

# Fourth Quarter and Full Year 2021 Earnings Release

Ondas Holdings (NASDAQ: ONDS)  
March 22, 2022



**ONDAS**  
NETWORKS

**AR**  
AMERICAN ROBOTICS

# DISCLAIMER

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This presentation may contain "forward-looking statements" as that term is defined under the Private Securities Litigation Reform Act of 1995 (PSLRA), which statements may be identified by words such as "expects," "projects," "will," "may," "anticipates," "believes," "should," "intends," "estimates," and other words of similar meaning. Ondas Holdings Inc., and its wholly-owned subsidiaries Ondas Networks, Inc. and American Robotics, Inc. (collectively, "Ondas" or the "Company"), cautions readers that forward-looking statements are predictions based on its current expectations about future events. These forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties and assumptions that are difficult to predict. The Company's actual results, performance, or achievements could differ materially from those expressed or implied by the forward-looking statements as a result of a number of factors, including, the risks discussed under the heading "Risk Factors" in the Company's most recent Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission ("SEC"), in the Company's Quarterly Reports on Form 10-Q filed with the SEC, and in the Company's other filings with the SEC. The Company undertakes no obligation to publicly update or revise any forward- looking statements, whether as a result of new information, future events or otherwise that occur after that date, except as required by law.

# LEADERSHIP TEAM



**Eric Brock**  
Chairman and CEO

Eric is an entrepreneur with over 25 years of management and investing experience.



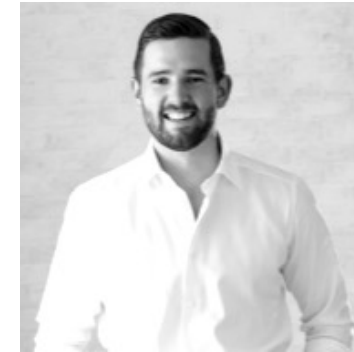
**Derek Reisfield**  
President and CFO

Derek is an experienced executive with over 30 years experience with entrepreneurial growth companies, as well as executive roles with Fortune 500 companies.



**Stewart Kantor**  
President

Stewart brings 20 years of experience in the wireless industry to Ondas Networks.

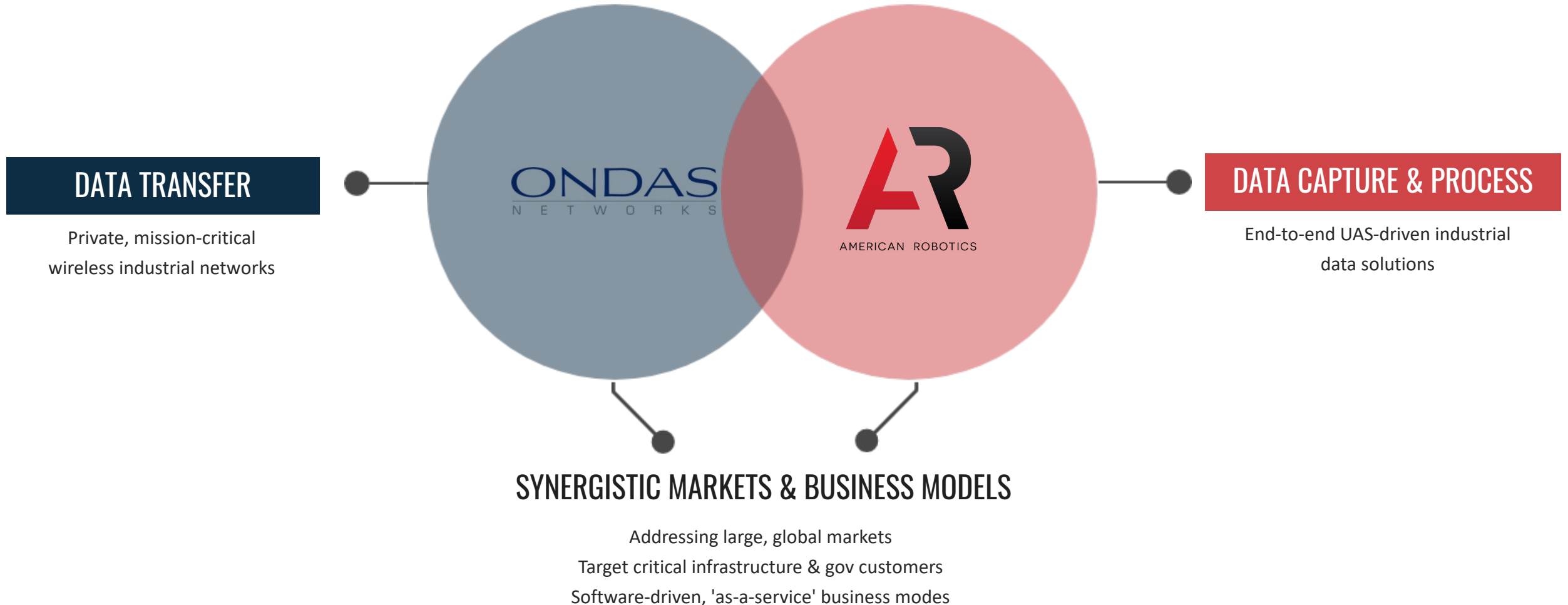


**Reese Mozer**  
CEO

Reese is an entrepreneur and roboticist with over 10 years of experience developing and marketing autonomous drones.

