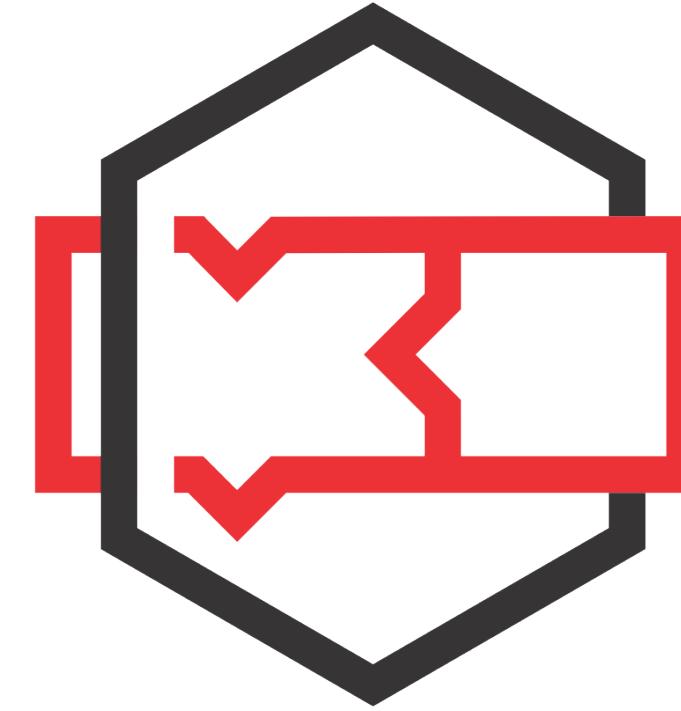


Blocklychain

A Decentralized IoT Platform

Presentation Deck

Dec. 2022, v1.7

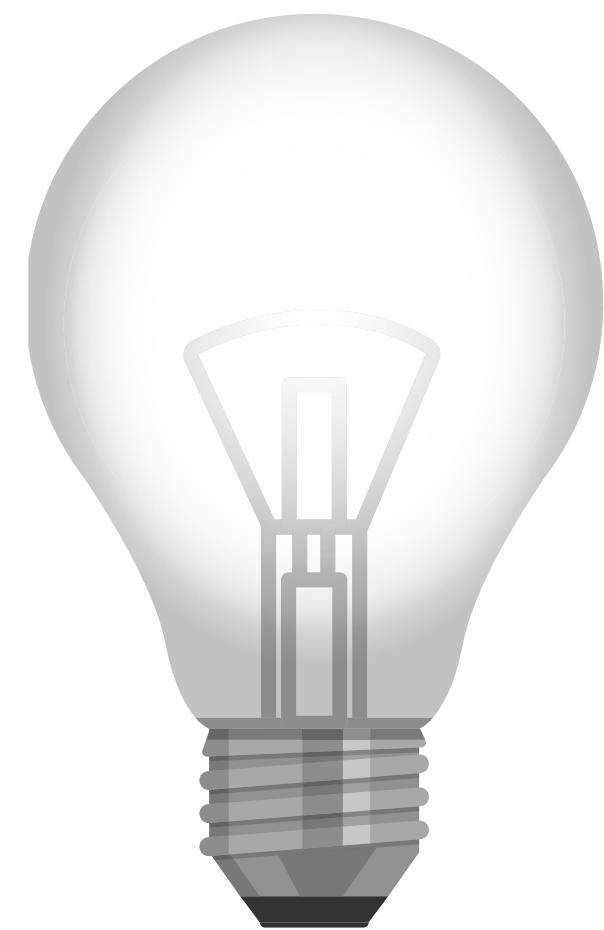


Blocklychain

A Decentralized IoT Platform

Blocklychain began in 2019 as a spin-off from different research labs across Canada to commercialize fundamentally different techniques so as to decentralize telecommunication networks. From a proof-of-concept to designing systems, Blocklychain is expanding into a wider range of applications and markets including IoT, smart home, wearable devices, and Blockchain by the Blocklychain platform.

Market



IoT Market Forecast

According to data published by Gartner, the global IoT market opportunity across endpoint electronics, communications services, edge device security, application software, infrastructure software and IT services will be 821\$ billion USD in 2025, up at a %16 CAGR from 2020.

Generated Data by IoT

According to data published by Medium, the volume of data in the world should reach 163 ZettaBytes by 2025 and IoT will generate most of these data.

Device-to-Device communication (D2D)

Blocklychain platform serves as an easy-to-use solution for device-to-device communication (D2D).

Worldwide Market

Anyone with Internet access and IoT devices can monetize their IoT data.

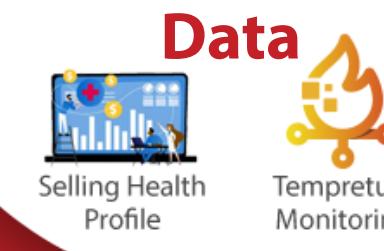
Monetizing IoT, Smart Home, and Wearable Devices on Blockchain



