AARTOS™

AARONIA
DRONE DETECTION X5

MOBILE UAV DETECTION AND DIRECTION FINDING

3D RF-TRACKING-ARRAY

((•)) DETECT   ⊕ LOCALIZE   COUNTER

((•)) DETECT

Detection range up to 2 km

· Real-time drone protocol decoding and RF signal detection

· Real-time RF frequency monitoring (700 MHz to 6 GHz)

· Portable and durable MIL certified hardware

· Powerful and versatile software "RTSA-Suite PRO"

· Extremely fast setup time of less than two minutes

· Hot-swappable batteries for extended runtime

· Developed and assembled in Germany

⊕ LOCALIZE

Locates drones, pilots and homepoints

· RF real-time frequency tracking via 8 sector antenna with a tracking accuracy of 4° to 6°

· Drone protocol decoding of most consumer-grade drones

· Detects and tracks pre-programmed drones with high accuracy

· 360° azimuth and full 180° elevation coverage

· Fully automatic mode possible

· Customizable mission sets and custom hardware integration

MADE IN GERMANY

3D drone position finding

The single-site portable solution AARTOS™ X5 uses the 3D directional-tracking antenna IsoLOG® 3D DF. Taking only a few minutes to set up and deploy, this system is perfectly suited for the surveillance of smaller areas, e.g. a building or a correctional facility.

The X5 includes the IsoLOG® 3D DF antenna with 8 sectors and is a cost-effective solution in situations that require detection as well as positioning. Drones are detected within a range of 1 to 2 km.
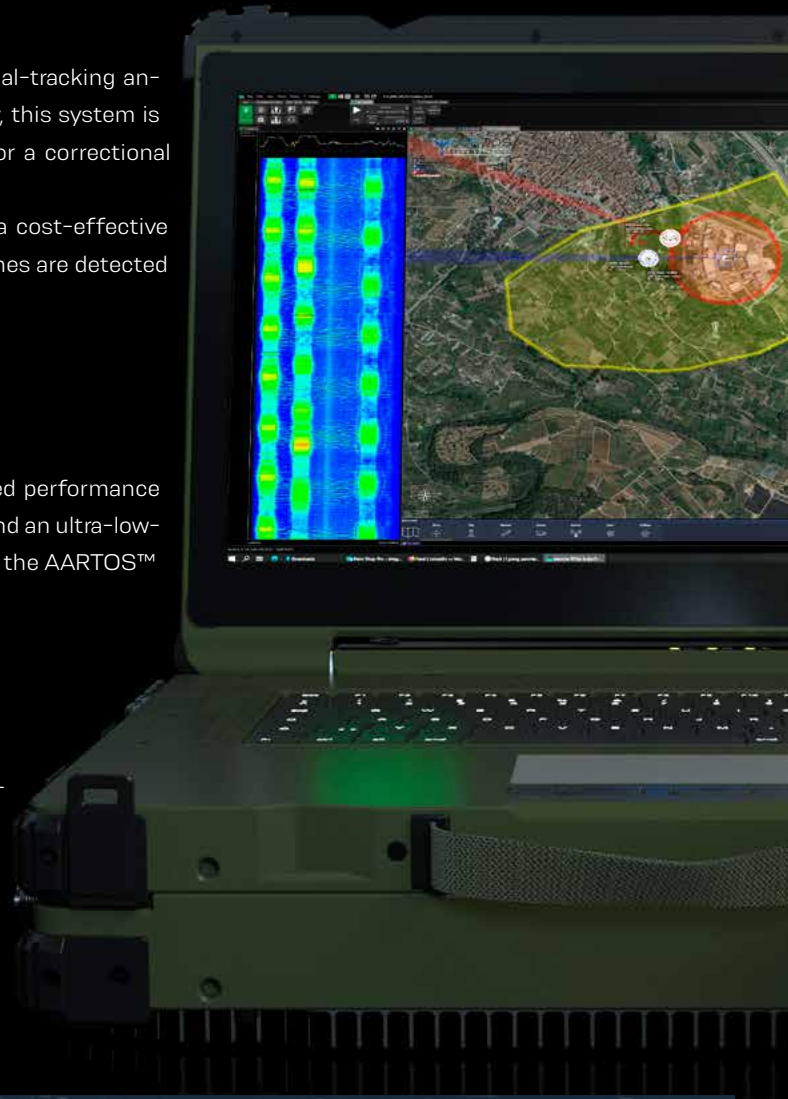
High-tech ingredients