# A POWERFUL INDUSTRIAL TECHNOLOGY PLATFORM

Technology platforms for the new era of industrial data



# A POWERFUL INDUSTRIAL TECHNOLOGY PLATFORM

Complete, end-to-end next-generation Rail data solutions

## ardenna

### Rail-Inspector™

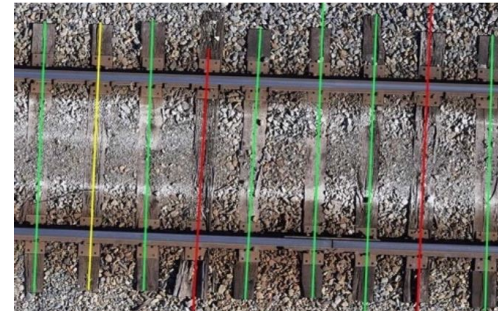
- ▶ Leading Rail inspection data analytics solution
- ▶ Accelerates American Robotics' Rail strategy
- ▶ Demonstrates power of Ondas' ecosystem strategy



Automated data  
collection



ML/AI-driven data  
analytics



# AGENDA

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- 1 | Progress on Key Priorities
- 2 | Financial Review - 2021
- 3 | Update on Business Development & Growth Plan
- 4 | Outlook
- 5 | Investor Q&A





# PROGRESS ON KEY PRIORITIES



## Transition to platform delivery

- ▶ **Commercial adoption begins in critical 900 MHz with Class 1 Rails**
  - ▶ Two Class 1 Rails have placed “launch orders”
  - ▶ Third Class 1 Rail has begun field work preparation for expected significant order
- ▶ **Rail Lab indicates long-term acceptance of FullMAX™ dot16 platform**
- ▶ **Siemens partnership broadens and gains traction**
  - ▶ Successful completion of ATCS / MC IoT joint development
  - ▶ Successful launch of Siemens branded **Airlink MC-IoT**
  - ▶ New joint development programs launched and planned
  - ▶ International & Transit markets customers
- ▶ **Aura Phase 1 project completed; Ondas aviation radio receives FCC approval**



## Scaling operations & moat in target markets

- ▶ **Key hires at all levels on-boarded**
- ▶ **Scout System production ramped; deliveries to accelerate**
- ▶ **Customer activity expanding**
  - ▶ Chevron, ConocoPhillips, & Stockpile Reports
  - ▶ More blue-chip customers in pipeline to be announced
- ▶ **Strategic investments in target markets**
  - ▶ Rail: Acquisition of Ardenna
  - ▶ Oil & Gas: Dynam.AI partnership and investment
  - ▶ Stockpiles & Mining: Joint development with Stockpile Reports

# FINANCIAL REVIEW | Q4 2021

## SELECT P&L DATA

(Unaudited)	Three Months Ended December 31,	
	2021	2020
Revenues, net	\$ 571,246	\$ 194,121
Cost of goods sold	405,201	148,511
Gross profit	166,045	45,610
Operating expenses:		
General and administration	4,155,594	2,419,054
Sales and marketing	678,881	288,819
Research and development	2,372,143	1,031,330
Total operating expenses	7,206,618	3,739,203
Operating loss	(7,040,573)	(3,693,593)

## SUPPLEMENTAL INFO:

Depreciation expense	38,406	23,080
Amortization of Intangible Asset:	714,125	6,688
Stock-based Compensation	1,298,517	1,628,392
Total	2,051,048	1,658,160

## Key Takeaways:

- ▶ Revenue growth 194% YoY
- ▶ OPEX, includes non-cash expenses of \$2.1 million for Q4 2021 and \$1.7 million for Q4 2020
- ▶ P&L reflects preparation for larger commercial rollouts in 2022 for Ondas Networks and American Robotics



# FINANCIAL REVIEW | FY 2021

## SELECT P&L DATA

(Unaudited)	Full Year Ended December 31,	
	2021	2020
Revenues, net	\$ 2,906,771	\$ 2,163,719
Cost of goods sold	1,810,942	1,236,051
Gross profit	1,095,829	927,668
Operating expenses:		
General and administration	11,781,503	7,641,234
Sales and marketing	1,487,394	1,223,767
Research and development	5,800,549	3,586,533
Total operating expenses	19,069,446	12,451,534
Operating loss	(17,973,617)	(11,523,866)

## SUPPLEMENTAL INFO:

Depreciation expense	116,231	97,759
Amortization of Intangible Assets	1,396,364	19,840
Stock-based Compensation	3,253,590	4,676,362
Total	4,766,185	4,793,961

## Key Takeaways:

- ▶ Revenue growth 34% YoY
- ▶ OPEX, includes non-cash expenses of \$4.8 million for Q4 2021 and \$4.8 million for Q4 2020
- ▶ OPEX, includes \$1.6 million of professional fees related to the AR acquisition and non-cash expenses in FY 2021
- ▶ P&L reflects preparation for larger commercial rollouts in 2022 for Ondas Networks and American Robotics

# FINANCIAL REVIEW | FY 2021

## SELECT CASH FLOW DATA

(Unaudited)

