Windows 11 IoT Enterprise LTSC 2024:

Powering Long-Life Devices

Agenda

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Embedded and IoT System Requirements

- Expected lifespan: 10+ years
- Minimal downtime
- Needs consistent performance and security
- Can't afford frequent updates or changes









Things to Consider When Choosing an OS

Long-term Support

- Your device will be in service for many years. How will you get support in the future?
- Windows 10 IoT Enterprise is supported for 10 years

OS Updates

- Your device will need to be updated with security patches and bug fixes
- Microsoft provides many options for both cloud and on-premise OS updating

Security

- Windows 10 IoT Enterprise includes the latest security advances in windows 10 to protect your IoT solutions from device to cloud

Management

- Device management is key to keeping a device operating smoothly
- Microsoft has been providing enterprise-grade management for decades and most of the existing tools used to manage Windows work with Windows 10 IoT Enterprise

Full Featured OS

- Windows 10 IoT Enterprise has built-in features for machine learning, speech, cognitive services, container support, ROS and video & audio processing. No 3rd party libraries required

Windows 11 IoT Enterprise LTSC 2024

The ideal solution for long-life devices

Built for Stability and Longevity

10 Years of Support

Optimized Performance

Enhanced Security

Flexible Deployment Options

Win IoT Enterprise LTSC vs Pro for Embedded and Edge Devices

Feature	Windows 11 IoT Enterprise LTSC 2024	Windows 11 Pro
Support lifecycle	10 years	Typically 24 months per build
Feature updates	No feature updates, only security and quality updates	Regular feature updates (usually annual)
Stability	Designed for long-term stability with fixed feature set	More frequent changes and updates
Licensing	Special licensing for OEMs and embedded scenarios	Standard consumer and business licensing
Hardware support	Supports specialized and industrial hardware	Focused on mainstream consumer and business hardware
Security features	Enhanced security features for critical systems	Standard security features for general use
Specialized features	Includes features like Restricted User Experience for kiosks	Lacks some specialized IoT/embedded features
Removable components	More removable packages (36 vs. 20 in previous versions)	Limited ability to remove components

Implications of Implementing Windows 11 Pro in Embedded and IoT Devices

Consequence	Due to	Impact
Unplanned Downtime	More frequent updates causing disruptions	Loss of revenue, productivity decrease
Compromised Customer Experience	Unexpected reboots or system changes	Customer dissatisfaction, reduced trust
Security Vulnerabilities	Lack of specialized security features	Data breaches, system compromises
Increased Maintenance Costs	More time and resources for updates and troubleshooting	Higher total cost of ownership
Reduced Device Lifespan	Shorter support lifecycle	More frequent hardware upgrades, increased costs
Performance Issues	Not optimized for resource-constrained devices	Slower performance, potential instability
Licensing Complications	Potential violation of licensing terms	Legal and financial risks
Regulatory Compliance Issues	May not meet industry-specific requirements	Fines, legal problems in regulated industries

