

NO-CODE, LOW-CODE IoT

MARCH 2024



EMPOWER YOUR IoT VISION TODAY

IoTize streamlines mobile and cloud-connected product design. Our wireless hardware, embedded software, and no-code tools enhance your product's features, cut costs, and shorten your time-to-market for maximum IoT success.



STREAMLINE YOUR IOT PROJECTS

Our no-code IoT solution meets every design need with wireless devices, embedded software and a complete tool ecosystem. Create new connected systems, retrofit legacy systems, integrate with cloud platforms, and build customized user interfaces as mobile apps – all without writing a single line of code. We offer expert integration services and DIY solutions that accelerate your connected product deployment so you can seize IoT market opportunities, today.



CONTENTS

Our Advantages

Manufacturers and End-users	4
Near Field Communication	5
Use cases	6

Our Solution

Comprehensive Solution	8
Software Ecosystem	9
Easiest Way to Create Apps	10
No-Code / Low-Code Approach	11

Our Products

TapNLink Modules (OEM)	13
Tapioca Wireless Adapters	14
TapBus Data Acquisition Modules	15
TapNPass Wireless Servicing Tools	16
Firmware Licensing	17

Our Software Tools

Introduction	19
Configuration Software	20
User Interface App Creator	21
Cloud Integration	23

UNLOCK THE POTENTIAL OF CONNECTED DEVICES & INDUSTRIAL SYSTEMS

Our mobile and cloud connectivity solution delivers enhanced user experience and top-notch security right out of the box. With our no-code approach, you get shorter development cycles, reduced risks, and rapid results. This frees your design teams to focus on user needs and creative solutions instead of complex technology.



IoTIZE SOLUTION ADVANTAGES

Go Further, Faster with Creative IoT Features & Services

Our configurable, no-code solution eliminates risks when you're creating connected devices or systems. It overcomes the technical challenges common these projects. With IoTize, projects advance more efficiently so that manufacturers can rapidly provide their clients cloud-based remote supervision and contemporary, user-friendly interfaces as mobile apps.



Manufacturer Advantages

- **Eliminate challenges and required expertise** with pre-implemented features, qualified wireless designs and no-code software tools.
- **Cut design costs** by eliminating the need for coding, wireless hardware design and the specific expertise that these tasks require.
- **Reduce material costs** by replacing expensive LCD interfaces with mobile apps.
- **Increase design flexibility** by encapsulating the user interface and communications so they evolve independently by simple reconfiguration.
- **Liberate designers' creativity** by eliminating common technical challenges to let them focus on end-user features and user experience.

Shorten time-to-market of IoT-enabled products to achieve the best ROI

End-User Advantages

- **Easy-to-use, intuitive user interfaces as apps** that end-users appreciate on the mobile phones that they are familiar with.
- **Rich, polished user interfaces** thanks to our no-code approach that lowers the bar for required expertise and encourages creativity.
- **Innovative features and services** that are easier to implement and evolve in mobile apps and on cloud platforms.
- **Security and confidentiality** that are assured by our designed-in user management and NFC tap-to-connect features.

Satisfy clients with secure, intuitive features that improve user experiences & efficiency



NFC ADVANTAGES

Unique Advantages in Everything from Ease-of-Use to Security

IoTize offers a range of wireless technologies, but Near Field Communication (NFC)¹ is always present for the many advantages that it offers to end-users and product manufacturers.

Ergonomy

Approach a mobile to an NFC device to automatically launch the correct app.

If not installed, NFC redirects automatically to the app download.

Security

Connections are authenticated and encryption keys defined at close proximity, even when using Bluetooth or Wi-Fi.

Easy Connection

NFC tap-to-connect makes connecting smartphones to equipment intuitive, easy and secure when used alone or with Bluetooth and Wi-Fi.

Wi-Fi

Energy Savings

Having no advertising signal, and a very low power idle optimizes power consumption of the wireless interface.

Energy harvesting eliminates the need for batteries in sensor applications.

Health

NFC connects, or wakes up connections without physical contact with contaminated surfaces.

NFC only emits during use and eliminates unnecessary radio waves.

Cost Savings

NFC antennas are inexpensive, traced directly on the PCB².

With Iotize wireless device, advanced NFC features require no development or coding.

Notes:

1. NFC - Near Field Communication

2. PCB - Printed Circuit Board

USE CASES

Generic Solution with Many Uses for Appliances, Industrial Equipment, HVAC¹, Sensors, Energy, and More...



Access Control

Our solution makes user identification and door access a breeze, with built-in Near Field Communication and security features that make mobiles an ideal choice for access control. It manages user profiles and access rules with ease, streamlining the creation of efficient, cost-effective digital access panels.



Configuration

European directives mandated programmable controls for electric heaters, yet fewer than 10% of owners used these features with tedious LCD interfaces. IoTize NFC² and apps have emerged as a game-changer, captivating users and manufacturers by providing a user-friendly, seamlessly integrated, and cost-effective solution.



Monitoring

Our solution equips systems with wireless connectivity, providing technicians freedom to work efficiently and safely. Mobile apps enhance data visibility and reduce risks of human errors. With our software, easily create and evolve user interface apps, ensuring smooth operations and user satisfaction.



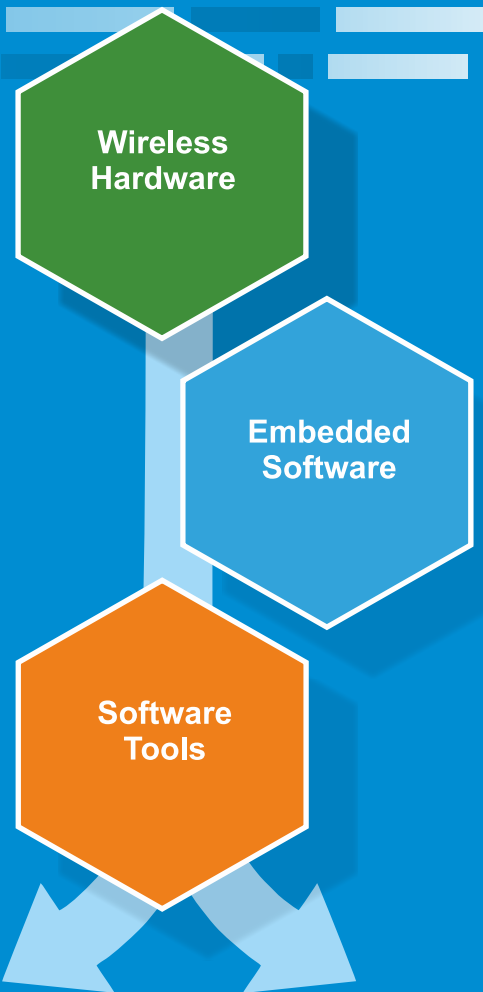
Remote Alarms & Control

With our Java Virtual Machine, wireless devices are easily configured to autonomously decide to send data to the Cloud or to users' smartphones. It requires only the connection parameters and a few lines of code to evaluate conditions, format and send the data.

