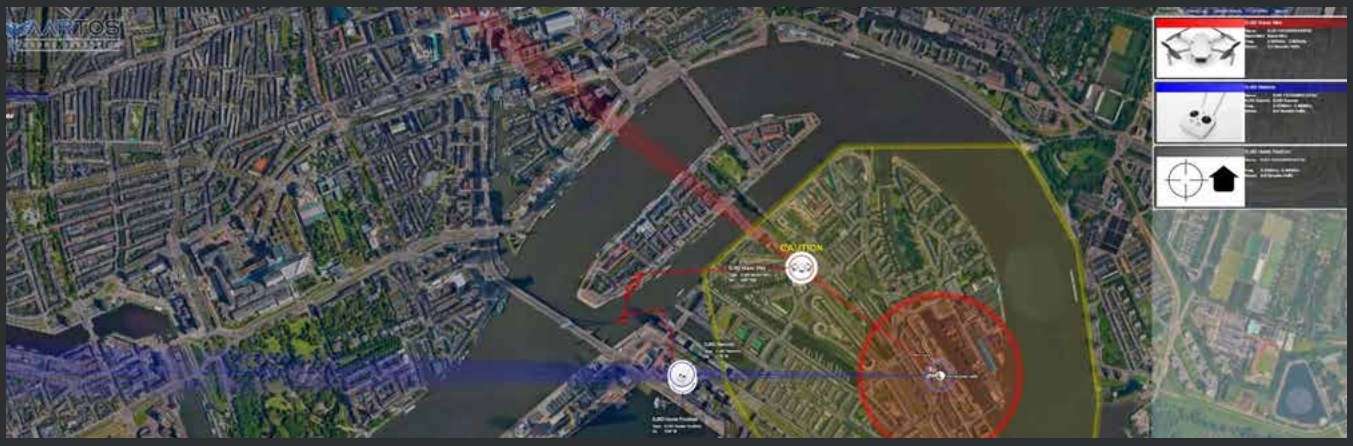
# AARTOS™ X2

AARONIA
C-UAS & EW SOLUTIONS

## DRONE PROTOCOL DECODING AND TRACKING

DETECT LOCALIZE COUNTER



## DETECT

**5 km detection and tracking range of commercial drones**

- Real-time decoding of DJI OcuSync 1-4 and DJI WiFi
- Real-time 2.4 GHz and 5.8 GHz frequency coverage
- Ready to use in less than 30 seconds
- Powerful software
- Made in Germany

## LOCALIZE

**Shows exact locations of drone, operator and homepoint**

- Shows further information like type of drone, serial number, height, speed, etc.
- Supports writing and reading custom mission data sets
- Portable and 24/7 stationary variants
- Remote control capabilites

## COUNTER

**Optional jamming systems with up to 10 km jamming range**

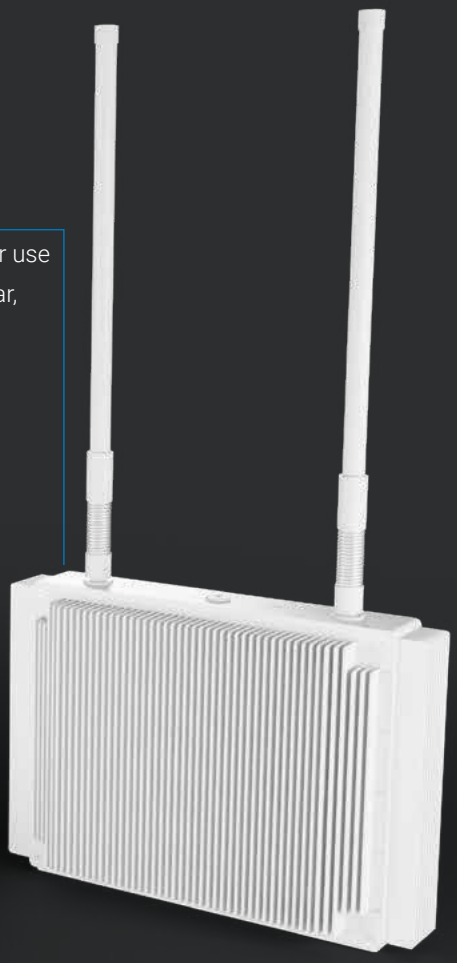
- Seamless frequency range, selectively from 400 MHz to 6 GHz
- IP65 weather protection, operating temperature -20°C to +60°C
- Portable or stationary
- 4 or 8 sector versions, customizable on demand

