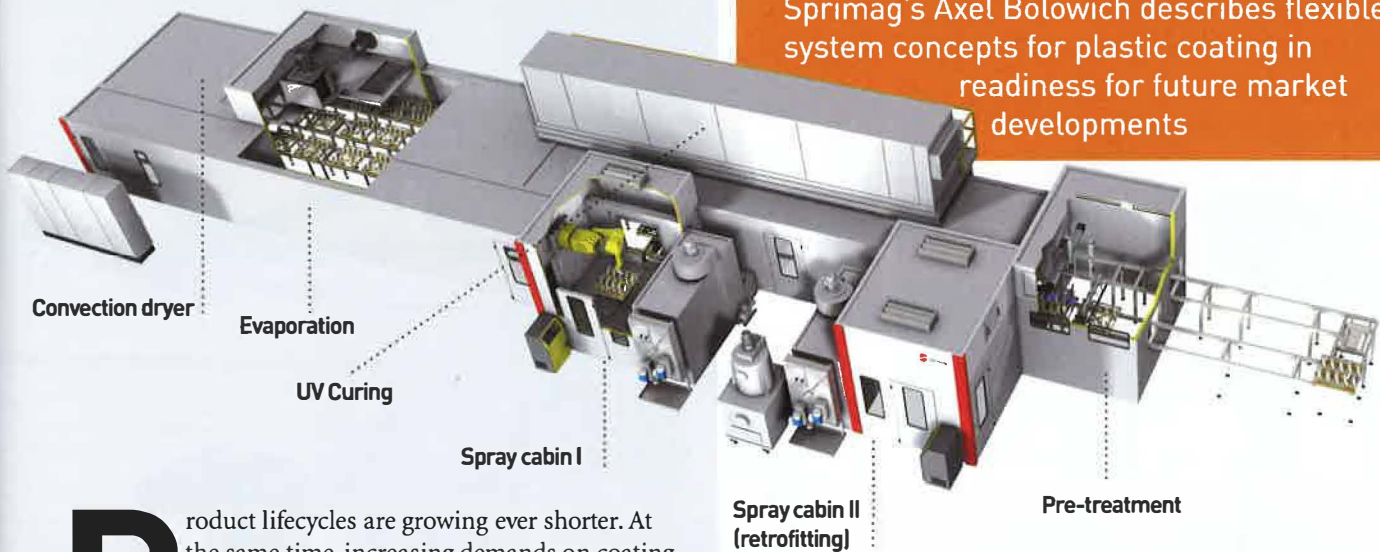


What tomorrow brings

Sprimag's Axel Bolowich describes flexible system concepts for plastic coating in readiness for future market developments



Product lifecycles are growing ever shorter. At the same time, increasing demands on coating quality and efficiency are leading to a variety of different coating materials which will need to be processed in coating systems in the future. This poses new challenges for system manufacturers – how does Sprimag envision a highly flexible concept for the future?

Conveyor technology

For years, Sprimag has been successfully implementing pallet conveyor technology at its customers' sites in order to carry out highly flexible horizontal coating on plastic parts. The system makes it possible to establish a flexible material flow concept which can include bypasses, junctions and switches. The workpieces are conveyed on a pallet which is not fixed to the conveying system. Both 'stop and go' and continuous modes of operation are available in the coating system, with different process speeds.

Pretreatment

CO₂ snow blasting, as an alternative to wet-chemical pretreatment, is becoming more accepted among OEMs and in the supply industry. In combination with ionisation and activation processes, this forms the set up for flexible plastic component pretreatment before the actual coating process. If any process steps are not required for an order, the pallet conveyor system can simply pass straight through them.

Coating

With regards to the coating process, an approach that Sprimag has already successfully put into practice at is the use of two spray cabins which can be used in different ways. This means that they can be operated in both single-layer and double-layer coating applications. The second cabin can also be retrofitted at a later time.

In double-layer mode you can choose between 'wet on wet' or 'dry on dry' operation. Both options involve spraying with a base coating in the first spray cabin and with a clear coating in the second. In both modes, the pallets are then

conveyed to the evaporation zone, the dryer, the cooling zone and finally to the unloading station. If a particular project requires the use of single-layer mode for the coating, however, both spray cabins can be used at the same time in order to increase production capacity.

Drying

Multiple drying methods can now be carried out by one system, such as evaporation with or without infrared drying, convection drying and UV drying. Individual process steps can then be combined using a bypass.

Coating supply and application

The right equipment ensures process reliability in single- or multi-component coating systems based on water or solvent as well as UV coating systems used alternately. Autonomous paint supply or integrated paint change systems guarantee the flexibility which is required in this sector.

System control using identification system

Such a high degree of flexibility can only be achieved using an identification system. Read and write points are located at various points within the coating system. They can request or store information from the pallet data carrier. Depending on the stored mode of operation, the pallet is conveyed to the required process steps.

Flexibility takes many forms

Individual needs will determine the degree of flexibility process steps require. A flexible coating system able to implement single-part flow primarily relies on a coherent overall concept. These flexible systems are particularly useful for contract coating specialists who need to respond quickly as markets, product variants and customer requirements change more often and at shorter notice.

* www.sprimag.com