# NiDAR™ C2

AI POWERED COMMAND & CONTROL SUPPORTING SECURITY, SURVEILLANCE, NATIONAL DEFENCE AND FORCE PROTECTION

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# NiDAR™ C2

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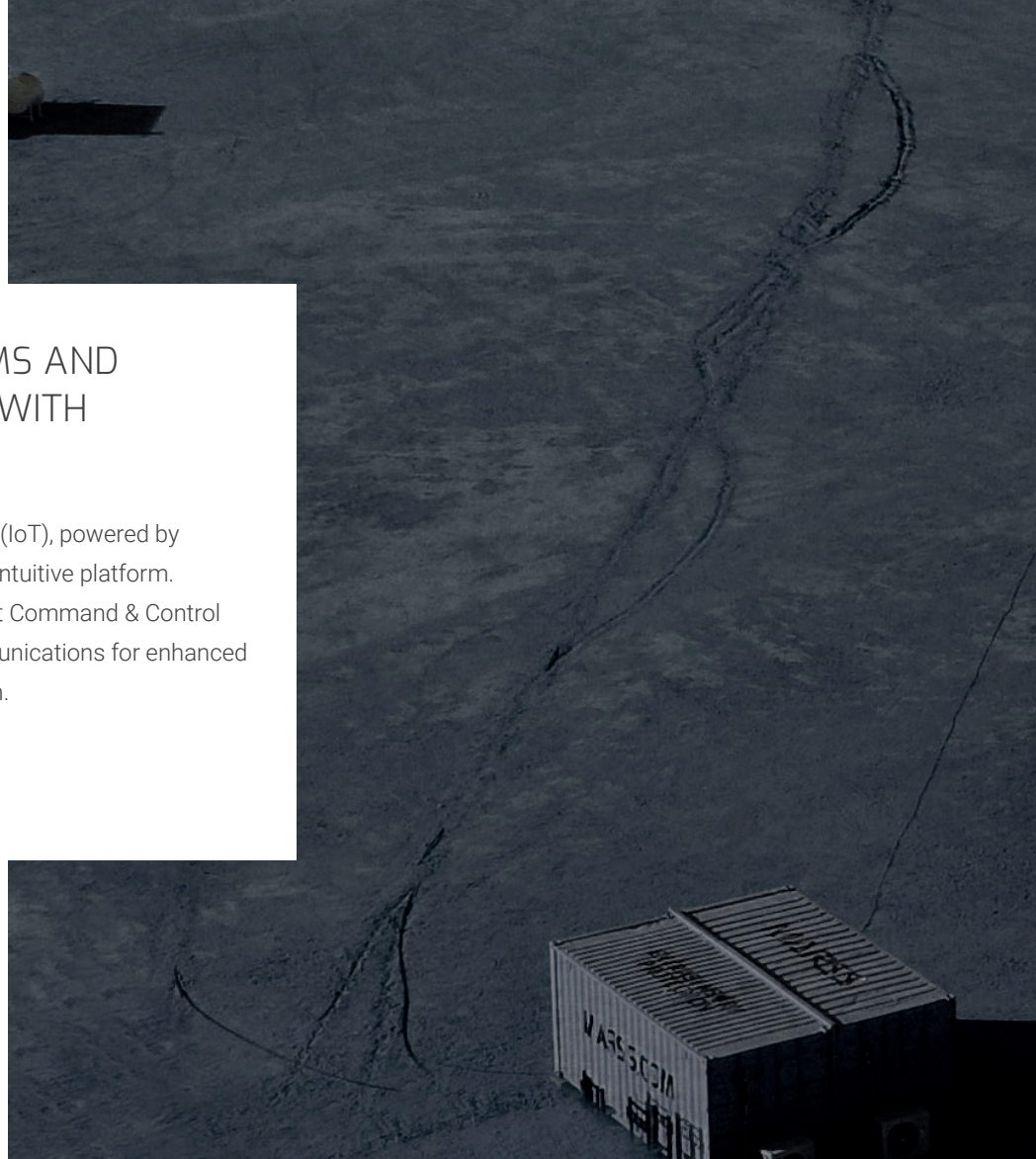
# AI ENHANCED C2 OPERATIONS

## NIDAR C2 OPTIMISES COMMAND & CONTROL SYSTEMS AND PROCESSES, ENABLING OPERATORS TO MULTI-TASK WITH ENHANCED EFFICIENCY AND RELIABILITY.

Everything in one place, NiDAR C2 is a complete system of systems Internet of Things (IoT), powered by Hybrid Intelligence, fusing multiple sensors and countermeasure abilities into a single intuitive platform. Reducing burden and manpower, NiDAR C2 is always watching and learning to support Command & Control and field operations including mobile unit monitoring and support. Streamlining communications for enhanced visibility, reporting and responding to threats, NiDAR C2 is the future of force protection.



MULTI DOMAIN PROTECTION

DRONE / UAS DETECTION

CROSS PLATFORM

OBJECT TRACKING

THREAT CLASSIFICATION

# NIDAR C2 PROVIDES A TURNKEY SOLUTION FOR COMPLEX REAL WORLD REQUIREMENTS.

## FULLY MODULAR AND SENSOR AGNOSTIC

Integrates with existing systems or latest sensor solutions. Highly scalable with growth capability based on requirements

## 24/7, 360-DEGREE PROTECTION

NiDAR is always on alert, monitoring for UxS threats day and night, protecting from all approaches, reducing human factors or errors

## UTILIZES NIDAR AI ENABLED TRACKING

NiDAR AI optimizes radar detection and camera positioning to track fast moving UxS, ensuring operators always have a prime view of the threat

## HARNESSES AI THREAT RECOGNITION

Analyses object pattern behaviour (over 1000 objects known), ensuring operators are only alerted to critical events.

