iOTize™

www.iotize.com

Energy

Industrial
Control

Facilities
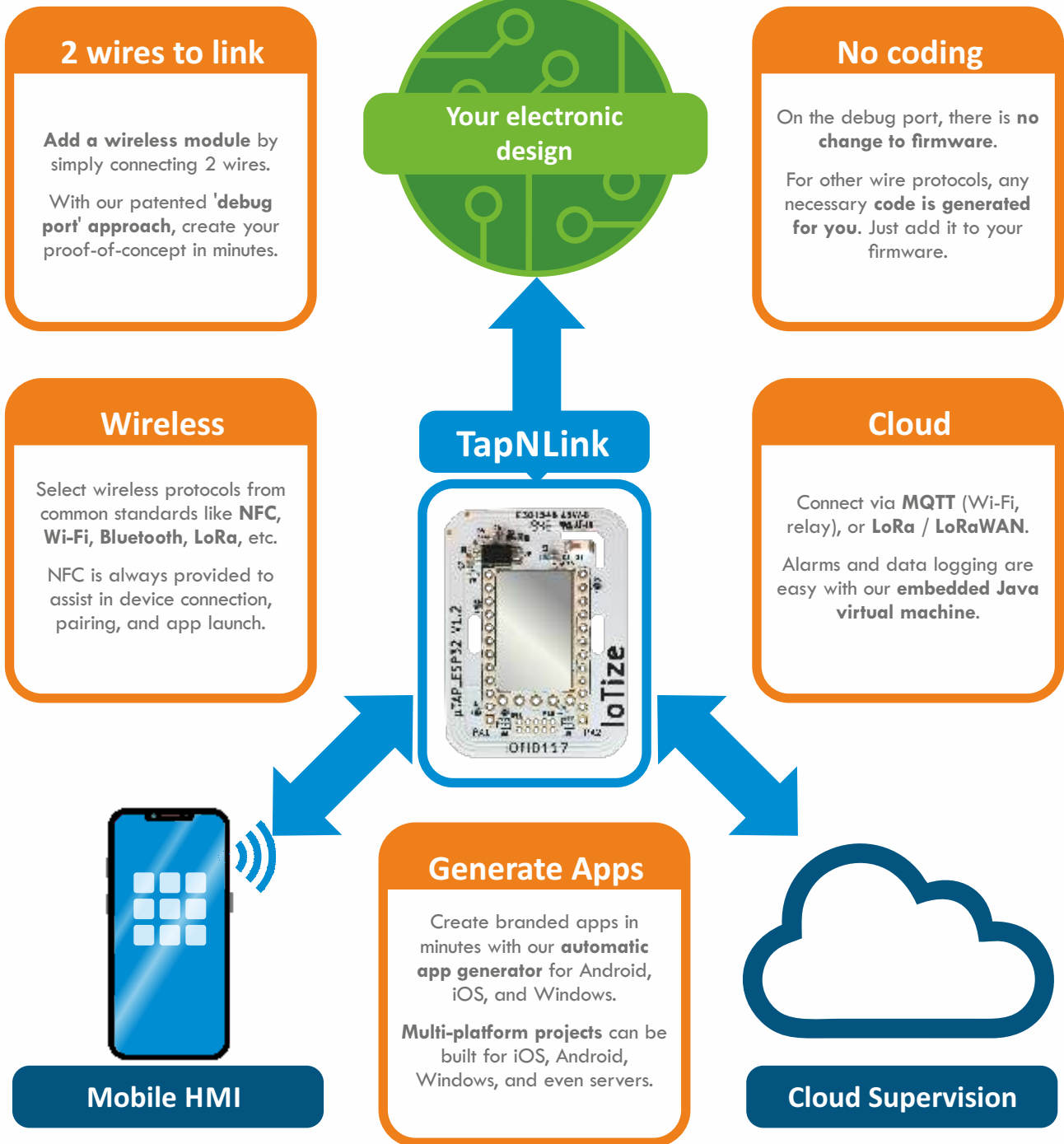
Maintenance

Monitoring

Access
Control

Security

Management

Appliances

Installation

Servicing

Easy IoT !