Notes:
1. HVAC - Heating Ventilation Air Conditioning 2. NFC - Near Field Communication

A COMPREHENSIVE, NO-CODE SOLUTION

Our mobile and cloud connectivity solution pre-implements the features that are common to all sorts of connected devices and uses. This solution includes qualified wireless modules and a complete software ecosystem. It streamlines your IoT projects and reduces risks with a no-code approach that guarantees rapid, professional results.



THE SOLUTION

Seamless Connection of Electronics to Mobiles & Cloud

Your Electronics

Our solution can be used in new electronic designs or to retrofit existing industrial systems. Designers simply set access rights and addresses for the data in their existing software. No coding is required.

This no-code approach maximizes re-use of existing hardware and software.

IoTize Wireless Hardware

Choose from a range of qualified designs that are available as **OEM² modules or industrial devices** and feature **NFC¹, Bluetooth, Wi-Fi, LoRa, LTE-M, and NB-IOT**.

Our wireless hardware links effortlessly to microcontrollers in an electronic design, or to serial fieldbuses on existing industrial systems and allows automatic import of variables and registers.

IoTize Embedded Software

No-Code: Our embedded software implements all the features required for connected devices including **communications, security, user management** and **data handling**. It automates the import of variables or registers so that Designers can rapidly configure how data is retrieved and communicated. No coding is required.

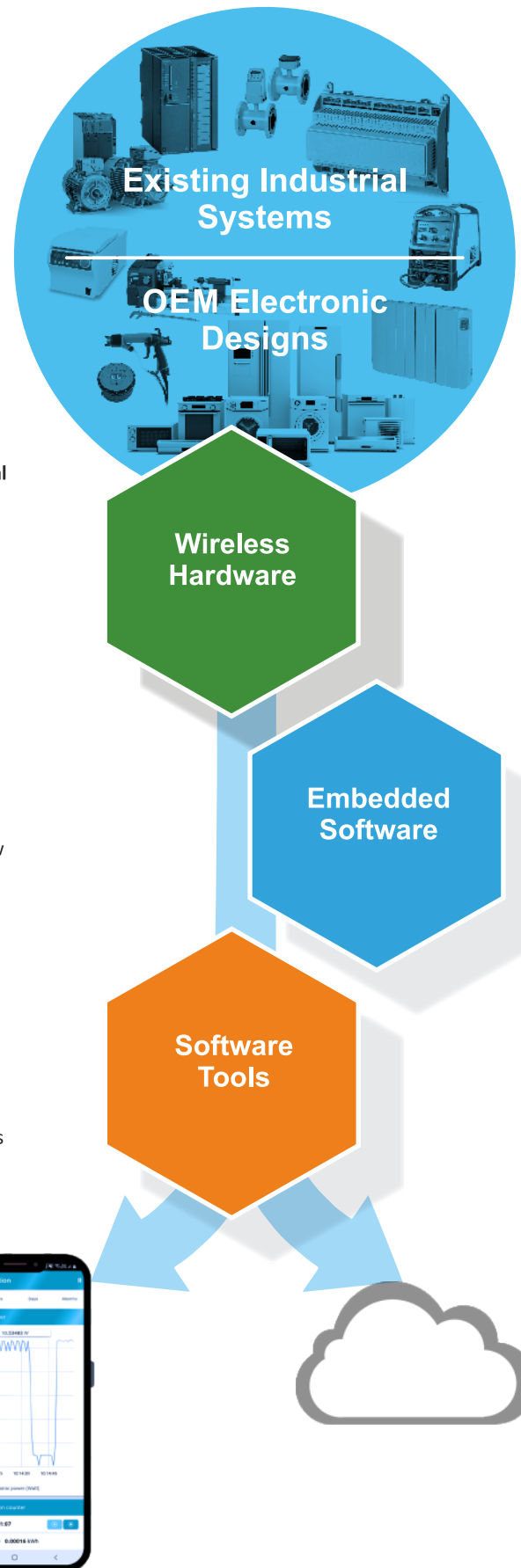
Low-Code: We also provide an embedded Java Virtual Machine that adds flexibility to adapt to our software to the most specific needs with just a few lines of code.

IoTize No-Code, Low-Code Software Tools

Our tools help designers rapidly create graphical interfaces as dashboards or as static apps for iOS and Android. These interfaces provide users better understanding of data, secure access to system parameters and direct control of system operation.

To help designers create customer user interfaces our tool ecosystem includes:

- **IoTize Studio** device configuration environment
- **IoT App Creator** user interface design environment
- **App Generator** industry standard app builder
- Our free tools for java coding and debugging



Notes:

1. NFC - Near Field Communication

2. OEM - Original Equipment Manufacturer

OUR SOFTWARE ECOSYSTEM

We Take the Coding Out of IoT Design

Duetware Embedded Software

The embedded software in all our devices combines advantages of a configurable lightweight Machine to Machine (lwM2M) engine and an embedded Java Virtual Machine (JVM). This proven software is known for its reliability, simplicity and power.

IoTize Studio & the Configurable lwM2M Features

In IoTize Studio, designers rapidly configure Duetware's lwM2M features for wire and wireless communication, user management, data handling, firmware updates and more. No coding is required.

With our drag-and-drop environment and automated import of target-system variables and registers, designers create configurations for a specific system in just minutes.

JVM & Java Tools

While not required, Java is a perfect complement to the lwM2M. A few lines of Java code allows designers to adapt a configuration to specific needs for formatting data, handling certificates, messaging, or driving external components.

Plus, the **Raisonance Ride7** and **RKit-Java** tools allow java code debugging while it runs on any IoTize wireless device.

IoT App Creator

Our WYSIWYG¹, drag-and-drop UI² design environment helps designers create graphical user interfaces for any electronic design. Designers can use our library of graphical components, or add custom components that correspond to their specific needs. Resulting apps offer multi-language support (UTF-8 character encoding) and can run as dashboards in a browser, or as static publishable apps.

App Generator

For static apps, our ionic-based app builder automatically produces app projects (Android, iOS, Web app⁴) based on the wireless hardware and dashboard configurations. Our API³ makes it easy to customize the app further, or to simply sign and build the project into the app for publication.



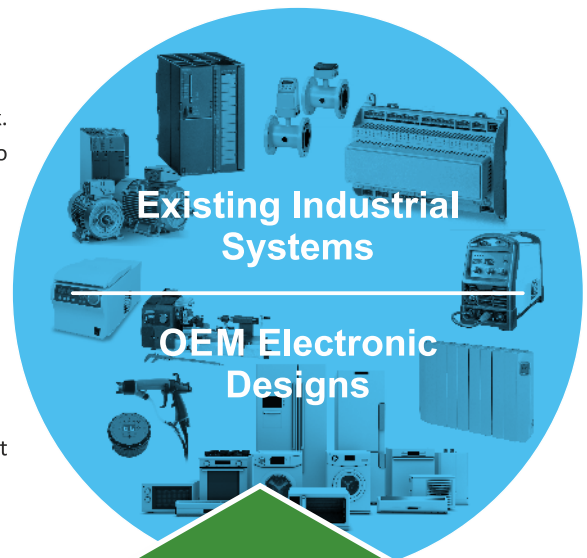
Notes:

1. WYSIWYG - What You See Is What You Get
2. UI - User Interface
3. API - Application Programming Interface
4. Web app - any application program that is stored on a server and delivered over a network to be executed by a browser.