## ACQUIRES DATA FROM PAST EVENTS

Utilizing machine learning, system becomes even more efficient with use, logging UxS speed, approach and manoeuvrability

## INTEGRATED COUNTERMEASURES

Fixed or mobile systems capable of defeating fast, high manoeuvring targets with speed and accuracy.

## PROTECT AGAINST UAS

Detect, identify, monitor and respond to emerging UAS threats. NiDAR C2 gives improved insight and response to operators for efficient rapid control.

## BLUE FORCE SUPPORT

Track and protect assets. Identify friendly forces and known objects. Respond to threats by assigning roles and documenting event activities.

## NATIONAL AND MOBILE C4I UNITS

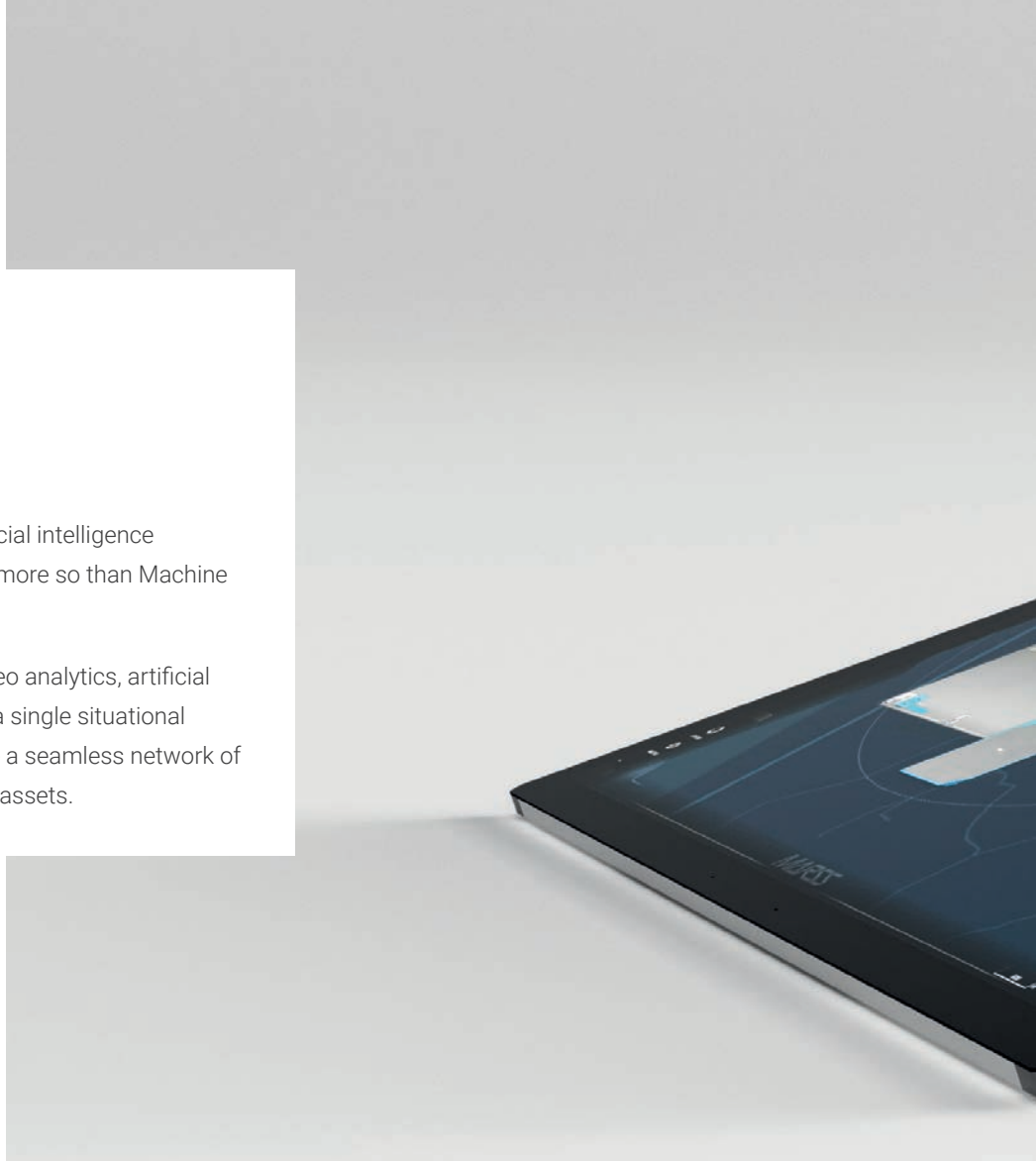
Enables communication centrally with remote and local operators. System available in 2 fully integrated mobile platforms