IoTize for Instant Connectivity & Human-Machine Interfaces
on Mobiles & the Cloud

Connect electronics to mobiles & cloud

2 wires to link

Add a wireless module by simply connecting 2 wires.

With our patented '**debug port**' approach, create your proof-of-concept in minutes.

Your electronic design

No coding

On the debug port, there is **no change to firmware**.

For other wire protocols, any necessary **code is generated for you**. Just add it to your firmware.

Wireless

Select wireless protocols from common standards like **NFC**, **Wi-Fi**, **Bluetooth**, **LoRa**, etc.

NFC is always provided to assist in device connection, pairing, and app launch.

TapNLink

Cloud

Connect via **MQTT** (Wi-Fi, relay), or **LoRa** / **LoRaWAN**.

Alarms and data logging are easy with our **embedded Java virtual machine**.

Mobile HMI

Generate Apps

Create branded apps in minutes with our **automatic app generator** for Android, iOS, and Windows.

Multi-platform projects can be built for iOS, Android, Windows, and even servers.

Cloud Supervision

This complete solution connects any electronic design to mobile apps or the cloud with unmatched speed. It manages all facets of integration from security to app creation in a way that is automated and configurable.

The fastest way to make an app

TapNLink

Duetware

lwM2M JVM

1 **2**

3
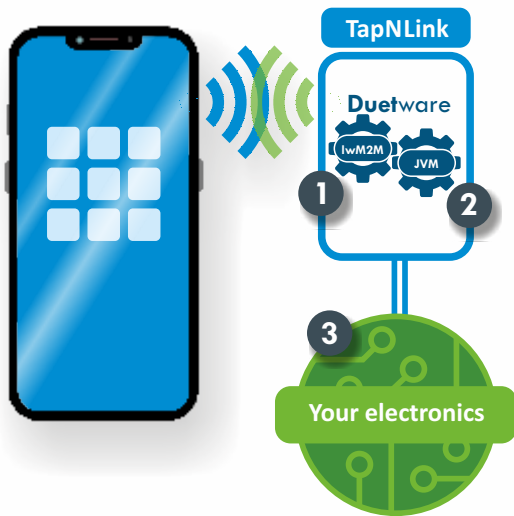
Your electronics

3 connection possibilities

Duetware's lwM2M and JVM work in concert so the relationship between TapNLink and target electronics can be configured as:

- **1** **module as master** providing apps access to data in the target, requiring only configuration of the lwM2M,
- **2** **module as a CPU** for sensors/actuators, using the JVM to communicate with target devices and access variables in TapNLink,
- or **3** **target as master** that stores data to TapNLink for access by apps.

IoTize Studio generates any code needed for TapNLink-target communication.

IoTize Studio

Duetware

lwM2M JVM

Tap Cloud

Configure Duetware

IoTize Studio eases **Duet**ware configuration with:

- **Symbols table import** from ELF or CSV file
- **Point-and-click configuration** including the selection of user profiles, access rights, variables and communication channels
- **Editing and compiling of Java** programs if needed
- **Configuration transfer by Bluetooth, Wi-Fi or MQTT**
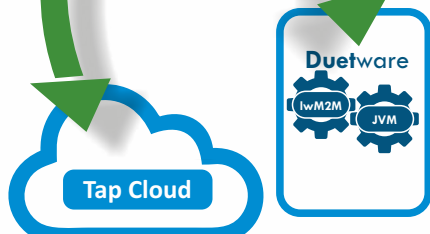
Generate apps

IoTize Studio eases the creation of mobile HMI apps with controls for:

- **Definition of the app type** (Web, Hybrid, Native, ...)
- **Point-and-click definition** of dashboards, graphical controls, displays, and branding (icons, colors, splash-screen, etc.)
- **Direct launch of app project generation** via server-based tools (Ionic, Cordova).