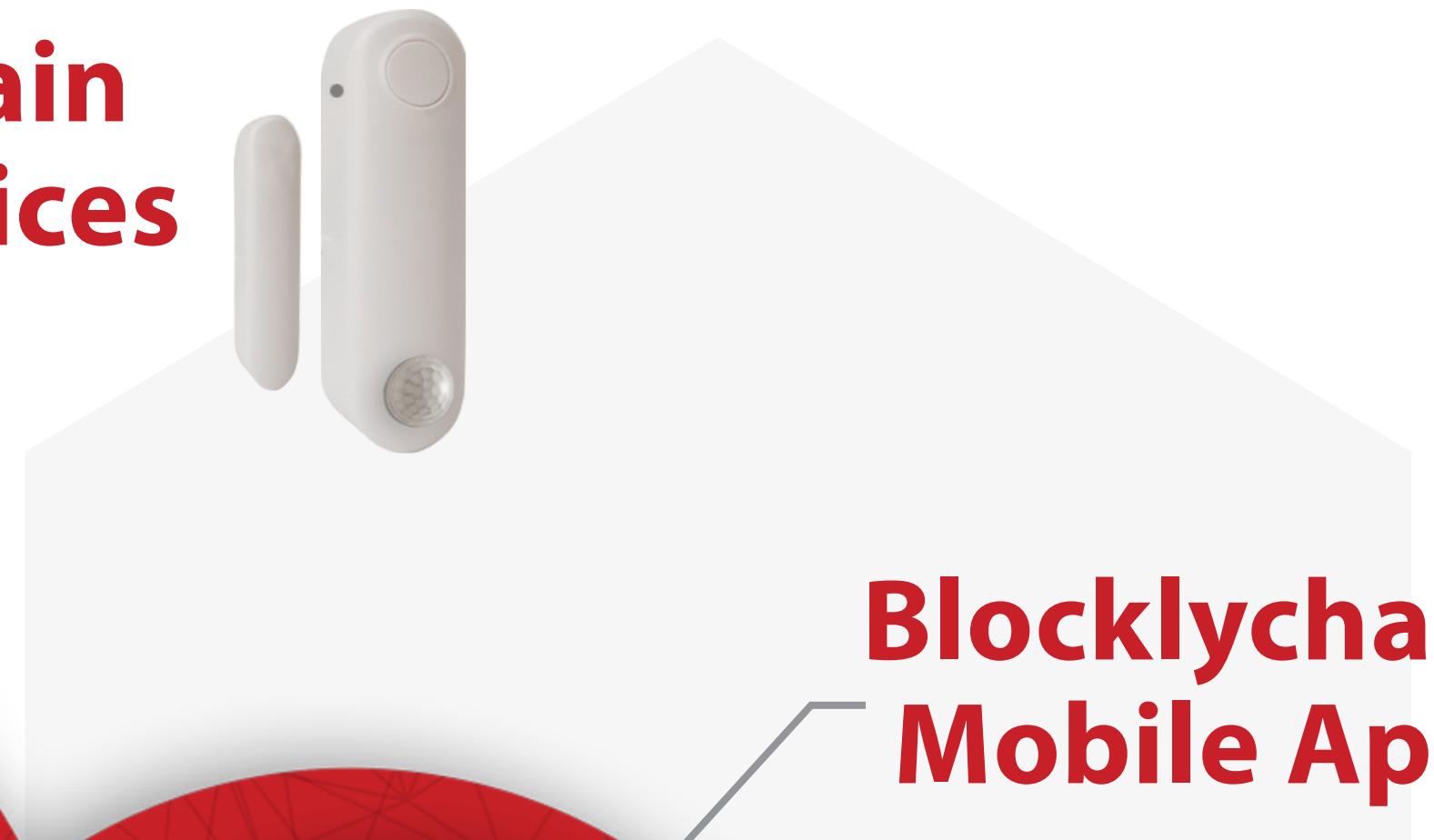


Blocklychain Web App

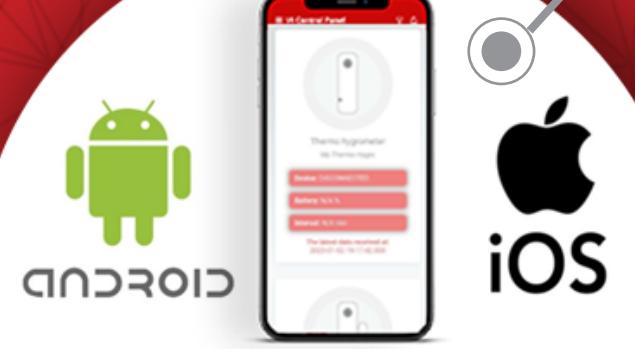
Service Market to Monetize Device



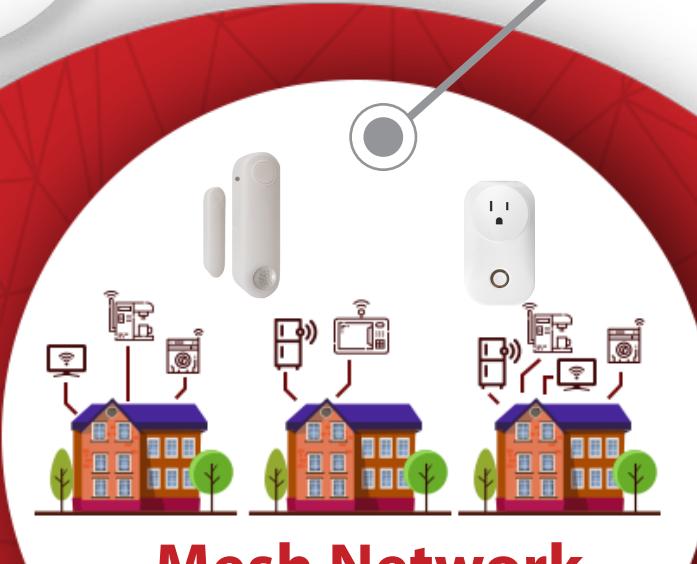
Blocklychain Smart Devices



Blocklychain Mobile App



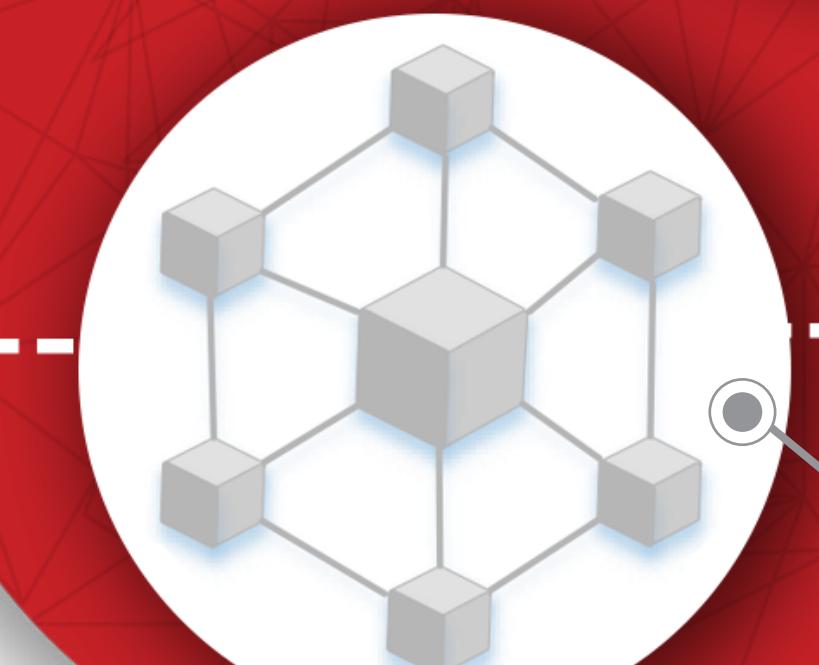
Control and Monitor Devices



Mesh Network

Compatible with
Amazon Alexa and
Google Home

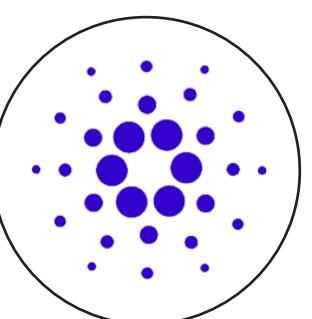
Blocklychain Platform



Blocklychain Node



Ethereum

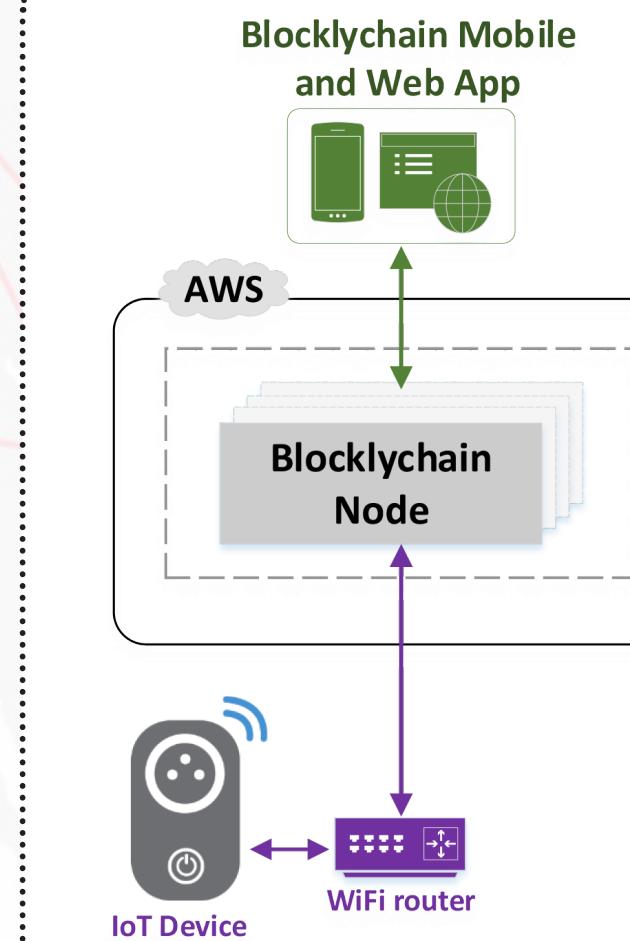


Cardano

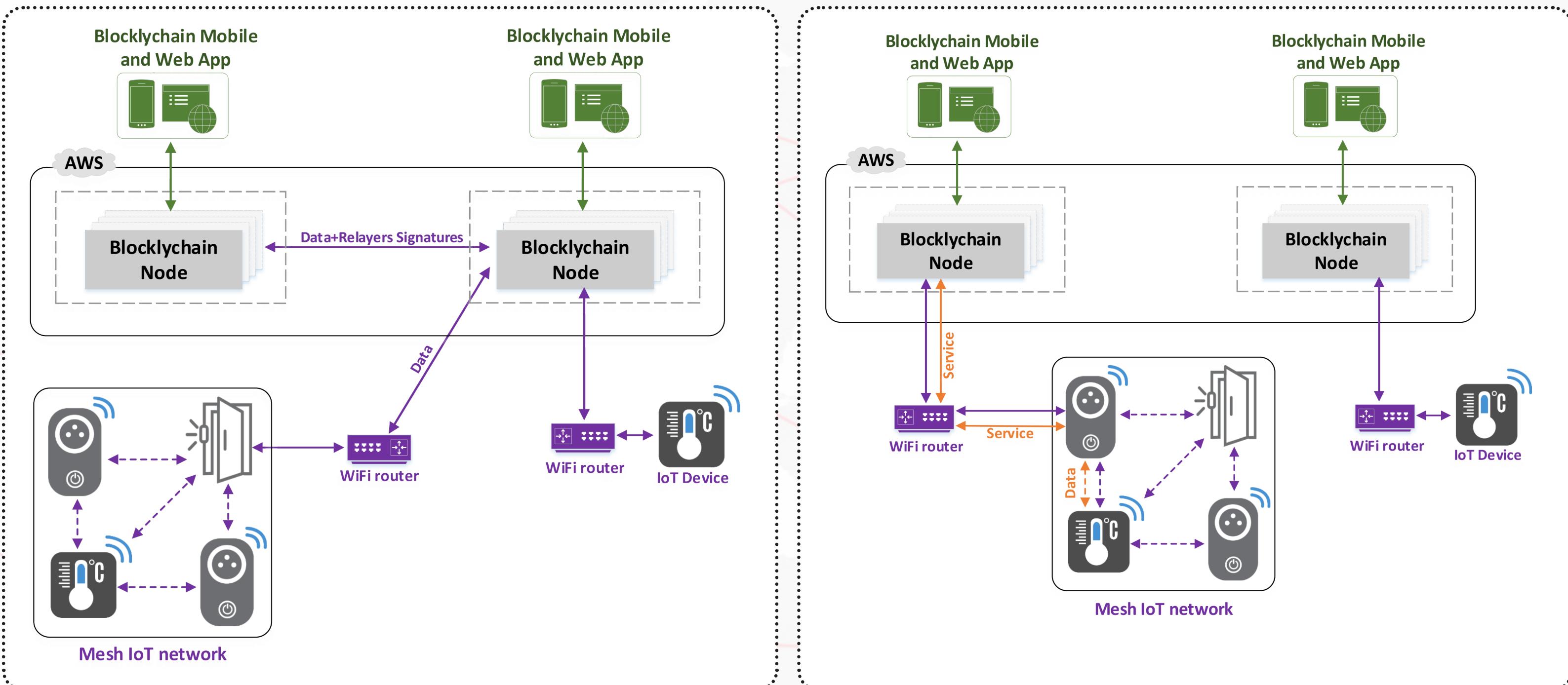