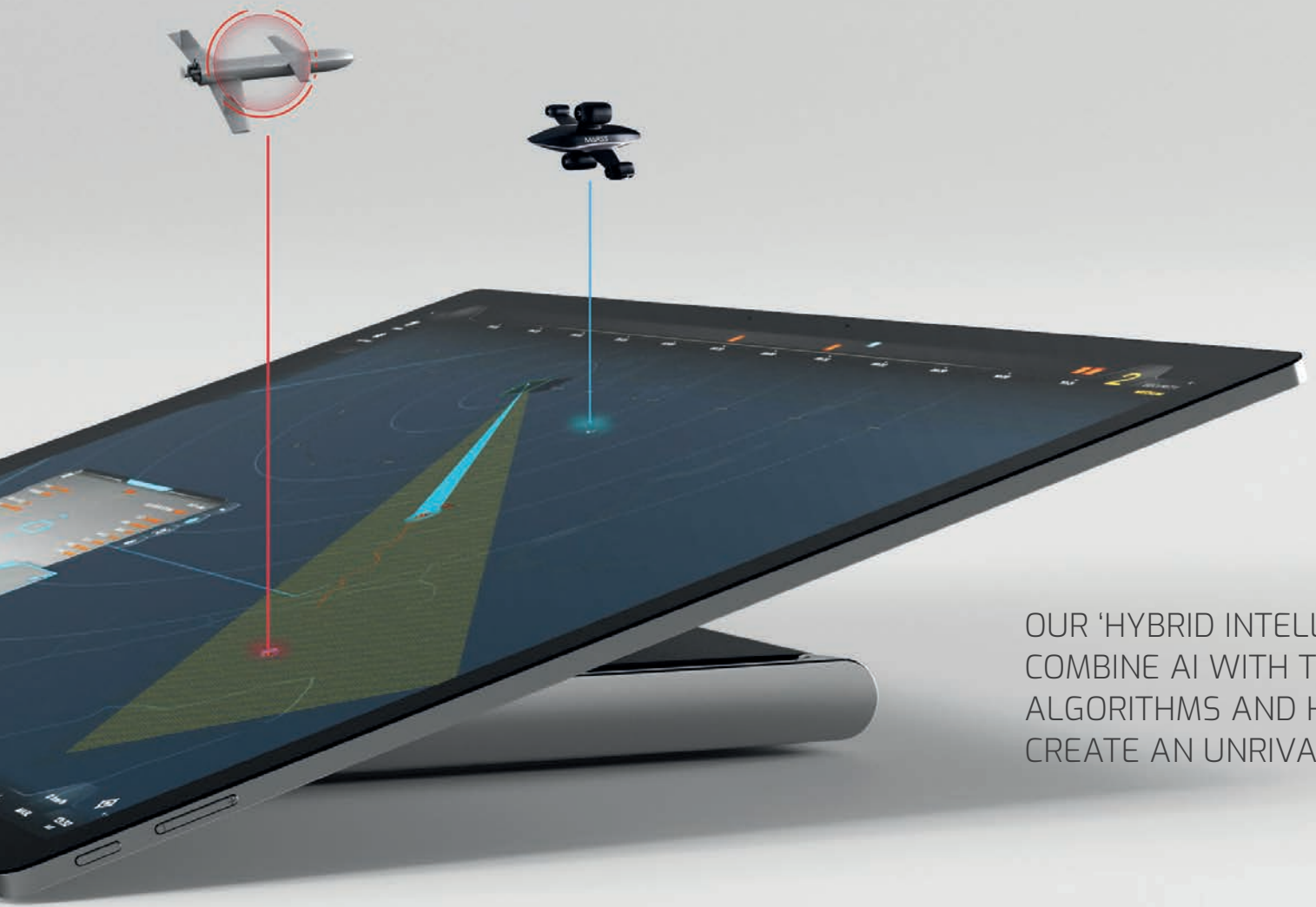
# POWERED BY NiDAR CORE

## THE AI-POWERED INTERNET OF THINGS (IOT) PLATFORM ENHANCING YOUR COMMAND & CONTROL CAPABILITIES.

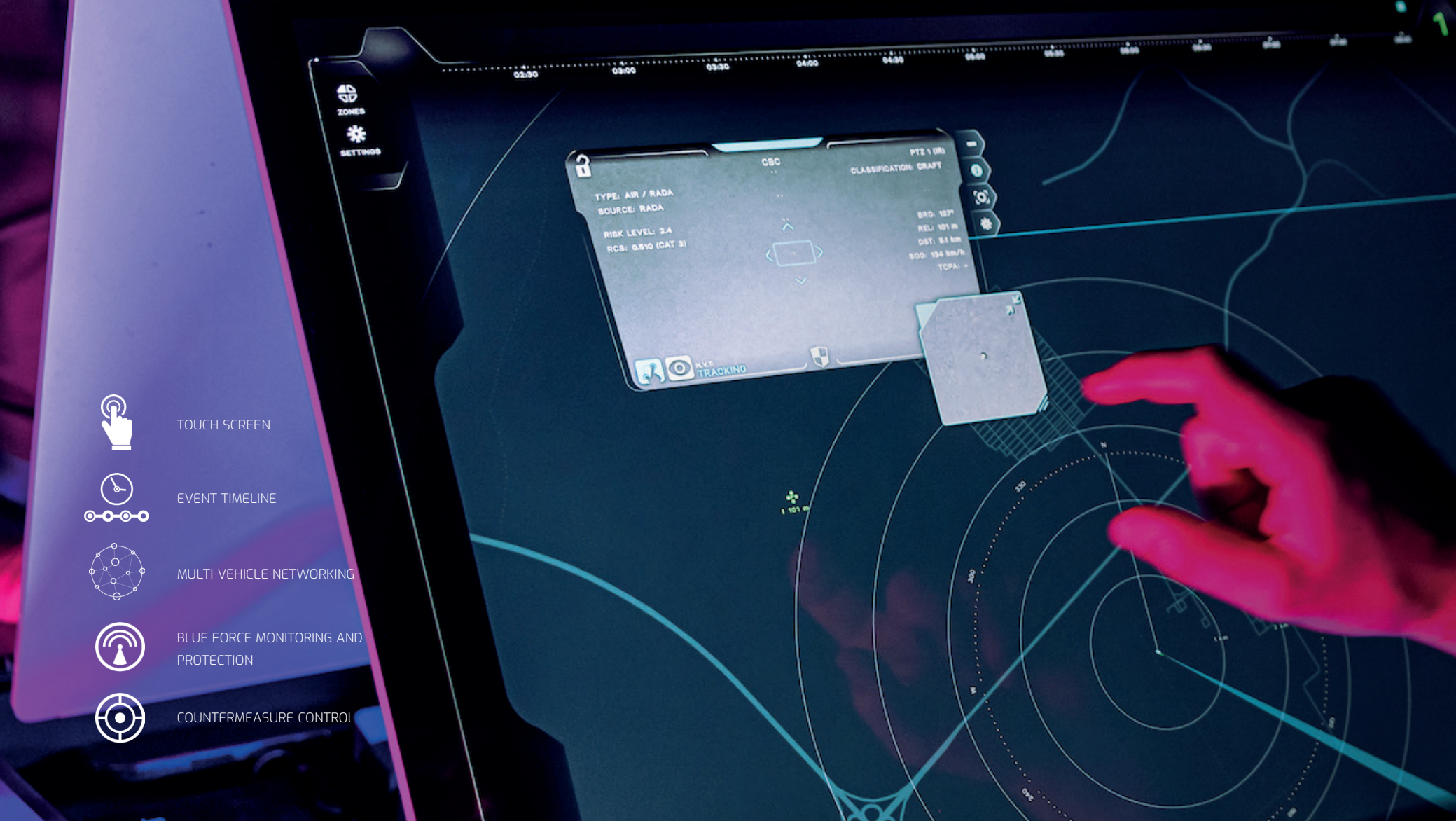
Adaptable and learning. NiDAR CORE uses a combination of methods from many artificial intelligence disciplines, allowing the system to operate more intelligently than traditional software, more so than Machine Learning approaches, with improved safety, never compromising on quality.

