



# Simplifying the Connected Product, & Service Journey

Aug, 2025

# MultiTech Overview

<b>HQ</b>	Minnesota, USA
<b>Locations</b>	USA (HQ), Canada (Engineering and operations), UK, DE, JP (Representative office), Global Manufacturing in US, CA and five Southeast Asian locations.
<b>Ownership</b>	Private Equity (Northlane Capital Partners, LLC)
<b>Established</b>	1970
<b>Technology</b>	LoRaWAN, Bluetooth, Public and Private cellular, Sensing and sensor integration, Cloud SaaS
<b>Deployment</b>	Over 120 million devices worldwide
<b>Industry Associations</b>	LoRa Alliance, 3GPP, CBRS Alliance, Entelec, Global Certification Forum (GCF), IoT M2M Council (IMC)
<b>Quality Standards</b>	ISO 9001, ISO 13485, UL, CSA, CE, UKCA, IPC manufacturing standards, NIST Cybersecurity Framework
<b>Engineering</b>	<ul style="list-style-type: none"> <li>In-house software, hardware and mechanical design and development</li> <li>In-house EMC, Safety, and RF test labs</li> </ul>



# INNOVATIVE SOLUTIONS FOR INDUSTRIAL AND COMMERCIAL IOT



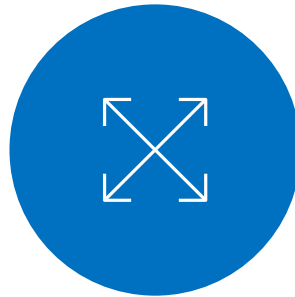
Design

Develop

Manufacture

MULTITECH

Integrated &  
scalable **devices**  
and **services**



**50+**

years of  
experience

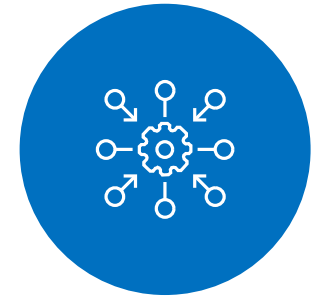
Secure &  
managed  
**IoT connectivity**



**>120**

million  
devices  
worldwide

Bespoke solutions  
across multiple  
**high-growth industries**



**125+**

patents  
awarded

# MultiTech Products Simplify the Journey

IoT Gateways,  
Routers &  
Modems



LoRaWAN®  
Wireless Sensors &  
Management



Our standard and customized wireless sensing and communication products use proven, standards-based technologies and open architectures to simplify the creation of connected products and connected services, reducing time, risk and effort for our customers



**Industry Associations**

LoRa Alliance, 3GPP, CBRS Alliance, Entelec, IoT M2M Council (IMC), Global Certification Forum (GCF),

**Engineering**

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In-house EMC, Safety, and RF test labs

**Quality Standards**

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## Smart Buildings/Retail



## Energy



## Healthcare



## Transportation & Logistics





# Gateways, Routers & Modems Portfolio

Cellular, LoRaWAN, Wi-Fi, BLE and wired connectivity assets – OEMs, Service Solutions & Enterprise digitization of assets & processes