THE FASTEST WAY TO CREATE A UI

A Seamless Path to Wireless Integration & UI⁴ Creation

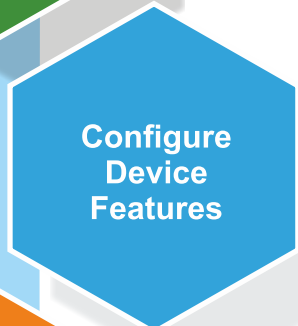
Our solution provides a direct path for creating a user interface with minimal effort and risk. Designers simply connect an IoTize wireless device to their electronics and configure it. No coding is required.



Connect the Hardware

IoTize wireless devices connect directly to electronic designs or systems. They can connect directly to microcontrollers or to common field buses found in industrial systems.

for Microcontrollers ³	for Fieldbus
SWD ¹	RS232
S3P ²	RS485 ³
UART	USB
CAN	Ethernet ³
	CAN



Configure the Connection

The IoTize wireless devices are configured to access specific variables or registers in the target system's software. These are imported automatically from ELF⁵, CSV⁶ or DBC⁷ files. It takes only minutes to do and allows designers to define the **data that can be accessed**, the **types of access**, and the **access rights** of different types of users.

Create the User Interface

The device configuration is imported directly into our IoT App Creator. It allows designers to create and test a UI on their PC. They simply **select graphical components** and **associate them with target-system data** they want to display or control.

When designers are satisfied with the UI, they send their UI configuration to our automatic App Generator which builds it into a test app and an app project for Android or iOS.

The app project code can be modified and adapted or simply signed and built into the final app for publication.

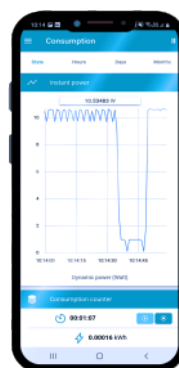


Table Notes:

1. SWD is allows rapid no-coding integration with existing designs for creating proofs-of-concept rapidly. For deployed designs, change to S3P.
2. S3P require a firmware agent. The code is generated automatically and the target system firmware must be re-linked with this code.
3. IoTize firmware offers native support of Modbus (RTU end ETM) protocol.
4. UI - User Interface
5. ELF - Executable Linkable Fromat
6. CSV - Comma Separated Values
7. DBC - DataBase CAN

No CODE EASE... LOW CODE FLEXIBILITY



Pre-implemented Features Are the Core of No-Code Possibilities

IoTize offers many pre-implemented features and generic wireless channels to ease the connection of mobiles with your electronic systems. These channels include **Near Field Communication (NFC)**, **Bluetooth (BLE)** and **Wi-Fi** which meet different requirements for low-power, range, and bandwidth. They come ready to use and require no coding.

Among these, **NFC stands out** for its ease-of-use and security. With NFC, users can effortlessly connect their mobiles to any system. It allows:

- **Instant connection without manual input of codes or addresses**
- **Quick app installation from app stores**
- **Immediate app launch**
- **Automated authentication**
- **Seamless Bluetooth or Wi-Fi pairing**

This is just one example of the advanced features that IoTize's offers designers, and that require no coding to use.



JVM is Key to Adapting to Special Cases

Our embedded Java Virtual Machine (JVM) allows designers to adapt easily to specific needs. A few lines of java code allows a module to drive external sensors and actuators and do basic edge data processing.

For **WAN¹ and LPWAN² networks**, just a few lines of code allow designers to manage security parameters, certificates, data formatting and messaging for any private or commercial Cloud platform.



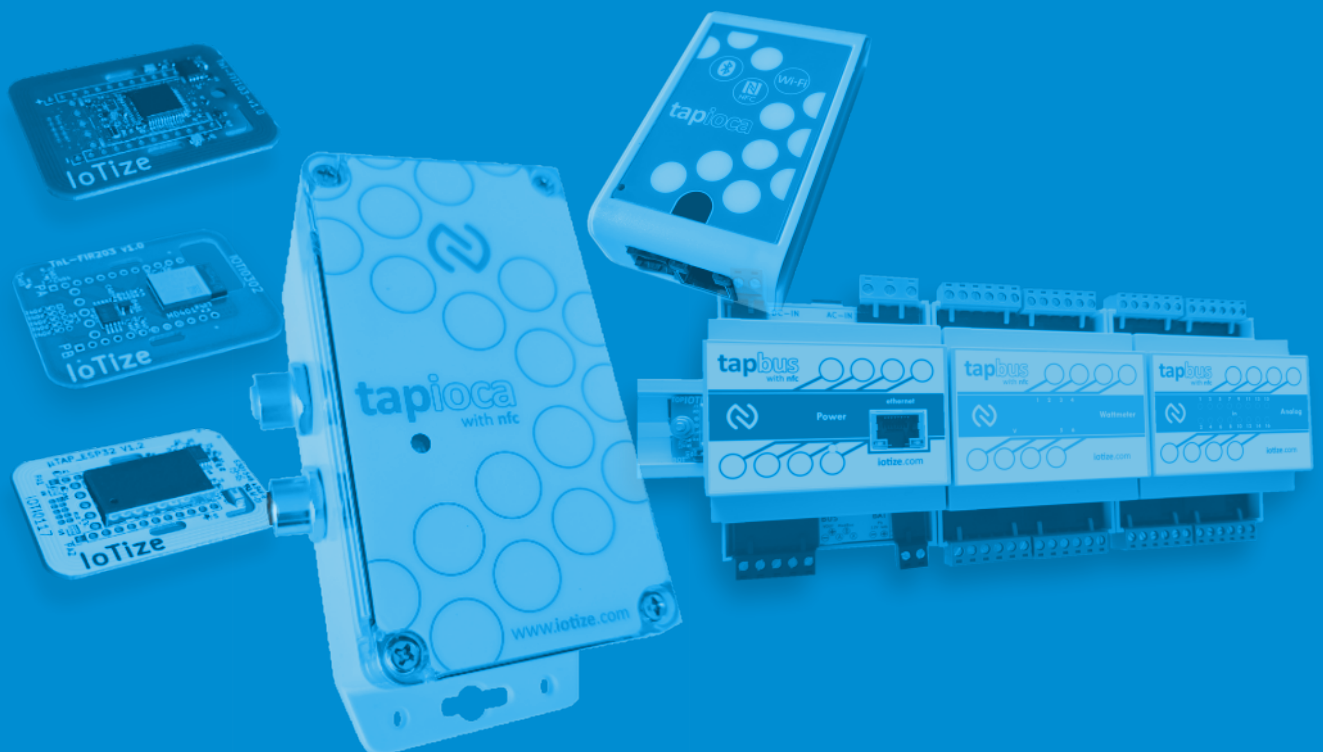
Notes:

1. WAN - Wide Area Network

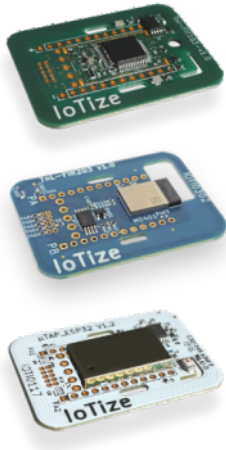
2. LPWAN - Low Power Wide Area Network

No-CODE CONNECTIVITY PRODUCTS FOR OEM & INDUSTRY

Our mobile and cloud connectivity solution powers 4 lines of products that are designed and qualified to meet the needs of original equipment manufacturers and industrial system designers. If you're creating new connected appliances, or retrofitting industrial systems, you'll find wireless modules and devices that meet your requirements.