NiDAR CORE exploits expertise through operational logic, data science, algorithms, video analytics, artificial intelligence, ergonomics and user experience (UX). Collectively, these aspects provide a single situational awareness picture to support operations. Integrated throughout our solutions to create a seamless network of systems operating towards one goal - the protection of lives, critical infrastructure and assets.





OUR ‘HYBRID INTELLIGENCE’ SOLUTIONS COMBINE AI WITH TRADITIONAL ALGORITHMS AND HUMAN INTELLIGENCE TO CREATE AN UNRIVALLED IoT PLATFORM.




TOUCH SCREEN

EVENT TIMELINE

MULTI-VEHICLE NETWORKING

BLUE FORCE MONITORING AND PROTECTION

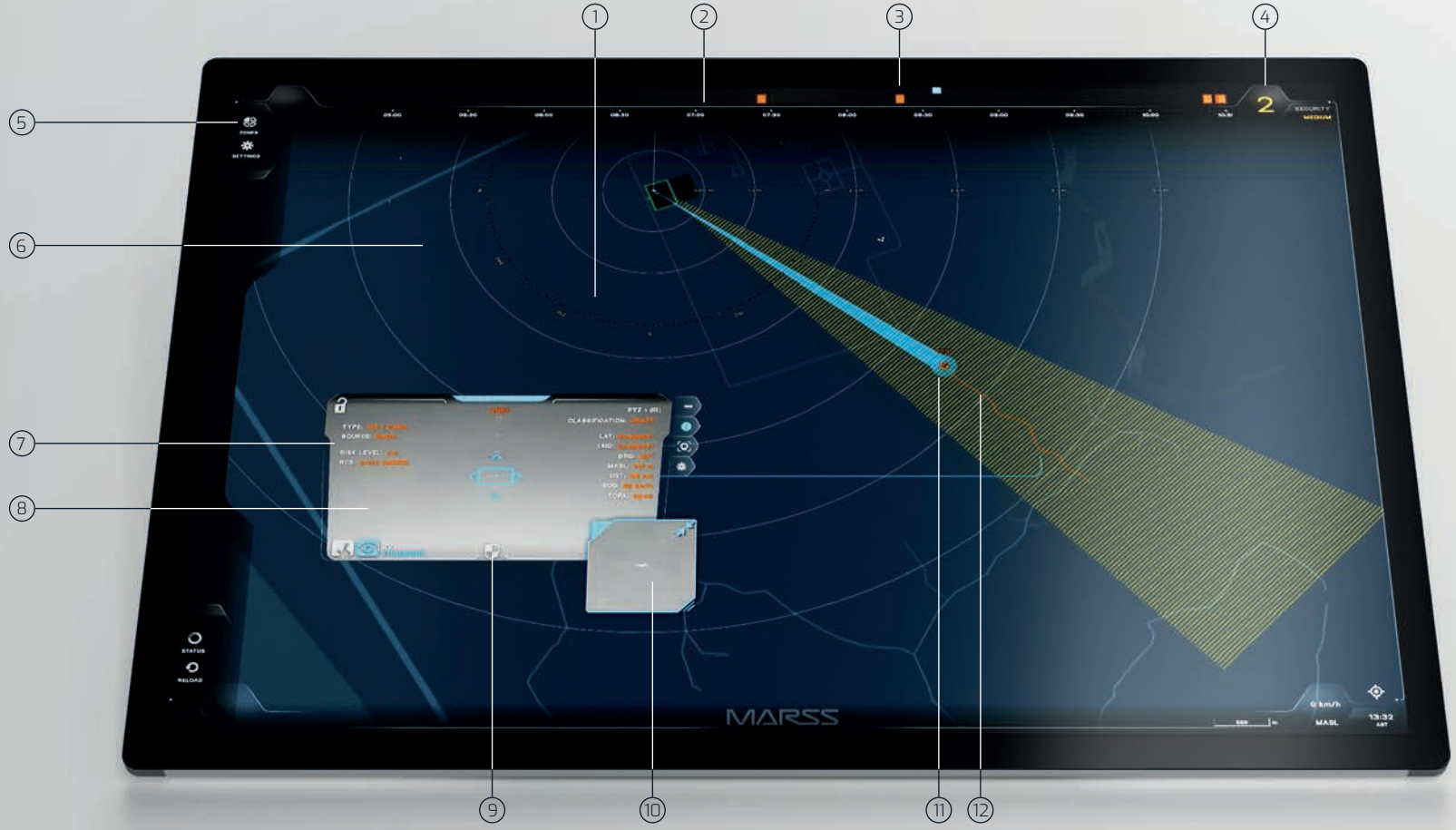
COUNTERMEASURE CONTROL

# AN INTUITIVE C2 INTERFACE

## AI-POWERED C2 INTERFACE FOR ACCURATE, REAL TIME INTEL IN THE FIELD

Consolidated into a single tactical picture, multi-domain information is viewed and controlled via an easy-to-use C2 interface that leverages AI-powered superior threat recognition, alerting users to mission-critical events.

This process reduces the operator burden and associated human risk factors, providing enhanced decision-support and allowing for a more rapid and accurate response.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# EVERYTHING IN ONE PLACE

1 MULTI-TOUCH CONTROL
Intuitive operation of sensors/effectors

2 EVENT TIME-LINES
Navigate documented events

3 ALERT RECORDS
Geo-located / time stamped data

4 SECURITY LEVELS
User defined based on threat scenario