## Edge Intelligence [Gateways & Routers]



## Edge Connectivity [Modems]



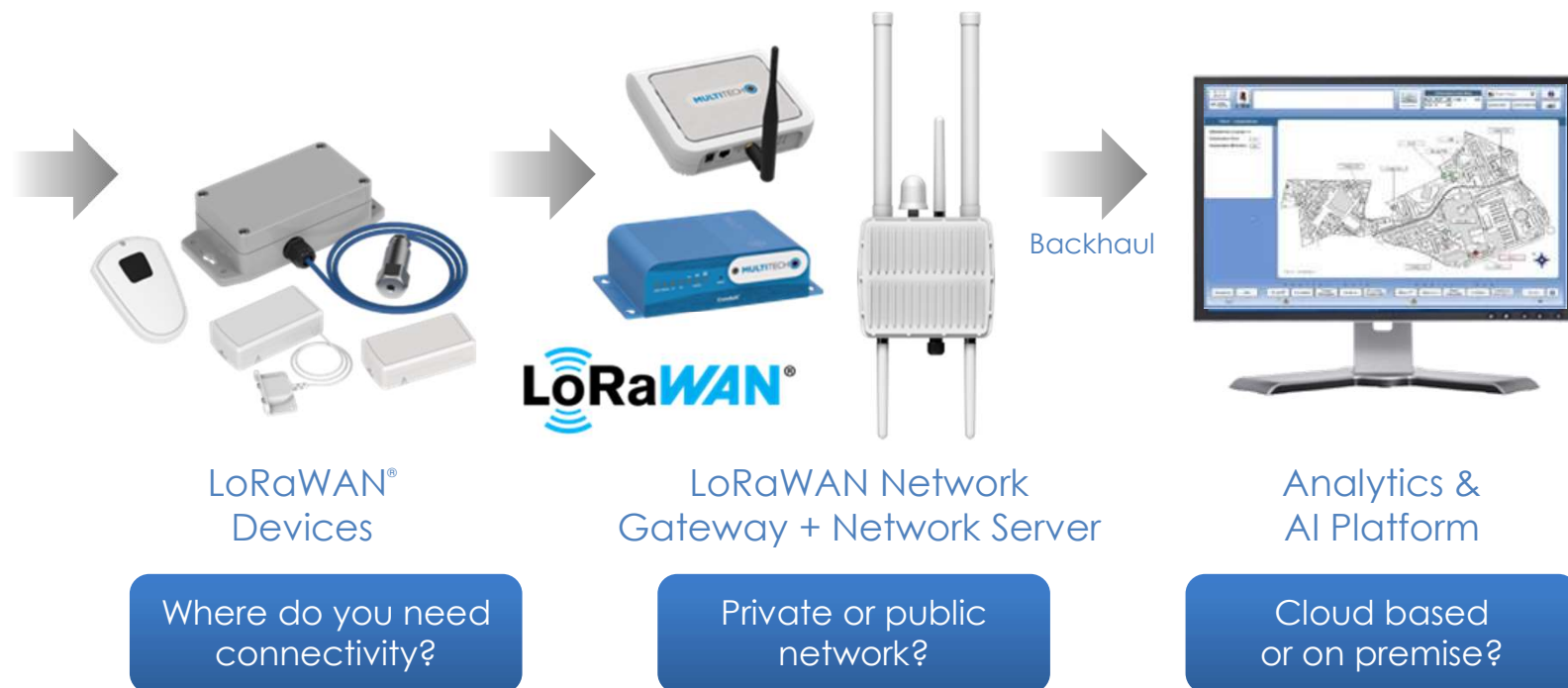


# LoRa® Overview Gateways & Sensors

# Building a LoRaWAN® Solution

Which type of data could I get from sensors and how often, to manage risks, improve utilization, increase revenues, receive alerts...?

- Low cost & Low power consumption for long life battery
- Long range & deep indoor penetration
- High capacity of sensors per gateway
- Mature technology with broad ecosystem





# LoRaWAN® Gateways & Base Stations

## Smart Buildings



- Designed for indoor environments
- Provide LoRa® coverage inside hotels, commercial centers, offices, retails building, public building...



### Conduit® AP Access Point:

- Model available with external antenna and/or PoE
- Edge computing capabilities

## Industrial



- Designed for industrial environments.
- Improved coverage in warehouses, laboratories, hospitals, production facilities, factories, refineries...



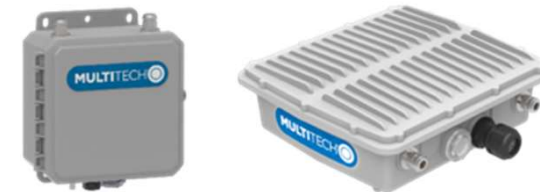
### Conduit® & Conduit® 300 Series:

- Multiples additional connectivity options for industrial applications (ethernet, serial, GPIO...)
- Advanced edge computing capabilities

## Outdoor



- Robust IP67 casing designed for challenging external environments.
- Industrial environments, smart cities, smart region, national roll-outs...



### Conduit® IP67 Conduit® IP67 200 Series:

- Easy to install
- Edge computing capabilities



# LoRa<sup>®</sup> Intelligent Modules

# MultiTech xDot<sup>®</sup>

## Long Range LoRaWAN<sup>®</sup> Certified Module

### Benefits

#### Longest battery life

- xDot Essential and Advanced use half the idle current compared to the existing xDot – doubling battery life.
- **Idle current is 1uA**, the lowest in the market.

