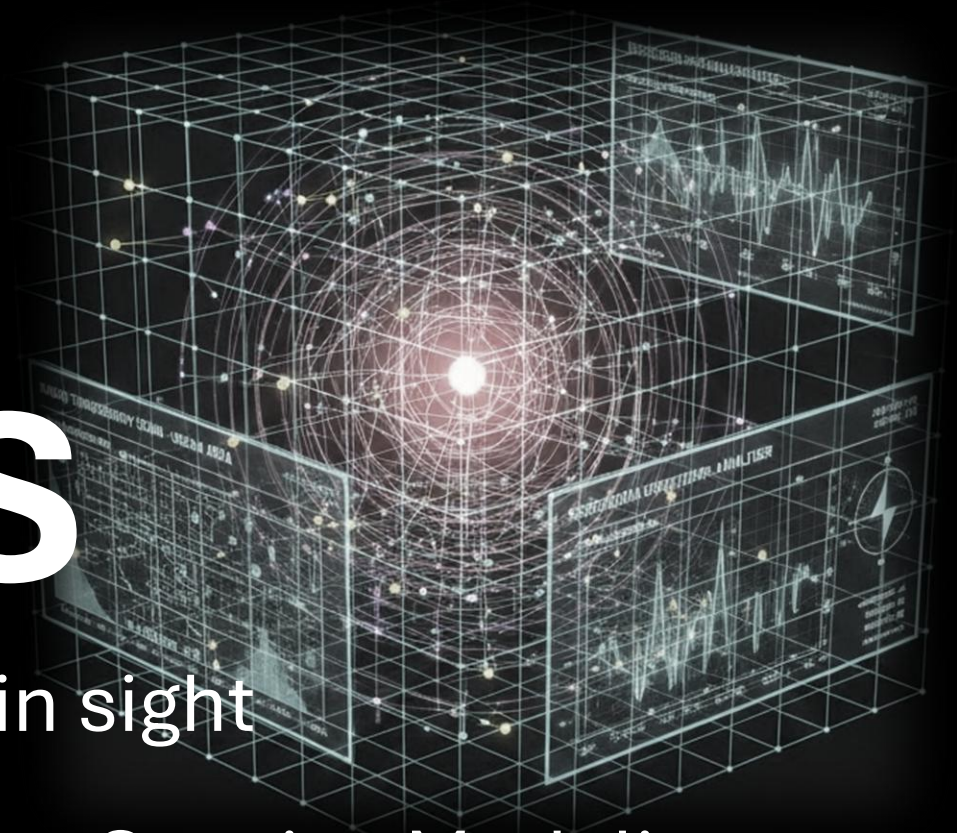
ICX SYSTEMS



Bringing invisible signal source into plain sight

AI Defined Spectrum Intelligence - A New Sensing Modality

Dual Use – RF Sensing – ISR – Situational Awareness – Autonomy & Resilience

Delaware C-Corp with strong presence in Europe

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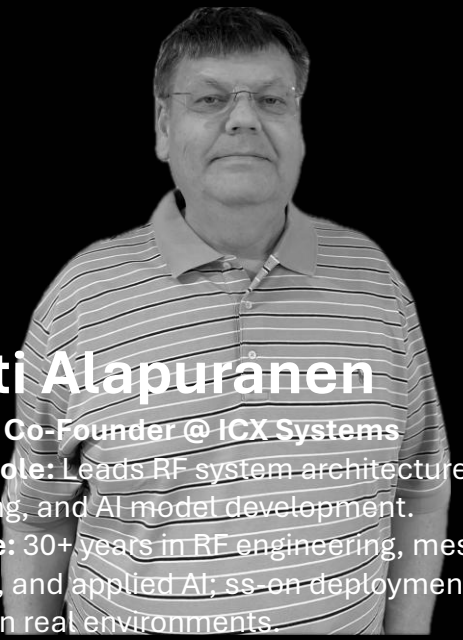
FOUNDING TEAM