OEM WIRELESS MODULES



TapNLink Wireless Modules Integrate Natively with a System's MCU

Instantly integrate wireless for mobile or cloud connection into your microcontroller-based designs. TapNLink modules are fully qualified reference designs for Near Field Communication, Bluetooth Low Energy, Wi-Fi and LoRa. Purchase them as hardware products or license our software and integrate TapNLink directly into your electronic design.

In both cases, your design team benefits from a no-code solution and tools for configuration of features and creation of user interfaces as mobile apps.

Need to adapt TapNLink features to meet special requirements. Need more flexibility? TapNLink's Java Virtual Machine lets you drive external components, create data handling routines, manage certificates and messaging for any cloud with just a few lines of java.

Common Features:

- 3.3 Volt
- Mechanical dimensions 28 mm x 38 mm x 3 mm
- Extension connector with I2C, SPI, ADC, Counter, etc.
- Automatic variable and register import from ELF⁶ or CSV⁷
- Java Virtual Machine
- MQTT⁸ support



NFC 3-stroke configuration



Configuration



On-site monitoring



Remote surveillance

TapNLink wireless modules



	Wireless Protocols	Wire Protocols	LwM2M ³	JVM ⁴	Power Consumption Transmit (Idle)	Typical Uses
TnL-FIT203	NFC	all offer S3P, SWD, Modbus, & UART ²	●	○	1 mA/-3 mA (1 μA) ¹	✓
TnL-FIT213	NFC		●	●	1 mA/-3 mA (1 μA) ¹	✓
TnL-FIR203	NFC, BLE ⁵		●	●	20 mA (80 μA)	✓
TnL-FIW103	NFC, BLE ⁵ , WiFi		●	●	180 mA (80 μA)	✓
TnL-FIW113	NFC, BLE ⁵ , WiFi		●	●	180 mA (80 μA)	✓
TnL-FIL103	NFC, LoRa		●	●	40 mA (0.4 μA)	✓

Notes:

1. NFC module in energy harvesting mode is powered by the mobile phone. Module can provide some current to the target. 2. S3P, Modbus and UART require a firmware agent. Code is generated automatically and must be linked into the existing firmware. 3. LwM2M requires only the user's configuration. 4. JVM allows users to add java code that can do simple edge computing, send alarms, etc. 5. BLE - Bluetooth Low Energy 6. ELF - Executable Linkable Format 7. CSV - Comma Separated Values 8. MQTT - Message Queuing Telemetry Transport

WIRELESS ADAPTERS

Tapioca Wireless-Fieldbus Adapters Retrofit Industrial Systems

Instantly retrofit industrial systems with wireless for mobile or cloud connection. Tapioca connect on any fieldbus to provide instant, secure wireless connectivity. Tapioca are fully qualified industrial devices featuring Near Field Communication Bluetooth Low Energy, Wi-Fi, and optional extensions for LoRa, LTE-M and NB-IOT. Tapioca is available in casings for DIN Rail Bus, or protective IP67 for harsh and humid conditions.

System designers and users benefit from our no-code solution for creation of user interfaces as mobile apps. Need more flexibility? Tapioca's Java Virtual Machine lets you drive other devices, create data handling routines, manage certificates and messaging for any cloud with just a few lines of java.



Common Features:

- 5 - 36 Volt
- MQTT support
- Java Virtual Machine
- Automatic register import from CSV or DBC



Configuration



On-site monitoring



Remote surveillance

Tapioca industrial wireless adapters

	Wireless Protocols	LoRa ⁵	LTE-M NB-IOT ⁵	Wire Connections	Modbus ⁴	LwM2M ¹	Virtual Machine ²	IP67	Typical Uses
TpC-FS2W123	NFC, BLE ³ , WiFi	○	○	RS232	●	●	●	○	📄 🔍 🔭
TpC-FS4W123	NFC, BLE ³ , WiFi	○	○	RS485	●	●	●	○	📄 🔍 🔭
TpC-FSOW123	NFC, BLE ³ , WiFi	○	○	USB device	●	●	●	○	📄 🔍 🔭
TpC-FCOW123	NFC, BLE ³ , WiFi	○	○	CAN	○	●	●	○	📄 🔍 🔭
TpC-FEOW123	NFC, BLE ³ , WiFi	○	○	Ethernet	●	●	●	○	📄 🔍 🔭
TpC-PS2W123	NFC, BLE ³ , WiFi	●	●	RS232	●	●	●	●	📄 🔍 🔭
TpC-PS4W123	NFC, BLE ³ , WiFi	●	●	RS485	●	●	●	●	📄 🔍 🔭
TpC-PSOW123	NFC, BLE ³ , WiFi	●	●	USB device	●	●	●	●	📄 🔍 🔭
TpC-PCOW123	NFC, BLE ³ , WiFi	●	●	CAN	○	●	●	●	📄 🔍 🔭
TpC-PEOW123	NFC, BLE ³ , WiFi	●	●	Ethernet	●	●	●	●	📄 🔍 🔭
TpC-PE1W123	NFC, BLE ³ , WiFi	●	●	Ethernet, RS485	●	●	●	●	📄 🔍 🔭

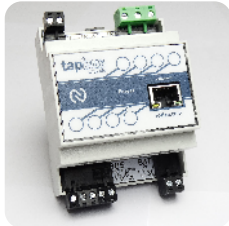
Notes:

1. LwM2M requires only the user's configuration and can be associated with a branded, generated mobile app.
2. Virtual Machine (VM) allows users to add code that can perform simple edge computing, sending alarms, etc.
3. BLE - Bluetooth Low Energy
4. Supports Modbus-RTU (RS485) and Modbus-TCP (Ethernet) in both Master and Slave modes.
5. LoRa, LTE-M or NB-IOT available as optional extension modules.
6. DIN - Deutsches Institut für Normung
7. IP67 - Ingress Protection 67
8. MQTT - Message Queuing Telemetry Transport

DATA ACQUISITION MODULES

TapBus Wireless Analog & Digital I/O to Build & Retrofit Industrial Installations

Rapidly design or retrofit industrial systems with TapBus programmable power, analog IO and digital IO modules. TapBus modules pre-implement security, wire and wireless communications so that no coding is required to use these fundamental features. With their **embedded Java Virtual Machine**, just a few lines of code are needed to retrieve data and drive external components.