Blockchain Rosetta / Bridge

Blocklychain Architecture

Blocklychain Communication Modes



1-Direct Connection Mode



2-Mesh IoT Network (MIoTN) Mode

3-MIoTN + Blockchain Smart Contract Mode

Blocklychain Smart Devices Standards



Blocklychain is *Matter* and
Thread compatible

-  Matter is an industry-unifying standard that provides reliable and secure connectivity for smart-home devices. It is an IP-based connectivity protocol that works on Wi-Fi, Ethernet, and Thread transports with Bluetooth LE being used for commissioning. The Matter standard is defined by the Connectivity Standards Alliance in association with all the industry leaders.
-  Thread is a low-power and low-latency wireless mesh networking protocol built using open and proven standards. Thread solves the complexities of the IoT, addressing challenges such as interoperability, range, security, energy, and reliability. Thread networks have no single point of failure and include the ability to self-heal.

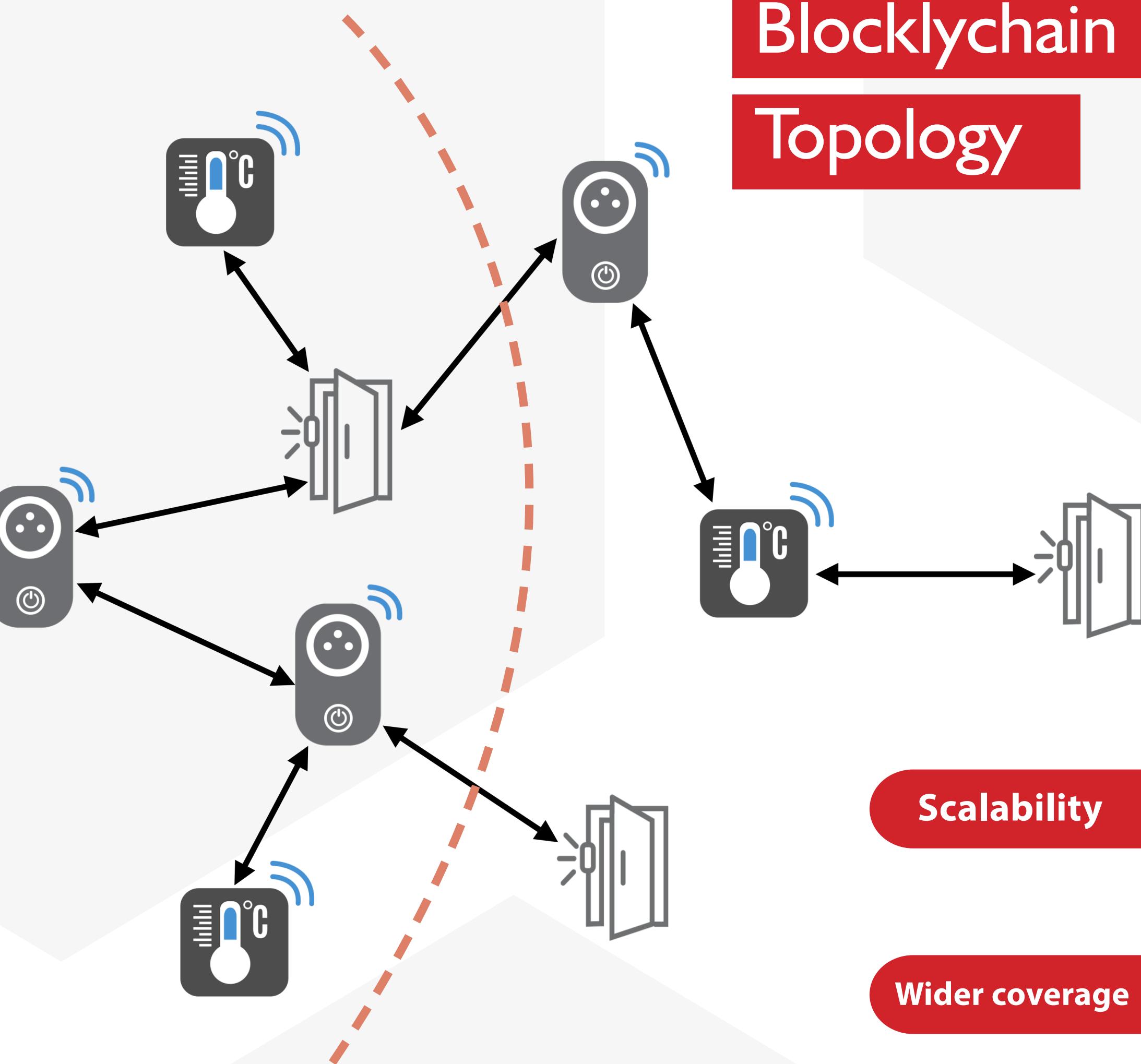
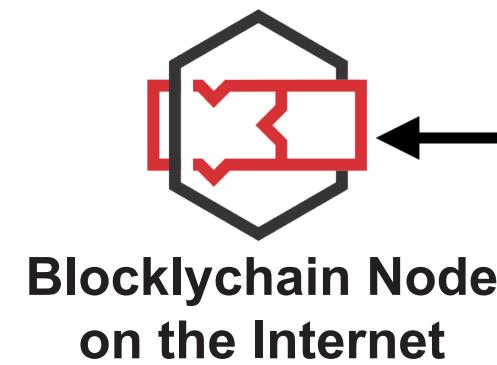
Mesh IoT Network (MIoTN)

