THE HEALTH AND HIGH TECH NEWSROOM

Innovation Originals

Our newsroom publishes articles and news items weekly about the latest innovations in health & high tech – written by our contentpartner Innovation Origins.

The editorial office selected four articles from the past year we don't want you to miss out on, presenting: the *Innovation Originals*.

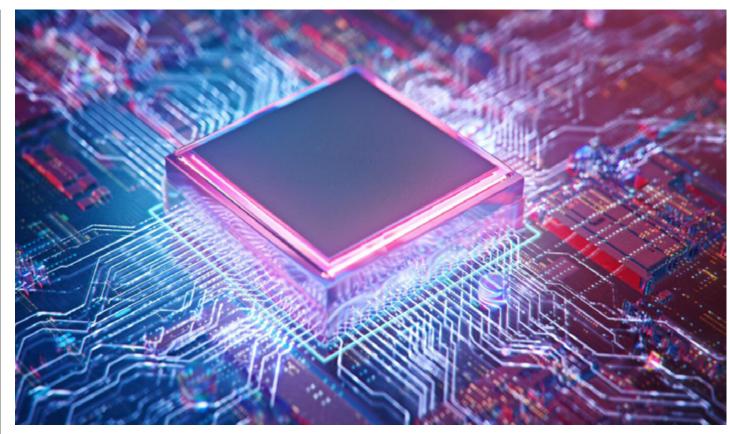


Breast cancer drug on its way to approval

It probably won't be long before a new treatment for metastatic breast cancer becomes available to patients. That is good news for patients. Although unfortunately, women affected with metastatic breast cancer will not be cured, the new treatment option can prolong their lives while maintaining a tolerable quality of life. The therapy was developed by the Dutch pharmaceutical company Byondis, which now holds the Dutch premiere of being the first to complete a successful registration study with a treatment that uses an antibody drug conjugate (ADC).



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Sustainable chips: wiring from gold to copper to ... nothing?

In the chips of today, gold wiring has been almost completely replaced by copper. At NXP, work is now also underway on the next step: a chip without wires.

The development around making chips more sustainable has been going on for years. In 2005, NXP was one of the first semiconductor manufacturers to switch from gold to copper. "The notion was always that gold wire was by far the most suitable material for making the connections. But from a cost-saving perspective and with an eye on sustainability, we wanted to look for a different solution", explains Pascal Oberndorff, Research & Development packaging manager at NXP.

NXP Semiconductors is now working on a new generation of chips in which precious metals are no longer needed to make connections. Producing a chip without connecting wires is cheaper and more sustainable. "In fact, the wires interfere with the signal. If you don't use wires but solder the connections with tin instead, then the signal becomes stronger and faster", Oberndorff says. "At the same time, this kind of connection is more sensitive, so once again, it requires a lot of research into how to make the chip extremely reliable."



Innovative antibleeding bandage

It is, of course, very stressful and risky for both surgeons and patients if bleeding occurs during surgery. In many cases, this bleeding is serious and must be stopped effectively and quickly. A new innovative bandage can stem heavy bleeding during surgery and prevent a patient from bleeding after surgery. The blood-stopping bandage, the GATT Patch, can prevent many unpleasant complications. The first patient already received the patch during a liver operation in the Radboudumc.



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World's largest pathology database launches in Nijmegen

Pathologists and their microscopes are essential for the detection of diseases such as cancer and autoimmune disorders. Tissues and cells are examined in detail and analysed, after which a diagnosis and treatment plan can then be drawn up. It is specialised work that requires a trained eye. At least, up until now. "We can improve diagnoses and treatment plans for patients by making as much data as possible available to clever minds", says Jeroen van der Laak, computer scientist and associate professor of pathology at the Radboudumc and since recently, coordinator of Bigpicture as well. There is a lack of a broad collection of digital photos and medical information that is needed to interpret the data. That's where Bigpicture should be bringing significant change. The



European consortium undertaking the Bigpicture project comprises 46 leading European research centers, hospitals and pharmaceutical companies. This opens up a whole new world for AI applications within pathology.



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