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Picosun strengthens its presence in the healthcare industries

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Finland based Picosun Group, the global provider of AGILE ALD (Atomic Layer Deposition) thin film coating solutions, continues its breakthrough into healthcare industries by supplying ALD technology to produce bioactive coatings on surgical implants at a major, leading manufacturer.

In the recent couple of years, healthcare industries have truly awakened to the endless possibilities ALD offers to them. As the population ages, the need for various 'spare parts' of the body, such as artificial hips, knee joints, dental implants, and stimulators for heart or brain functions grows. Along with the increasing miniaturization of implantable microelectronics and wireless sensors, remote health monitoring and therapeutics is also becoming commonplace.

"Picosun has worked with medical companies for a long time, for example with Russian-based implant manufacturer Conmet LLC, and with Swedish Nanexa AB, who uses ALD for drug particle surface functionalization for targeted and controlled drug delivery. We also collaborate with several universities where medical ALD technology is developed. These projects have given us unique insight into this business, which is quite different from the semiconductor industries, the most typical 'playground' for ALD," says Mr. Juhana Kostamo, Managing Director of Picosun Group.

The common fact to all implantable medical devices is that they need protection from the rather hostile environment inside human body. Body fluids are corrosive so the implant must be isolated from them, and vice versa - the body needs to be protected from possible rejection reaction or metal ion leakage caused by the implant. This is where ALD, with its capability to form intrinsically biocompatible, reliably hermetic and ultra-thin sealing around the implanted device, shows its strength. ALD encapsulation increases the implant lifetime and safety, potentially reducing the number of replacement surgeries or 'maintenance' operations of the implanted device.

"Our PicoMEDICAL™ solutions are tailored especially to the needs of medical industries that are often still new to ALD. We provide not only the equipment, but the whole chain starting from application consultancy to equipment and process optimization, production ramp-up and comprehensive after-sales support to ensure our customers' production keeps running smoothly and with minimum downtime. We are happy that we have been chosen as the ALD solutions provider to a yet new prominent customer in this field. Our technology shows again its agility and the potential to improve the quality of life for so many implant patients now and in the future," continues Mr. Kostamo.

Picosun provides the most advanced ALD thin film coating technology to enable the industrial leap into the future, with turn-key production solutions and unmatched expertise in the field. Today, PICOSUN™ ALD equipment are in daily manufacturing use in numerous major industries around the world. Picosun is based in Finland, with subsidiaries in Germany, North America , Singapore, Taiwan, China and Japan, offices in India and France, and a world-wide sales and support network.