All founders are full-time on ICX



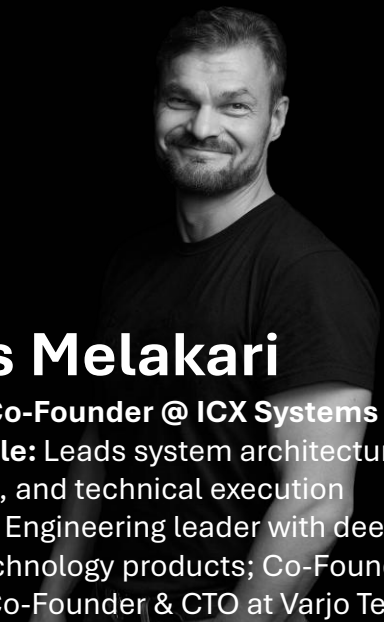
Rebecca Melakari

CEO and Co-Founder @ ICX Systems
Current role: Leads strategy, partnerships, fundraising, and commercial execution.
Expertise: 20+ years in global operations and product leadership at Foxconn, Nokia, Murata; Co-Founded and COO at IXI Eyewear
Focus at ICX: Product Management, Manufacturing and Supply Chain, Aviation security partnerships, regulatory pathways, commercial deployment.
Background: Finnish; based in Spain; female founder.



Pertti Alapuranen

CAO and Co-Founder @ ICX Systems
Current role: Leads RF system architecture, signal processing, and AI model development.
Expertise: 30+ years in RF engineering, mesh networks, and applied AI; ss-on deployment of RF systems in real environments.
Focus at ICX: Core sensing algorithms & neural network training.
Background: Finnish and U.S. citizen; engineering + defense-adjacent experience.



Klaus Melakari

CTO and Co-Founder @ ICX Systems
Current role: Leads system architecture, hardware integration, and technical execution
Expertise: Engineering leader with deep experience building frontier-technology products; Co-Founder & CTO at IXI Eyewear, Co-Founder & CTO at Varjo Technologies, Senior Program Director at Microsoft, Technology Director at Nokia, and Researcher at VTT.
Focus at ICX: Hardware platform development, embedded processing, calibration systems, and field-ready engineering.
Background: Finnish; based between Spain and Finland.

NOKIA MOTOROLA Microsoft

Serial entrepreneurs with experience in military technology and high-volume products
5 years research of AI defined radio
Jointly over 100 patents from Radio, Photonics, Electronics and AR/VR technologies

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DRONES AND RF INTERFERENCE HAVE TURNED THE INVISIBLE LAYER OF SOCIETY INTO THE NEW FRONTLINE.



Can we capture RF sources the way a camera captures light?

⚠️ Problem we are solving :

Modern RF environments overwhelm legacy sensors – too dense, too dynamic, too hostile.

Active sensors expose assets
Passive ones lack resolution, range and speed
Dependency on GPS, GNSS, Network connectivity

