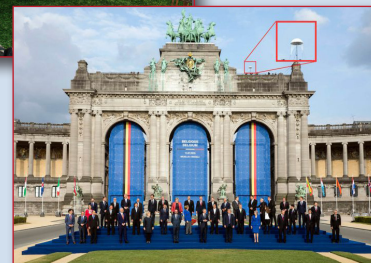


FABSS and LABS

Aaronia: From Handheld Spectrum Analyzers to International Summits



Surrounded by the bucolic farms of western Germany, not far from the borders with Belgium and Luxembourg, Aaronia's expansive glass A-frame headquarters is carved from the evergreen forest, the hub of a global business whose products are helping protect western governments in an uncertain and asymmetric world.

Aaronia's story begins with its founder, Thorsten Chmielus, who started his first business when he was 15. Curious and creative, an interest in PC games led Chmielus into programming and building electronic hardware. Like several well-known tech pioneers, he dropped out of graduate school to pursue his passion.

In 2003, Chmielus started Aaronia to build measurement instruments, initially the "HF-Detektor," a broadband RF meter. This evolved into spectrum analyzers and, in 2008, Aaronia was first to market what Chmielus says was a "real" handheld spectrum analyzer, achieving a record sensitivity of -170 dBm/Hz displayed average noise level.

This first analyzer expanded into the SPECTRAN lines of handheld and compact desktop analyzers, the latter with USB interfaces and software to control and display the measurements. In a competitive environment with many companies offering spectrum analyzers, Aaronia's approach, secured by patents, provides performance advantages confirmed by customers. Complementing SPECTRAN, the company expanded its portfolio to include antennas for direction finding and EMC testing, preamplifiers to improve analyzer sensitivity and signal and field generators for EMC and EMI testing.

Chmielus has always been interested in opportunities to combine Aaronia's products with custom software,

creating unique solutions for customers. This blend of curiosity and creativity may have led to the most interesting—perhaps transformative—offering by the company: systems for detecting and jamming drones.

Aaronia detects drones by "sniffing" their RF signals using its antennas, real-time spectrum analyzer and monitoring software. To jam drones, it uses high-power antenna arrays that amplify and broadcast appropriate signals to swamp and disable the links controlling the drone. Combining its sensitive receiver with classification software using AI, the drone detection system, named AARTOS, provides 360 degree coverage out to 10 to 15 km. It can determine the type of drone as soon as it turns on, even before it begins flying.

Now in its sixth generation, AARTOS' capabilities have been tacitly endorsed by the number of international locations and events where it has been deployed: at Heathrow Airport, by the Austrian Army, at the 2018 NATO summit in Brussels and the 2018 meeting in Singapore between the U.S. president and North Korea's leader.

Building on the success of its spectrum analyzer products with AARTOS, Aaronia's revenue has grown some 30 percent per year for the past five years. To handle this and future growth, in 2018 the company expanded its facilities to some 40,000 square meters, providing ample space for research, product development, production, an EMC and calibration center and customer training facilities.

Thorsten Chmielus has not run out of creative ideas to explore. From first tinkering with early PCs in his bedroom to protecting international summits, he and Aaronia are on quite the journey.

<https://aaronia.com/>