5 ZONES & SETTINGS
Manage settings and protection zones

6 DETAILED MAP
Satellite image and electronic map

7 OBJECT IDENTIFICATION
Object/threat details including risk level

8 OBJECT MONITORING & INTEL
Critical data on object bearing

9 INTERACTIONS
Options to secure, monitor or engage

10 LIVE VIDEO FEEDS
Automated tracking/camera handover

11 OBJECT LOCATION
Colour and icon coded object detection

12 PROTECTION ZONES
User defined warning and alarm zones

# BUILT TO SPECIFICATION

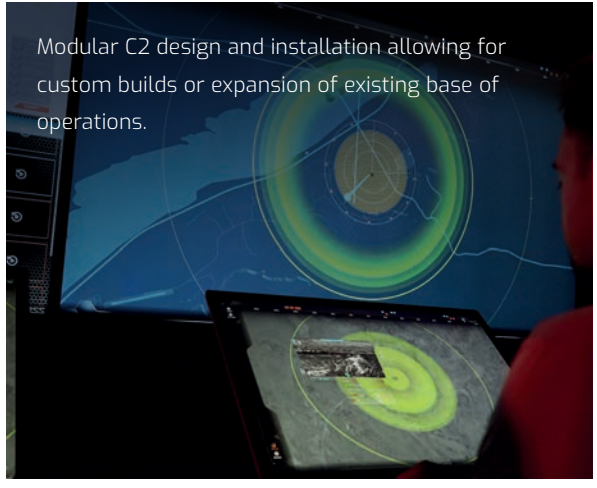
## DETECT, IDENTIFY, MONITOR AND RESPOND THROUGH A SINGLE INTUITIVE HYBRID INTELLIGENT PLATFORM

Multi touch-screen command and system control

Asset identification, protection and tracking to support blue forces and mobile units.

Bring all sensor control and capabilities, legacy and future, into a single intuitive system

Automated long range object identification and tracking with optional manual sensor override



Modular C2 design and installation allowing for custom builds or expansion of existing base of operations.

Access to available multi-layered countermeasures from a single touch-screen with levelled confirmation and operator tier access rights

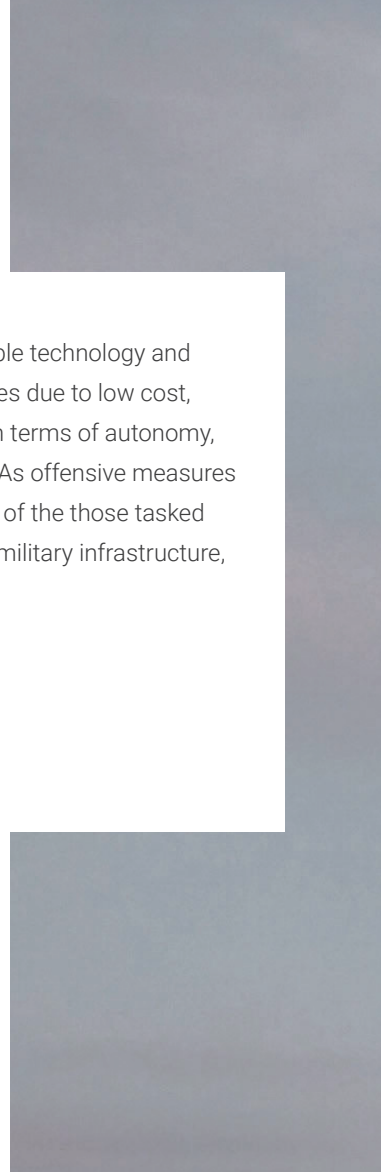
# DEFEND AGAINST UNMANNED AIRBORNE SYSTEMS

## HELPING NATIONS AROUND THE GLOBE PROTECT WHAT THEY VALUE MOST.

Unmanned Airborne Systems represent an operational step-change in asymmetric warfare, with the ability to strike in any domain, and controlled remotely over vast distances.