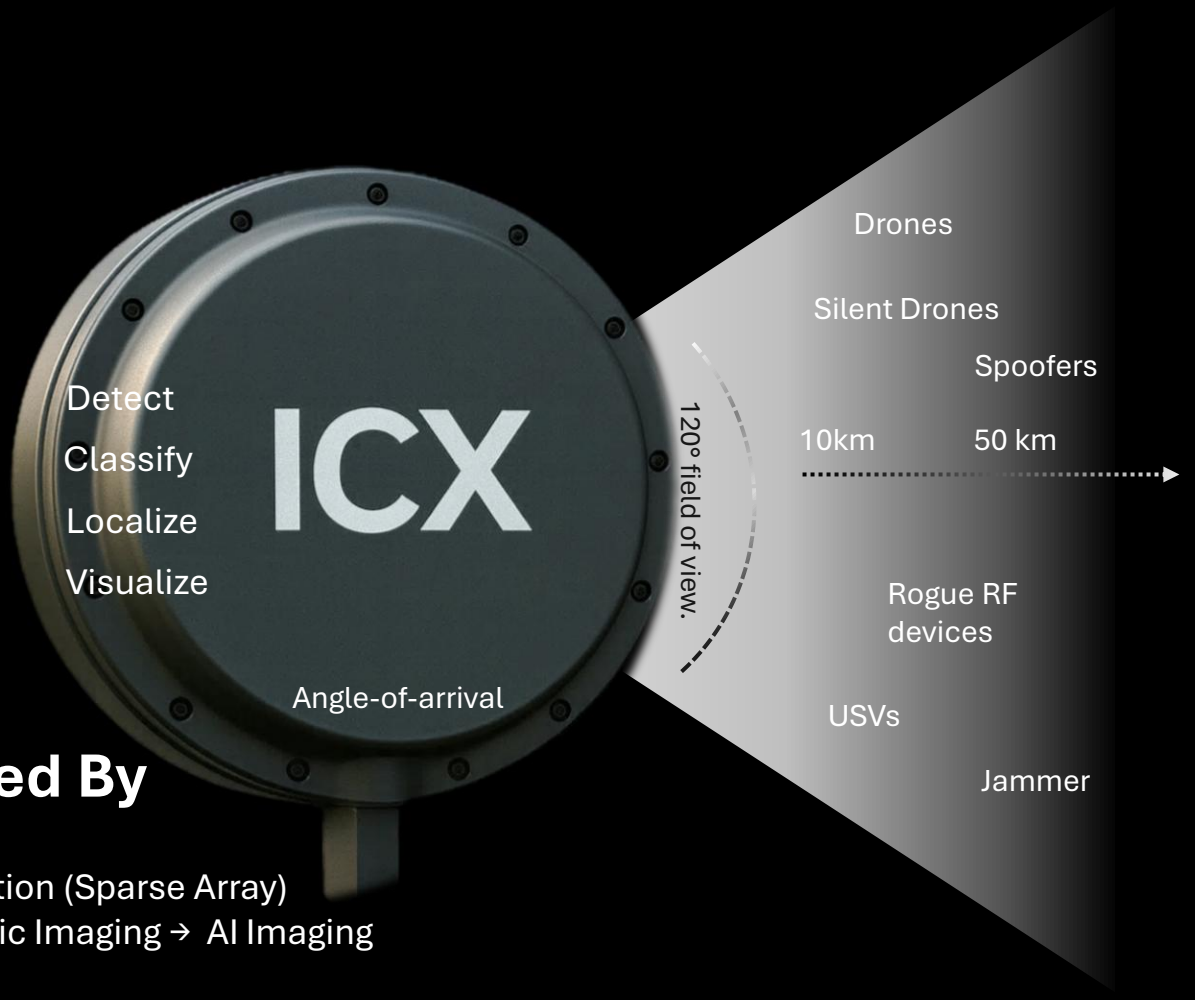
✨ ICX Solution

ICX delivers a passive, wideband RF camera that visualizes the spectrum in real time.

Detecting emitters and silent objects simultaneously. Smaller. Faster. Engineered for resilient performance across diverse weather conditions, contested and GPS-denied environment

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RADIONIQ® RF CAMERA



Key Features

3D Location (Azimuth, Elevation and Range)
Simultaneous Multi-Object Detection
Real-time Tracking
Wideband
Full Stealth
Ultra-low SWaP (Ø 30 cm radome)
Live Video Overlay
Classification and Fingerprint Analysis

Operates either as a standalone node or as part of a multi-unit constellation
Passive Scan Range: Scalable by antenna geometry and gain configuration