### X2 Portable

- Cost-effective
- Highly portable
- Optional powerbank

### X2 Stationary

- 24/7 remote outdoor use
- Extendable with radar, jammer, cameras



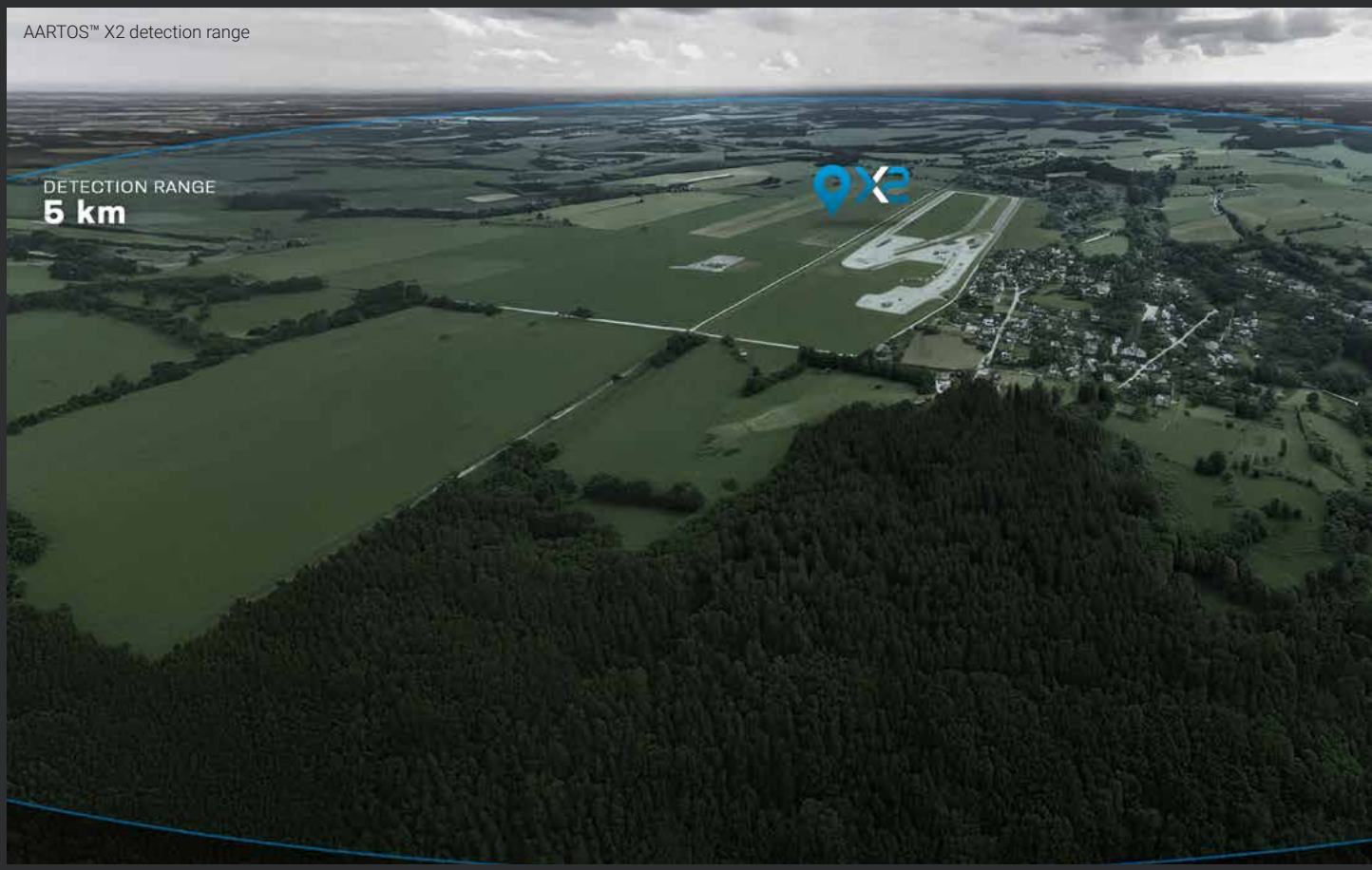
### Secure Your Airspace from Unauthorized Drone Threats

Protect critical infrastructure and sensitive locations with our comprehensive drone defense solution, engineered to cover the full frequency range of commercial off-the-shelf drones.
Our system reliably detects, locates, and tracks unauthorized drones with a range of up to 5 km, ensuring secure airspace around your assets without disrupting regular operations.
Designed for around-the-clock defense, our stationary model operates continuously, with an option to form a mesh network for extended coverage over vast areas, providing unparalleled protection against drone intrusions.