UAS continue to demonstrate an ability to exploit gaps in conventional defences' intel and surveillance and cause significant damage to national infrastructure and strategic resources. This is largely due to their highly effective autonomous hunt and attack capability.

Constructed from readily available technology and easily accessible by hostile forces due to low cost, this threat continues to evolve in terms of autonomy, range, and destructive payload. As offensive measures evolve, so too must the defence of the those tasked with protecting critical civil and military infrastructure, assets, and people.



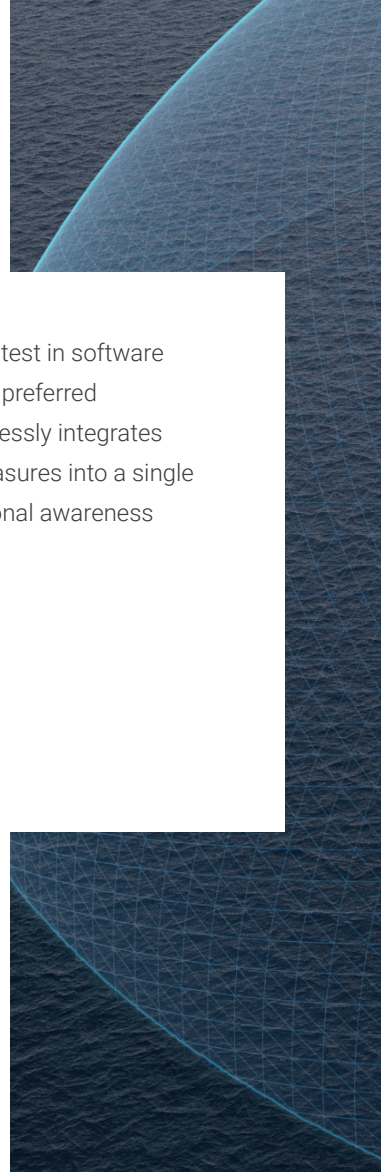
# COUNTERING ASYMMETRIC THREATS

## MULTI-DOMAIN COMMAND & CONTROL CAPABILITIES TO PROTECT AGAINST THREAT ACROSS LAND, AIR, SEA, AND SUB-SURFACE

NiDAR Command integrates intelligence and surveillance streams as well as state-of-the-art sensors to provide full situational awareness. The system can automatically detect, classify, and respond to multi-domain asymmetric threats - including aerial drones, fast moving small craft, divers and mini-submarines.

Customised to operational requirements, 'guard zones' can be set up, where any breach triggers intelligent alerts - allowing for an immediate response.

This is enabled by combining the latest in software design with advanced sensors and preferred hardware. NiDAR Command seamlessly integrates smart surveillance and countermeasures into a single air, surface and underwater situational awareness picture.



# LAYERED DEFENCE

## MULTI-DOMAIN SURVEILLANCE AND SITUATION ANALYSIS: FROM DETECTION TO DENIAL, NIDAR C2 SHOWS YOU EVERYTHING AND GIVES YOU CONTROL.

### DETECT

NiDAR C2 equipped with Radar and RF monitoring for detection of objects across land, surface and air. Live view of objects and accurate sensor diagnostics enables users to observe, monitor and protect assets.

### AI IDENTIFICATION

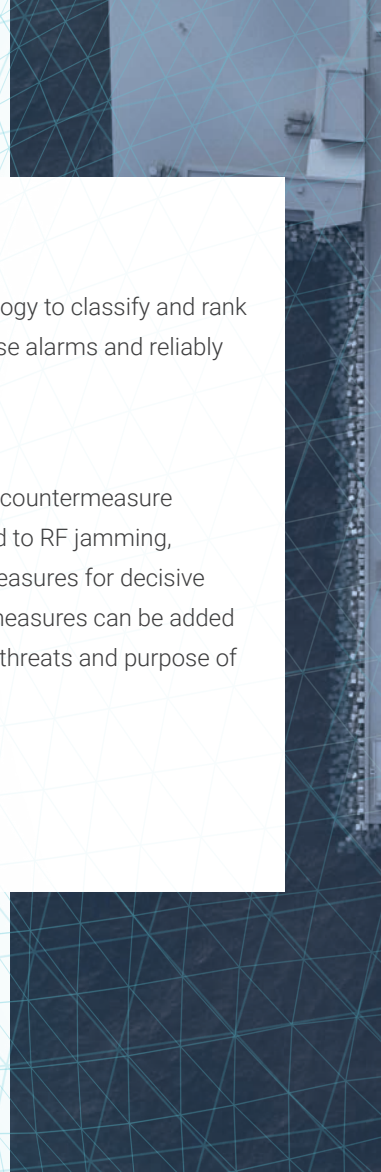
NiDAR's proprietary AI uses advanced algorithms, video and behaviour pattern recognition, object data points, event history analysis, RF signal monitoring and environment reports such as weather, location, and flight schedules to identify objects.