Users have access to test apps and project sources to verify, fine tune and finalize apps for publishing.
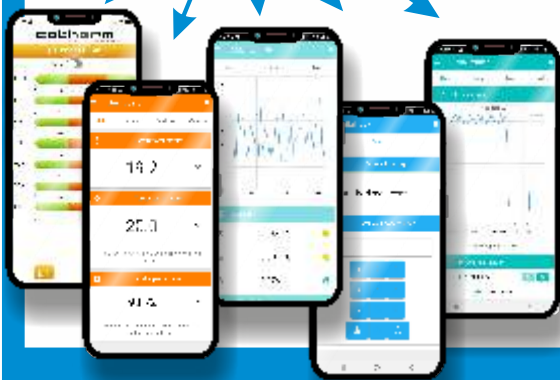
The IoTize solution allows wireless integration and creation of apps by simple configuration. Users aren't blocked by the need to learn new technologies. They start immediately creating, testing and validating apps for their next-generation connected products.

Flexibility for many uses

Access control

Using mobiles to identify users and open doors is easy with IoTize. Near Field Communication and security mechanisms are built into our solution making it ideal for access control.

Management of user profiles and access control rules simplify the creation of efficient, intelligent, economical digital access panels.

Configuration

Despite European directives requiring programmable controls on electric radiators, less than 10% of owners used the features because the task is too tedious using LCD / push-button interfaces.

With IoTize, NFC and mobile apps won over users and manufacturers with ease of use, ease of integration and lower cost.

Monitoring

With IoTize, systems are easily equipped with wireless that offers technicians freedom, efficiency, and safety. Mobile HMI apps improve visibility of complex information to reducehuman error.

With our Auto-App Generator, custom HMI are easily created, distributed, and updated as apps, helping manufacturers keep pace with evolving needs.

Remote alarms & control

With IoTize's embedded Java Virtual Machine, wireless devices are easily configured to autonomously decide to send information to the Cloud or to users' mobiles.

Simple edge computing requires connexion parameters and just a few lines of Java to evaluate conditions, then format and transmit data.

Mobile apps advantageously replace
LCD screens, push buttons & keypads.

Unique NFC advantages

Ergonomy

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

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

Security

Connections are authentified and encryption keys defined at close proximity, even for when using BLE or Wi-Fi.

Easy connection

NFC 'tap to connect' makes connecting smartphones to equipment intuitive, easy and secure whether it is used alone, or with BLE and Wi-Fi.

Wi-Fi

Energy savings

Having no advertising signal, and a very-low power idle mode optimizes 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.

It only emits during use and eliminates unecessary radio waves.

Unbeatable savings

Antennas are inexpensive, traced directly on the PCB.

With TapNLink, advanced NFC features require no development.

NFC is a great facilitator for connecting any electronic device to a mobile app.
Even when using Wi-Fi or BLE, NFC makes connecting intuitive, easy, efficient and secure.

Short development, no risk

Wireless designs

TapNLinks are **complete radio designs** with high-performance antennas for NFC, Bluetooth and Wi-Fi.

They are designed specifically to eliminate disturbances between antennas.

Protocols

Duetware, the software at the heart of TapNLink provides robust, secure, efficient protocol implementations to communicate with mobiles, or with the cloud.

Cybersecurity

Designed in collaboration with Gemalto and the University of Grenoble, **Duet**ware includes reliable, robust encryption and authentication mechanisms.

Choose TapNLink

Duetware
lwM2M JVM

Wi-Fi
iOS
NFC

Deploy sooner
Satisfy clients
Win markets
Ensure ROI

NFC

NFC offers **the most user-friendly experience**, even with Bluetooth, or Wi-Fi.

NFC does require expertise, but TapNLink has povided proven NFC designs since its inception.

