

News Release

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May 2, 2017

Merck KGaA, Darmstadt, Germany, and Schmid Rhyner AG cooperate on 3D technology for printing with depth effect

- **Strategic partnership for innovative effects with pearlescent pigments**
- **3D effect by means of special inline processes for UV flexo and UV gravure printing as well as offset coating**

Darmstadt, Germany, May 2, 2017 – Merck KGaA, Darmstadt, Germany, a leading science and technology company, has found a strategic partner for its innovative 3D effect printing technology. The effect pigment specialist will work together with Schmid Rhyner AG, (headquartered in Adliswil, Switzerland) to further develop and commercialize its virtual embossing (VE3D) technology. The Swiss company is one of the world's leading suppliers of UV coatings and technologies for the printing industry. The aim of the partnership is to establish the purely optical 3D solution with the effect pigment technology from Merck KGaA, Darmstadt, Germany, on the packaging market.

Merck KGaA, Darmstadt, Germany, has already achieved significant success with a similar 3D process for manufacturing plastic package components in an injection molding process. For that purpose, the pigments expert found a strategic partner last autumn. "The strategic cooperation with Schmid Rhyner AG gives us the opportunity not only to commercialize our technology better, but also to further develop this innovative printing process with effect pigments for various surfaces and markets in the coming years," says Friedhelm Felten, Head of Pigments & Functional Materials at Merck KGaA, Darmstadt, Germany.

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3D effect enhances packages and labels

VE3D is a patented process for printing applications. Its eye-catching 3D optics imparts a special look to products with printed package components such as cartons and paper labels. The technology tricks the eye by giving images, graphics and text elements a three-dimensional appearance – whereas the printed surface itself is completely flat. Thanks to the innovative technology from Merck KGaA, Darmstadt, Germany, the special depth effect is created inline during the printing process. It can be used in UV flexo and UV gravure printing as well as in offset coating. It makes complex, additional processes superfluous, which were formerly needed to produce a 3D effect.

“VE3D technology fits our portfolio perfectly. It offers package designers and brand manufacturers a further unique opportunity to distinctively position themselves in the market with their premium products,” says Jakob Rohner, CEO of Schmid Rhyner AG. The company’s products enhance boxes, cartons and labels used for food, luxury food and non-food products. They include TOUCH & FEEL Relief/Raised Effect, a 3D printing solution that creates relief heights of up to 30 µm, and TOUCH & FEEL Soft-Touch, which imparts a touch of velvet to surfaces. Rohner states, “We are convinced that our customers, leading brand manufacturers in the packaging and consumer electronics industries, will soon discover the unique benefit of the new VE3D technology for themselves.”

About Schmid Rhyner

Schmid Rhyner AG is one of the world’s leading manufacturers of innovative coatings of outstanding quality for the graphic arts industry. It offers a unique combination of a broad product range with a comprehensive array of consulting and training offerings, extending from graphic design to regulation-compliant applications in food packaging. This is how Schmid Rhyner AG’s customers benefit from the efficient and safe use of UV- and water-based coatings.

More information can be found at www.schmid-rhyner.ch

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About Merck KGaA, Darmstadt, Germany

Merck KGaA, Darmstadt, Germany, is a leading science and technology company in healthcare, life science and performance materials. Around 50,000 employees work to further develop technologies that improve and enhance life – from biopharmaceutical therapies to treat cancer or multiple sclerosis, cutting-edge systems for scientific research and production, to liquid crystals for smartphones and LCD televisions. In 2016, Merck KGaA, Darmstadt, Germany, generated sales of € 15.0 billion in 66 countries.

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Founded in 1668, Merck KGaA, Darmstadt, Germany, is the world's oldest pharmaceutical and chemical company. The founding family remains the majority owner of the publicly listed corporate group. Merck KGaA, Darmstadt, Germany, holds the global rights to the „Merck“ name and brand. The only exceptions are the United States and Canada, where the company operates as EMD Serono, MilliporeSigma and EMD Performance Materials.