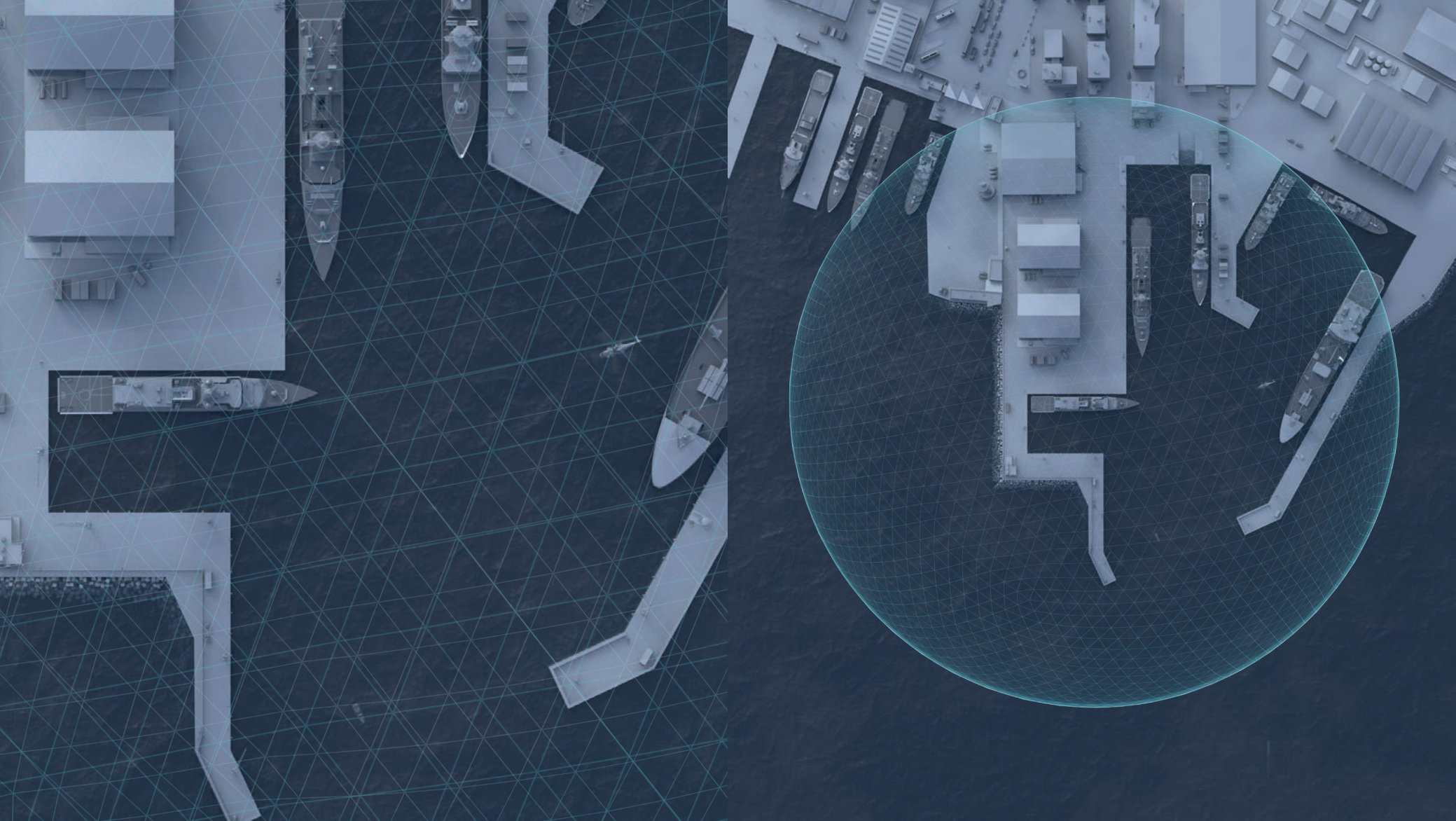
### ALERT & MONITOR

Continuous surveillance technology to classify and rank potential threats, minimising false alarms and reliably projecting outcomes.

### RESPOND

NiDAR's intuitive UI connects to countermeasure options including and not limited to RF jamming, GPS jamming, kinetic countermeasures for decisive elimination of threats. Countermeasures can be added to the system and expanded as threats and purpose of operations evolve.





# SENSOR FUSION

## NIDAR C2 ALLOWS FOR BEST OF BREED TECHNOLOGY TO BE SEAMLESSLY INTEGRATED ALONGSIDE LEGACY HARDWARE

### OPTIMISE LEGACY SYSTEMS

Access pre-installed legacy hardware and sensors through NiDAR C2 without compromising capabilities. Operators are able to control existing technology through a single, intuitive, familiar operating system.

### EXPAND AND EVOLVE

NiDAR C2 allows for continued expansion of system capabilities. As new threats emerge and requirements evolve, NiDAR allows for C2 operations to grow, adding new sensors, expanding to mobile command, and integrating latest countermeasures so that force protection is optimised.

### BEST OF BREED

Working with state-of-the-art hardware manufacturers, MARSS develops NiDAR to connect best of breed future technologies to our intelligent C2 platform. From the latest Radar detection and access control, to the most advanced countermeasures and defence safety systems, NiDAR C2 brings everything everywhere into a single command space.

