



The Universal Collaborative Robot Platform

Connecting the World of Robots with Full Autonomy



Robotic Automation Trend

Cost Saving, Improve Speed and Quality

In the Process of Robotic Automation

53%

(2023)

72%

(2025)

78%

Of the companies increase investment in robot automation

77B

Market size (2027)

Up to 52%

Of work can be replaced with robot automation

25% Cost Saving

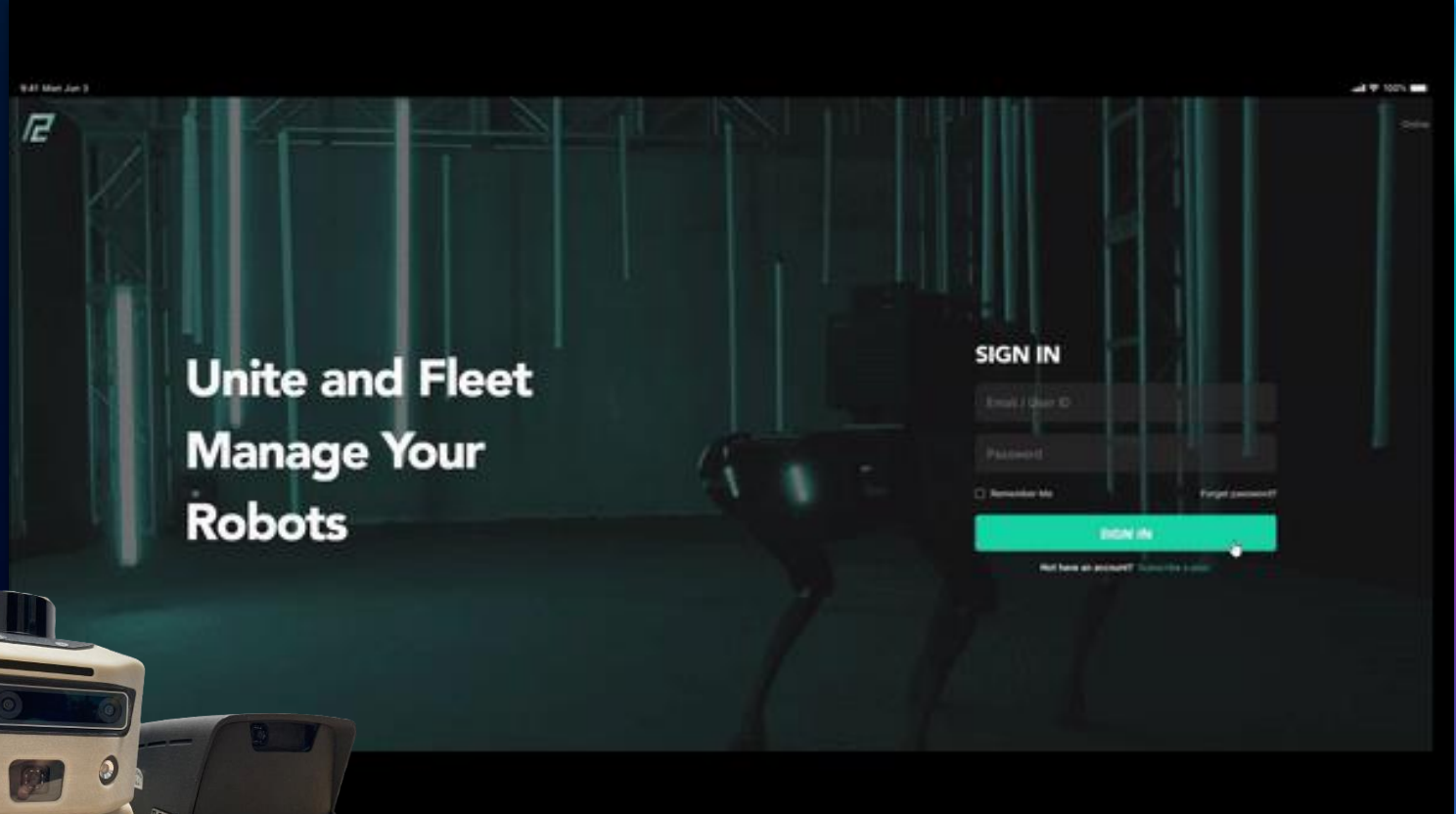
Compare to all-human workforce

- Source:
1. <https://www2.deloitte.com/bg/en/pages/technology/articles/deloitte-global-rpa-survey-2018.html>
 2. <https://www2.deloitte.com/us/en/pages/operations/articles/global-robotic-process-automation-report.html>
 3. <https://www.sciencedaily.com/releases/2020/05/200504150220.htm>
 4. <https://www.cnbc.com/2019/01/25/these-workers-face-the-highest-risk-of-losing-their-jobs-to-automation.html>
 5. <https://ifr.org/robots-create-jobs>
 6. <https://hbr.org/2021/03/why-robots-wont-steal-your-job>
 7. <https://www.roboticsbusinessreview.com/business/beyond-roi-determining-the-true-cost-of-robotics/>
 8. <https://www.torquebusiness.com/11826/elon-musk-says-tesla-s-production-lines-already-over-75-percent-automated/amp>
 9. <https://www.alliedmarketresearch.com/construction-robotics-market-A09408>



