

## Make It Smart with JSOM

A Customizable Hardware & Software IoT Platform



## Simplify Smart Product Development

Jabil manufactures residential and commercial products that range from simple to highly complex. These devices typically have similar requirements in terms of user interfaces, edge AI, wireless communications, cloud connectivity, mobile access, and security.

Despite these common requirements, OEMs face complexity when launching and maintaining connected devices.

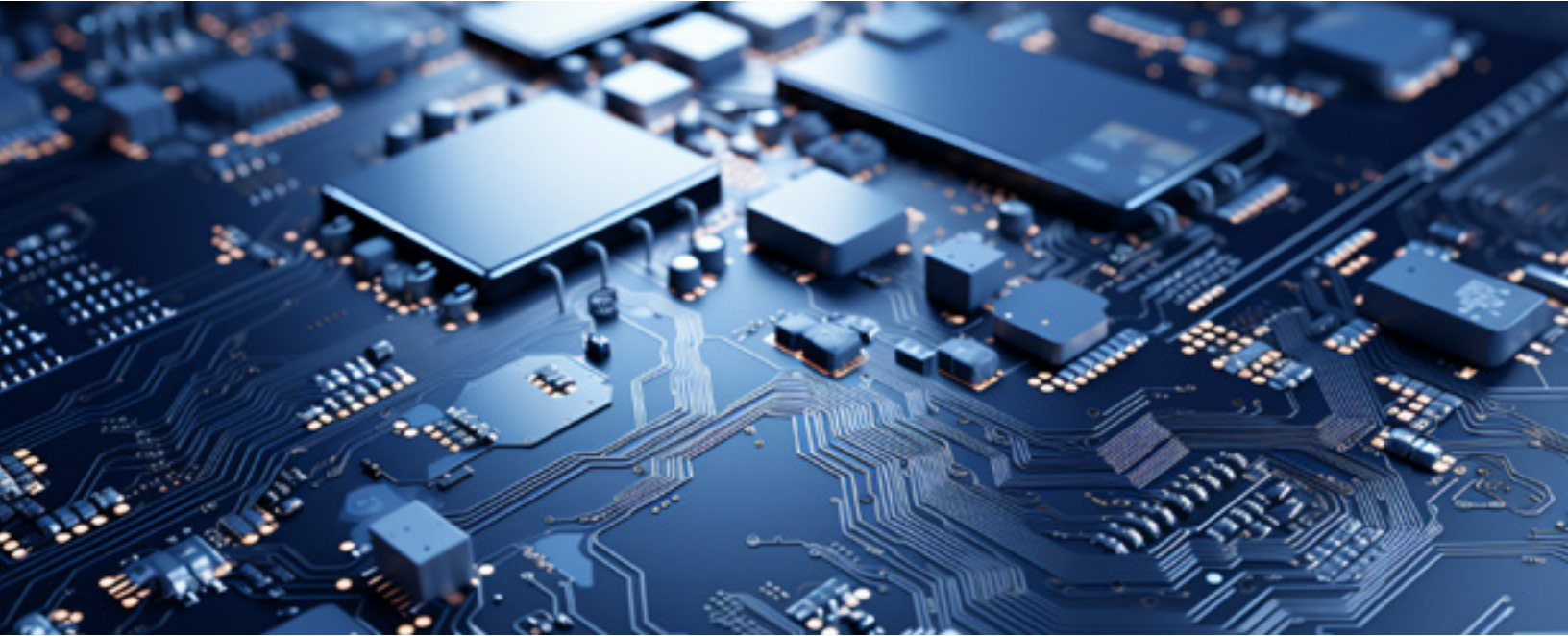
These challenges include managing sourcing complexity, cost, speed to market, and technical integration.

The Jabil System on Module (JSOM) is a customizable hardware and software IoT platform for residential smart home products.

JSOM offers robust support for common hardware drivers including memory chips, displays, and connectivity. The platform was developed to accelerate product deployment, maintain cost control, and mitigate sourcing complexity.

JSOM manages the underlying complexities of silicon board support packages (BSPs) through a unified interface that simplifies firmware application development.





# Streamline Sourcing and Boost Efficiency with JSOM Hardware Customization



## ACCELERATE PRODUCT DEPLOYMENT

IoT business growth often faces delayed launches and new product development challenges due to ODM design lock-in or adopting new technologies.

JSOM gives a head start to product teams by reducing the need for extensive engineering resources, lowering operating costs, and improving profitability. Compressed development cycles allow customers to react rapidly to evolving markets and consumer behavior.



## MAINTAIN COST CONTROL

Managing design costs, sourcing relationships, and technology evolution is a careful cost balancing act. Teams often rely on familiar suppliers and technologies limiting the innovation that could benefit the business strategy.

