



With its movers that can be controlled like individual servo axes, XTS is the core element of the modular packaging platform from TDC.

A modular machine platform for the tobacco, food and other industries

XTS maximizes flexibility in packaging processes

Faced with growing consumer demand for personalized products, increasingly frequent changes in legal requirements and ever shorter product life cycles, manufacturers today are looking for production methods that will give them the greatest possible flexibility. For that purpose, Dutch engineering company TDC has developed Doysis-M, a flexible, modular machine platform based on the eXtended Transport System (XTS) from Beckhoff and designed to address dynamic market challenges like these.

The Doysis-M packaging platform implemented by Technical Development Corporation (TDC) – a part of ITMGroup and based in Kampen, Netherlands – eliminates the constraints that used to limit batch size or the ability to change the form, volume or size of products. It requires just one operator to change a machine over to a product with different packaging – and it takes next to no conversion time. In addition, the machine's modular design means it can adapt easily to accommodate future packaging requirements or additional features.

Broadly suited for small and delicate products, TDC's flexible platform is currently being used to package biscuits, detergent tablets and tobacco.

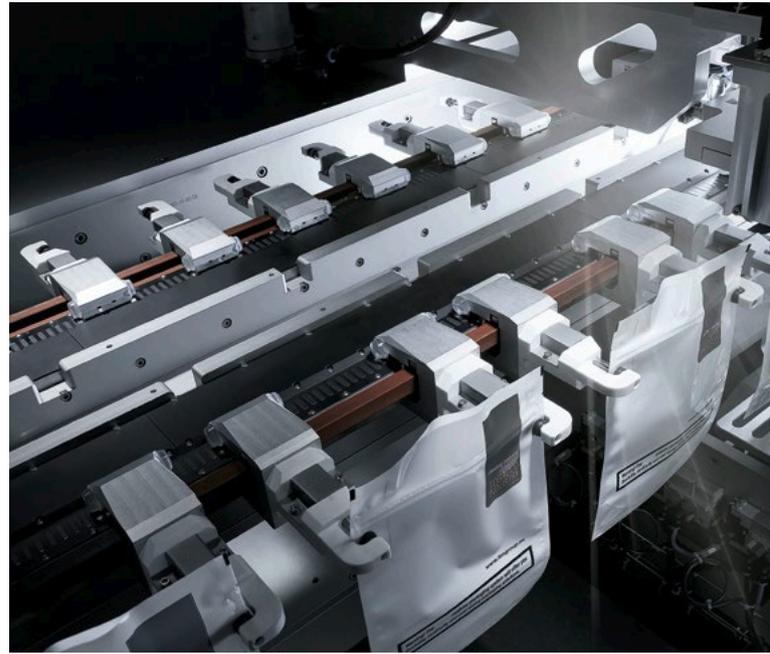
Quick to grasp the potential of the XTS

TDC engineers searching the marketplace for new technologies to use in flexible machine solutions first came across XTS around six years ago. Immediately, they understood that it offered vast innovation potential that could allow their

Doysis-M, a flexible and constantly evolving machine platform, now also includes Industrie 4.0 capabilities.



Filling stand-up pouches with tobacco is just one of the packaging processes already implemented using Doysis-M.



creativity free rein. The idea of a magnetic track that could be programmed to halt movers at any time and at any point along its length eliminated constraints that had consistently stood in their way in the past.

TDC Operations Manager Rolf Dekker recalls: "When we designed our first solution using XTS, we worked very closely with Beckhoff. This led to the first horizontal XTS system, with lighter movers and grippers and a track made of Pertinax composite. As a result, Doysis-M can now be used in the tobacco and food sectors as well as in other industries."

Progression towards Industrie 4.0

Doysis-M has been refined and evolved since the first systems shipped, particularly in terms of its Industrie 4.0 capabilities. "We're currently developing new grippers that are lighter but just as strong," says TDC's spokesman. "This will prolong the operating life of the XTS-based handling unit. The machine will also consume less power." The next step in this on-going process is to introduce predictive maintenance. TDC, Dekker continues, is adding sensors to the movers to record actual loads and acceleration: "This will allow us to predict track wear and the service life of mover bearings more accurately. We've also developed a service and maintenance application using Microsoft HoloLens™."

Doysis-M, initially designed to fill stand-up pouches, now works with boxes and other types of packaging as well. "Doysis-M is a fully modular platform. We can use multiple basic modules of the XTS system to achieve the requisite

length and combine these with the number of movers we need for the application in hand. We can add as many movers to the basic modules as we want," according to TDC. "The machine platform also lets us incorporate additional capabilities easily, going forward. With just a small investment, it can adapt to meet future requirements and achieve a longer useful life."

A fast, flexible dosing and packaging platform

Rolf Dekker describes the platform's flexibility: "We've designed a range of grippers that allow us to move different types of products and packaging. In conventional machines, product dosing and packaging are often the most costly aspects of the production process in terms of time, and manufacturing companies tackle this by operating multiple packaging machines in parallel. We've successfully shown that we can handle the kinds of volumes they require with just a single packaging platform. Besides keeping acquisition costs down for manufacturers, this also reduces space requirements, requires less operators, and lowers maintenance costs. Product quality frequently improves as well. As a result, investing in Doysis-M tends to pay for itself very quickly." In addition, with XTS no special tools are needed to handle different packaging formats: The format can be changed over quickly by means of software – practically at the push of a button.

Further information:

www.itmgroup.eu/doysis-m

www.beckhoff.nl