Stationary AARTOS™ X2

### Portable and Powerful Mobile Drone Detection

For versatile, field-ready applications, our portable drone detection system is tailored for law enforcement, infrastructure security, and mobile operations.
Offering on-demand detection and optional drone neutralization, this compact system adapts seamlessly to various scenarios—whether for crowd control, special missions, or perimeter security.
Quick to deploy and simple to operate, it ensures immediate protection in any location. Built tough and weather-resistant, this mobile solution is perfect for rapid response in dynamic and demanding environments.




AARTOS™ X2 detection range


### Fixed Bands Sector Jammer FJ SERIES

By extending the AARTOS™ X7 or X9 to include our "FJ series" stationary jammer with a jamming range of typically 3 km, it creates a system that can reliably and quickly locate and neutralize threats.

With its directional and omnidirectional antennas and a maximum output power of 390W the jammer is capable of countering drones within the most common frequency bands (GPS e.g. upper and lower L-band, 2.4 GHz, 5.2 GHz, 5.8 GHz, etc.).

As with all of our jammers, the interference created is extremely selective, in order to make sure other RF channels are not impaired. In addition, the jammer is directional, and will only jam signals in the direction of the incoming UAV.

### Programmable Smart Sector Jammer SJ SERIES

Our AARTOS™ "SJ series" programmable jammer delivers a gapless coverage from 400 MHz to 6 GHz with an effective jamming range of 10 km.

With its directional antennas it is able to cover all commercial and military drones up to 6 GHz and can counter them with a freely adjustable output power of 30W per sector (upgradable to 100W).

All AARTOS™ Jammer solutions can only be sold to entities with proper government approval for the deployment of jammers. For more information, contact us at mail@aaronia.de.

| | SJ240 SJ800 | FJ390 | MJ170 | MJ40 |
|---|---|---|---|---|
| | Seemless frequency jamming from 400 MHz to 6 GHz with a 360° coverage and the highest range in our lineup. | The stationary FJ series cover 360° with a range of up to 3 km and up to 7 frequency bands. | The mobile 6-band jammer is based on the MJ-40 with extended range and output power including a remote control and customizable bands. | This handheld UAV jammer is a potent and portable drone jamming system with 2h battery life and customizable frequency bands. |
| Typ. Range | 4 km / 10 km | 3 km | 3-4 km | 2 km |
| Antenna(s) | 8 directional | 4 directional<br>Up to 4 omnidirectional | 1 directional | 1 directional |
| Sectors | 8 | 4 | 1 | 1 |
| Bands | All bands up to 6 GHz | Up to 7 | 6 | 4 |
| Output Power | 240W / 800W | 390W | 170W | 40W |

### EO/MWIR PTZ Cameras

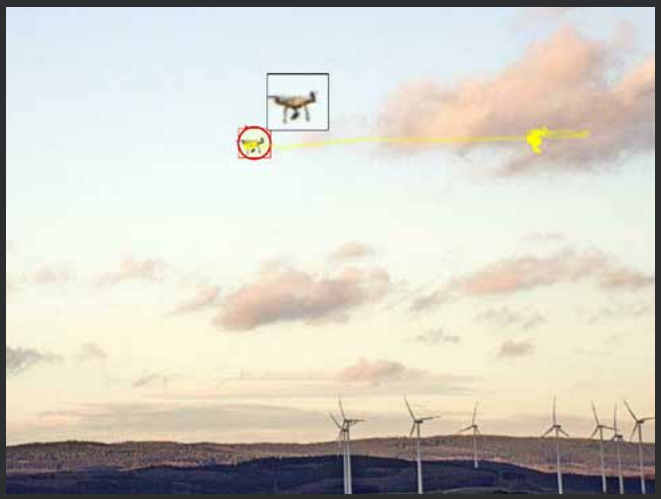
XCAM SERIES

Among the latest additions is the Visual Detection System, a fully integrated optical and thermal drone detection solution that is perfectly matched to the detection mechanisms of AARTOS™.

