

# Will autonomous car racing help your industry? It just might.



Cisco is helping connect high-speed autonomous race cars for the Indy Autonomous Challenge

**10**  
countries

**42**  
universities

**10+**  
teams

Students develop software to safely compete at high speeds on the Texas Motor Speedway

Cisco is a presenting sponsor providing the connectivity to, from, and within the vehicles

The goal: innovation to improve safety and performance of real-world autonomous operations



The autonomous car market is experiencing

**19.6%**

CAGR



Indianapolis is the proving ground for innovation

**100**

innovations to date



New records set for autonomous cars

**2**

Fastest speed  
Number of laps

The need for autonomous operations is growing across industries

**50%**

Half of industrial transformation leaders have an autonomous plant initiative formalized\*

**41%**

Say the pandemic accelerated their autonomous efforts\*

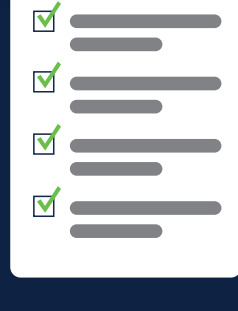
**95%**

Expected growth for autonomous mobile robots: 2020 to 2027\*

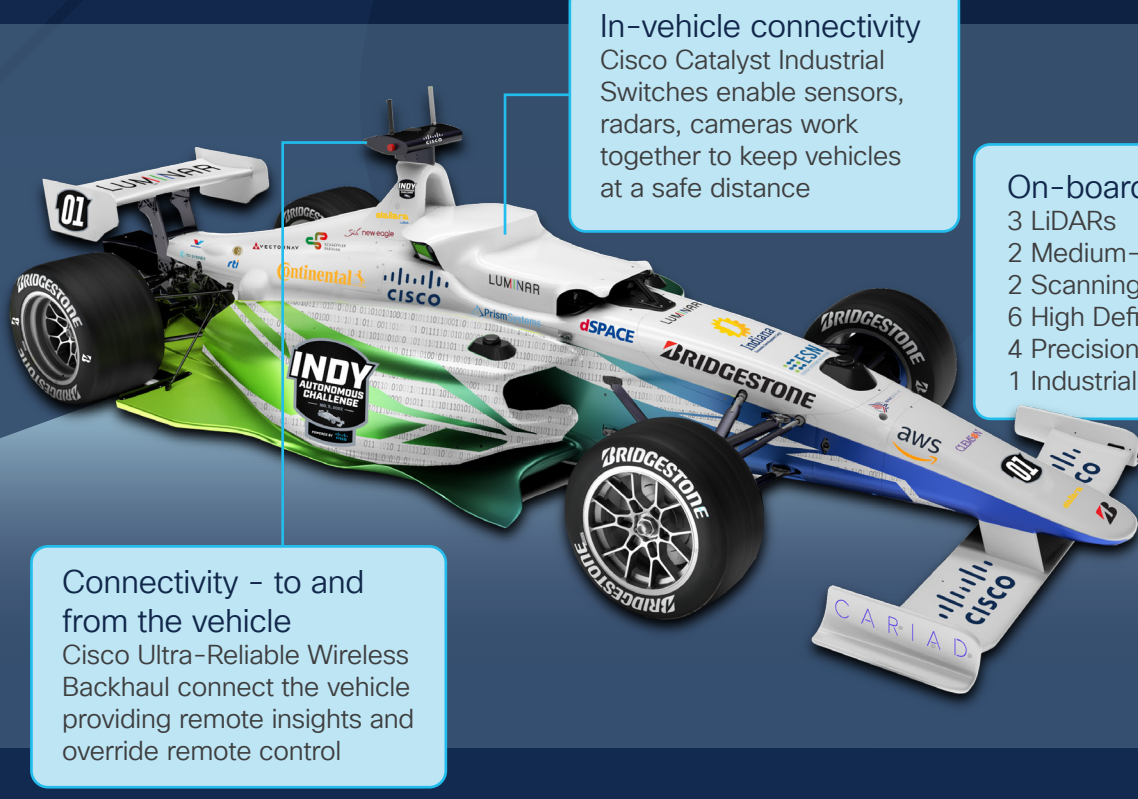
\*<https://www.grandviewresearch.com/industry-analysis/autonomous-mobile-robots-market>

## Benefits of autonomous operations

- Safer working environments
- Reduced human errors
- Increased efficiencies and productivity
- Improved product quality



Safety and efficiency drive the need to connect autonomous vehicles - on and off the road



**Connectivity - to and from the vehicle**  
Cisco Ultra-Reliable Wireless Backhaul connect the vehicle providing remote insights and override remote control

**In-vehicle connectivity**  
Cisco Catalyst Industrial Switches enable sensors, radars, cameras work together to keep vehicles at a safe distance

**On-board technology**  
3 LIDARs  
2 Medium-Range RADARs  
2 Scanning RADARs  
6 High Definition Cameras  
4 Precision GNSS Sensors  
1 Industrial Compute Platform

Autonomous operations demand a new class of networking



**More Network Bandwidth**

Video, AGVs, 3D sensors drive increased need



**Zero Loss Hand-offs**

Real-time control of unmanned vehicles. Support for high speed applications



**Cyber Security**

Explosive growth in connected devices increases expansion of threat surface



**Industrial Grade at scale**

Deploy in outdoor and industrial indoor spaces at scale



**Edge Compute**

Process and react to data faster - closer to the source. Maintain compliance and save costs.