R2C2 ARC Robot Management Platform

Universal Collaborative Autonomous Robot Platform





R2C2 ARC Robot Control Device

The brain of robots

Outdoor 360 LiDAR

Navigation Depth Camera

Head Light

Shock-Proof Camera

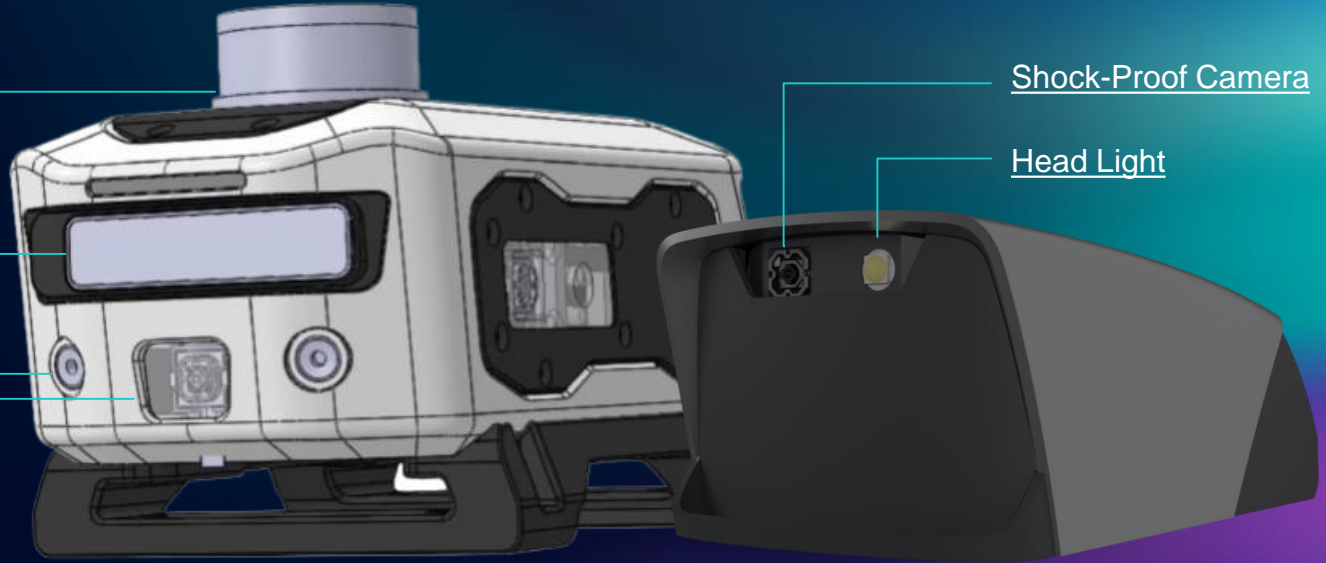
Shock-Proof Camera

Head Light

**ARC
Industrial**

4G/5G
Device
AI Edge
Computer

ARC Core





R2C2 ARC Autonomy System

Expand Robot inspection and autonomy capability

R2C2 Sensor



R2C2 Cloud Platform



R2C2 Applications



R2C2 Universal Interface



12

Robots Brand Supports



Functionality and Design

Connect All Robots and Devices to one platform

Centralized

Manage and Monitor All robots and on-site IoT devices at one place

Multi-Location

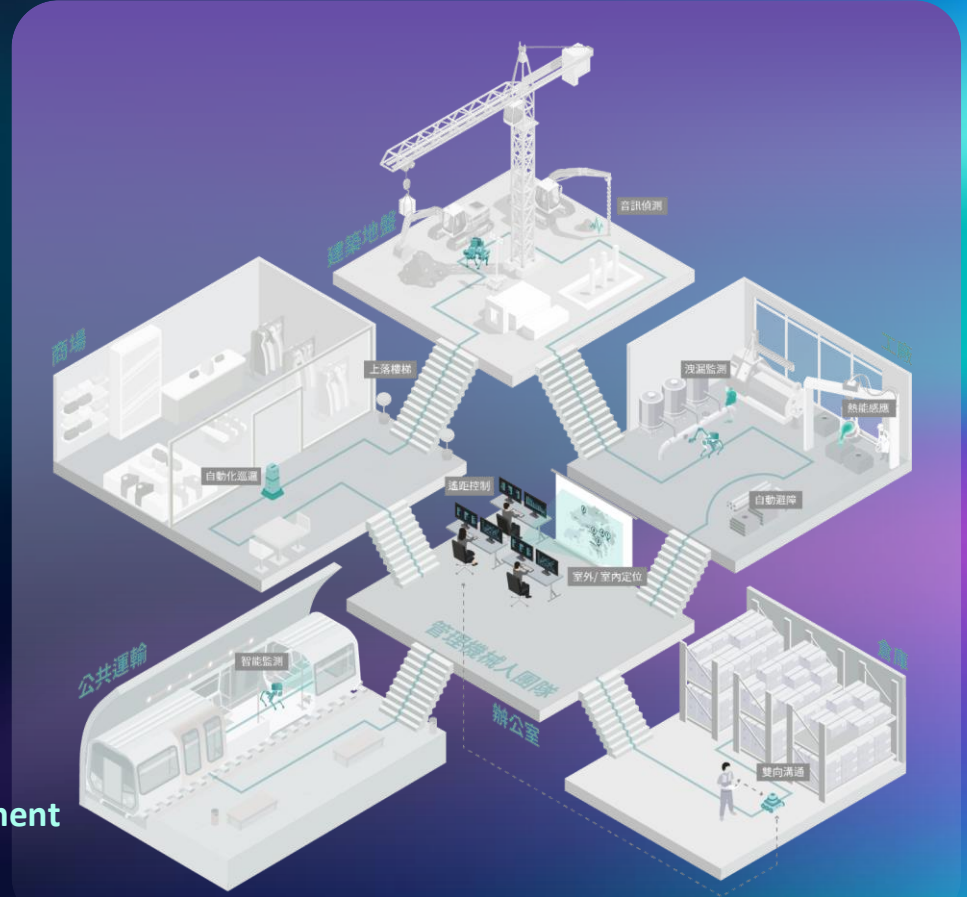
Monitor cross-brand robots fleet from multiple locations

Remote Monitoring & Fast Response

Control any robot anywhere via 5G connection. Get real-time notification

Data Driven

Accelerate Digital Transformation & improve management quality



TELEOPERATION



Web App



Real World



Applications of R2C2 ARC

Construction, Manufacturing and Security (Current Development Focus)

Construction Safety and Progress Monitoring



Manufacturing Inspection & Confined Space Inspection



Daily Security Patrol



10+

Robots Deployed

10

