

shelf, further developed from the [SpinRetail](#) project. The current stage, explains Larcher, is more directly connected to the development of those elements that make the customer “cooperative” inside the point of sale. The idea of a dynamic involvement of the client is not only the philosophy that carries the smart retail experience, but also what drives further evolution of the concepts of self-check-out micro-market that MIMEX is working with.