# Azure for Manufacturing Pathway Outline

## **Pathway Overview**

* Course prerequisite: Complete DMS pathway?
* Nine modules
* 1-1.5 hours per module
* Each module includes hands-on experience with Azure
* PLAs?

## **Target Audience**

Learners consist of operations managers, factory operators, and liability engineers. They should come to the pathway with a basic understanding of IIoT and connected systems; however, they do not need a background in Azure.

## **Pathway Outline**

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| Module | Title | Description | MS Learn Module |
| 1 | Build Commercial Ready Industrial IoT Application | Build Industry 4.0 commercial ready application that can scale.  Basics of Azure  MS IoT Certification (AZ 220) | [AI edge engineer - Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/paths/ai-edge-engineer/) |
| 2 | Quality Detection Using Vision | Predictive maintenance using vision-based system  Certification (AI 100) | [Create computer vision solutions with Azure Cognitive Services - Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/paths/create-computer-vision-solutions-azure-cognitive-services/) |
| 3 | Quality Detection Using Audio | Predictive maintenance using audio-based system | [Process and Translate Speech with Azure Cognitive Speech Services - Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/paths/process-translate-speech-azure-cognitive-speech-services/) |
| 4 | Autonomous Moving Inventory | Moving inventory back and forth between warehouse and line | [Autonomous Systems - Microsoft Autonomous Systems | Microsoft Docs](https://docs.microsoft.com/en-us/autonomous-systems/) |
| 5 | Agent-based Systems | Reinforcement agent-based system to make decision to correct itself | [Use subject matter expertise in machine teaching - Azure Architecture Center | Microsoft Docs](https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/machine-teaching) |
| 6 | Drive AI Strategy | How to use AI strategy in your business | [Define an AI strategy to create business value across industries - Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/paths/ai-strategy-for-business-value/?WT.mc_id=sitertzn_homepage_mslearn-header-aibusinessschool) |
| 7 | Root Cause Analysis | Apply machine learning to identify the root cause of line or component  (DP 200) |  |
| 8 | Intelligent Supply Chain | Using IoT, block chain and AI/ML to build better supply chain  (DP 100) | [Three keys to an intelligent supply chain - Microsoft Industry Blogs](https://cloudblogs.microsoft.com/industry-blog/manufacturing/2019/01/08/three-keys-to-an-intelligent-supply-chain/)  [Resilient operations | Microsoft Industry](https://www.microsoft.com/en-us/industry/automotive/resilient-operations?activetab=pivot:primaryr10) |
| 9 | Autonomous Drones | Using Drones to manage and monitor remote infrastructure | -[IoT in Transportation and Logistics | Microsoft Azure](https://azure.microsoft.com/en-us/overview/iot/industry/transportation-and-logistics/#overview)  [AirSim AI Drones - Microsoft AI Lab](https://www.microsoft.com/en-us/ai/ai-lab-airsim-drones) |

**Questions:**

1. Should we add workplace safety, HR, legal?
2. Does the pathway culminate in a capstone project or exam? What does that look like?
3. Who could serve as SME for each module?
4. Do we run this pathway as a cohort or completely self-guided?
5. Should this course be offered face-to-face and/or online? Or blended?
6. Should each module include an asynchronous online discussion facilitated by SMEs?
7. If we run this module as a cohort, how long should we allot per module? One or weeks?
8. Does the pathway include a site visit to CSI facility?
9. Are MS Certs woven into or a prereq for the pathway?

**Bala’s Notes**

Modules: Requirements, equipment installation.

Installed equipment.

Data collection, Inferencing