#### Increased Range

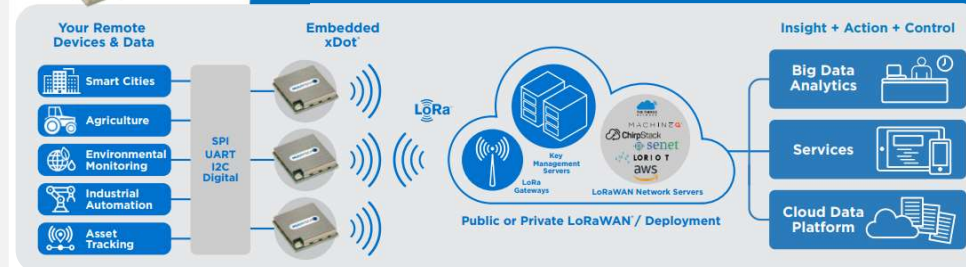
- **Up to 4 times the range** of the existing xDot
- Increased network capacity and significantly lower energy consumption.

#### Minimum SKUS




- Single configurable global SKU, separate SKU for US & China.
- Supports high volume automated manufacturing



MultiTech xDots bring intelligence, reduced complexity and a lower bill of material cost to the edge of the network while supporting a variety of interfaces to connect just about any battery-powered “thing”.



# LoRaWAN® Modules (Comparison Table)

Description	 MultiTech xDot® Essential	 MultiTech xDot® Advanced	 MultiTech xDot® Current Version
Processor	Arm Cortex M4	Arm Cortex M4	Arm Cortex M3
OS	Arm Mbed OS	Arm Mbed OS	Arm Mbed OS
Application	AT commands	AT commands, Mbed Libraries, GitHub	AT commands, Mbed Libraries, GitHub
System	160KB SRAM	160KB SRAM	32KB SRAM
Memory	384KB Flash	384KB Flash	256KB
FOTA Memory	External or host flash memory required	8Mbit Flash	External or host flash memory required
Input / output	Wake, reset	19 Digital I/O 2 UART, I2C, SPI, Wake, Reset	19 Digital I/O, 10 analogue inputs, I2C, SPI, Wake, Reset, 2 DAC outputs
Class	A, B, C	A, B, C	A, B, C
Spreading Factors	7-12 ( SX1262 ) future proof to accommodate SF 5,6	7-12 ( SX1262 ) future proof to accommodate SF 5,6	7-12 ( SX1272 )
Channels Plan Supported	AS923 1/2/3/4, AU915, EU868, IN865, RU864, US915	AS923 1/2/3/4, AU915 , EU868, IN865, RU864, US915	AS923 1/2/3/4, AU915, EU868, IN865, US915
Number of Main SKU	2 - US & WW	2 - US & WW	7

# Getting Started: MultiTech xDot Developer Kit

## Develop IoT Applications Quickly & Easily

- MultiTech xDot®: Arm® Mbed™ compatible for quick online app development.
- Decentralized decision-making at the edge for actionable data without complex setup.
- Preloaded with AT command firmware for easy use as a LoRa modem.

## Operating Modes

- Comprehensive AT command instruction set
- Developer friendly Arm Mbed libraries provides customization capability for specific applications

Developer support and resources are available at [www.multitech.net](http://www.multitech.net)



The MultiTech xDot (MTMDK-XDOT) Developer Kit is a compact USB dongle designed to streamline application development.

Its portability allows integration with laptops, empowering developers to execute AT commands or create custom Mbed-based applications.

Included in the kit:

- Development board featuring an xDot
- Integrated LoRa antenna



# LoRaWAN Applications for Smart Buildings



# MultiTech Conduit® AP 300 Series

Access Point for LoRa® Technology

## Family Features

- mPower Edge Intelligence operating system
- Secure Boot, data encryption and dual-image partitioning
- Python, C, C++, JavaScript, Node.js
- SX1303 8-channel LoRa baseband processor
- LoRaWAN® 1.0.4 specification compliant (software upgradeable to future releases)
- Listen-Before-Talk
- Internal or External LoRa antenna options
- Configurable UDP and Basic Station Packet Forwarder
- LoRaWAN MQTT Broker application



mPower  
EDGE INTELLIGENCE

**Quick Tip:**  
product order  
prefix **MTCAP3**

# MultiTech Conduit® AP 300 Series

Access Point for LoRa® Technology

## Hardware

### Updated Processor & Memory

- NXP i.MX6 Series Processor
- RAM: 512 MB RAM
- Flash: 512 MB

### Updated LoRa Transceiver

- Semtech SX1303 transceiver
- Half-Duplex, 8-channel
- Additional spreading factors

### Data Backhaul

- Ethernet or cellular (LTE Category 4)

