The sudden outbreak of the Covid-19 pandemic has caused many companies to switch their production to personal protective equipment (PPE) for medical staff and citizens. So did Sarem, a plastic pipe extrusion line manufacturer, with ABB’s and project partner Halici’s support.

The Customer
Sarem is one of the largest manufacturers for plastic pipe extrusion lines in Turkey. With its base in Istanbul and around 80 employees, the company focuses on machinery for PP, PE, PVC, PPR-C, Corrugated, Drip Irrigation, PEX-A and Multilayer Pipes & Injection Molds for fittings. Over the years, Sarem has installed more than 300 pipe extrusion lines in 40 countries for all sorts of industrial, commercial and residential applications.

Sarem uses a growing number of ABB components like PLCs, HMIs, motors and low voltage products. The company decided to use ABB products because they offer superior control – this is a real USP in the highly competitive pipe market: When everyone is focusing on low costs, low energy consumption, low maintenance requirements and fast production, very precise control of the machine and the process are essential success factors. ABB makes this possible.

The Application
The Covid-19 pandemic spread so suddenly and widely in the spring of 2020 that the global production of personal protective equipment could no longer keep up with the increased demand. Sarem Makina used its broad experience with producing high-precision, high-speed pipe extrusion lines to create a surgical mask production line.

The production line works with three rolls of non-woven fabric. The machine aligns the fabric into three layers. Nose wires and ear bands are automatically cut, inserted and welded by ultrasonic welding. They are also counted and palletized. The production line is able to produce 70 to 80 masks per minute.
The Customer’s Voice

“We decided from the start that we would only use highest-quality components from the best companies to avoid any failures or problems. And one of those suppliers was ABB.”

Emin Sarikus, Chairman of Sarem Makina

The Technology

As Sarem was already working with ABB components on the pipe extrusion lines, they knew that the AC500 PLC system modularity and flexible system configuration would be a perfect fit for the production line. Since the machine had to be made available as quickly as possible for the crisis, high stocks were essential. Also, product reliability and low downtime were highly important, as the production had to run at full speed and capacity. In addition to several ABB drives, servo drives, and motion control elements, Sarem installed an ABB PLC from the AC500 product series. The heart of this system was the processor module PM573 together with several input and output modules from the same product family (FM562, DI524, DO524, DI561, AO561, AI523, DC551-CS31).

The PLC and hence all the input factors can be controlled via the user-friendly control panel CP607 from the CP600 series.

The entire setup was established, configured and commissioned by Turkey-based ABB channel partner HALICI Group.

02 The non-woven fabric is joined before nose wires and ear bands are inserted

03 The finished masks are packaged and prepared for shipment