

Extrusion blow molding

Quality, quick

A reduction in time to market typically requires trade-offs – less time for innovative new features, less time for testing. Planning to introduce the first line of all-electric extrusion blow molding machines to its market, Turkish extruder specialist Mikrosan turned to B&R to ensure that accelerated development wouldn't come at the cost of quality or performance.





Injection blow molding machine automated by B&R and mapp Technology.



An extruder requires particularly efficient energy management to operate profitably. Mikrosan achieved exceptionally low energy consumption using ACOPOS-multi servo technology featuring active power regeneration.



A rapidly growing share of new machine functionality comes in the form of software, and demands for flexibility and performance are increasing every day. At the same time, the squeeze of time-to-market pressure threatens the performance and quality of the machine, not to mention the budget.

"We invest a considerable amount of time and resources in developing and maintaining our software," reports Mikrosan's electrical engineering manager, Erkan Akkartal. "Each new machine should


outperform the previous generation while at the same time maintaining its quality-tested functions – that's quite a challenge."

When Mikrosan decided to introduce its first all-electric extrusion blow molding machine, the company knew that getting it to market as quickly as possible would be essential to its success. The question was therefore how to achieve this goal without compromising quality.

Fast development, reliable quality

The answer came from B&R, whose modular application development solution – mapp Technology – provided proven and reliable precoded software blocks for tasks such as motion control, recipe management, audit trail, file management and more. "The benefits of mapp Technology played a central role in our decision to go with B&R," recalls Akkartal. "It allowed us to future-proof the application software and shorten our time to market without sacrificing quality."

With mapp providing the basic functionality of its new software architecture, Mikrosan was able to leverage B&R's thorough field



Naci Sönmez
Founder of Mikrosan

"Together with our strong and dedicated technical team, our cooperation with B&R has perfectly served our mission of bringing cutting-edge technology to our customers in a fast and reliable way."

Source: Mikrosan



With the machine's standard functions covered by B&R's mapp Technology, Mikrosan was able to implement advanced processing functionality while still completing development in half the time.



Erkan Akkartal
Electrical Engineering Manager, Mikrosan

"Not only were we able to have the new machine ready in about half the time we've achieved in the past, we had the time and resources to optimize the user interface for advanced status handling."

testing and ongoing maintenance for consistently reliable quality and reduced investment risk. "With fewer resources tied up performing repetitive low-level development tasks and maintaining existing solutions," continues Akkartal, "our developers are free to focus on implementing and optimizing machine-specific functions, such as sequence handling, which is what matters most in this type of machine." After all, it is the high-level features like this that differentiate Mikrosan's machines on the market.

Ultimately, Mikrosan was able to have the new machine ready in about half the time that would usually be required. Not only that, but they even had the time and resources to optimize the user interface for advanced status handling.

Extreme energy efficiency with ACOPSMulti

With mapp Technology ensuring efficient use of engineering resources, the next challenge was to ensure that the machine makes efficient use of its energy resources. After all, the carriage translations and clamping units on an extruder have large masses and require particularly efficient and intelligent energy management in

order to operate profitably. Mikrosan's new machines offer exceptionally low energy consumption thanks to B&R's ACOPSMulti servo technology featuring active power regeneration, a 750 VDC common DC bus and large capacitors. This efficiency can be monitored online with the help of a PLCopen power meter function block.

The advantages of using servo motors in extrusion blow molding machines are no doubt the speed, energy efficiency and quiet operation. By using B&R's state-of-the-art drive technology Mikrosan ensured that these advantages are maximized, while the drives' small footprint complements the mechanical design of the machine itself.

B&R: The reliable and dynamic partner

This highly successful partnership dates back to 2006, and Mikrosan already equips its extruder, coex, puller, saw, and more with B&R solutions. "Together with our strong and dedicated technical team, our cooperation with B&R has perfectly served our mission of bringing cutting-edge technology to our customers in a fast and reliable way," concludes Naci Sönmez, founder of Mikrosan. ←