This option enables the user to spot detected drones, even from afar, and identify potentially dangerous payloads attached to the drone, such as explosives.

Automated AI tracking will continue even if a drone enters autonomous flying mode while it is being tracked by the Visual Detection System.

- Thermal and optical camera for 24/7 protection
- Sophisticated tracking and analysis AI
- Max. camera resolution of 1920 × 1080 px (full HD)
- Max. thermal module resolution of 1280 x 720 px
- Optical: 13 mm to 261.5 mm focal length
- Thermal: 72 mm to 900 mm focal length
- IP67-certified protection



### 4D UAV Radar

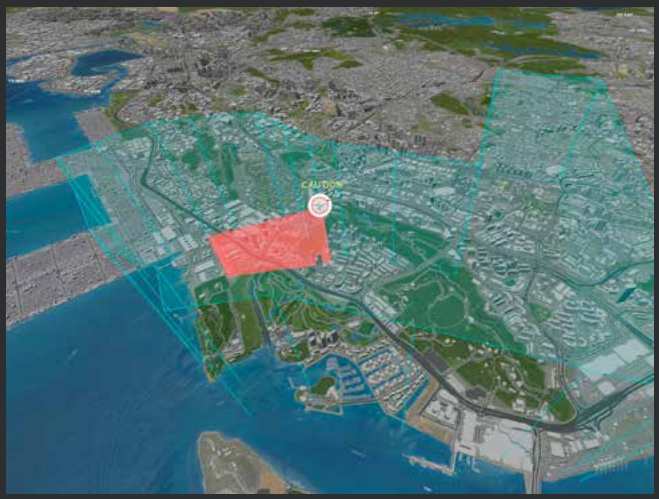
RD SERIES

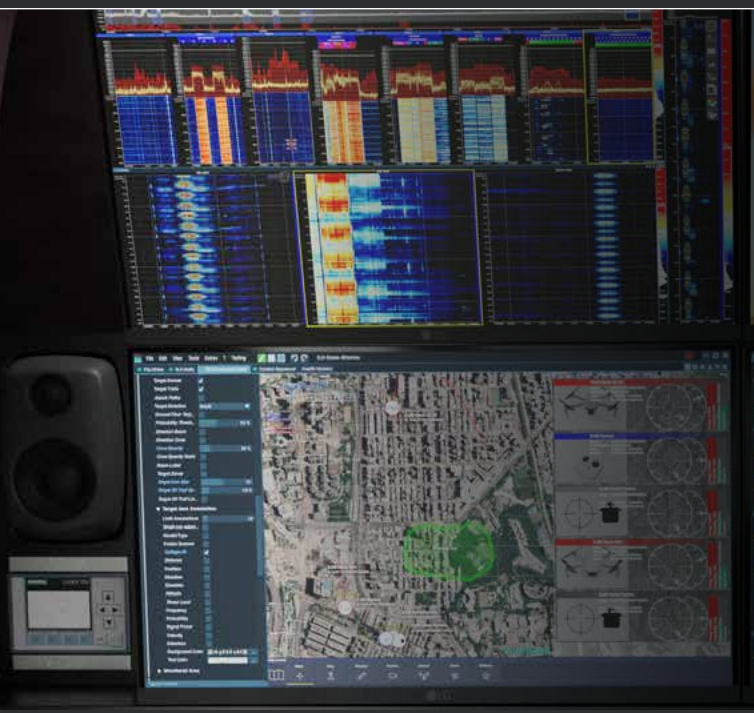
Using an (optional), sophisticated radar system, AARTOS™ can automatically determine and display the exact position, flight direction, altitude, speed and classification of an inbound drone. The trajectory of the flight can also be tracked in real-time as a 3D model.

The system distinguishes between birds, fixed-wing drones and propeller drones. When a UAV enters the designated no-fly zone, a multi-alarm can be configured.

### Complete customization

The required equipment for AARTOS™ can be configured to match detailed customer requirements. End customers will receive hardware that is tailored to their specific needs, with all components chosen individually. This guarantees optimal drone detection performance in any given terrain or area.