Mobile apps

Creating user interfaces as apps is complex work. With our app generator for Android, iOS and Windows, **create apps in minutes by configuring options.** No coding, no expertise, no complex software installations.
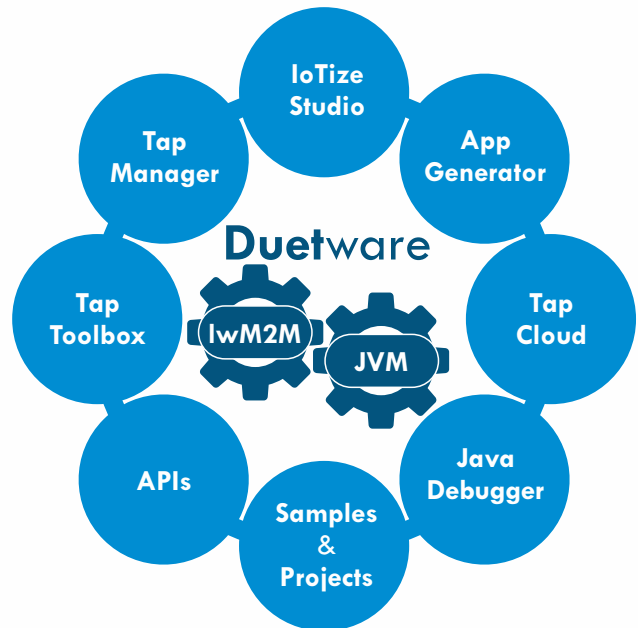
Certification

TapNLink modules are **pre-certified for required regional standards.** This limits the risks of delays and added costs in certifying your final radio product.

The IoTize solution overcomes complex issues that otherwise require extensive expertise. It increases overall reliability while dramatically reducing the cost and the time to market when designing connectivity enhanced products.

Comprehensive, versatile architecture

Duetware

All IoTize modules integrate **Duet**ware. It combines advantages a configurable **lightweight Machine to Machine** (lwM2M) **engine**, and an **embedded Java Virtual Machine** (JVM). These are proven software systems renowned for reliability, simplicity and power.

Duetware

Tap Manager · IoTize Studio · App Generator · Tap Toolbox · lwM2M · JVM · Tap Cloud · APIs · Samples & Projects · Java Debugger

lwM2M & IoTize Studio

LwM2M **doesn't require coding,** only a configuration that is created in IoTize Studio.

It **provides multiple advanced features** such as firmware update, debugging, and management of security credentials from IoTize Studio, or from the Cloud.

JVM & Java tools

While not required, Java is a **perfect complement to lwM2M** for evaluating alarm conditions, formatting texts for IoT platforms, or directly managing sensors / actuators via TapNLink's expansion ports.

Raisonance Ride7 and RKit-Java allow Java debugging in simulation or while it runs on the module.

App generator

The app generator produces **Ionic projects to create Android, iOS or desktop apps.** Our API makes it easy to add custom graphic objects (HTML, CSS, JS) and page frames.

Apps **support single or multiple target devices.** It is even possible to generate apps that can be enriched dynamically with new dashboards.

API, examples, ...

Multiple API are available for users with their own apps that they want to enhance with human-machine interfaces. These API include native ones for Android and iOS, JS, TypeScript, etc.

Examples and IoTize generic apps (Tap Manager, Tap Toolbox) support users during integration and development.

The IoTize software environment takes into account all aspects of connectivity integration, and guides designers. This speeds development and delivers secure, reliable results. Adding connectivity and creating apps for any equipment is so easy that it seems like magic.

For easy IoT, they chose IoTize...

Schneider Electric

Air Liquide

cotherm — DEGREES OF EXCELLENCE

iOTize™

960 chemin de la Croix Verte
38330 Montbonnot-St-Martin, France
+33 (0)4 76 41 87 99
contact@iotize.com
www.iotize.com

Regional distributor contact