Powered By

Custom AI
HW Innovation (Sparse Array)
Tomographic Imaging → AI Imaging

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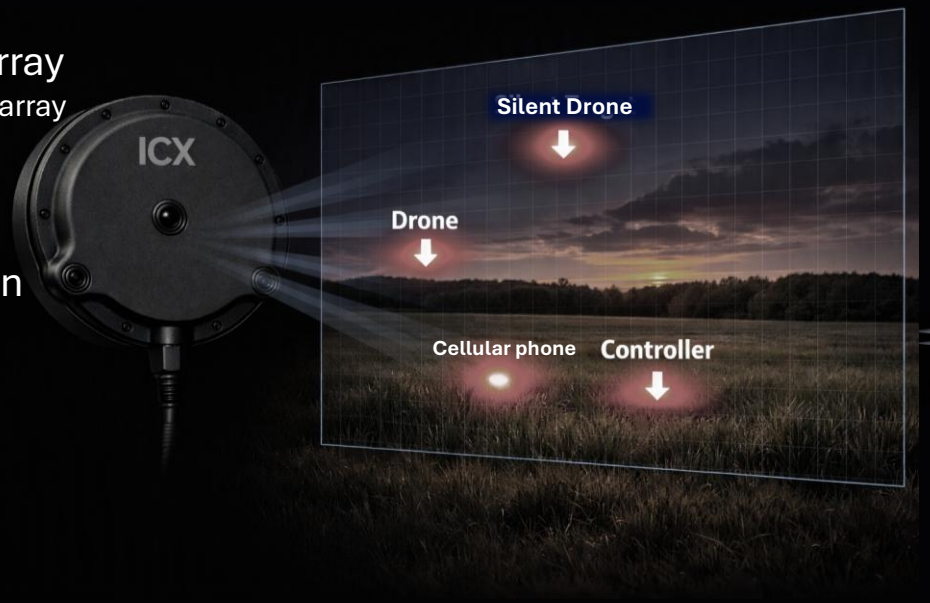
THE TRUE BREAKTHROUGH IN PASSIVE DETECTION

Our Breakthrough Technology

AI-Driven Wideband Sparse Array
- Equivalent to much larger antenna array
- Multiple emission detection
- 3 x better SNR than MUSIC

Learned Space Reconstruction
- Identify unknown emitters
- Live 3D map of all emitters
- Real-time visual anchoring

Passive Radar Fusion
- Reveals silent drones
- Uses cell tower reflections



Why Others fail

Radar cannot operate here
- Cities, Stadium, Oil rigs, frontline
- Deployment hurdles in airports

RF only sees transmitters
- Misses silent & autonomous drones

Camera cannot track RF
- Blind in darkness & clutter
- No RF awareness

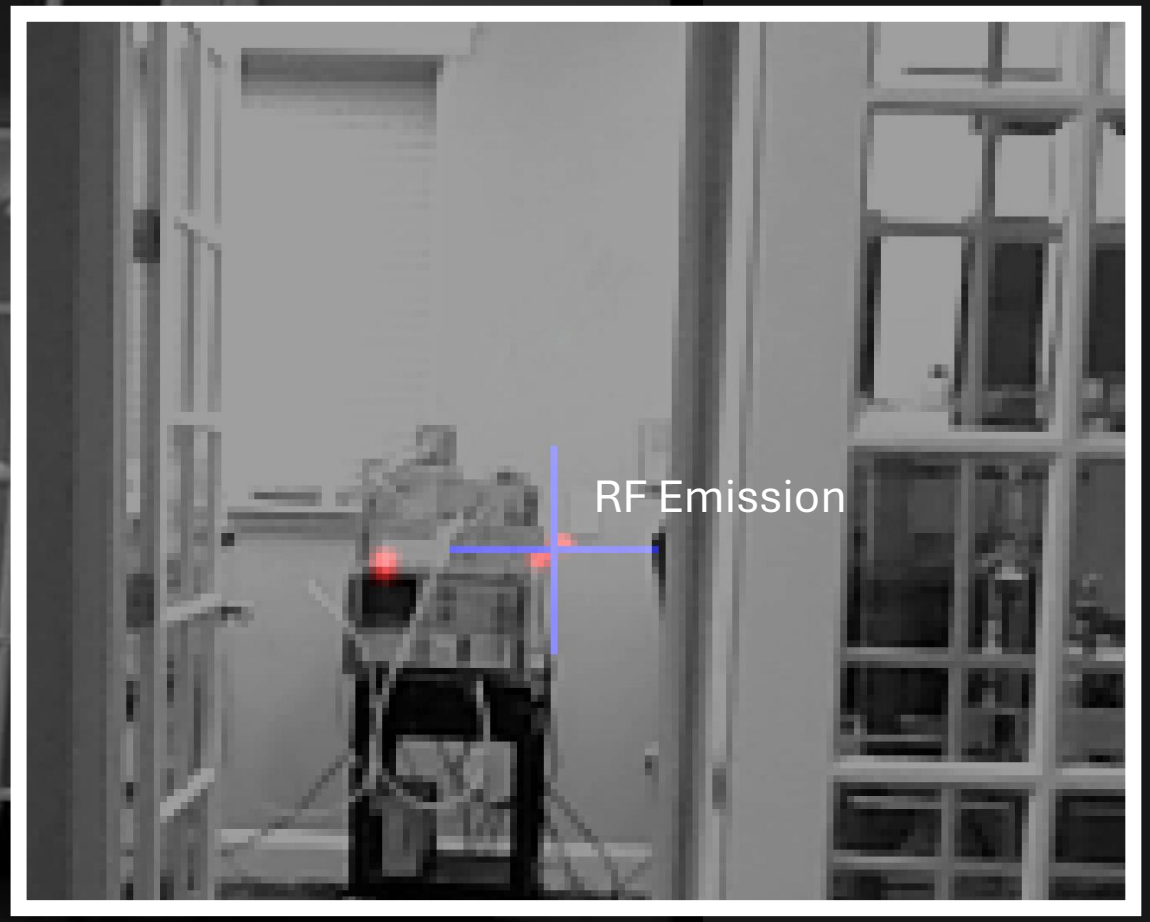
A fully passive system that detects all – emitting or silent – in real time