### Safe detection

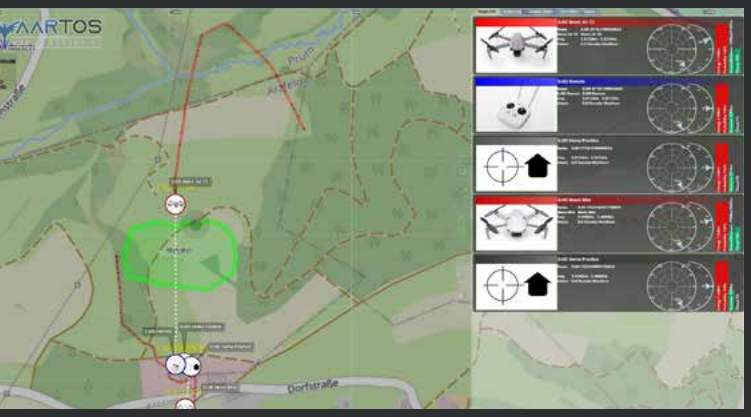
Our system does not mistake UAVs for other flying objects such as birds, balloons or kites. Saving time and resources for real threats.

### 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.

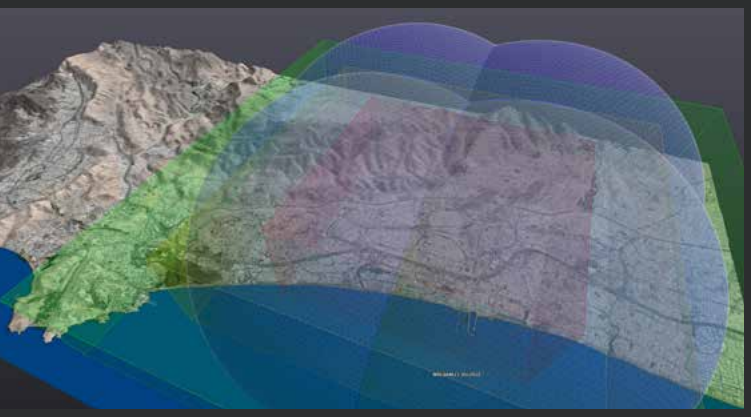
### Tracking the drone operator

Since the AARTOS™ 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 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.

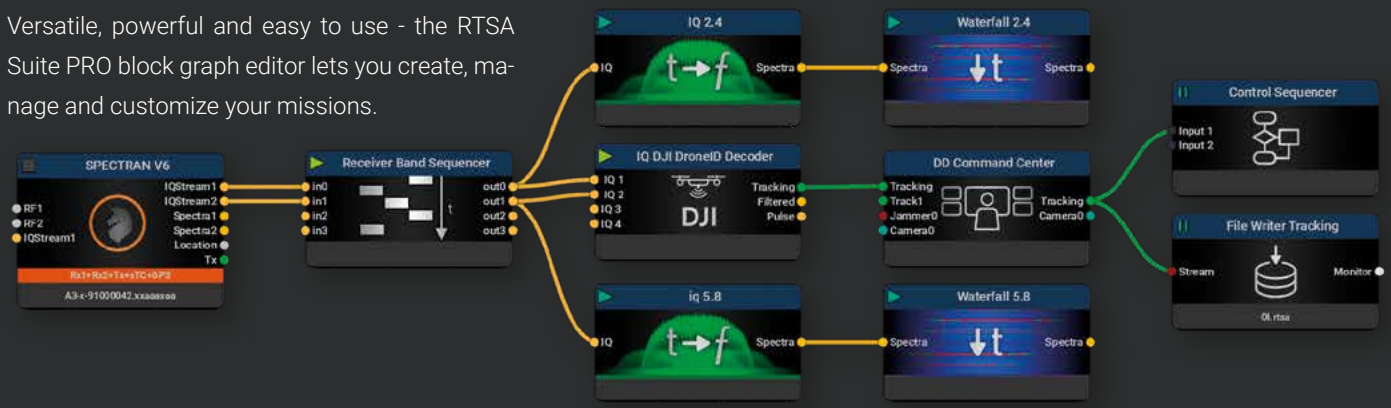
The 3D view expands our capabilities by adding the drone's altitude information (this requires multiple drone detection systems), and making it easier to evaluate distances between different objects on the map.



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 missions.