Net cash used in operating activities

Net cash used in investing activities

Net cash provided by financing activities

Increase (Decrease) in cash

Cash and cash equivalents, beginning

Cash and cash equivalents, end

	Full Year Ended December 31,	
	2021	2020
Net cash used in operating activities	\$(16,895,416)	\$ (7,534,256)
Net cash used in investing activities	(10,210,631)	(16,140)
Net cash provided by financing activities	41,860,437	31,458,101
Increase (Decrease) in cash	14,754,390	23,907,705
Cash and cash equivalents, beginning	26,060,733	2,153,028
Cash and cash equivalents, end	\$ 40,815,123	\$26,060,733

## Key Takeaways:

- ▶ Balance sheet healthy
- ▶ Cash used for investing activities; primarily reflects the American Robotics acquisition
- ▶ Businesses are capital light from a CapEx perspective
- ▶ Balance sheet supports growth plan for 2022

# STRATEGIC REVIEW

Key Priorities and Accomplishments for  
Ondas Networks and American Robotics



# STRATEGIC REVIEW

## Ondas Networks



# STRATEGIC REVIEW | ONDAS NETWORKS

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- ▶ Class 1 Rails move towards FullMAX™ platform adoption
- ▶ Two 900 MHz launch orders received; additional orders being pursued
- ▶ Federated MC-IoT Rail lab secured; TTCl engaged for long-term network design, planning and ecosystem integration

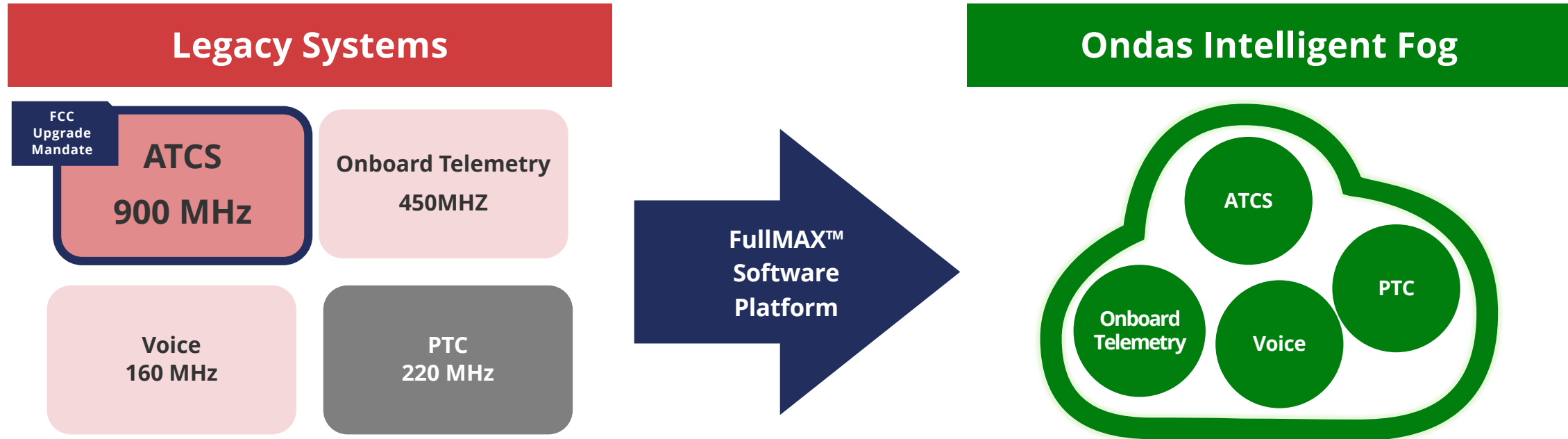


- ▶ Siemens began formal marketing of FullMAX™ platform under “Airlink” brand name
- ▶ Product development expanded to new critical train systems; additional frequency bands
- ▶ Marketing efforts broaden to new International and Transit markets



- ▶ Completed Phase 1 Transitional C2 network development for Aura
- ▶ Aviation radio certified by Federal Communications Commission (FCC)
- ▶ Ondas supporting demonstration network

# FullMAX™ – Next-Generation Rail Communications



- ▶ Rails own 900 MHz greenfield spectrum, provided by FCC “new safety network” upgrade in August 2020
- ▶ Legacy 900 MHz network to be fully retired over the next 2 – 3 years (by 2025)
- ▶ TAM for 900 MHz including base station infrastructure and remotes over \$300 million<sup>(1)</sup>

- ▶ Ondas calculates TAM at over \$800 million<sup>(1)</sup> for all 4 networks
- ▶ Potential upside of hundreds of millions of dollars driven by new voice and sensor applications
  - ▶ Sensor based applications on rail infrastructure and 1.5 million rail cars
  - ▶ Critical voice/ messaging end points (handsets and tablets)

(1) Ondas management estimates

# The North American MC-IoT Federated Rail Lab

Federated (*adjective*) – set up as a single centralized unit within which each state or division keeps some internal autonomy

## ▶ Why a Lab?

- ▶ Enables optimization of different network configurations
- ▶ Ensures interoperability / coexistence among the Class I Rails using shared licensed spectrum
- ▶ Allows for Next-Generation Application testing and integration in a controlled environment
- ▶ Expands to multiple networks, frequency bands (160/220/450)
- ▶ Rail Network Engineer training