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VIDEO OVERLAY

DEMO KIT





Functional PoC Demo Kits.

- Check out our latest Drone detection & tracking testing video.

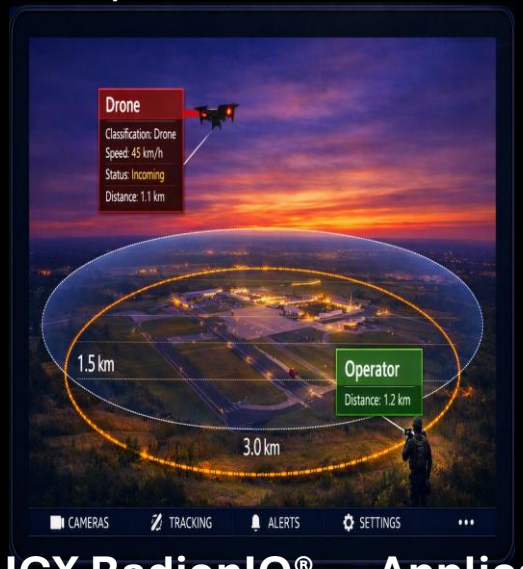
Simulation

- Simulation video for Orlando Airport surveillance

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USE CASE & TRACTION

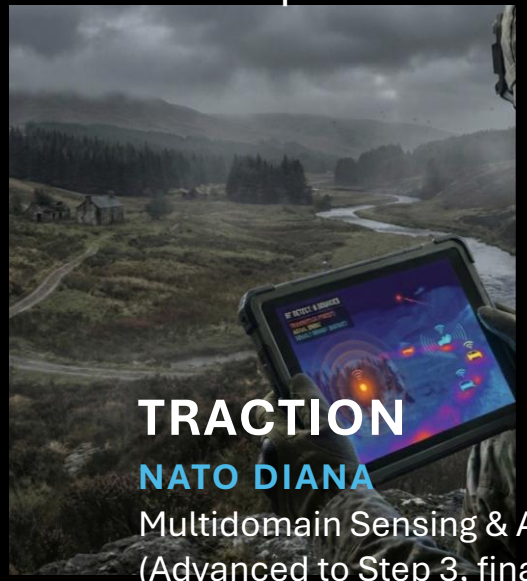
Airport Surveillance



RF Emission Detection



Frontline Operations



Failure Diagnosis



ICX RadionIQ® — Application Span Summary

The system supports missions ranging from electronic threat detection, counter-UAS operations, and force protection to spectrum monitoring, urban surveillance, and perimeter security.