Secure

Our IoT devices use standard WPA2 network security among the mesh nodes to ensure communication security.

Self-forming Mesh

Existing IoT devices connect to new ones automatically.



Blocklychain Mesh IoT Network Topology

Scalability

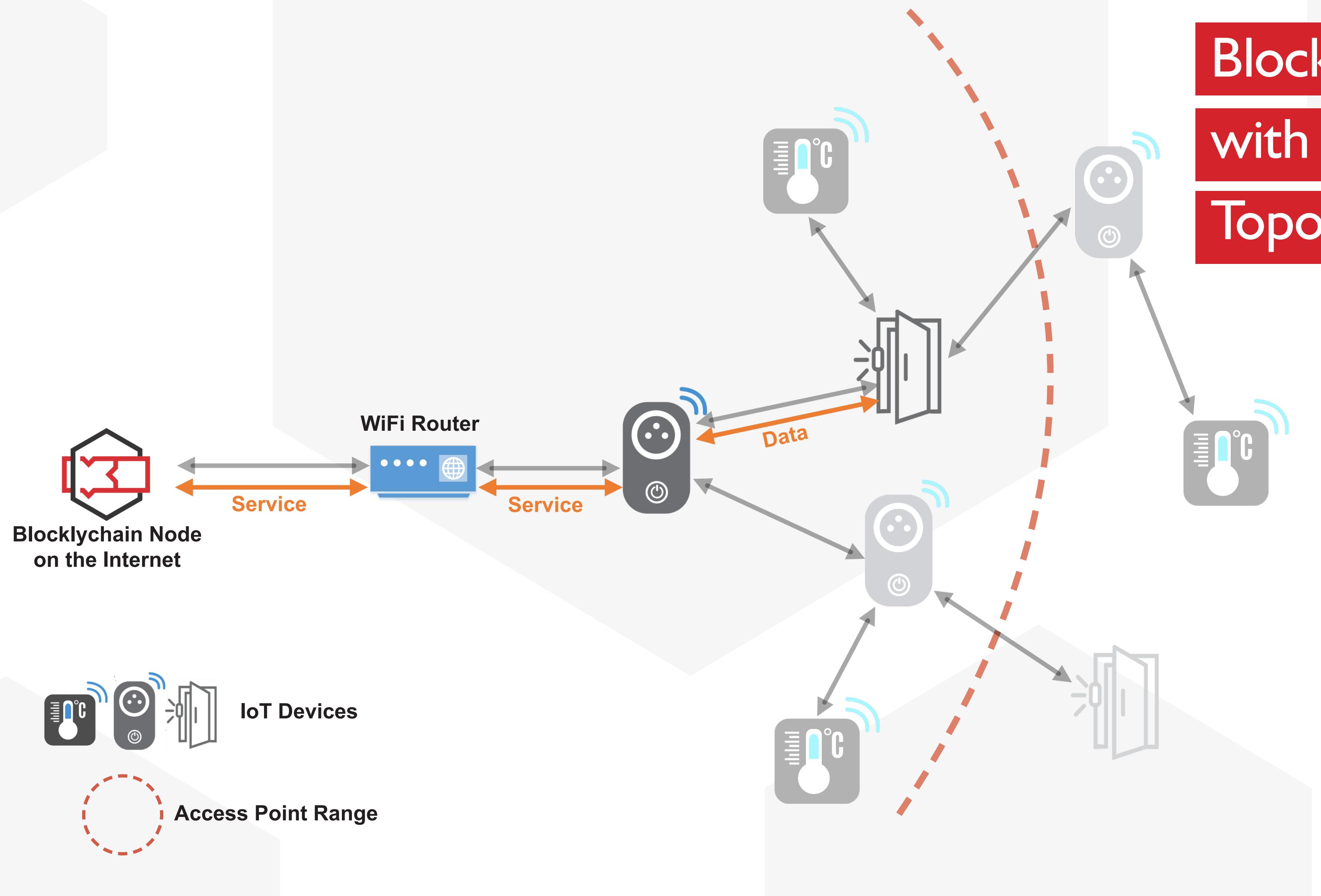
Up to 1000 IoT devices per mesh network.