Our powerful and ultra-rugged military-grade X5 boasts unprecedented performance from an Intel® Xeon® processor and 64 GB RAM, fast SSD hard drive, and an ultra-low-noise level of up to -170 dBm (Hz) DANL (preamplifier on). This makes the AARTOS™ X5 not only robust, but also extremely powerful at the same time.
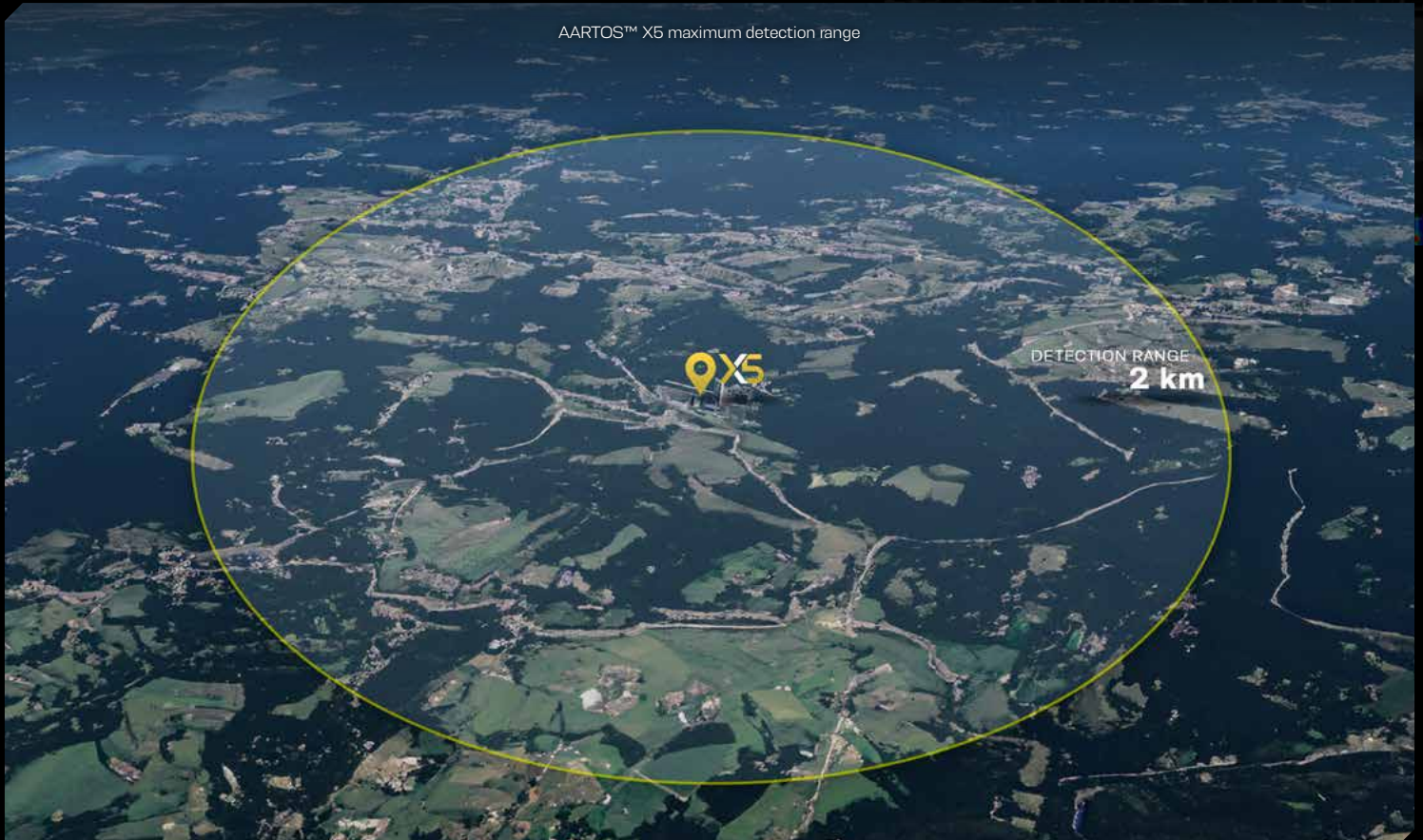
Certified MIL standards

Our AARTOS™ X5 enables you to master any challenge in any conditions. It provides a powerful, extremely impact-resistant outdoor notebook as well as a high-end spectrum analyzer – all packed into one compact device.

The AARTOS™ X5 has been independently tested in accordance with MIL-STD-810G, MIL-STD-461F, and IP65 certification standards. Rain, snow, ice or sand? No problem for the AARTOS™ X5.