By combining passive stealth sensing, live video overlay, RF fingerprint analysis, and precise 3D emitter localization, RadionIQ® provides operators with an immediate, intuitive understanding of the electromagnetic environment — enabling faster decisions, safer maneuvering, and superior tactical awareness across a broad spectrum of missions.

TRACTION

NATO DIANA

Multidomain Sensing & Advanced Data Processing
(Advanced to Step 3, final selection pending)

Multiple MoUs

Including **Tier-1 industry leader**

Critical infrastructure surveillance engagements

For drone detection, controller localization, jammer detection, and RF-anomaly monitoring

> *"Airports have operated blind to RF interference for years. RadionIQ finally gives them real-time awareness across the entire airfield. For modern and remote-tower operations, it is mission-critical — boosting safety, preventing disruption, and protecting millions in operational impact.*
>
> **Kimmo Ruotsalainen**
> Airport operations, safety and airfield management (Europe, Gulf, North America)

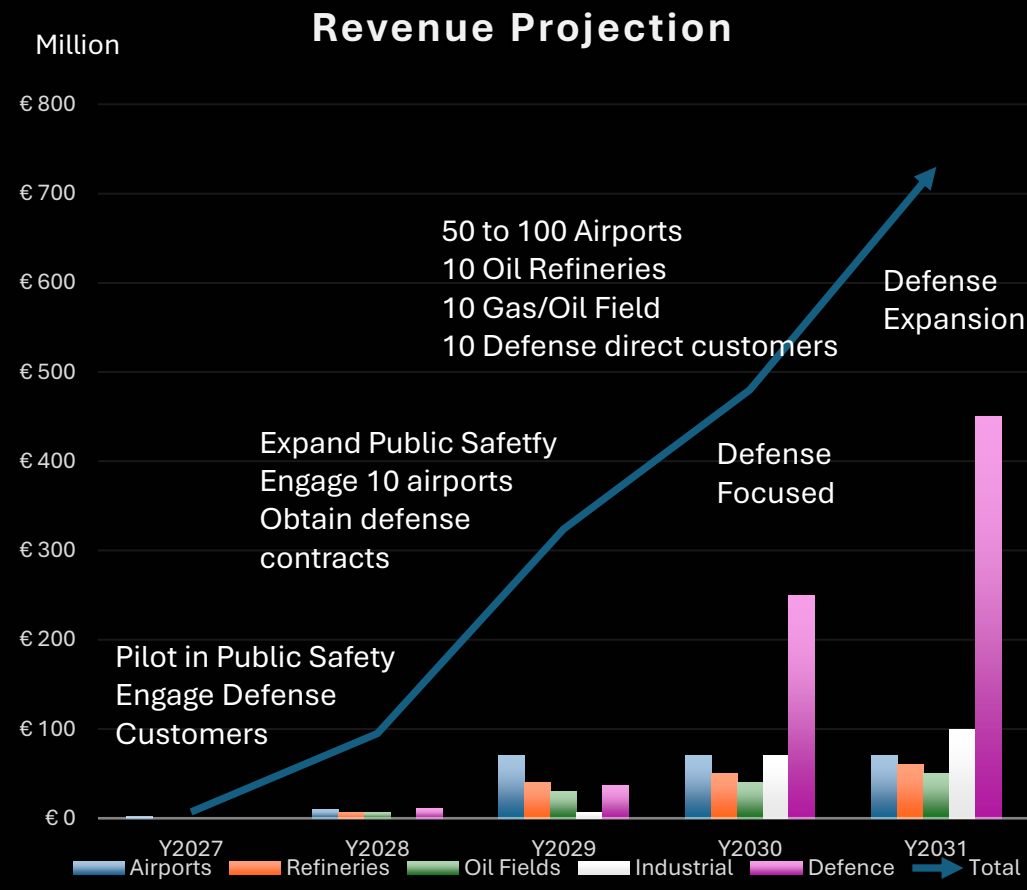
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MARKET SEGMENT AND GTM PLAN

Public Safety, Critical Infrastructure and Defense

Public Safety	CI	Defense
		
>100 000 Units in demands for Highway, Stadium, Events and more, especially in Camera restricted areas	~12,000 Critical Infrastructure sites globally (Oil/Gas fields, data centres, power plants, substations, ports, rail hubs, water facilities) 5,000 mid–large airports globally	Land, Air, Marine Border Control, Squad and base protection, naval ports, air wings, EW units, C-UXV, SIGINT, RF Intelligence.