Similar network requirements across autonomous use cases



**Robots**

Increase capacity and eliminate repetitive tasks



**Ship-to-shore transfer and rubber tire gantry cranes**

Speed operations at ports and terminals



**Storage and retrieval systems**

Ensure efficient transport of material from one place to another



**Autonomous guided vehicles**

Keep miners safe and out of the mine



**Driverless trains**

Improve passenger safety and smooth traffic flow

Innovations from the Indy Challenge may improve autonomous operations



Enhancements in AI and machine learning



Improved ability to operate anywhere - Antarctica, under water, even Mars!



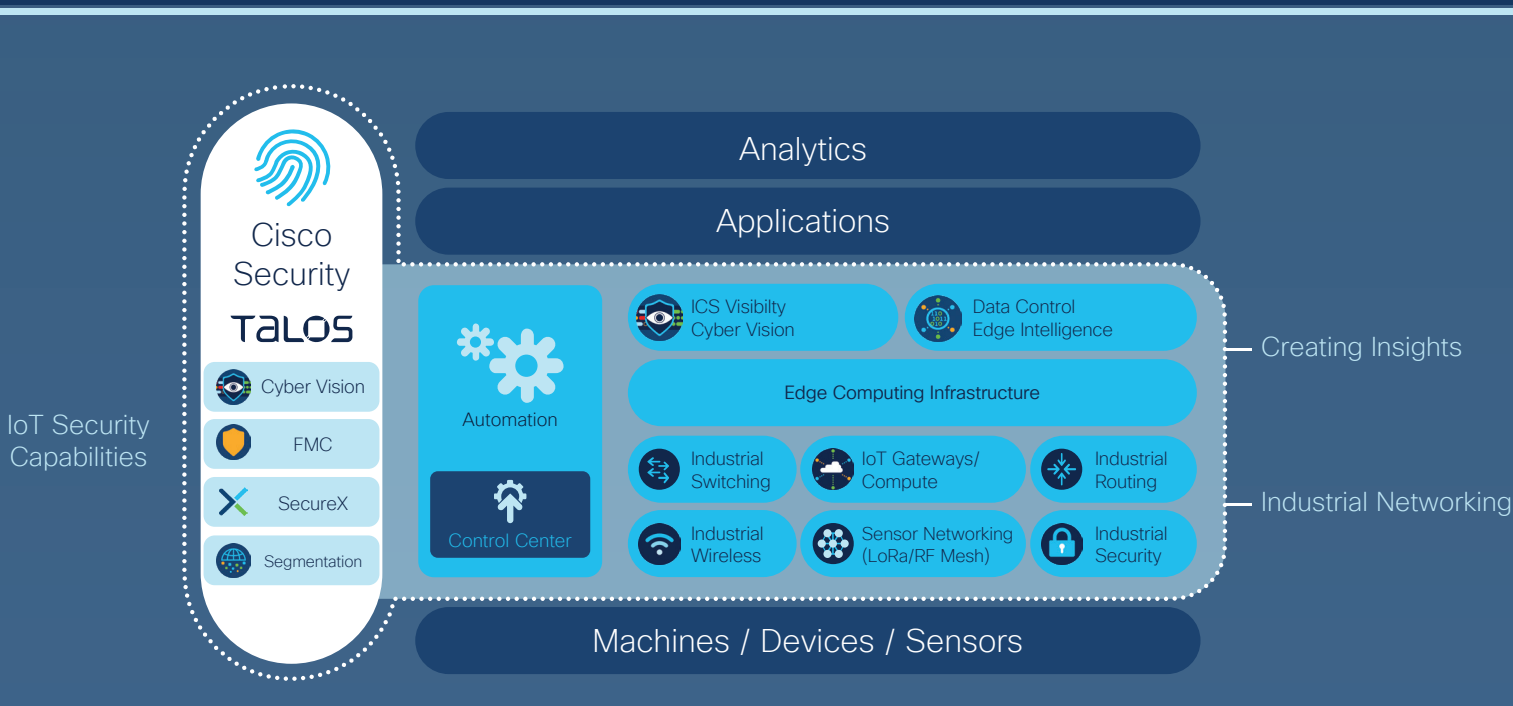
New capabilities in sensor fusion



Improved speed and accuracy of location

## Only Cisco

offers a complete industrial networking portfolio to meet these needs



[Learn More](#)

Visit [cisco.com/go/iac](https://cisco.com/go/iac) to learn more about the challenge, and how it can benefit your industry today.



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The bridge to possible