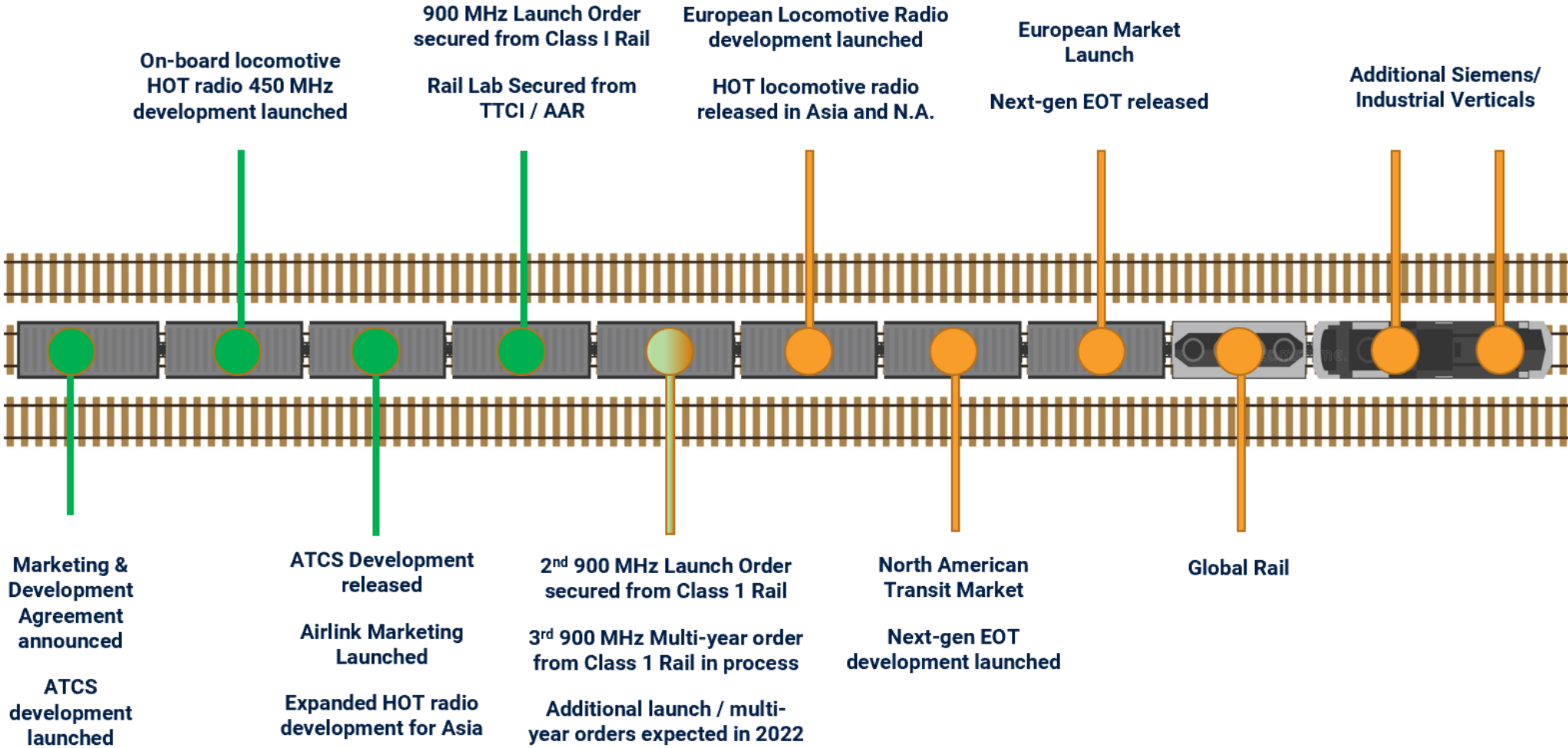


- ▶ Lab funded by AAR subsidiary TTCL, Inc.
- ▶ Initially established in Sunnyvale, CA; expected to move to MxV Rail facility in August 2022
- ▶ Evergreen lab; additional labs expected at individual Railroads
- ▶ Positions **dot16** as central fabric of new “Digital Railroad” technology adoption





