

IoT Virtual Bootcamp

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Commercial IoT Things

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Select the right “Thing” for the right job

- Sensors
- Libraries
- Connectivity
- Online / Offline
- Compute power
- Local Storage
- Development language
- Environment
- Certification needs?
- Scale
- Security
- Management
- Video
- Country Needs
- Cost

Where to start?

<http://catalog.azureiotsuite.com>

The screenshot shows a web browser window with the URL catalog.azureiotsuite.com. The page header includes "Azure Certified for IoT device catalog - Preview" and a "Partner Dashboard" link. The main heading is "Find your IoT device" with the subtext "Certified IoT devices and starter kits tailored to your needs". A search bar prompts "Tell us what you are looking for" with a magnifying glass icon. Below the search bar are two blue buttons: "Become a Partner" and "Learn More".

On the left side, there is a list of filters:

- ▶ Microsoft Azure IoT Starter Kit
- ▶ Industry
- ▶ Device Type
- ▶ Tested Compatible Sensors
- ▶ Tested Built-in Sensors
- ▶ Operating System
- ▶ Connectivity
- ▶ Secure Hardware

The main content area displays four product cards, each titled "Azure IoT Starter Kit":

- ARK-1123H** by **ADVANTECH**: Shows a small, white, rectangular device.
- Meshlium** by **libelium**: Shows a white, rectangular device with multiple antennas.
- MXChip IoT DevKit** by **MXCHIP**: Shows a blue printed circuit board (PCB) with various components.
- IoT Wi-Fi node based on STM32 NUCLEOL476RG** by **ST**: Shows a green printed circuit board (PCB) with various components.

Maker devices

	Raspberry Pi 2 v1.1 boards and earlier	Raspberry Pi 3	MinnowBoard Max	DragonBoard 410c
SoC	Broadcom BCM2836	Broadcom BCM2837	Intel Atom Processor E3825	Qualcomm Snapdragon 410
BSPs	Raspberry drivers	Raspberry drivers	Baytrail drivers	Dragonboard 410c drivers
CPU	900MHz Quad-Core ARM Cortex A7	1.2GHz Quad-Core ARM Cortex A53	1.3GHz x86/x64	1.2GHz Quad-Core ARM Cortex A53
Memory	1GB	1GB	2 GB	1GB
GPU	Broadcom Video Core IV @ 250MHz (no DirectX or Hardware Acceleration support)	Broadcom Video Core IV @ 400MHz (no DirectX or Hardware Acceleration support)	Intel HD Graphics	Qualcomm Adreno 306 @ 400MHz (only 720p / 1280 x 720 supported)
USB	4x USB 2.0	4x USB 2.0	1x USB 2.0, 1x USB 3.0	2x USB 2.0
Networking	10/100/1000 MBit/s Ethernet	Wi-Fi 802.11 b/g/n, 10/100/1000 MBit/s Ethernet, Bluetooth 4.1	10/100/1000 MBit/s Ethernet	Wi-Fi 802.11 a/b/g/n, Bluetooth 4.1
Video Output	HDMI, DSI	HDMI, DSI	Micro HDMI	HDMI, DSI
Audio Output	Analog via 3.5 mm jack	Analog via 3.5 mm jack	Digital via HDMI	Digital via HDMI
GPS	No	No	No	Yes
Peripherals	Raspberry Pi 2 Pin Mappings	Raspberry Pi 3 Pin Mappings	Minnowboard Max Pin Mappings	Dragonboard Pin Mappings
	24x GPIO pins	24x GPIO pins	10x GPIO pins	11x GPIO pins
	1x Serial UART	1x Serial mini UART	2x Serial UARTs	2x Serial UARTs
	2x SPI bus	2x SPI bus	1x SPI bus	1x SPI bus
	1x I2C bus	1x I2C bus	1x I2C bus	2x I2C bus

Windows or Not?

Why choose Windows 10 IoT?



Secure, manage and control

Control your device environment with robust built-in management and security tools, supported by the world-class Microsoft update infrastructure.



Fast track your innovation

Innovate and get to market faster with powerful and familiar Windows development tools. With a modern application platform, you can streamline your development cycle and maximize investments with universal application platform (UWP) apps and reusable code.



Optimize your edge and cloud intelligence

Leverage Microsoft edge intelligence for optimal balance across networks and device environments. There is an option to add the power of cloud intelligence to build an end-to-end IoT solution.

What OS to use?

Bringing IoT to life with two options



Windows 10 IoT Core

Windows 10 IoT Core is available to all device builders and ecosystem partners. It contains the required hardware and software options that enable you to build simple and complex solutions. Infrastructure required to commercialize solutions are available.

Windows 10 IoT Enterprise

Windows 10 IoT Enterprise is a full version of Windows 10 that delivers enterprise manageability and security to IoT solutions. It is designed for powerful industry devices used in retail, manufacturing, healthcare, and other industries. Note: Windows 10 IoT Enterprise is a binary equivalent to Windows 10 Enterprise.

Additional References:

- <http://catalog.azureiotsuite.com>
- <https://developer.microsoft.com/en-us/windows/iot>
- <https://docs.microsoft.com/en-us/windows/iot-core/>

Summary:

Choose the right 'thing' for the right job.

Things to consider:

- Cost
- OS or not
- Development Language
- Sensors / Inputs
- Environment
- Compute Power

Windows IoT supports both ARM and x86 platforms



www.InternetofYourThings.com

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