RC Mowers Case Study

Disrupting the Landscaping Industry with Autonomous Mowing Robots

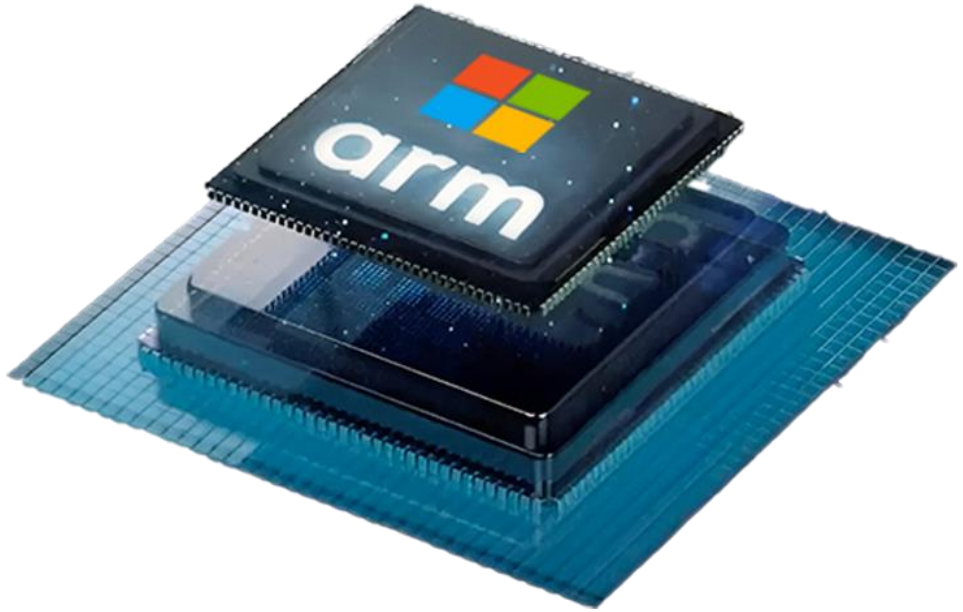
- The autonomous robots are powered by proprietary hardware and software, with an Intel-based Windows 10 IoT controller and a secondary failsafe system
- GPS, RTK, and sensors for navigation collect 40+ parameters for cloud analysis via Microsoft Azure, ensuring scalability, reliability, and security
- Why RC Mowers Chose Windows IoT Over Other Operating Systems:
  - Stability and control over the update schedule
  - Familiarity and comfort with the Windows platform
  - Ability to run as a service-based system
  - Seamless integration with existing Windows-based infrastructure

YouTube Watch the RC Mowers Case Study Video:
https://youtu.be/0PLsn5bPx7E

Windows 11 IoT Enterprise on Arm

Expanded Compatibility, Reduced Footprint, Enhanced Security

- ARM64 support: Windows 11 IoT Enterprise LTSC 2024 is available for ARM64 processors, expanding deployment options for IoT devices
- x64 app compatibility: The ARM version supports running x64 applications without modification, providing broad software compatibility
- Lower system requirements: TPM and Secure Boot are optional, and storage requirements are reduced to as low as 16GB, allowing installation on a wider range of hardware
- 10-year support lifecycle: Like other LTSC versions, it offers a decade of support with monthly quality updates, ideal for long-term deployments
- Processor support: Qualcomm Snapdragon and NXP i.MX 93 processors



Create and Deploy at Scale with Arrow Intelligent Solutions

- **Full solution provider**: A single source for all edge-to-cloud technology infrastructure including hardware, software, cloud, and services
- Microsoft custom **imaging services**
- Hardware-software **integration services**
- **Global logistics**, fulfillment, and compliance support

Arrow Microsoft Imaging Services

We help create a Microsoft IoT image that is secure, purpose built, and performance optimized

Fast Development

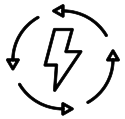
Decades of experience developing Microsoft images