The JSOM architecture increases design confidence, maintains operating costs, and reduces launch risk by providing out of the box compatibility across multiple suppliers with evolving technologies.



## MITIGATE SOURCING COMPLEXITY

IoT businesses rely on a robust global supply chain. Geopolitical factors, obsolescence, and skyrocketing demand require alternate sourcing strategies.

JSOM based designs promote code reusability and dual-sourcing that aim to reduce business risk. By working across multiple silicon vendors, the SDK minimizes expensive software rewrites, revalidation, and deployment efforts.



## Launch Products Faster with the JSOM SDK

The JSOM SDK comes equipped with common libraries and utilities for HMI controls and IoT applications. These tools simplify software development, providing a standardized interface layer compatible with different silicon suppliers. The SDK includes a well tested software adaptation layer (SAL) and managed application programming interfaces (APIs), enabling easy integration of device features, edge computing, and cloud connectivity.

### MANAGED API CLASSES

- HMI controls
- Connectivity (Wi-Fi 4/5/6, BLE 4/5, Matter)
- Hardware security (Trustzone, WPA3 Enterprise)
- Audio support (microphone, speaker)
- Camera support (USB 2.0, SPI)
- Internationalization (GUI language support)
- Flash file management
- Ultra-low power system
- Memory configurability (Flash: 2MB – 16MB, RAM: 2.5MB)

### MANAGED API CLASSES

- IDE integration
- Flash programming utilities
- Certificate generation and management

### CLOUD FEATURES

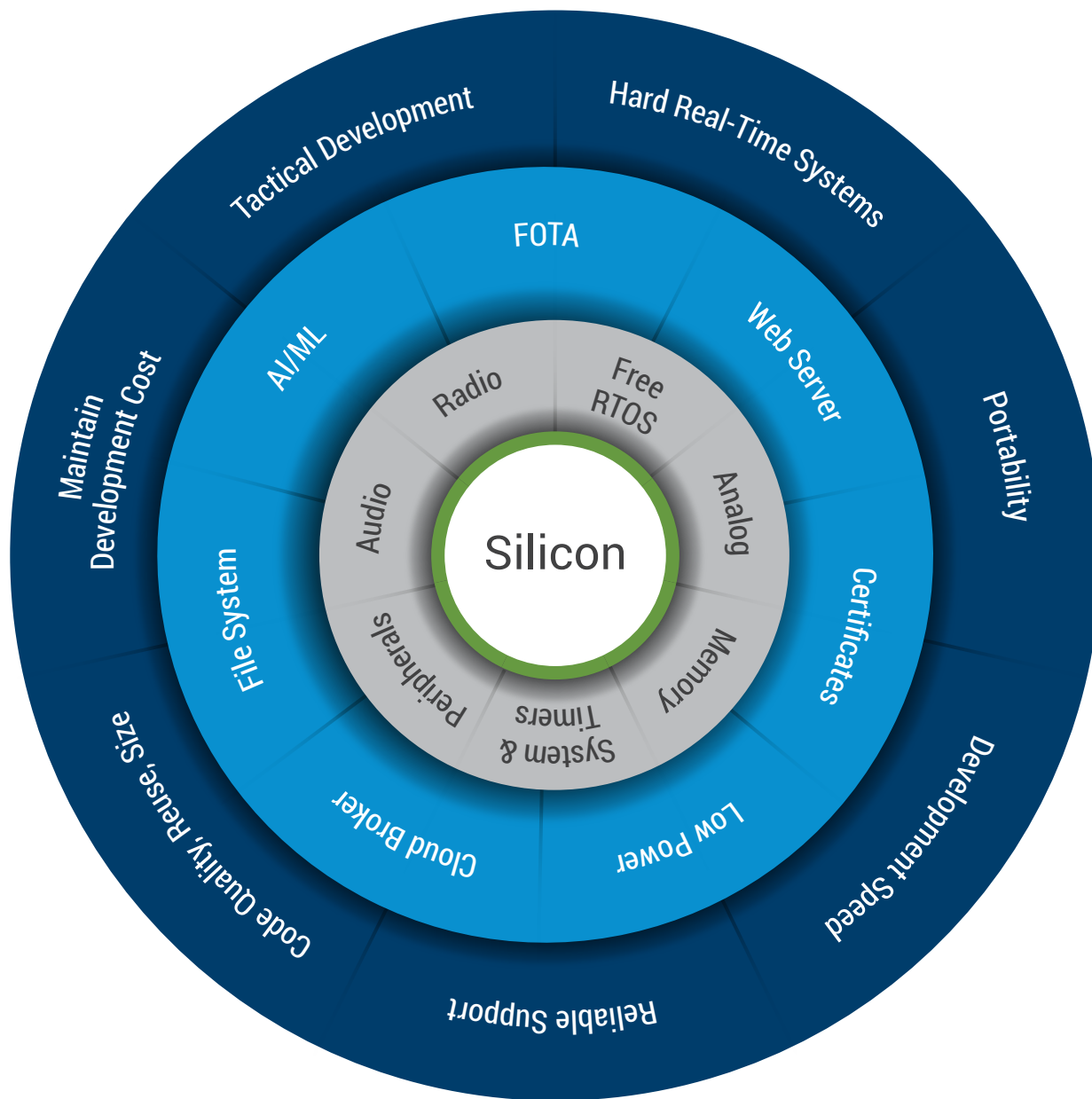
- MQTT, TLS 2.0, HTTPS, SSL Agents
- Device certificate management
- Cloud agnostic: multi-tenant support for Azure, AWS, and Google Cloud
- Device fleet management and provisioning
- Secure firmware updates and FOTA
- Remote diagnostics
- Dashboards and analytics
- Reference mobile app

