

# ROS-Industrial Consortium Americas

## 2021 Annual Meeting-April 13

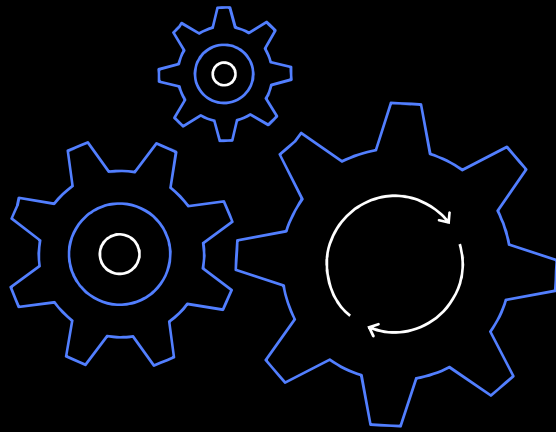
### Robotics Education

Jack Reilly and Camilo Buscaron

AWS Robotics and Autonomous Systems



# Robotics use is accelerating in key industries



Robotics is undergoing fundamental change in collaboration, autonomous mobility, and increasing intelligence

By 2023, it's estimated that autonomous mobile robots AMRs will emerge as the standard for logistic and fulfillment processes

By 2030, 70% of all mobile material handling equipment will be autonomous

Source: IDTechEx

Logistics

Construction

Retail

Healthcare

Consumer home

Energy and utilities

Oil and gas

Agriculture

## Education: Not Optional

EIU's 'automation readiness index' points to a need for education focus<sup>1</sup>

Many instructors still write their own in-house texts<sup>2</sup>

University faculty note a shortage of low-cost, small-form-factor equipment

Talent with the requisite skill sets are needed, we must start way earlier...<sup>3</sup>

Sources: <sup>1</sup>International Federation of Robotics, World Robotics Report 2020; <sup>2</sup>IEEE, The State of Robotics Education; <sup>3</sup>McKinsey, Industrial Robotics, 2019.

Learning  
Pathways:  
\$1.3B Market  
headed to \$3.1B

Instructional Programs

Physical Platforms

Training

Educational Resources

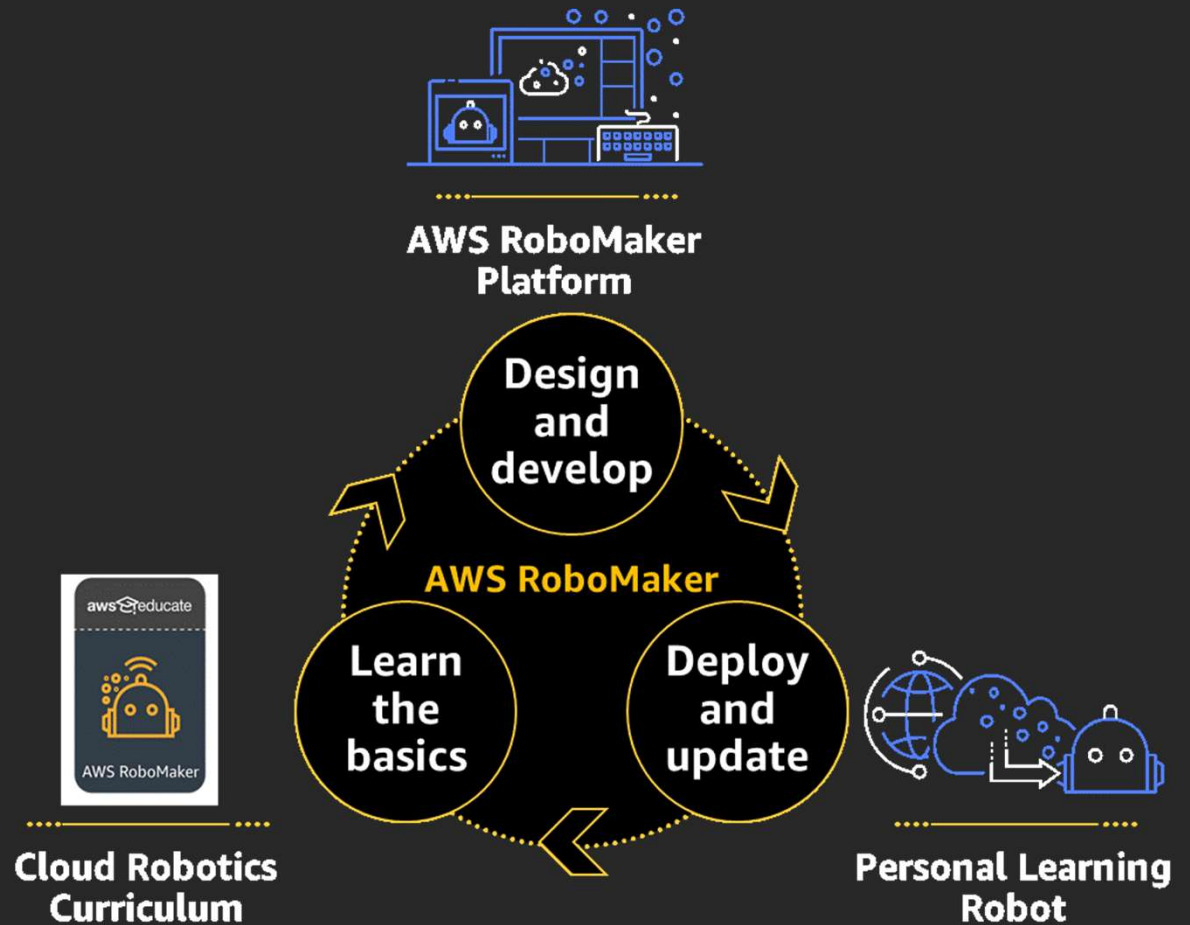
# AWS Robotics: EDU Program

Democratize robotics

Support ROS Community

Create features and resources to support  
learners and educators

# Program Components: Curriculum, Platform and Robot



Cloud Robotics  
Curriculum:  
8 module pathway

Phased release

Open source

Guided learning or modular

Aligned to a low cost robot

AWS Educate or GitHub

AWS  
RoboMaker  
JetBot



Based on Waveshare JetBot, extended for education

ROS / ROS2

Camera / LIDAR / Speaker / Mic

Companion simulation model (SDF/URDF)

Support from NVIDIA



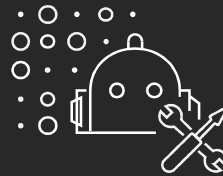
**AWS**  
**RoboMaker:**  
service suite



**Development Environment**



**Simulation**



**Cloud Extensions**



**Fleet Deployment**

# Robotics Training: Call to Action

[Read about our curriculum in the AWS Robotics Blog:](#)

[Join AWS Educate:](#)

[Order your robot from Waveshare:](#)

[More details on AWS RoboMaker:](#)

[Amazon hopes to teach 29 million people by 2025](#)

# Questions