# Siemens Partnership Broadening...



**North America ▶ Asia ▶ Europe ▶ Global Rail Market**

# Integrated Technology Drives Train Automation

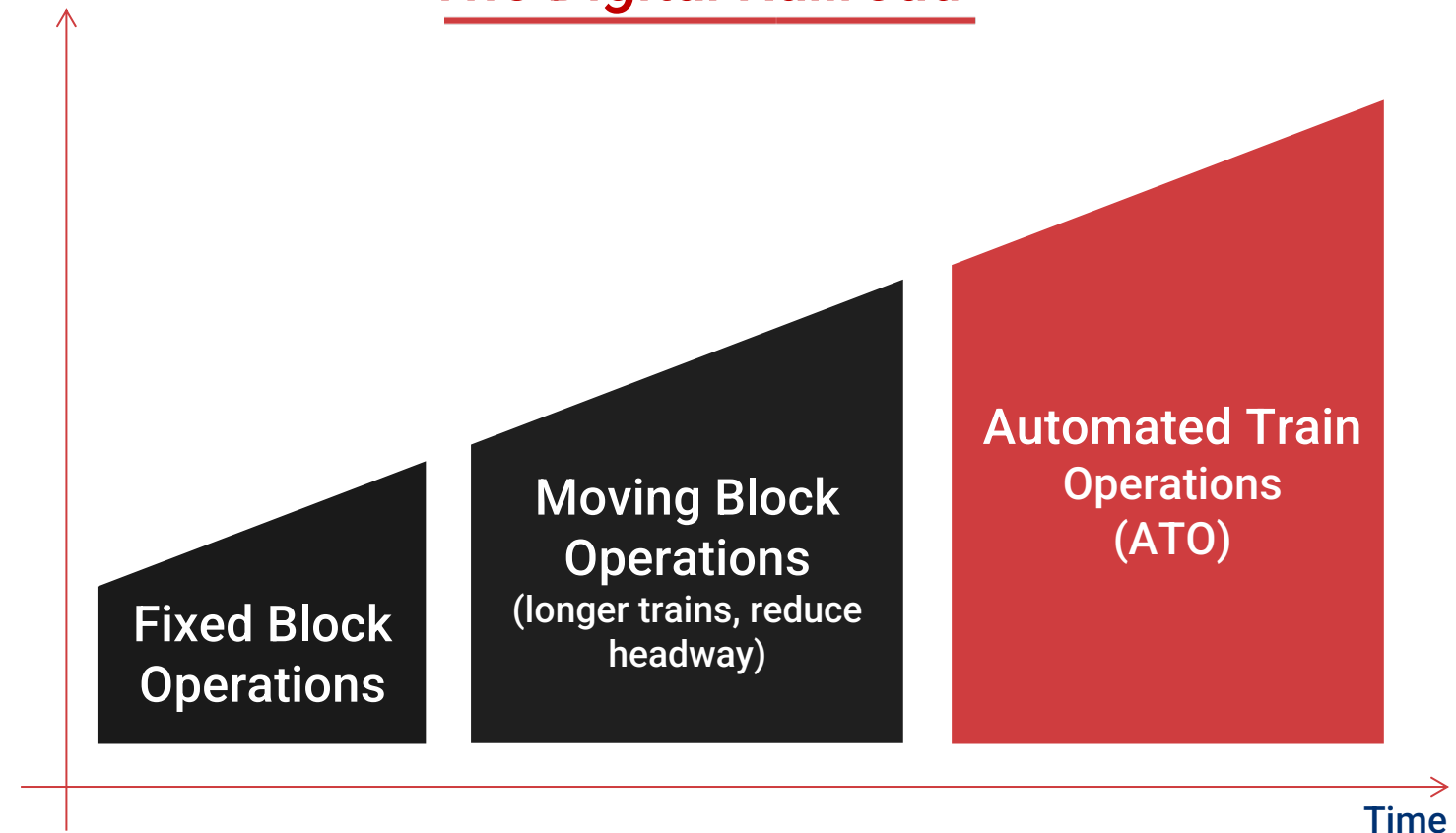
**SIEMENS**

**ONDAS**  
N E T W O R K S

- ▶ Driving initial **dot16** platform adoption beginning in 900 MHz
- ▶ Product integration enhances value of network and **dot16** ecosystem
  - ▶ ATCS 900 MHz
  - ▶ HOT 450 MHz North America
  - ▶ HOT 450 MHz Asia
  - ▶ Major European development pending
  - ▶ TTCI 160 MHz in pipeline
- ▶ Multiple Joint-Development programs on roadmap
- ▶ Marketing expanding beyond Class I Rails
  - ▶ Transit – Asia - Europe

Communications  
Bandwidth

## The Digital Railroad



**FullMAX™ is critical communications platform**

# CLASS 1 900 MHz Launching



## Broader Deployments

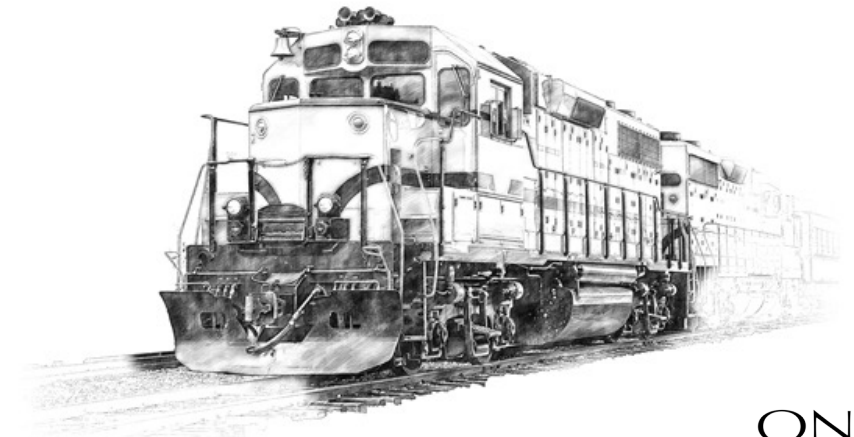
Applications expand beyond ATCS

- ▶ Centralized Train Control (CTC)
- ▶ Interlocking Vital Links
- ▶ Highway Crossings
- ▶ Voice
- ▶ Positive Train Control (PTC)
- ▶ Drone C2, Hi-Rail, Sensors

## Launch Orders

Processes being established with Rails and Siemens for:

- ▶ Production
- ▶ Purchasing
- ▶ Delivery scheduling
- ▶ Siemens packages
- ▶ Shipping
- ▶ Acceptance / Testing
- ▶ Engineer Training
- ▶ Installation Procedures
- ▶ System Maintenance
- ▶ Customer Support



# 2022 TARGETS | ONDAS NETWORKS

- ▶ Secure orders from at least 5 Railroads
  - ▶ Target FullMAX™ bookings of \$20 million
  - ▶ Secure International on-locomotive order
- ▶ Expand Siemens activity
  - ▶ Complete HOT 450 MHz program for both North America and Asia
  - ▶ Secure new European Track-to-Train program
  - ▶ Secure additional product development programs
- ▶ Execute on Federated MC-IoT Rail lab
  - ▶ Lab will bring additional Rail vendor relationships
  - ▶ Expand network activity to other frequency bands
  - ▶ Secure additional TTCI funded Rail Lab programs







**STRATEGIC REVIEW**

**American Robotics**

# STRATEGIC REVIEW | AMERICAN ROBOTICS

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- ▶ Hiring on target across all levels of organization; 450%+ YoY headcount growth
- ▶ Ramped up supply chain and manufacturing capabilities
- ▶ Begun maturing nationwide operations infrastructure & safety management system
- ▶ Granted two additional patents and five industry awards



- ▶ Secured first wave of blue-chip customer purchase orders
- ▶ Additional purchase orders in pipeline expected to be announced in coming quarters
- ▶ Establishing close relationships to ensure long-term growth and success



- ▶ Strategic investments to expand moat in our target markets
- ▶ Partnered with Dynam.AI to develop oil & gas analytics
- ▶ Acquired Ardenna assets and team to integrate rail analytics

# EXPANDED TEAM & OPERATIONS CAPACITY

- ▶ Hiring on-target – Headcount expanded 450%+ YoY
- ▶ Onboarded key personnel and industry-leading talent at all levels:
  - ▶ VP of Sales, VP of Operations, VP of Engineering, Director of Talent, Director of Flight Operations, and Director of Product
  - ▶ Experts in AI, ML, computer vision, robotics, electrical engineering, mechanical engineering, software development, manufacturing, and aviation.
  - ▶ Education includes Carnegie Mellon, Stanford, MIT, Columbia, West Point, WPI, RIT, Tufts, Babson, and Bentley
  - ▶ Backgrounds include GE, Baker Hughes, iRobot, Amazon Robotics, Soft Robotics, BAE Systems, CyPhy Works, Textron, Kespry, AeroVironment, MIT Lincoln Labs, Ford, Facebook, IBM, US Army, US Air Force, and US Navy
- ▶ Expanded staff supports increased sales, manufacturing, and deployment of Scout Systems
- ▶ AR and Ondas Holdings signed lease on new joint HQ in Waltham, MA; expect to finalize move in April 2022





# SUPPLY CHAIN & MANUFACTURING

- ▶ American Robotics established critical relationships and partnerships with vendors and manufacturing partners to establish a reliable supply chain and manufacturing pipeline for 2022 and beyond.
- ▶ We are currently optimizing supply chain and manufacturing capacity to satisfy existing customer demand.
- ▶ Partnered with industry-leading contract manufacturers (CMs) in the Northeast; CMs positioned to increase Scout System™ production rate
- ▶ Initial Scout System™ units have been delivered and installed at customer sites.
- ▶ Orders for 30+ systems are currently being placed.
- ▶ Focus now is building on this success by increasing manufacturing speed and decreasing bring-up time for each system



# SALES ACTIVITY

Engaged with blue-chip customers on path to fleet deployments. Building close relationships to ensure long-term growth and success.

**STOCKPILE  
REPORTS**

>100 potential units

**ConocoPhillips**

>1,000 potential units

**Chevron**

>1,000 potential units

Top 10 O&G Corp

>1,000 potential units

Top 10 O&G Corp

>1,000 potential units

Top 10 Rail Corp

>1,000 potential units

Many more....