Cooperate Users

100+

Missions Completed (since 2023)



Performance Matrix

Solve Labor Shortage, Increase Accuracy

24/7

Full Autonomy
Work
Force

Improve
productivity



30%

Less
Manpower

Data Accurate Management



90%

Data
Accuracy

Ultra Low Control Latency

100 ms

Lightening Fast
Connection





MTR Use Cases

Automated Train Inspection

500

Inspection waypoints

< 90 mins

Inspection time

100%

Fully Automated

Main Task

A pilot trial project of deploying R2C2 ARC platform on Boston Dynamics SPOT for automated train inspection (visual inspection).

R2C2 ARC platform generate detail inspection report for engineers to review and follow up.

MTR plans to adopt R2C2 ARC platform to manage robots across different Business Units.

Functions:

- Data collection
- Automated train inspection
- Generate inspection reports





MTR Use Cases

Automated Train Inspection





CEDD Use Cases Explain

Slope and Tunnel Inspection

1st

5G Enabled
geoengineering robot

3 Years

Geoengineering missions
and counting

100+

Missions Completed (since
2020)

Main Task

A pilot trial project of deploying Boston Dynamics SPOT for remote control slope inspection.

Maintain safe distance between engineering and unstable slopes. Provide sensor data and inspection log for slope analysis.

