At the cross section of Art & Technology
– with NXP and ArtEZ

Students from ArtEZ – University of Arts – presented their work during a pop-up exhibition at the Papierfabriek in Nijmegen. Around 150 visitors attended the event to see how a new generation of students, inspired by radar technology, had created a unique series of artworks.

Ever heard of Crashing Signals?
Artists: Robin Opheij

"During our visit to NXP, we had an explanation of NXP's radar technology. Radar is used in a car to map the vehicle's surroundings, so that the car can warn the driver or even make an emergency stop. All these safety features made me think about the frequency of car accidents, which made me aware that I actually had no idea.

To visualise this frequency, I built a device that reacts immediately to accidents in the Netherlands. I wanted to literally show people how often an accident happens by linking data from the Dutch emergency number to a device that hits a car door every time there is an accident somewhere in the Netherlands."

Under the radar - Undercover, radar and invisibility in clothing and textile
Artist: Mare de Boer

"I've researched several aspects of radar technology that are seen as weaknesses. I was inspired by stealth- and undercover techniques, and I studied ways to 'cheat' a radar system. Stealth aircrafts and camouflaged vehicles have been designed to avoid detection by a radar system. The surface structure of these objects interferes with the radar frequency, making it impossible for it to reflect back to its source, creating the illusion of an 'empty area'.

I experimented with modern clothing and textiles, to demonstrate this concept in a playful and understandable way. I wondered whether it would be possible to make yourself completely invisible."

The 'Tjilp' - Researching relationships between radar and birds
Artist: Niels Graber

"I studied radar frequencies in general. My research was aimed at the way radar signals are maintained uniquely to prevent them from interfering with each other, a technique often used to have a safe and successful communication between radar modules in modern cars. Although the frequencies for radar in cars are mostly on the same wavelength, the initial signal for the main wave, also known as the 'tjilp', diverges. The 'tjilp' changes the regular wave pattern, making it more variable and easier to identify when multiple radar systems are in the area.

I also discovered research regarding radar and birds. Radar systems have 'accidentally' found that flocks of birds fly at night, instead of during the day, as was long believed. My poetic installation explores the interference of real bird sounds with radar sounds."
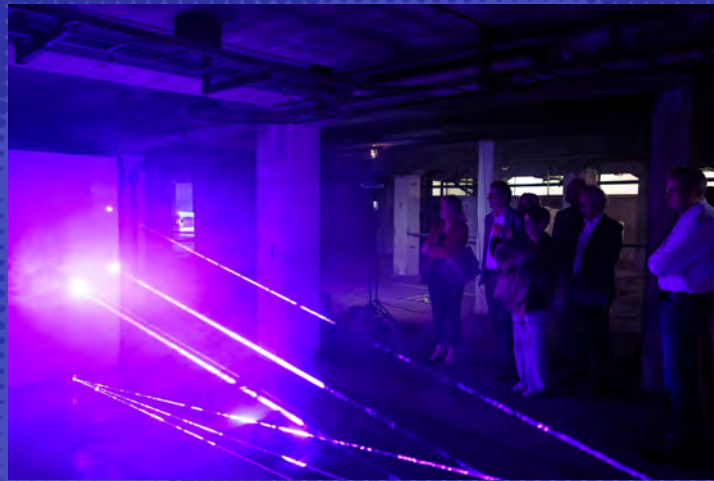
Mimicking radar signals
Artist: Isaak van den Aker

"I wanted to create something which would fit the large industrial space of the Papierfabriek. This led me to experiment with a laser, as I wanted to capture the information it carried in some sort of material. I figured that one way to do this would be through phosphorescence, which is also used as a material for 'glow in the dark' applications. Inspired by cars, I also decided to use metal. So, in my work, you'll see two metal objects 'talking' to each other, as they are reflecting an echo of their surroundings back to each other."

Radar Vision - Perceive your surroundings via radar technology
Artist: Niels Pauls

"I was intrigued by the idea of what it would be like to perceive the world through radar vision, hence the title of the work. Radar technology is powerful, yet invisible – which inspired me to do this project: the hidden data revealed by the reflection of radio waves. I explored how to extrapolate information using the Doppler effect and other techniques. I created two identical radar glasses with microwave radar modules that detect human presence and are mounted on the front of the glasses. On the inside of the visor is an LED strip that acts as a screen reflecting the sensory input of what the modules pick up from the waves."

Radar to detect heartbeat and breath
Artist: Kaan Piskin

"When do you notice that you are being filmed? When someone asks you if it's OK to record for training purposes? When there's a sign that says so?

My installation aims to collect biometric data without permission, to demonstrate the possibilities of wireless technologies available to the wider market."