>1,000 potential units

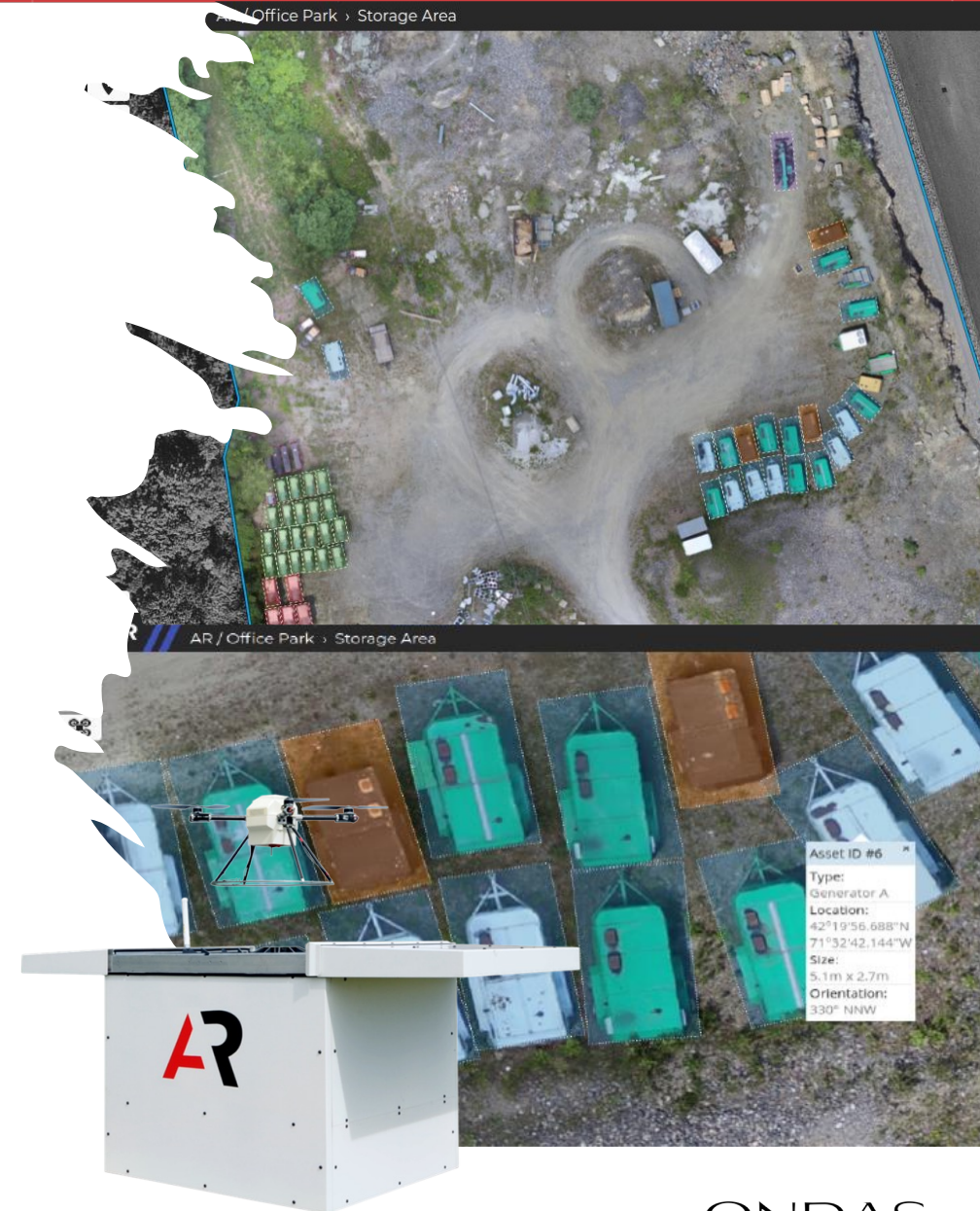
## Sales & Pipeline Activity

- ▶ Received purchase order from **Chevron**; initial Scout Systems™ delivered.
- ▶ Received purchase order from **ConocoPhillips**; initial Scout System™ delivered.
- ▶ Completed product integration with **Stockpile Reports**; next phase of installations are planned for Q2.
- ▶ Additional Fortune 500 industrial companies are expected to purchase units for delivery in Q2, Q3, and Q4.
- ▶ Expect customer **backlog** to build in the coming months as we continue building up our manufacturing, installation, and operations capacity.
- ▶ Engaging in **safety and risk analyses** with customers to prepare for wide-scale fleet deployments
- ▶ These franchise customers represent the ability to purchase and utilize **fleets** of Scout Systems across the United States and the world.

# DYNAM.AI INVESTMENT

American Robotics establishes partnership with dynam.AI, a software developer for complex artificial intelligence and machine learning projects.

- ▶ American Robotics entered into a joint development, services and marketing agreement with Dynam.AI
- ▶ Partnership supported by Ondas Holdings equity investment in Dynam.AI
- ▶ Funds used to support Dynam's proprietary Vizlab™, an AI/ML platform - an advanced developer toolkit for data scientists
- ▶ Expand and enhance AR's IP library and analytics capabilities with artificial intelligence based on physics-based algorithms