TapBus Master Power Module

- Modbus TCP, RTU¹ protocol support
- RS485, Ethernet interfaces
- DIN²-Rail Bus or Ribbon cable
- Up to 32 slave devices
- Native NFC³, BLE⁴, Wi-Fi
- LoRa, LTE-M add-ons
- 220 V AC / 24-36 V DC power input
- 5 or 12 V power output
- Backup battery management

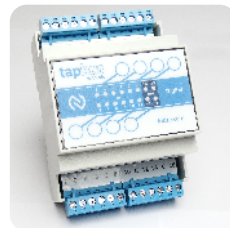
Slave Modules Common Features:

- Modbus RTU¹ protocol support
- RS485 interface
- Native NFC³
- 3-color LED per channel
- Opto-isolation to 1500V
- Precision 0.01% of full scale at 25° C
- -25° to 70° C, 55% humidity
- Chainable by rail bus or ribbon cable
- Casing width: 71 mm



TapBus Analog

- 24-bit ADC⁵
- 16 configurable inputs
- 4-20 mA, 0 - 10 V or 0 - 2 V
- Pt100⁶ / Pt1000⁷ (2 or 3-wire)



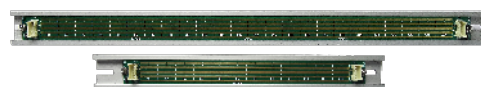
TapBus Digital

- Sampling at 1 kHz
- 12 configurable inputs: Digital, Counter, Timer, Frequency Meter
- 4 configurable outputs: Digital, Pulse, PWM⁸
- Electric switches: max 60V, 1.4A



TapBus Wattmeter

- Single phase 100 - 250 V
- 6 inputs for 0.333 V current transformers (10, 50, or 100 A)
- Voltage, Current, Power, Energy, Phase



DIN-Rail Bus Accessories

- 3 & 6-module versions (250 or 450 mm)
- Automatic position detection and Modbus addressing
- Chainable by ribbon cable

Notes:

1. Supports Modbus-RTU (RS485) and Modbus-TCP (Ethernet) in Master and Slave modes.
2. DIN - Deutsches Institut für Normung
3. NFC - Near Field Communication
4. BLE - Bluetooth Low Energy
5. ADC - Analog Digital Converter
6. Pt100 - Platinum 100 Ohm resistance at 0° C
7. Pt1000 - Platinum 1000 Ohm resistance at 0° C
8. PWM - Pulse-Width Modulation

WIRELESS SERVICING TOOLS

Portable, Autonomous Wireless Gateways Adapt Easily to Any Maintenance Use Case

Instantly create custom tool interfaces for installing, commissioning and servicing industrial equipment. TapNPass brings portable wireless connectivity everywhere, allowing technicians to work safely and serenely on customized mobile apps that are designed to evolve easily to meet their specific requirements.

TapNPass are fully qualified industrial tools featuring NFC, Bluetooth Low Energy and Wi-Fi interfaces for connecting equipment with mobile devices.

Common Features:

- MQTT⁶ support
- Java Virtual Machine
- Automatic register import from CSV⁷ or DBC⁸



 Configuration

 On-site monitoring

 Remote surveillance

TapNPass industrial wireless tools

	Wireless Protocols	Wire Protocols	LwM2M ³	JVM ⁴	Typical Uses
TnP-NSR103 ¹	NFC, BLE ⁵	RS232, RS485 ² , USB host			 
TnP-FSR103 ¹	NFC, BLE ⁵	RS232, RS485 ² , USB host			 
TnP-NSW103 ¹	NFC, BLE ⁵ , WiFi	RS232, RS485 ² , USB host			  
TnP-FSW103 ¹	NFC, BLE ⁵ , WiFi	RS232, RS485 ² , USB host			  

Table Notes:

1. Available in "Fixed" (power from target) and portable "Nomad" (power from battery) versions.
2. Supports Modbus-RTU protocol.
3. LwM2M requires only the user's configuration and can be associated with a branded, generated mobile app.
4. JVM allows the user to add a Java program that can perform tasks for simple edge computing, sending alarms, etc.
5. BLE - Bluetooth Low Energy
6. MQTT - Message Queuing Telemetry Transport
7. CSV - Comma Separated Values
8. DBC - DataBase CAN

FIRMWARE LICENSING

Duetware is the robust, portable firmware at the core of IoTize wireless devices and our no-code IoT solution.

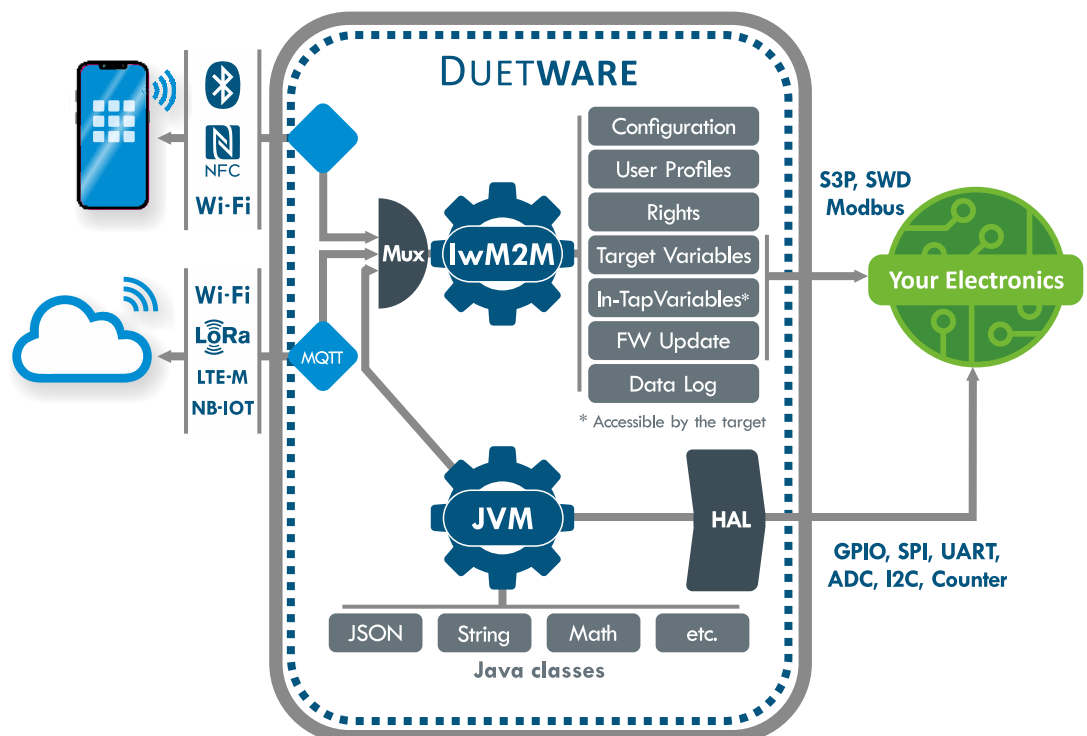
During initial phases of IoT design it allows companies to implement and test their IoT integration rapidly and with guaranteed results. For future evolutions of their IoT products, Duetware facilitates changes in wireless technology, cloud platforms, data handling and security. In short, everything becomes easier, more cost effective with Duetware at the core of your IoT implementation.