Key Features

Identify and set up the key features or the Windows IoT operating system

Security

Lock down access and enable security features



Power Consumption

Dial-in the settings in the operating system to meet power requirements

Customer Experience

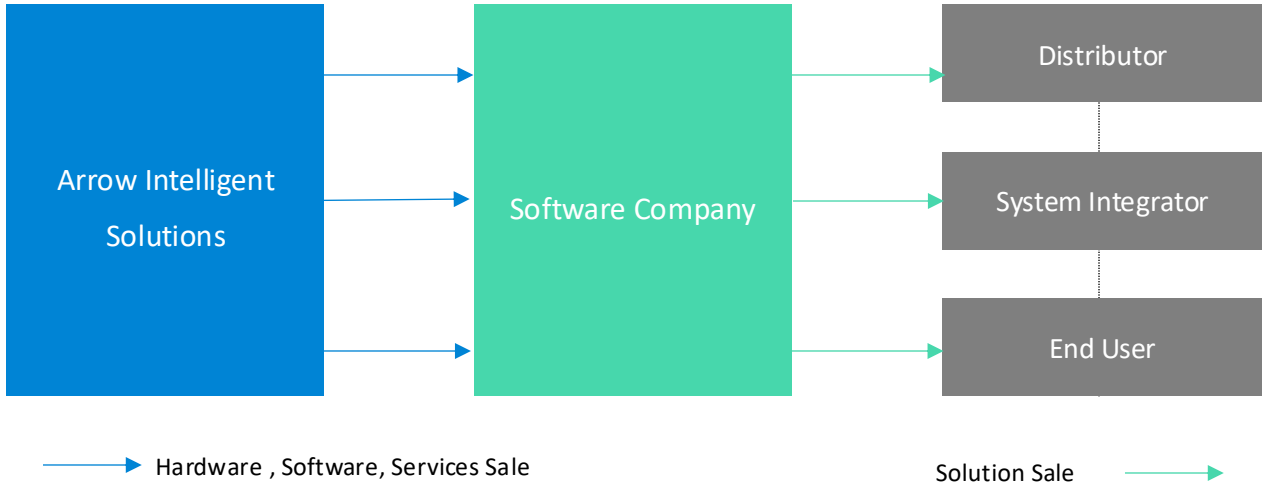
Set up the device to work intuitively as an appliance out-of-the-box

Branding

Add custom branding to Windows interface and startup

Arrow OEM Integration Program

Company sells the solution to their channel, while Arrow sells HW, SW, and services to company



Why OEMs choose Arrow

- True Global Capabilities
- Broad Capabilities
- Planning and Management
- Optimized Operations
- Flexibility and Agility

> *"It has been extremely successful. There was a tremendous amount of work done by both parties to help ensure that we had validated business processes to sell the product throughout Europe, the Middle East, Africa, and Asia-Pacific markets, as well as North America. It's been a tremendously successful relationship for us."*
>
> *- Matthew Frey, CFO at Qumulo*

> *"There are many nuances in moving hardware around the world. All the intellect, forecasting cycles, and overall management of ensuring everything is in the right place at the right time is a huge effort. With this now being managed by Arrow, our leadership team spends very little time worrying about hardware and availability. We are using that energy to focus on growing the company and delivering innovation – unlocking that through software."*
>
> *- Jed Ayres, CEO at IGEL*

Integration Capabilities of Arrow's Services

Hardware Configuration

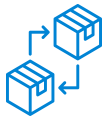
- Configure servers, workstations, storage devices, full rack enclosures, kiosks, and displays
- Ensure systems are customized, tested, and validated to meet specific product requirements

Software Customization

- Deploy custom images, install operating systems and applications, configure BIOS and firmware, and run diagnostics
- Tailored scripting and reporting to ensure optimal system performance

Prototyping

- Build and test product concept prototypes for validation and seamless production integration, ensuring efficiency from development to deployment



Specialty Integration

- Services include motherboard population, kitting and bundling, labeling, and power/connector assembly
- Guarantee product consistency and performance through comprehensive testing and reporting

Integration Logistics

- Manage inbound source inspection, packaging, palletization, crating, and consolidation services to streamline the delivery process
- Optimize your supply chain for faster, cost-effective global distribution

Quality Assurance

- A robust quality management system certified to meet ISO 13485, ISO 9001, and country-specific medical device regulations
- Ensure consistent integration processes that meet certification requirements and provide real-time reporting and visibility

Arrow's four global integration centers offer comprehensive services, ensuring hardware and software are fully configured, assembled, tested, and ready for deployment. This allows businesses to focus on their core operations while Arrow handles global-scale integration.

Getting Started

- Contact our experts (windowsiot@arrow.com) and get a response within 24 hours
- Apply for a free customer license agreement (mandatory for all IoT OS versions)
- Get access to expert resources
  - Windows 11 IoT Enterprise LTSC 2024 Home Page
  - Windows Champ YouTube Channel
  - Windows Champ LinkedIn Page

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Thank You