AARTOS™ X5 maximum detection range

DETECTION RANGE
2 km

Specifications as of 04.12.2023. Subject to modifications and errors.
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• Safe detection
Our system does not mistake UAVs for other flying objects such as birds, balloons or kites. Saving time and resources for real threats.

• Early detection
The AARTOS™ Drone Detection System triggers an alarm as soon as a remote control sends its first signal, even before the actual drone is airborne. Allowing countermeasures to be launched at an early stage.

• Tracking the drone operator
Since the AARTOS™ DDS detects both the drone (from downlink signals) and its corresponding remote control, the movement of both can be tracked in real-time. If two or more DDS systems are deployed, triangulation can then determine the exact position.
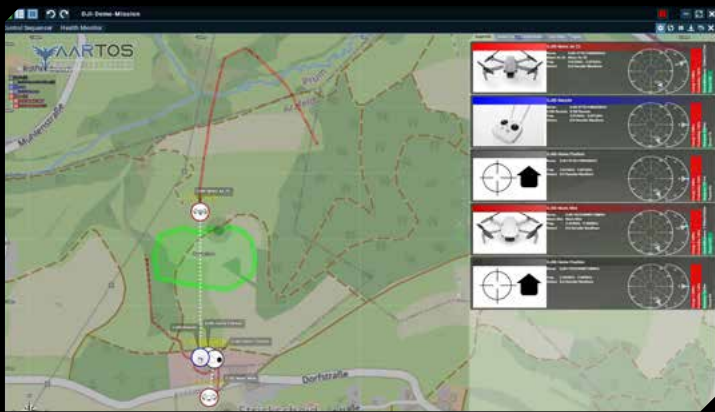
A top-down 2D perspective is the most commonly used visualization technique in drone detection. The program is easy to understand and navigate due to its similarity to common satellite-image-based map solutions.

The 3D view expands our capabilities by adding the drone's altitude information (this requires multiple drone detection systems), and making it easier to evaluate distances between different objects on the map.
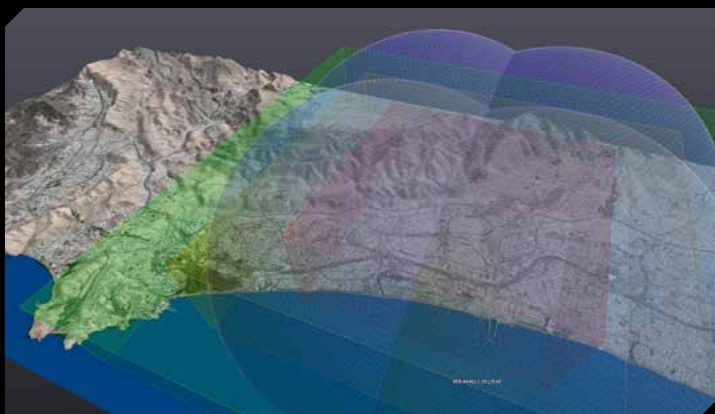
The topographic mode displays the surrounding terrain's surface, depicting hills, mountains, peaks and valleys.

Combined with our 3D, man-made structures system building system, the topographic view creates the most accurate representation of the surrounding area: AARTOS™ is also able to integrate 3D models of complex areas (e.g. cities, airports, etc.) into its 3D view, improving usability for end users.

Versatile, powerful and easy to use - the RTSA Suite PRO block graph editor lets you create, manage and customize your DDS missions.

Technical Specifications

The portable drone detection solution with MIL grade protection. **The AARTOS™ X5** consists of a 8 sector IsoLOG® 3D DF antenna and a rugged spectrum analyzer. Perfect for quick deployment and accurate drone localization within 2 km with a wideband frequency coverage of up to 6 GHz.

Spectrum Analyzer Specifications

The **AARTOS™ X5** comes with an inbuilt real-time spectrum analyzer with a instantaneous IQ capture bandwidth of 160 MHz and a frequency range of 10 MHz to 8 GHz capable of scanning 6 GHz in less than 1 millisecond, equaling an astonishing speed of 1 THz per second.

IsoLOG® 3D DF Antenna Specifications

The 3D RF **Tracking Antenna** includes a high density, customizable antenna array of 16 tracking-antennas.
Each **IsoLOG® 3D DF** ships complete with a robust radome designed for the most hostile conditions and can be customized with RAL colors.