It is natural that customers who produce electronics in very large volumes will want to benefit from Duetware's advantages as well as the advantages of their own supply and manufacturing facilities. For this reason, IoTize provides Duetware under license.

Duetware is available three possible configurations:

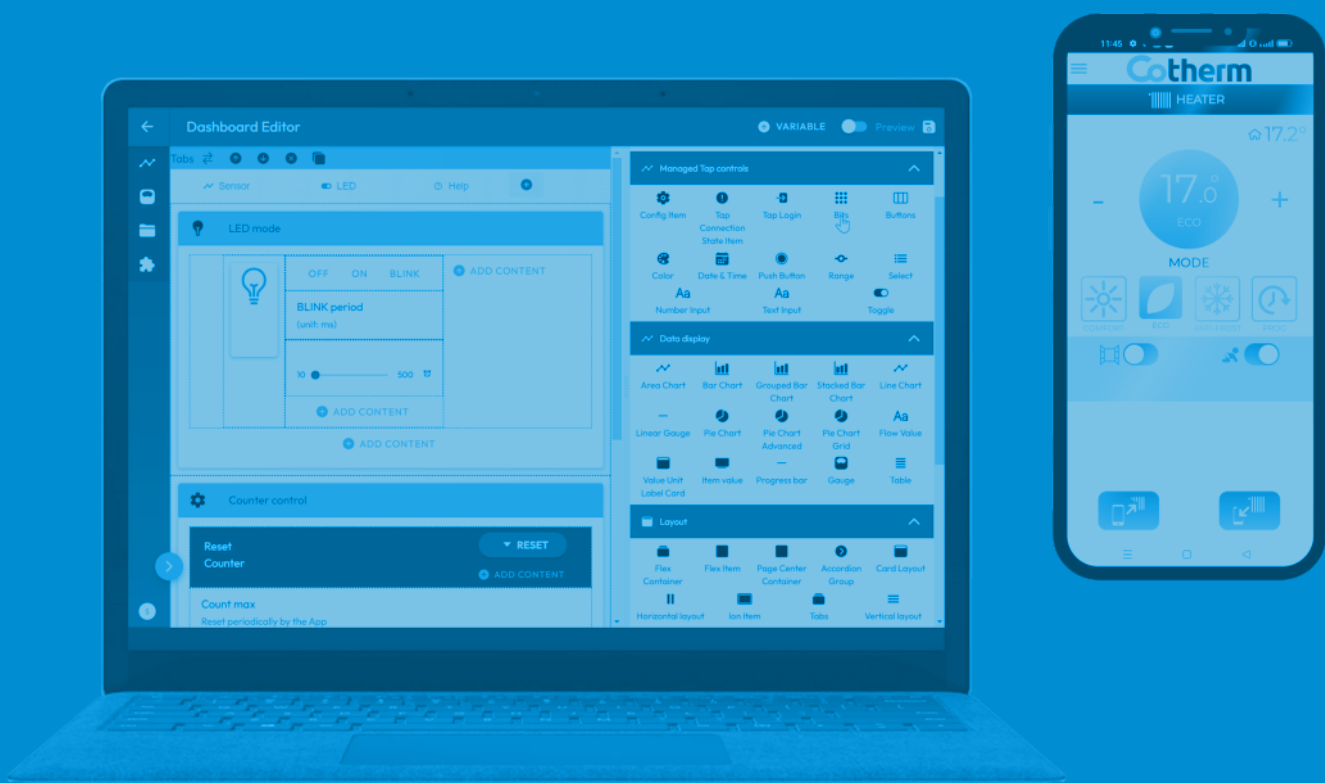
- **Full version** with the lwM2M engine and Java Virtual Machine
- **Light version** with just the lwM2M engine
- **or Custom version** with lwM2M and the customer's custom code.

Duetware is provided preprogrammed to a wireless controller of MCU. The code is already ported to ESP32 and to ARM Cortex-M microcontrollers including the industry-leading STM32.



No-CODE / LOW-CODE SOFTWARE ECOSYSTEM

Our mobile and cloud connectivity solution leverages a complete ecosystem of software tools that allow designers to configure features and create user interfaces with little experience and without writing a single line of code. This combination of embedded software and professional software tools accelerates your design process while preserving your flexibility to adapt our solution to your specific business or application requirements.



THE TOOLS

Software That Accelerates Your IoT Projects

Our software solution transforms complex projects into a few simple tasks that deliver immediate results without writing any code. All of this is based on our embedded Duetware and our tool ecosystem.

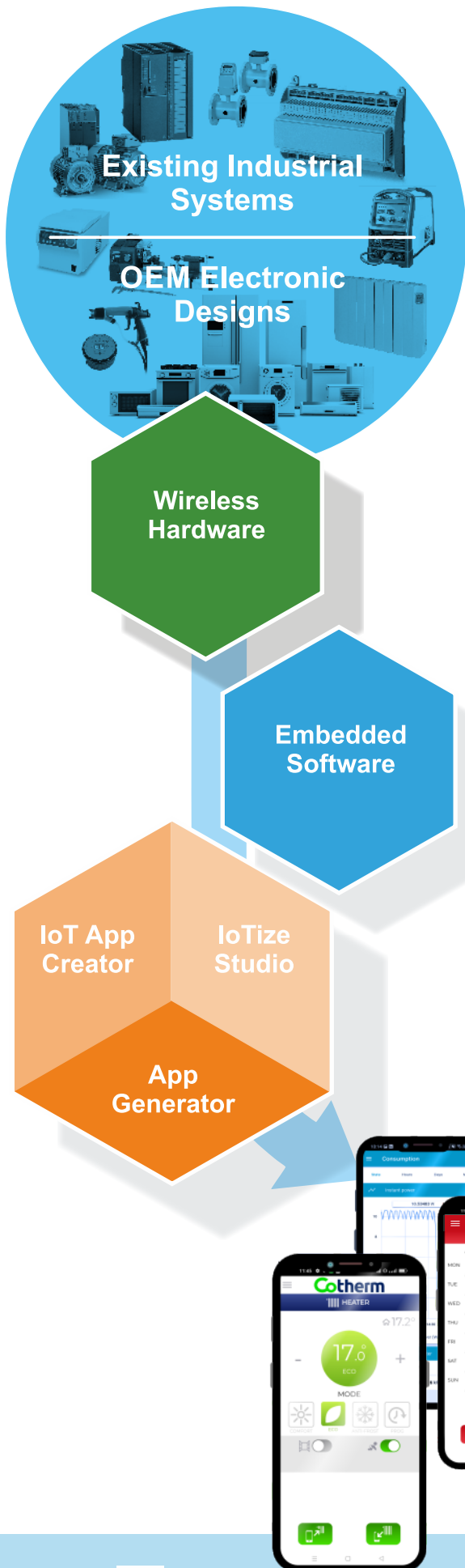
Our **embedded Duetware** pre-implements all the features required in a connected device. Product designers simply select and set up those features.

IoTize Studio is the configuration environment where, in just a few clicks, designers can set up the features of their IoTize wireless devices. If you need more freedom to adapt to specific requirements, IoTize Studio also lets designers add java code to the device configuration for advanced data handling, formatting, messaging and more.