### Internal Cellular & LoRa Antennas

Enclosure designed for IP30

DC power adapter

## Software

### Operating System

- mPower 6.X
- Linux Kernel 5.X
- Yocto Dunfell (version 3.1.X)

### Programmability

- Language Support: Node-RED, Javascript, Python 3, C/C++
- Package Upgrade Support: Java, Perl, Ruby, Mono C#

### Security Enhancements

- Secure Boot, Dual-Image Partitioning, Data Encryption

### LoRa Capabilities

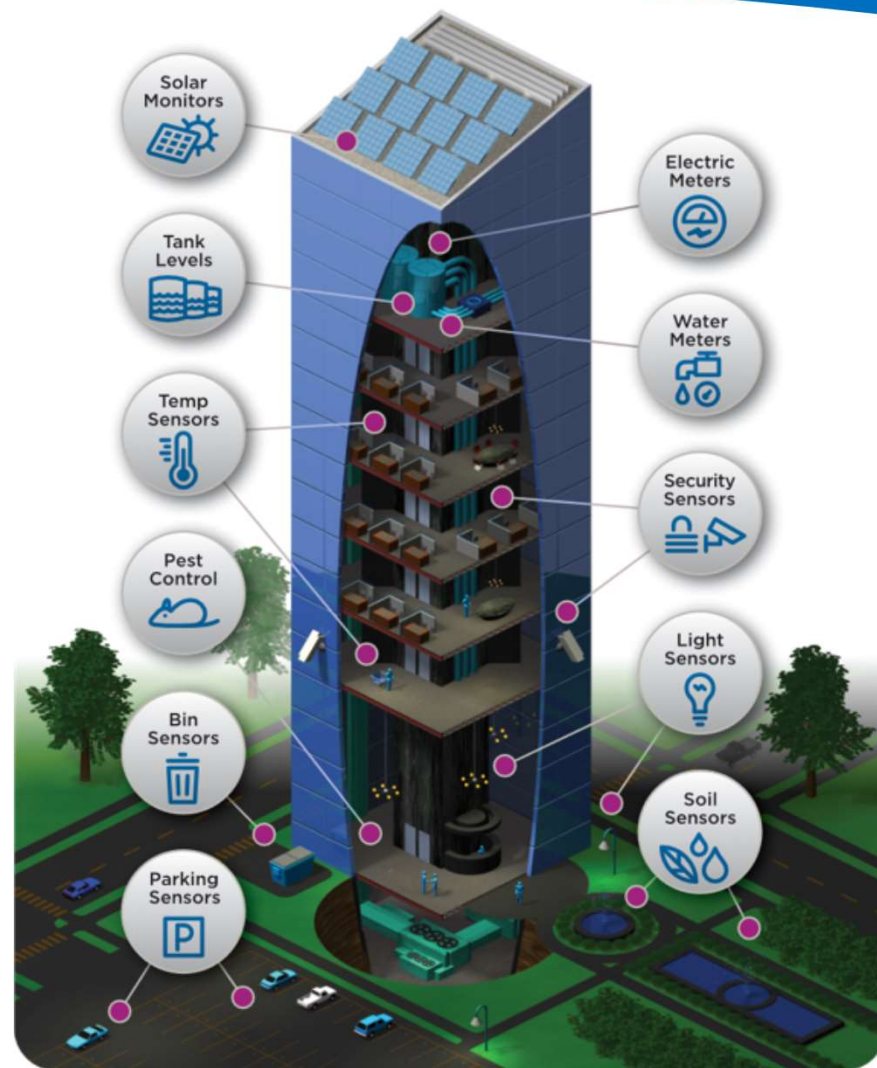
- 868 & 915 MHz Channel Plans
- Onboard LoRa Network Server
- Onboard LoRa Packet Forwarder