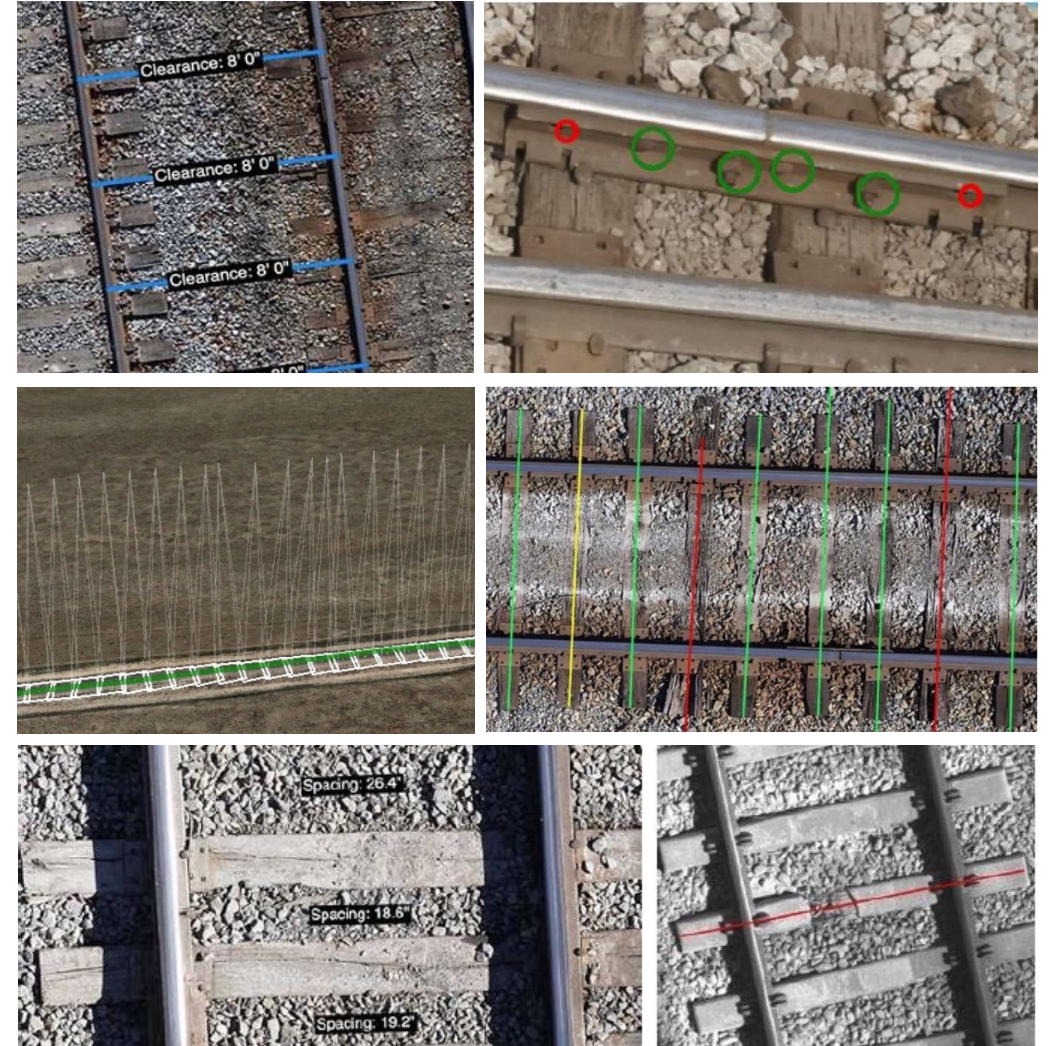




# AR DENNA ACQUISITION

## Ardenna accelerates Rail platform opportunity

- ▶ Estimated \$6.85B TAM within rail
- ▶ Over 200,000 miles of track and 100s of rail yards in North America
- ▶ Leading provider of data analytics for rail inspection
  - ▶ Unmatched data library – Over 28,000 miles of track imaged, 30+ TBs
  - ▶ Domain expertise – 7+ of R&D development with Class 1 Rail
  - ▶ AI talent – Coveted expertise in AI, ML, and computer vision
- ▶ Blue chip customer pipeline – BNSF and others
- ▶ Opportunity to both integrate within Scout System and market as standalone product



ardenna



AMERICAN ROBOTICS

ONDAS  
HOLDINGS INC.

# 2022 TARGETS | AMERICAN ROBOTICS

- ▶ **30** Scout System™ installs by year-end
- ▶ Secure customer reorders for **fleet sales**
  - ▶ Establish multi-year partnerships with top customers to tightly integrate our platform within their operations
  - ▶ Work with our industrial customers to prove demonstrated safety in the field
  - ▶ Continue executing operations growth plan, in terms of talent, supply chain, manufacturing, and operations processes
  - ▶ Expand imaging payload and analytics capabilities for high-value use cases within our target markets





# OUTLOOK SUMMARY

ONDAS

**GENERATIONAL OPPORTUNITY TO  
DEFINE, SCALE, LEAD, & CREATE  
MASSIVE VALUE FOR  
CUSTOMERS AND  
SHAREHOLDERS**



# SCALING INDUSTRIAL TECHNOLOGY PLATFORMS

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- ▶ Balance sheet remains healthy
- ▶ Continue to invest in End-to-End solutions for customers
  - ▶ Cash OPEX expected to be \$6.5 - \$7.0 million for Q1 2022
    - ▶ Funding product and business development
    - ▶ Modest working capital requirements
    - ▶ OPEX will trend higher during 2022; support higher levels of customer activity
  - ▶ Expected growth in revenue and gross profits is expected to offset cash “burn” as we move through 2022 and 2023
- ▶ ATM offering announced provides flexibility
  - ▶ Provides potential to accelerate technology investments at Ondas Networks and American Robotics; based upon customer demands
  - ▶ Offers ecosystem opportunities via partnerships, joint ventures, and acquisitions

**STAY ON OFFENSE – CEMENT AND EXTEND LEADERSHIP**

# 2022 BUSINESS DRIVERS AND OUTLOOK

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## Transitioning from investment mode to platform delivery

- ▶ Critical 900 MHz adoption beginning
- ▶ Growing with Siemens in new markets
- ▶ Preparing production capacity and inventory for 2022 commercial sales



## Scaling operations & moat in target markets

- ▶ Initial POCs with franchise customers to conclude and transition to fleet orders
- ▶ Continue to ramp operations and manufacturing capacity to support 100s of units
- ▶ Continue investing in technology moats valued by target markets

# THANK YOU FOR LISTENING

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ONDAS  
NETWORKS



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