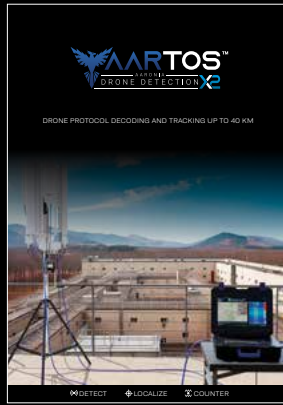|						
Typical range ▸	2 km	Analyzer units ▸	1	Frequency range ▸	700 MHz to 6 GHz
Usage ▸	Mobile	Frequency range ▸	10 MHz to 6 GHz	Coverage ▸	360°
Frequency coverage ▸	700 MHz to 6 GHz	Real-time bandwidth ▸	120 MHz	Tracking accuracy ▸	Typically 4° to 6°
Detection type ▸	Drone protocol decoding & RF Signal detection	POI ▸	97 ns (FFT-based), 10 ns (direct I/Q-based)	GPS receiver ▸	included
Tracking type ▸	GPS & RF signal direction	DANL (internal preamp on) ▸	Typ. -170 dBm/Hz	Internal low-noise pre-amplifiers ▸	included
Antenna sectors ▸	8	Sweep speed ▸	500 GHz/s	Operating temperature ▸	-30° to +60°C (-22° to 140° F)
Typ. tracking accuracy (line of sight)* ▸	4° to 6°	RF connectors ▸	2x Rx N	Storage temperature ▸	-40° to 70°C (-40° to 158°F)
Multi frequency swarm attack ▸	No	Frequency reference accuracy ▸	0,5 ppm	Dimensions W x H x D ▸	960 x 960 x 380 mm
Scalable ▸	No	RBW (resolution bw) ▸	62 mHz to 57 MHz	Weight ▸	approx. 25 kg
Max. recommended grid distance ▸	-	Attenuator range ▸	50 dB / 70 dB (0,5 dB steps)	Certificates ▸	IP65 (waterproof)
Radar and PTZ Camera ▸	No	ADC ▸	2 x 2GSPS 16 Bit		
Automatic jamming option ▸	No	DAC ▸	1 x 2GSPS 14-Bit		

* Reference target at 2,4GHz with line of sight
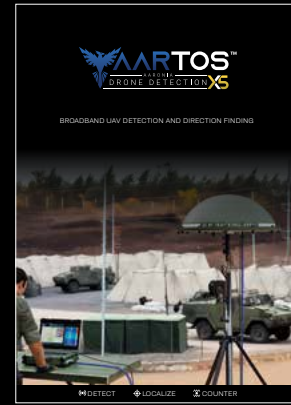(hovering drone), 1,5km distance (FCC)

For detailed specifications of our products please visit
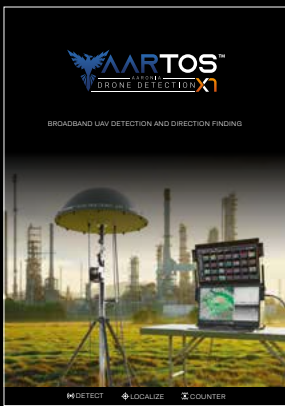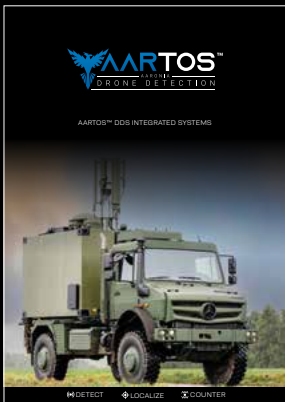www.aartos-dds.com or use the dedicated QR-Code:

AARTOS™ Overview

WORLD'S MOST SUCCESSFUL DRONE DEFENSE SYSTEM
WITH HUNDREDS OF INSTALLATIONS WORLDWIDE!

DETECT · LOCALIZE · COUNTER

AARTOS™ X2

DRONE PROTOCOL DECODING AND TRACKING UP TO 40 KM

DETECT · LOCALIZE · COUNTER

AARTOS™ X5

BROADBAND UAV DETECTION AND DIRECTION FINDING

DETECT · LOCALIZE · COUNTER

AARTOS™ X7

BROADBAND UAV DETECTION AND DIRECTION FINDING

DETECT · LOCALIZE · COUNTER

AARTOS™ X9

EXTREME RANGE BROADBAND UAV
DETECTION AND DIRECTION FINDING

DETECT · LOCALIZE · COUNTER

AARTOS™ Counter UAV Systems

AARTOS™ DDS MOBILE AND STATIONARY JAMMING SYSTEMS

MJ SERIES · FU SERIES · SU SERIES

DETECT · LOCALIZE · COUNTER

AARTOS™ System Integrations

AARTOS™ DDS INTEGRATED SYSTEMS

DETECT · LOCALIZE · COUNTER

AARTOS™ Catalog

DRONE DETECTION

DETECT · LOCALIZE · COUNTER

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