**Quick Tip:**  
product order  
prefix **MTCAP3**

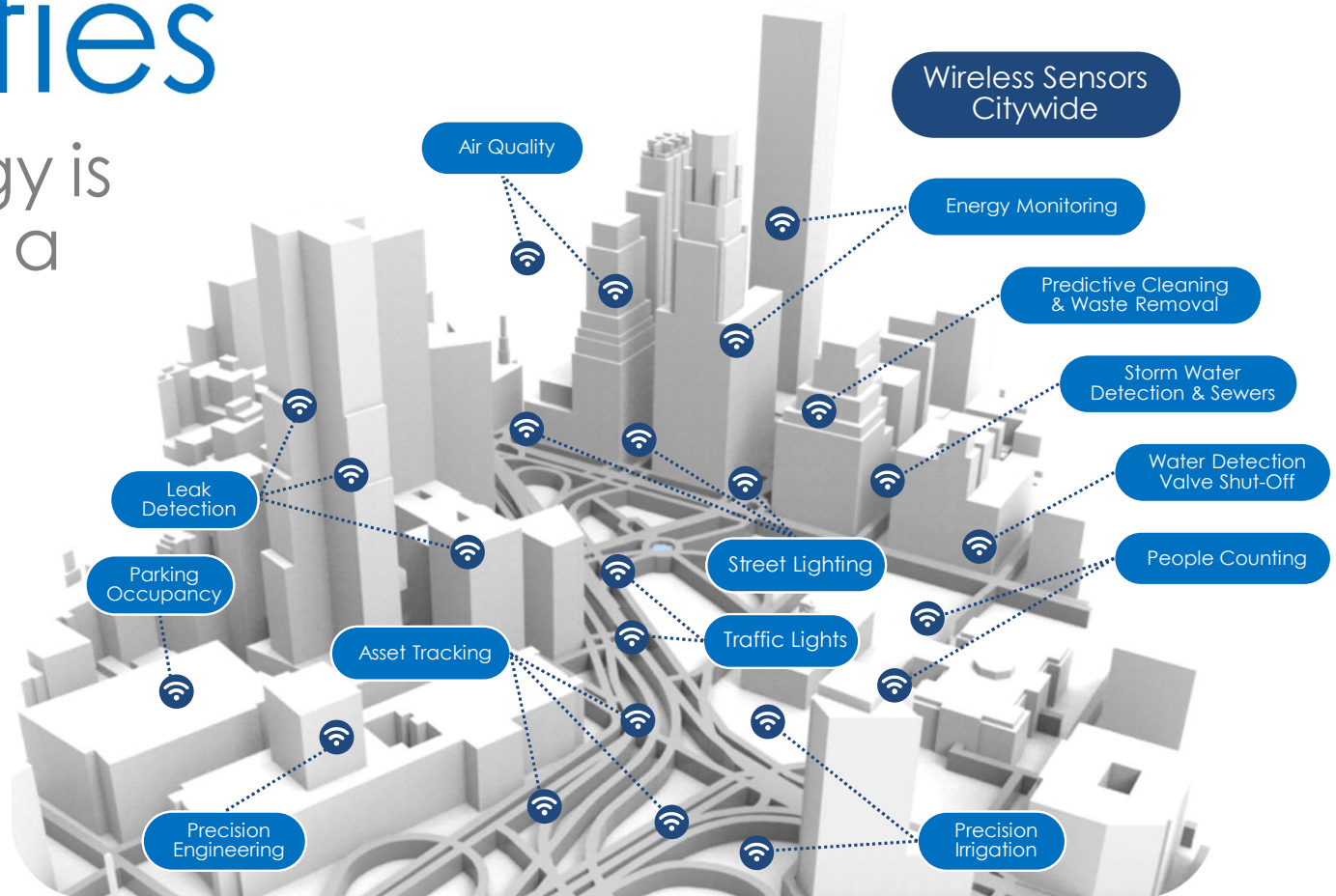
# LoRaWAN® network infrastructure for Smart Buildings

LoRaWAN networks provide instant building-wide coverage for thousands of sensors to simplify the management and control of critical building systems. MultiTech makes deploying your own LoRaWAN network easy with a choice of gateways and end-points plus cloud-based device and network management tools.



# Smart Cities

Wireless technology is leading the way to a sustainable future





## LoRaWAN® Wireless Sensors



# Transform your Building Management System

Seamlessly connect any LoRaWAN sensor to your BMS

Conduit® AP 300 series  
LoRaWAN Gateway



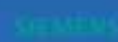
ASHRAE BACnet™

LoRaWAN to  
BACnet Objects

BMS Controller



BMS Controller  
Vendor Independent



# BACnet™ System Architecture

LoRaWAN®  
Wireless Sensors

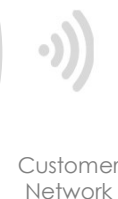


LoRaWAN BACnet  
Gateway  
—  
MultiTech  
Conduit® AP

Ethernet



Controller  
—  
Tridium  
JACE®



Customer  
Network



Dashboard  
—  
Building  
Management  
System (BMS)

[https://youtu.be/R\\_C3cOMDOPY?si=ZR3lmvdsnwf\\_Ol2fo](https://youtu.be/R_C3cOMDOPY?si=ZR3lmvdsnwf_Ol2fo)