Wider coverage

Topology expands in breadth and in depth with up to **200** meters between two IoT devices.

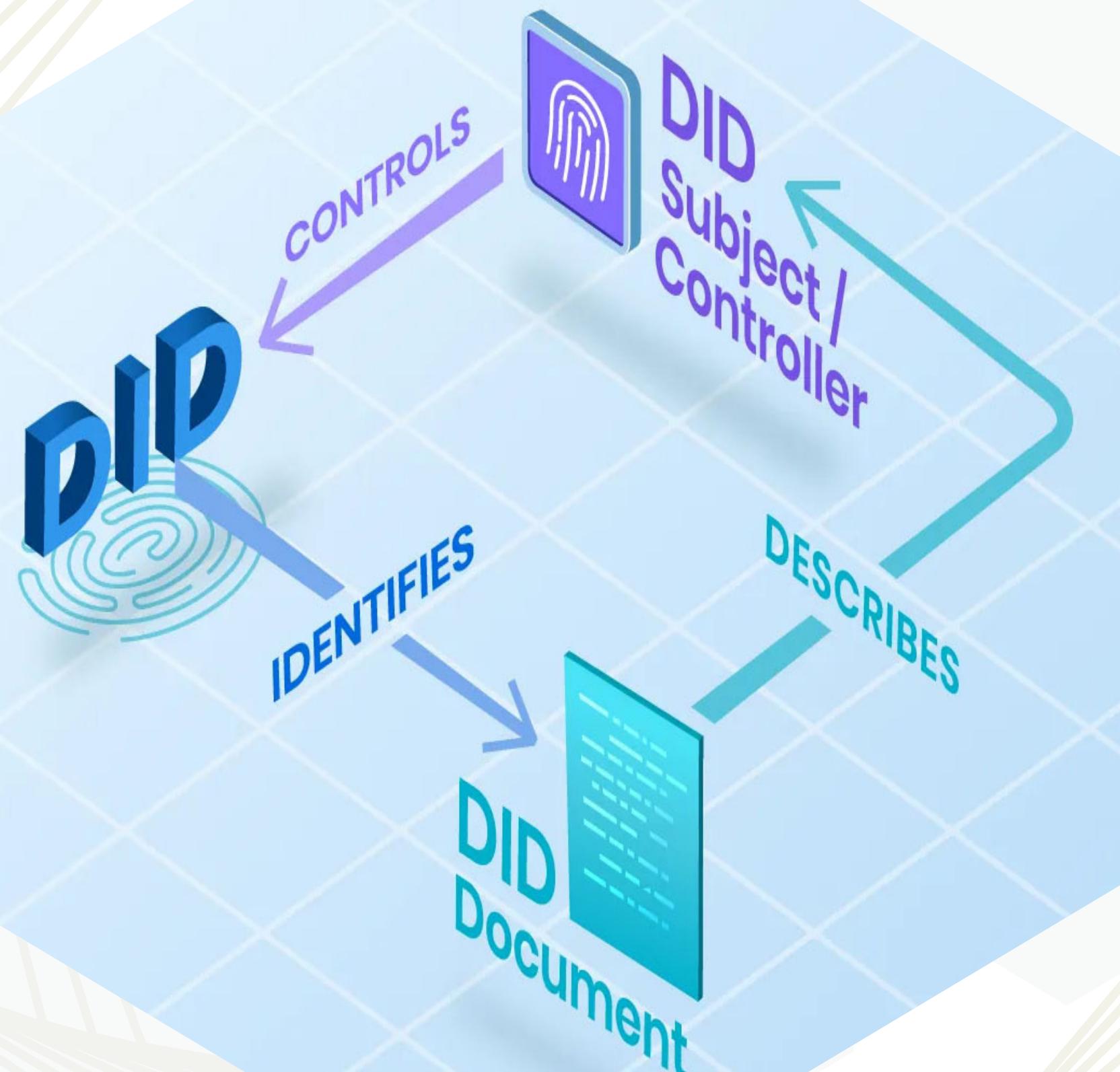
MIoTN+Blockchain Smart Contract

Blocklychain Mesh IoT Network
with Blockchain Smart Contract
Topology



Blocklychain DIDs (Decentralized Identifiers)

Blocklychain devices are identified in blockchain networks using their DIDs.