Functions

- 5G remote slope inspection
- 3D scanning and data collection



Application of Robotic Dog for Geotechnical Works Inspection

Inspect disused tunnels under insufficient light condition





Inspect rock slope formed by open blasting





CEDD



CEDD Use Cases Explain

Slope and Tunnel Inspection





CEDD Use Cases Explain

Slope and Tunnel Inspection





New World Development Use Cases Explain

Property patrol

1st

Robot Dog Patrol in Hong Kong

2 Years

Daily Patrol at Shopping mall and residential area

3

Locations

Main Task

Deploying Custom made R2C2 ARC on Boston Dynamics SPOT for automated patrol mission at shopping mall and residential area.

- Automated Patrol
- Real-time video monitoring
- Data Collection
- Art Piece AI Inspection
- Indoor air quality monitoring
- Smoker detection





DHK Use Cases Explain

Confined space vertical Inspection

1st

Confined space vertical data collection

Monthly

Deployment (construction expected to finished in 2025)

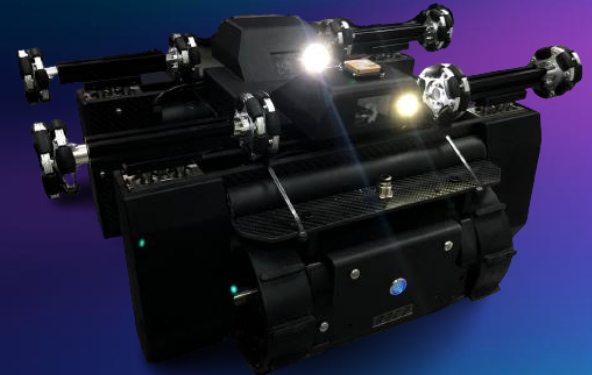
2500

Inspection and data collection points

Main Task

Deploying R2C2 ARC CORE on robot from Rover Robotics to semi-automated vertical data collection and inspection mission at underground parking structure. System will also be used in routine patrol mission within the construction sites area.

- Semi-automated 30cm tight space video inspection
- Real-time video monitoring
- Data Collection
- Low-cost robot localization
- Real-time inspection report





Use Cases Explain

Tunnel Ceiling Inspection

3.8km

Automated inspection

Collaborate

With concrete AI inspection
firm

Main Task

Deploy R2C2 ARC CORE on an in-house developed MARS ROVER. It was equipped with FARO scanning to perform automated tunnel ceiling (tight space) photo capture and AI inspection

- Automated robot inspection patrol (stop every 10 meters)
- Real-time video monitoring
- Data Collection
- Low-cost robot localization
- Real-time inspection report
- 3D scanning and inspection (crack and water leakage)





Use Cases Explain

Drainage Inspection

1st

Robot dog inside drainage system for data collection

Integrated

With Lecia and Skyland scanning technologies

Main Task

Deploy R2C2 ARC CORE on robot (B1) from UniTree Robotics to semi-automated drainage data collection and inspection mission. System will also be used in routine drainage engineering work.

- 100 meters tether connected robot remote control
- Real-time video monitoring
- Data Collection
- Water resistance treatment
- 3D scanning





Business Model

Solve Labor Shortage, Increase Accuracy

R2C2 ARC Unit Sales

ARC Core - Teleoperation and Inspection for mid-size robots

ARC Industrial - Full suite Teleoperation, Inspection and full autonomy

ARC Essential - Smallest device of ARC family, management gateway for service robots

10

Devices
by 2023

R2C2 ARC Platform Subscription

Basic Feature - Free platform access (single robot control, 50GB Free storage, shared server space and connection)

Advanced Feature - PAID platform feature: (Multi-robot control, Extended server storage, Dedicated connection)

12,000
PER YEAR

300
Per robot
Per month

R2C2 ARC Application Store

AI and Inspection Applications - R2C2 Application store offers tested AI and inspection applications for user to subscribe or purchase. R2C2 takes 15% of the subscription or sales fee

Support service subscription - R2C2 Application store offers supporting services such as 5G connections for user to subscribe. R2C2 takes certain percentage of the subscription fee



Business Pain Points

Subscription model Transformation

Pain Points

1. Pricing (Hardware System and Platform Pricing)
2. How to promote subscription model
3. How to setup marketing and sales channel
4. Other other service we should provide (4G/5G plan, Insurance) etc?



San Wong
Founder

Brief Summary

1st

Boston Dynamics SPOT developer in Hong Kong. Brands of robots support on the platform

1st

Universal Robotic Platform for both Outdoor and Indoor robots.

10+

Projects completed in robot automation for inspection and patrol.

12

30%

Year-by-Year Growth

Research & Development Partners



Support Organizations



Awards and Recognition