### ADVANCED EDGE FEATURES

- Image classification
- Multi-lingual voice recognition

# The JSOM SDK Architecture

Jabil designed the JSOM software abstraction layer to offer robust support for common hardware drivers including memory chips, displays, and connectivity. We have done the hard work of building the software, testing the code, and integrating it across popular silicon architectures. This allows our customers to focus on their core business, leveraging the right components for their needs rather than those that merely “play nice” with a given supplier. JSOM does more than just provide compatibility – it gives product teams a head start. By reducing the need for extensive engineering resources, it lowers costs, speeds time-to-market, and improves profitability.



## Why JSOM?

The JSOM SDK is a game-changer in the world of IoT software development. Serving as an abstraction layer, it enables seamless code deployment across multiple silicon chips. Our relentless focus on compatibility has reduced design risk and eliminates the need for separate coding, testing, and debugging efforts across hardware platforms. This stands in stark contrast to traditional silicon sourcing which often leads to unsustainable engineering processes and cost inflation. With the JSOM SDK, organizations can become leaner and more efficient over time.

### DEPLOYMENT-READY SOFTWARE EXAMPLES

The JSOM SDK comes with several source code examples that run with zero code changes on supported silicon BSPs. This write-once-run-anywhere approach delivers cost savings and streamlines integration. Examples include voice skills integration, GUI localization, ADC, audio playback, Bluetooth® session management, flash storage, display management, Modbus, low power management, MQTT service, timers, and many more.

Using the JSOM SDK for your next project will deliver improved code quality, increased operational efficiencies, and greater sourcing cost control.



### SUPPORTED SILICON FAMILIES

The JSOM SDK integrates closely with FreeRTOS and supported silicon board support packages (BSPs). It enables faster development and extends existing chipset features for ease of use in development. Today, the SDK supports the following silicon partners:

- RealTek RTL87XX series w. Ameba-D version 6.2 SDK
- SiLabs 917XX series w. WiSeConnect 3 SDK

Working closely with our partners, we understand the features provided by native silicon and elevate these benefits to the customer development community for time-to-market wins.

For additional information, visit [jabil.com/JSOM](http://jabil.com/JSOM)

## Get Started with JSOM Today

Customers interested in JSOM can connect with their Jabil sales and business unit leads for more information. A JSOM SDK engagement typically begins with customers defining their firmware requirements and product goals. Early vetting of chip-down versus module-based hardware design sets the stage for the service engagement and Jabil support. Extensive documentation and support are provided through Jabil's website for either approach.

## Need Extra Support?

### JABIL SOFTWARE SERVICES CAN FURTHER REDUCE DEVELOPMENT TIME BY UP TO 30%

- Drive faster firmware development timelines with Jabil's experienced Jabil Software Services team that has deep JSOM SDK and firmware development knowledge
- Mitigate continuous integration and continuous delivery (CI/CD) risks
- Customize firmware to meet product requirements
- Manage deployment of robust, tested firmware into manufacturing



For additional information, visit  
[jabil.com/JSOM](https://jabil.com/JSOM)

### About Jabil

At Jabil (NYSE: JBL), we are proud to be a trusted partner for the world's top brands, offering comprehensive engineering, manufacturing, and supply chain solutions. With over 50 years of experience across industries and a vast network of over 100 sites worldwide, Jabil combines global reach with local expertise to deliver both scalable and customized solutions. Our commitment extends beyond business success as we strive to build sustainable processes that minimize environmental impact and foster vibrant and diverse communities around the globe. Discover more at [www.jabil.com](https://www.jabil.com).