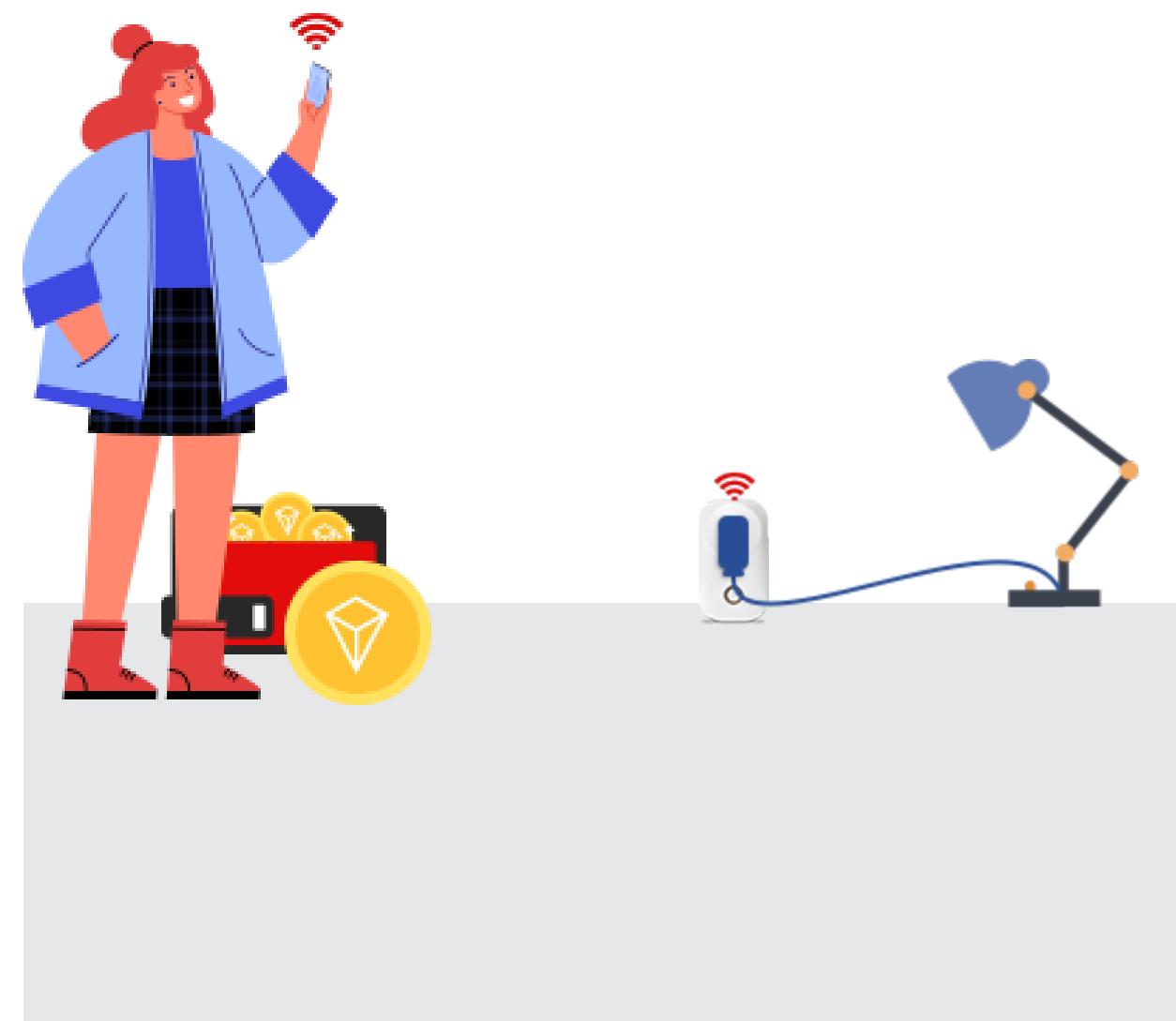
A decentralized identifier is a string that contains a URI scheme, DID method, and DID method-specific identifier. A DID example looks like this: `did:method:1234567890abcdefjhi`. Each DID is converted into a DID document containing the cryptographic material and other metadata for managing the DID.