# LEADING DEFENCE TECHNOLOGY

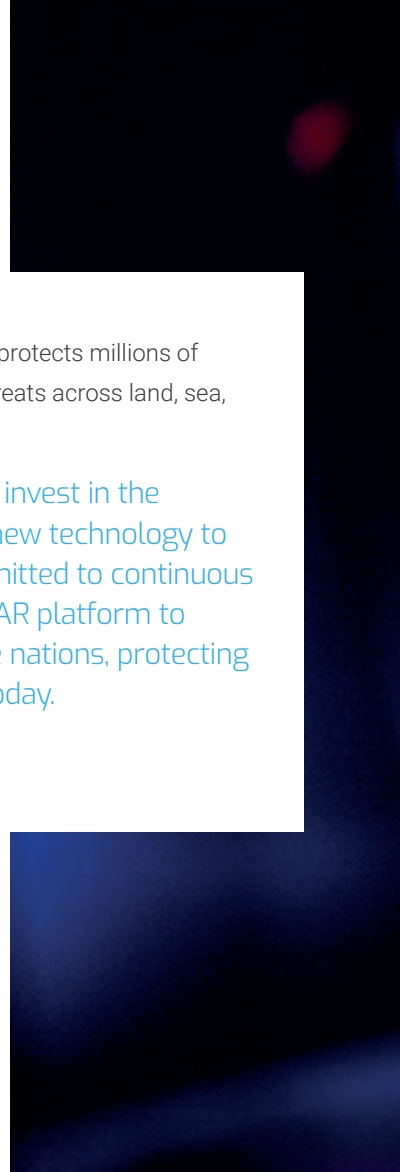
## HELPING NATIONS AROUND THE GLOBE PROTECT WHAT THEY VALUE MOST.

At MARSS, we help our customers strengthen their defence & security and modernize their cities. Our AI powered IoT platform, NiDAR provides a turnkey solution by fusing intelligence and surveillance to grant full situational awareness and control.

Threats are evolving and operation demand is ever changing. Working alongside hardware partners, we developed NiDAR to enhance command and control capabilities, fusing technology, sensors and countermeasures into a single tactical picture.

Trusted globally, our systems protects millions of lives against a multitude of threats across land, sea, underwater and air.

Driven by innovation, we invest in the research and design of new technology to save lives, and are committed to continuous development of our NiDAR platform to create smart and secure nations, protecting against future threats, today.



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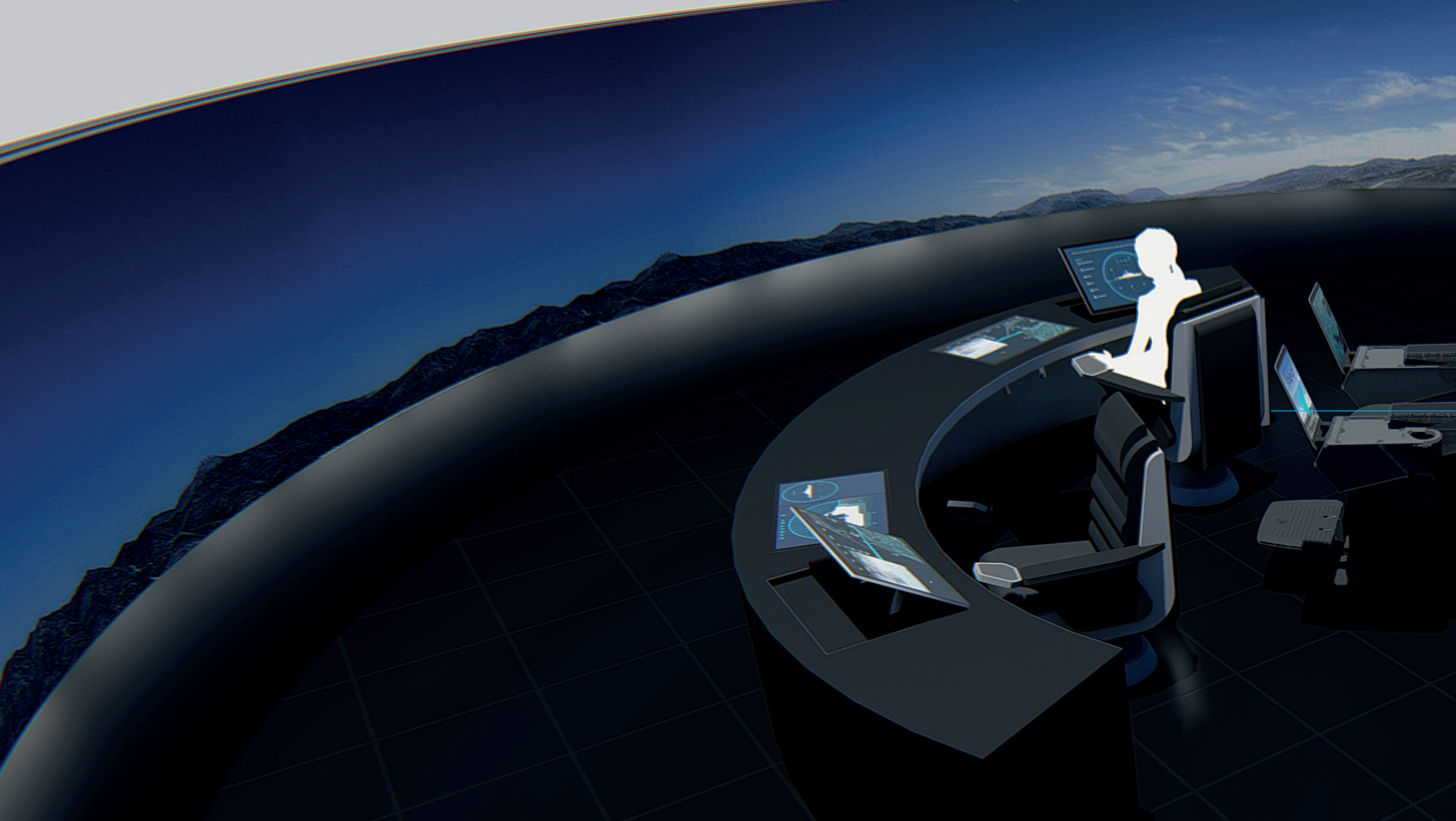

MARSS is committed to making a difference and creating efficient and intuitive solutions to make the world a safer, and more intelligent, place to live.

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