Based on that wireless device configuration, designers create human-machine interfaces that run as dashboards in another browser or app, or as publishable static apps for iOS and Android. Creation is rapid and easy using our drag & drop, WYSIWYG environment called **IoT App Creator**. With it, they can make interfaces with elaborate, professional displays and tactile controls in just minutes.

After testing their HMI in IoT App Creator, designers can then create static apps for publication with just a click of a button using our automatic **App Generator**. The App Generator outputs an app package for testing and a project that designers can sign and build into the final app for publication.

In addition, if java code is required for advance customization of our solution, IoTize offers the **Raisonnance IDE** and **java debugging tools** for code validation.



CONFIGURATION SOFTWARE

Communicate, Secure & Handle Data without Writing Any Code

IoTize Studio transforms wireless integration projects into a simple process of connection and configuration

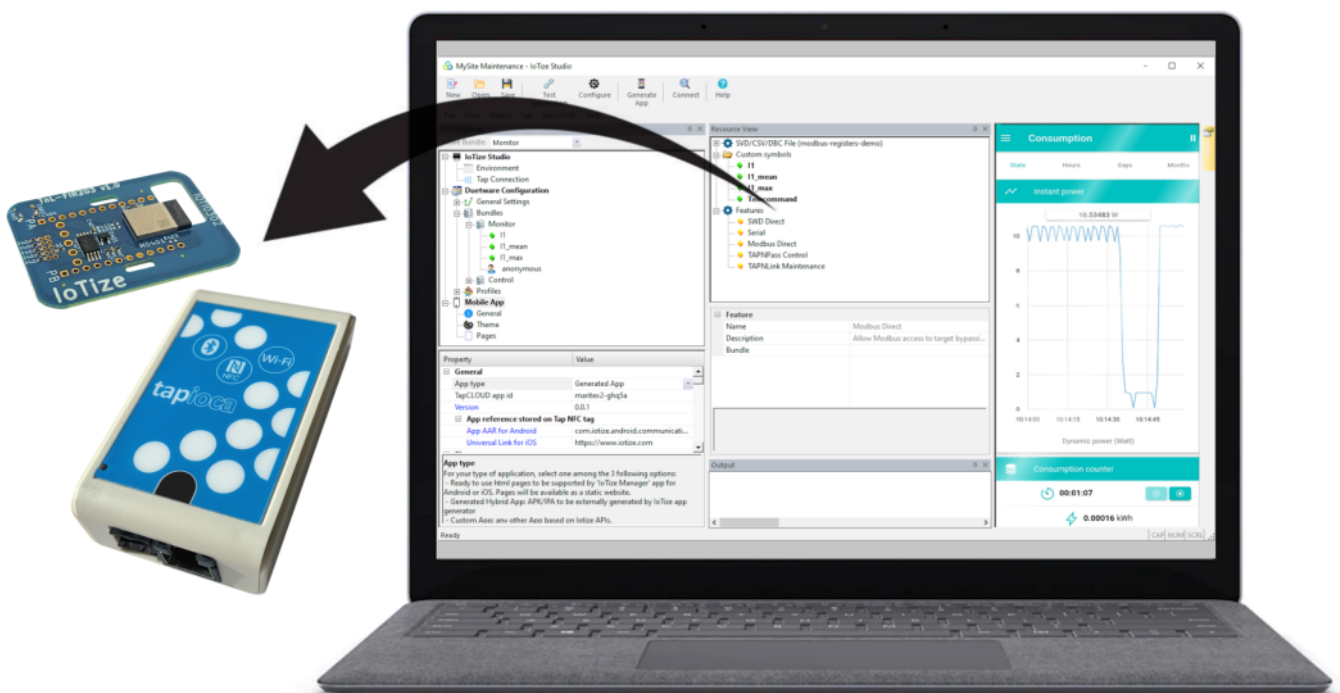
System designers using IoTize wireless products can quickly set up their wireless implementation without coding and while connected directly to their electronic design. IoTize Studio's drag-and-drop, click-to-configure interface eases configuration of:

- **Wireless channels**
- **Target system data to access**
- **Types of data access (read, write)**
- **User profiles and access permissions**
- **Cloud access parameter and more...**

IoTize Studio requires no expertise to create secure connected designs. Designers just connect their IoTize wireless device to their target hardware and configure it.

Flexibility of java and professional coding tools to support you

Some code may be needed for advanced implementations with external components, edge data processing, certificate management or messaging for cloud platforms. IoTize Studio provides you a code editor for adding java to your device configuration. To validate your code, you can use the Raisonance java debugging tools that can debug the code while it is running on your IoTize wireless device.



IoT APP CREATOR

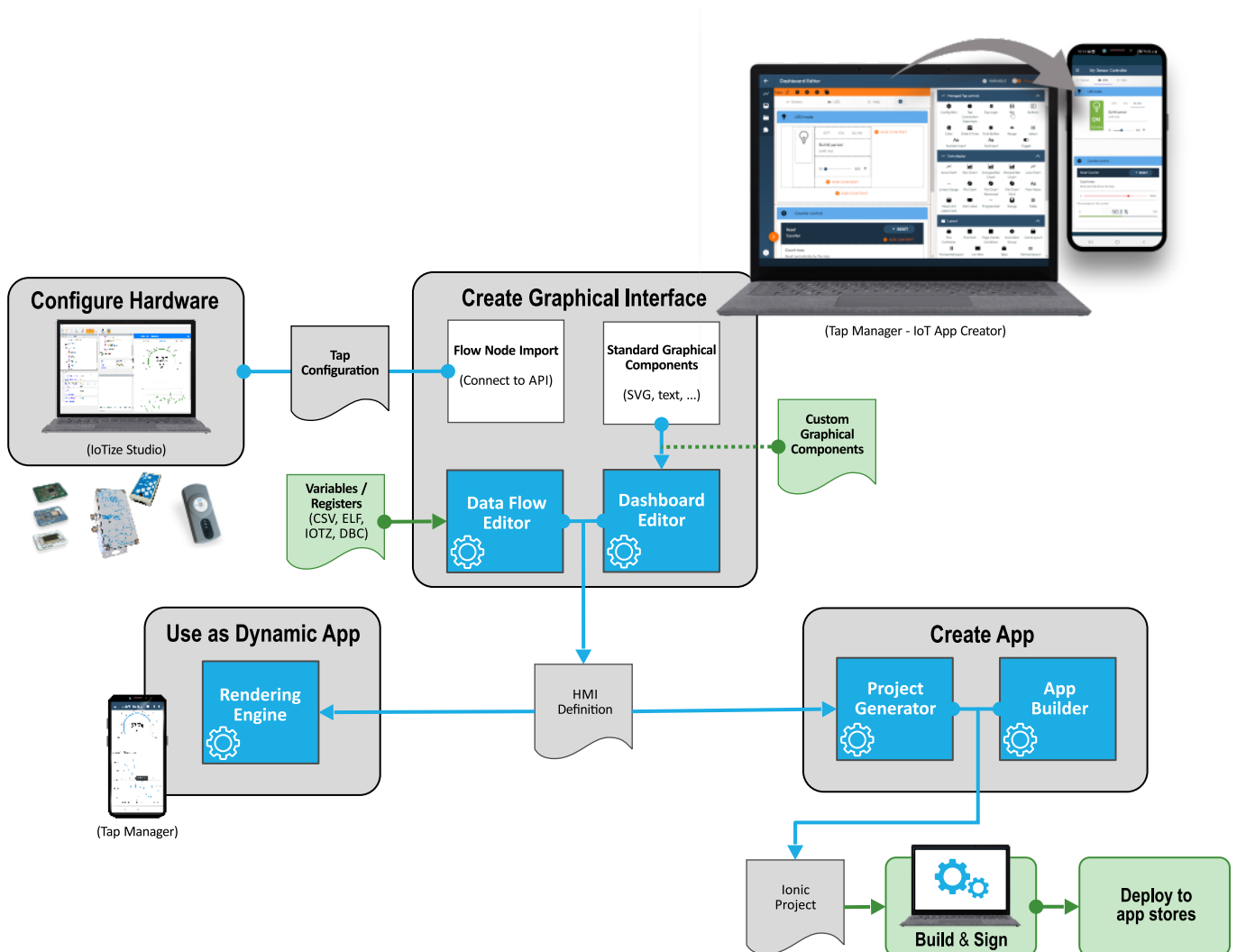
Create Custom User Interfaces for Any Electronics