## AARTOS™ X2 SPECIFICATIONS

| | |
|---|---|
| Typical range | Max. 5 km |
| Usage | Mobile & stationary |
| Frequency coverage | 2.4 GHz + 5.8 GHz |
| Detection type | Drone protocol decoding |
| Decoding | DJI OcuSync 1-4, DJI WiFI |
| Tracking type | GPS |
| Tracking accuracy | Typically 2 - 3 meters |
| Scalable | Yes (stationary X2) |
| Optional radar and camera | Yes (stationary X2) |
| Optional jamming systems | Yes (stationary X2) |

## ANALYZER SPECIFICATIONS

| | |
|---|---|
| Frequency range | 10 MHz to 6 GHz |
| Real-time bandwidth | 120 MHz |
| POI | 97 ns (FFT), 10 ns (direct I/Q) |
| DANL (internal preamp on) | Typ. -170dBm/Hz |
| RF connectors | 2x Rx N |
| Frequency ref. accuracy | 0,5 ppm (5 ppb via OCXO) |
| Resolution bandwidth | 62 mHz to 57 MHz |
| Attenuator range | 50 dB / 70 dB (0,5 dB steps) |
| ADC | 2 x 2GSPS 16 Bit |
| DAC | 1 x 2GSPS 14-Bit |

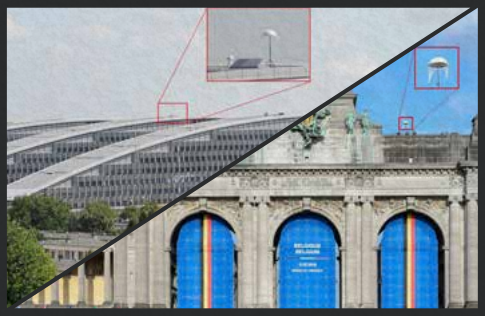

## ANTENNA SPECIFICATIONS

| | | |
|---|---|---|
| Antenna variant | Omni Antennas | |
| Frequency | 2.4-2.5 GHz | 5.1-5.9 GHz |
| Quantity included | 2 | |
| Gain | 6 ± 0.5 dBi | 8 ± 0.5 dBi |
| VSWR (Max.) | 1.5:1 | |
| Horizontal beam width | 360° | |
| Polarisation | Linear, vertical | |
| Impedance | 50 Ohm | |
| Radiation pattern | Omnidirectional | |
| Connector | N(f) | |
| Temperature range | -40 to +80° C | |
| Humidity | 95% non-condensing | |
| IP rating | IP65 | |
| Weight approx. | 0.5 kg | |
| Dimensions | Ø 25x660 mm | |

## AARTOS™ X2 VERSIONS & ACCESSORIES

| | |
|---|---|
| AARTOS™ X2 Portable | #801/009 |
| AARTOS™ X2 Stationary | #801/010 |
| Medium-Range EO/MWIR Camera | #803/001 |
| Ultra Long-Range EO/MWIR Camera | #803/003 |
| 4D UAV Radar 360° Bundle | #804/005 |
| MJ40 Handheld Jammer | #802/001 |
| AARTOS™ X2 Portable Powerbank | #805/031 |
| AARTOS™ X2 Stationary Rapid Deployment Kit | #805/045 |
| Training Course | #807/002 |
| Local Training Course | #807/005 |

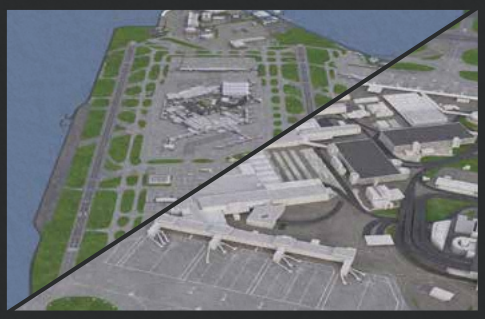

G20 Summit Brazil 2024 & Bali 2022



NATO Summit, Bruessels

North Korea / USA Summit, Singapore

Airpower 2024, Austria



Heathrow International Airport, UK

Formula 1 GP Red Bull Ring, Austria

AARONIA AG
WWW.AARONIA.DE

AARTOS™
DATASHEETS
DOWNLOAD:

Aaronia AG
Aaroniaweg 1
D-54597 Strickscheid

Phone: +49 6556 900310
Web: www.aaronia.com
eMail: mail@aaronia.de

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