

# Coating champions get trendy

C2 interviews four international suppliers of coating units in a bid to monitor current trends in this challenging sector of our industry. The interviewees are Dr Wolfgang Neumann, Vincenzo Cerciello, Dong-Seong Shin and Bob Pasquale

**Dr Wolfgang Neumann is director of the Kroenert BMB Drytec Group (Hamburg, Bülach/Switzerland and Hamburg-Norderstedt) Technology Center**

**C2:** “What plans do you have for the future?”

**Dr Wolfgang Neumann:** “As the director of Kroenert Group’s technology centre, I plan to offer our customers even more test facilities in the near future. In 2011 we successfully succeeded in implementing our TC-LabCo-unit in a clean room. This year we are going to build a new unit generation PAK for wax and hot melt coatings which will also be suitable for the application of epoxy resin coatings for composite materials because of its flexibility.”

“At the same time we are going to extend the application fields of our TC-LabCo to include irradiation and we are going to complete the convective drying distance. The TC-RECO will be retained with its full service portfolio and is the link at the scaling ‘from lab



Dr Wolfgang Neumann

to fab’. With the installation of a modern laboratory for tests and measuring we are creating the best conditions for our three test plants for quality assessment of a range of application weights.”

**C2:** “What are customers’ main requirements for coating plants?”

**Dr W. Neumann:** “Renewable energies, conservation of resources, protection of the environment and climate – these are the challenging subjects of our time. In conversations with our European customers, time and again the following questions are asked:

- How can high plant availabilities be ensured despite small batch sizes?
- How can material losses be avoided by special winders and web guide rolls? and
- How can energy be saved in the drying process and CO<sub>2</sub> emissions be reduced?”

**C2:** “Which trends in coating technology or coated products are especially interesting?”

**Dr W. Neumann:** “Coating and application technology task assignments currently present the most interesting and most demanding challenges. In our technology centre we are dealing with problems relating to contactless and pre-dosed coating, wet-in-wet multi-layer application technology, simultaneous

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coating of front and back surfaces, and powder technology. The objective is how to achieve a high-quality coating with low substrate speeds (<0.1m/min) and highest tolerance accuracy (< 1%). The market demands application quantities of <750nm (wet) and 50nm (dry)."

**C2:** "Which sectors and industries are especially attractive to your company at the moment?"

**Dr W. Neumann:** "Let me answer you the other way round. What makes us attractive as a company is the fact that we face the current challenges and do present promising solutions, as seen in the production of reflection foils, solar foils, LI-batteries, OLEDs, fuel cells, carbon fibre reinforced plastics or other fibre reinforced plastics which will last and set standards in the long run."

**C2:** "Which geographic markets do you focus on particularly?"

**Dr W. Neumann:** "Besides our core markets of Germany and Western Europe we are particularly active in North America and Asia."

**C2:** "Which new challenges do applications like printed electronics, solar or LI-batteries present to your coating plants and how do you solve them?"

**Dr W. Neumann:** "Concerning printed electronics, as a plant manufacturer in the production and moulding processing of roll-to-roll coating and drying, we are facing a variety of challenges that cannot be solved without the development of

application technology, especially in regard to:

- Processing of pressure-sensitive and scratch-free surfaces,
- Thinnest-layer technology with a precision coat thicknesses of <50nm,
- Holoheedral or fine line shapes and precise layer composition,
- Printing in register in longitudinal and cross direction,
- Clean room applications,
- Plant casing against water vapour and oxygen,
- The optimisation of precision lamination processes, and
- The simultaneous application of UV systems for the linking of battery adhesives."

"With LI-batteries, the backing films are made of copper or aluminium, either holoheedrally or intermittently, successively one-sided with intermediary drying or simultaneously from both sides by double application coating. The main challenge here is to be able to realise a material coating each side of the substrate with up to 450g/m<sup>2</sup> (wet) for the electrodes. With our own intermittent coating with an injector developments we have managed to achieve distinct advantages with regard to the set up of the edge at the starting angle and the kerbs."



**Dr Wolfgang Neumann offers guests at a recent 'open house' a look at the technology centre in Hamburg**

**C2:** "Which innovations or solutions in the coating sector do you offer that others do not?"

**Dr W. Neumann:** "Research and development has a special significance to our company. The equipment in our technology centre is beyond competition so we are able to effectively support our customers in making the right choices in coating, laminating and wrapping technologies. The possibility to test new production processes under close-to-production coating and processing conditions is a service not only used by our customers and the manufacturers of raw materials but increasingly by scientists of universities and institutes."

"With our ability to improve existing systems and numerous new and patented solutions in the sector of coating engineering we keep showing our customers that we are not only a plant and machine manufacturer but also a service provider, realising the technologies for the future."

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