## New Cellular Product Industrial Router & 5G

# New rCell 300 Series

## Cellular Industrial IoT Router

### 3X Improved Compute Performance

- **Quicker Installs & Staging**  
**Less Downtime & Disruptions**
  - Significantly improved boot up & firmware update duration
- **Protection from unauthorized access**
  - Secure Boot and dual-image partitioning
- **Improved Data Privacy and Security**
  - 3x Faster encryption for VPN connectivity
- **Broadband Low-Latency Performance**
  - Ethernet 90+ Mbit/sec
  - Cellular DL: 90+ Mbit/sec
  - UL: 45 Mbit/sec



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mPower  
EDGE INTELLIGENCE

# New rCell 300 Series

## Cellular Overview

- LTE Category 4 – Q2-2024 (*Global & North America SKUs*)
  - *Global:* MTR3-L4G2D
  - *North America:* MTR3-L4
- 5G NR RedCap – Planning during 2024

## Interfaces

- 2 x Ethernet (LAN + WAN for Failover & Fallback)
- 1 x RS232 & RS485
- 1 x RS232
- 2 x Digital Input & Output
- Optional: Wi-Fi 6 - max 8 devices

## Availability

- Alpha Samples - April 2024
- Mass Production - Fall 2024



# Case Study in Asia

# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

## ESS(Solar Panel Monitoring)

<https://qcells.com/us/>

qcells



# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

## Commercial Robot

: Serving robot, Delivery robot, Guide robot, Disinfection robot to sterilize





# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

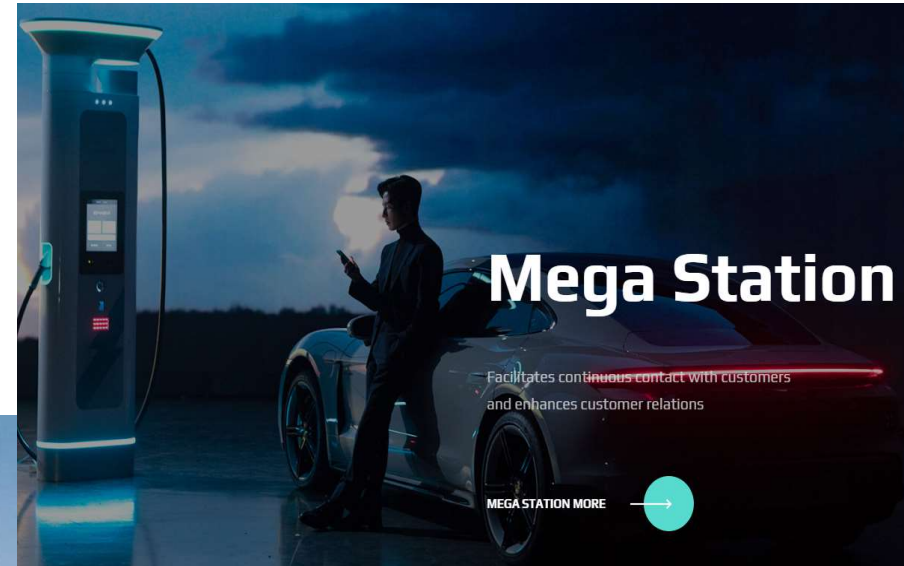
Develop

Manufacture

## EV charger in the US and EU

<https://chaevi.com/en/>

CHAEVI



# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

## Hyundai-Kefico

: Trustworthy Partner as Global Top Tier, As global Top Tier, Hyundai Kefico is committed to economic value as well as becoming a reliable partner for the environment society.

<https://www.hyundai-kefico.com/en/main/index.do>

HYUNDAI  
KEFICO

## EV Charger

EV charging technology advances the era of sustainable clean energy.



# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

**BMS**

<https://www.hyundaelevator.co.kr/ko/solution/product/elevator>



# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

## Agriculture

<http://www.gintl.com/>

MULTITECH





# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture



## Facility Monitoring

<https://lp.yokogawa.com/sushisensor/>



# INNOVATIVE COMMUNICATIONS FOR THE INDUSTRIAL IOT



Design

Develop

Manufacture

Hong Kong Government department, EMSD  
([https://www.emsd.gov.hk/en/home/welcome\\_message/index.html](https://www.emsd.gov.hk/en/home/welcome_message/index.html))







Simplifying the Connected Product,  
Connected Service Journey

# Thank You

for additional questions  
please contact:

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