Total Addressable Market: 100B+



HW + SW licensing model. Additional Data Monetization via Embedded Analytics
Unit Price : 50K **€ + License Fee**
B2B and B2G

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MVP PROJECT PLAN

12 months - Phase 1

+ 15 to 24 months - Phase 2

Florida R&D Associates LLD & Spatial Ray Oy

We are here

ICX Systems

5 years of research

TRL2	TRL3	TRL4	TRL5	TRL6	TRL7	TRL8	TRL9
0month	6month	12month	15month	18month	21month	24month	27month



Concept Formulated
Simulation
IP creation

1st Prototype
Analytical + experimental proof-of-concept
AI v0.1

Demo Spark
Integrated off-shelf components
FPGA + AI Imaging v0.2 (DF)
+ AI Recognition v0.1
+ SLAM (limited) v0.1
*AI training
Multi-MoUs and LoIs

2nd Prototype for Lab
Receiver Upgraded
Inference Engine Upgrade
Congested lab environment tested holistically + FPGA+AI Imaging v0.3 (iterative) + AI Recognition v0.2
+ SLAM (limited) v0.2

Prototype Phantom
Operational Env testing;
Upgraded Prototype;
FPGA + AI Imaging v0.4
+ AI Recognition v0.3
+ SLAM v0.3

Product Transition
Manufacturing Setup Ready;
V1.0 HW+SW integration
Engage with customers

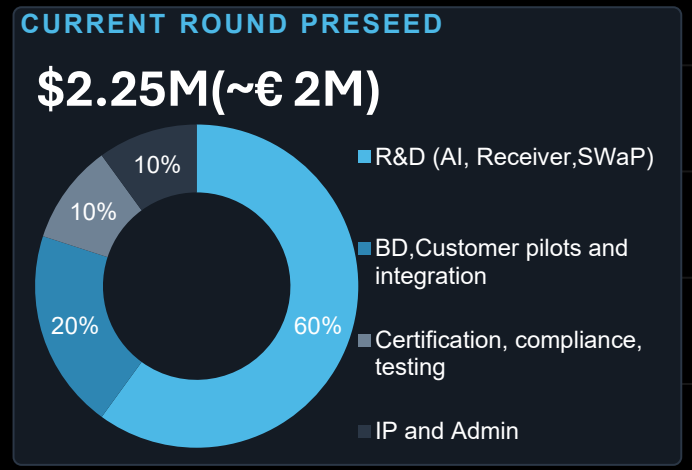
Certification Process
started for commercial applications (FCC/CE, EMC, Electrical Safety and Calibration)

MVP Launch
Situational Awareness Systems - Airport and other critical infrastructure

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RUNWAY FINANCIALS

Funding ~$



Seed $10M(~€ 9M)

- Productization
- Sales & Marketing
- Business Development
- 20+ headcounts

Burn ~$

Self-funding
Provisionals
Tech demo HW
AI model
Next HW arch

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RadionIQ® – a system that turns raw RF into real-time intelligence, developed by Radio and AI Engineers.

TEAM CONTACT: REBECCA@ICXSYSTEMS.COM

To date, we have submitted provisional IP packages to the USPTO encompassing multiple innovations.

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Appendix : Tech Slide

Sensing

Passive sensing

No demodulation

Detection by spatial location

Spatial oversampling with rotating 1D or fixed 2D array

Sparse array and compressed sensing

Braking classical Rayleigh criterion

- Small diameter array to high angular resolution
- Currently computed to 0.5º, target is <1 mRad

Virtualization enables more Degrees of Freedom (DoF)

AI turns intractability into imaging

Leverage GPU advances, efficiency and low SWaP



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