Our solution and wireless products accelerate the creation of graphical user interfaces that improve user experiences and efficiency. You can now easily get rid of expensive LCD on your products and replace them with tactile smartphone interfaces.

Designers can instantly create these customized, branded user interfaces that run as dashboards in another browser or app, or as publishable static apps for iOS and Android. Our IoT App Creator supports them with:

- **Drag-and-drop, WYSIWYG user interface builder**
- **Pre-implemented graphical elements & controls**
- **UTF-8 character encoding and multi-language support**
- **Plug-in support for external graphical widgets**
- **Advanced control of data flow logic**

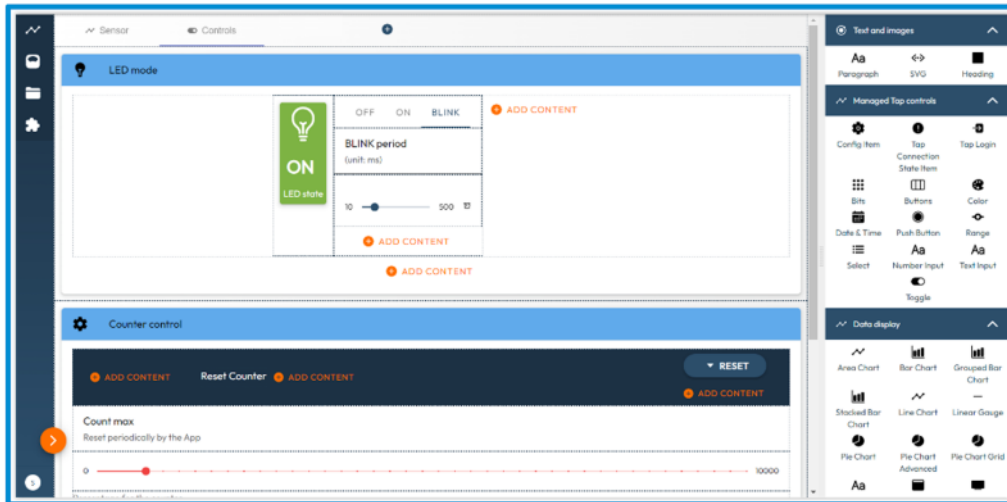
With IoT App Creator, your customized user interface for **Android, iOS** or **Web app** practically builds itself.



Dashboard Editor

IoT App Creator's Dashboard Editor is a layout space for creating a user interface by simply dragging and dropping display components and positioning them.

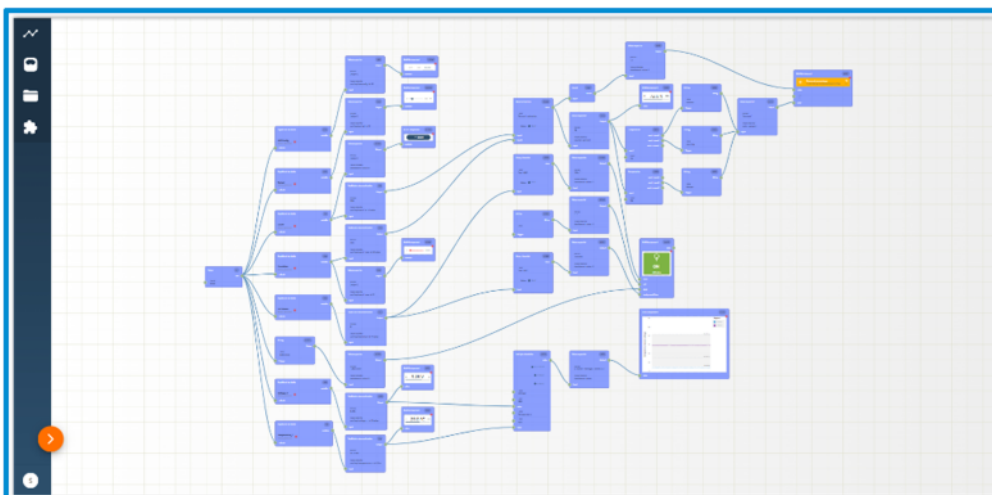
Libraries of components are available in a section that presents standard layout and display component libraries provided by IoTize. Designers can also add custom libraries of graphical components to these libraries.



Data Flow Editor

IoT App Creator's Data Flow Editor, is an additional view that offers more complete method for determining how data is displayed. It is not required to use this tool but it offers great freedom in how data is interpreted and displayed in the user interface.

It represents the data from capture to display and provides nodes for controlling data transformations and visualization. It allows designers to combine data in a same display component, convert data values, compute derived values from multiple variables, define logical function that impact the display, and much more.



CLOUD INTEGRATION

Integrate Easily with Any Cloud for Remote Equipment Supervision

Integrating data flows with cloud-based supervisory platforms is the foundation for analyzing system usage, availability and triggering on-site interactions such as maintenance and software updates.

Our solution pre-implements the security mechanisms, communication interfaces and MQTT protocol that make this possible with a simple configuration of our wireless devices. Our solution supports direct connection to WAN (Wi-Fi) and LPWAN (LoRa, LTE, NB-IOT) or transfer of data to the cloud via user's mobile phone.

The solution's embedded Java Virtual Machine offers a **low-code, cloud-agnostic approach to integrating with any commercial or private cloud platform**. A few lines of java code suffice to handle security, data formatting and messaging. This approach also offers possibilities to do edge data processing.

Our software tool ecosystem also makes it easy and quick to create custom dashboards in just a few clicks. The IoT App Creator supports you with pre-set graphical components and supports component customization to fit your specific situation and needs. For advance data manipulation, its Data Flow Editor allows you to convert and transform data or to combine data flows in graphical displays that will help supervisors understand complex information. Dashboards run directly on any mobile device or PC.

For no-code IoT, they chose IoTize...



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