Scheme
`did:BKC:123456789abcdefghi`
DID Method DID Method-Specific Identifier

3 Ways of Monetization in Blocklychain

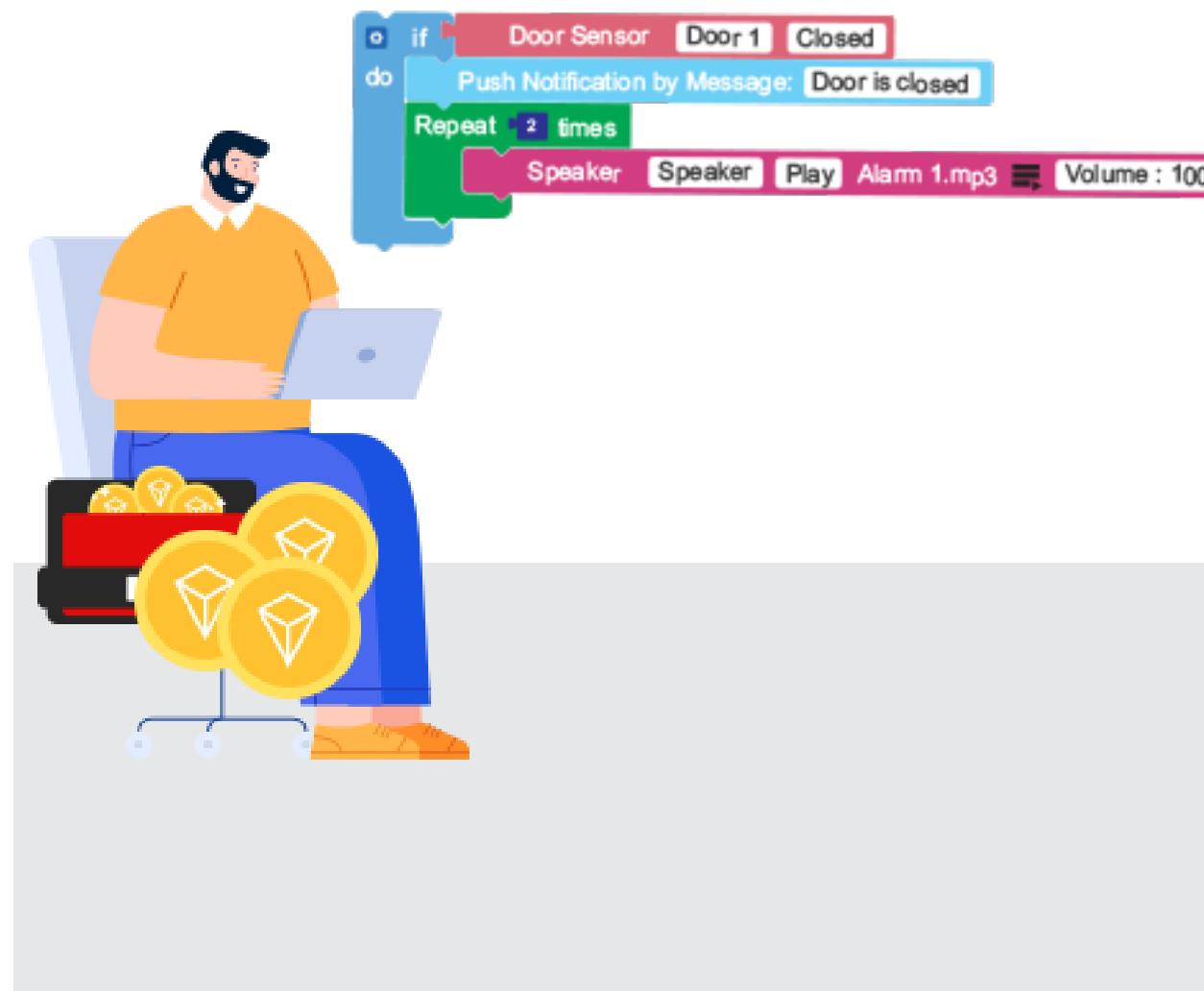
Monetizing IoT Devices

Blocklychain users install IoT devices (e.g., Smart Plug, Multi Sensor, Thermometer, etc.) and monetize their data or services.



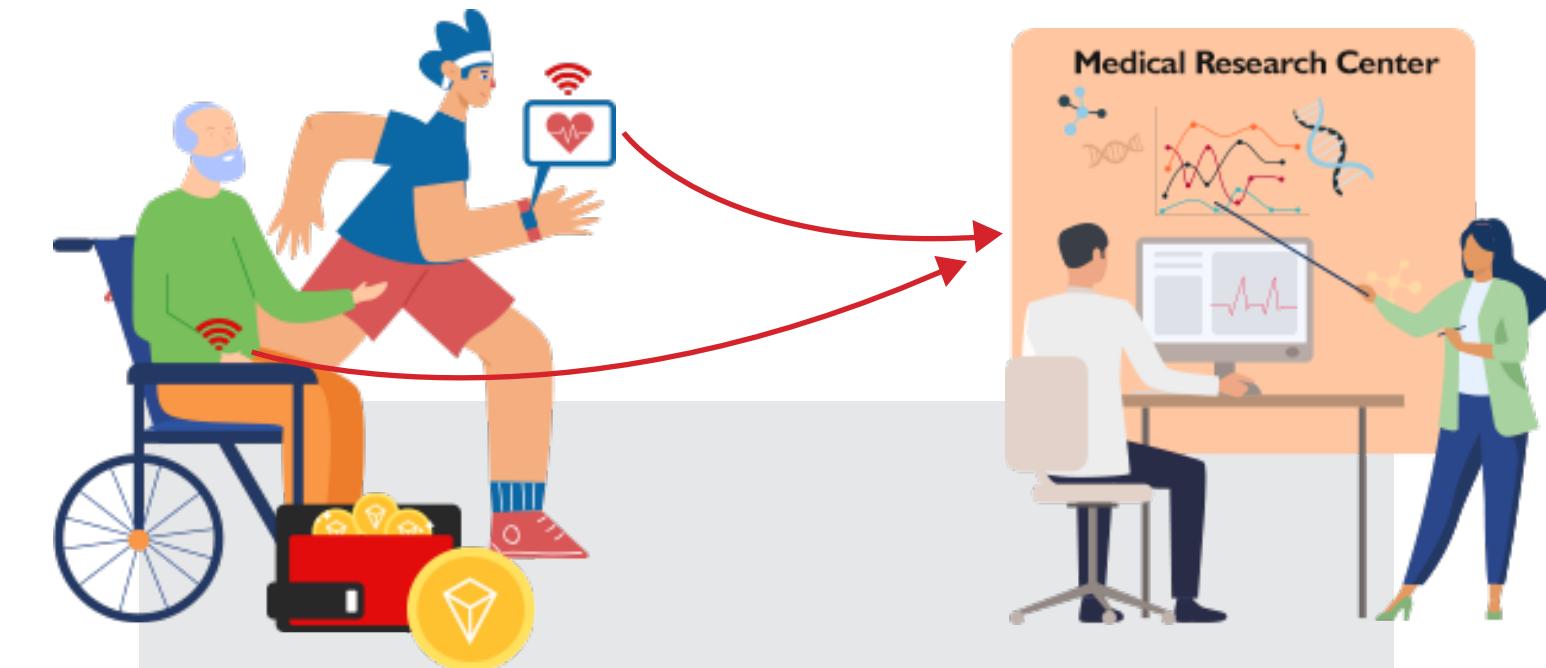
Programming IoT Devices

Blocklychain Web App lets users program new services for IoT devices. Moreover, upload them on Blocklychain Service Market to monetize their services.



Sharing IoT and Wearable Data

Users can simply monetize their wearable devices data. For example, a heart failure patient can monetize his heart rhythm data by sharing it with a medical research institute. Or, they can share their temperature sensor data with organizations that need a precise data for a given location.



Blocklychain Smart Devices



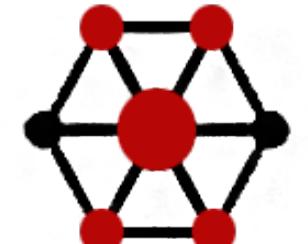
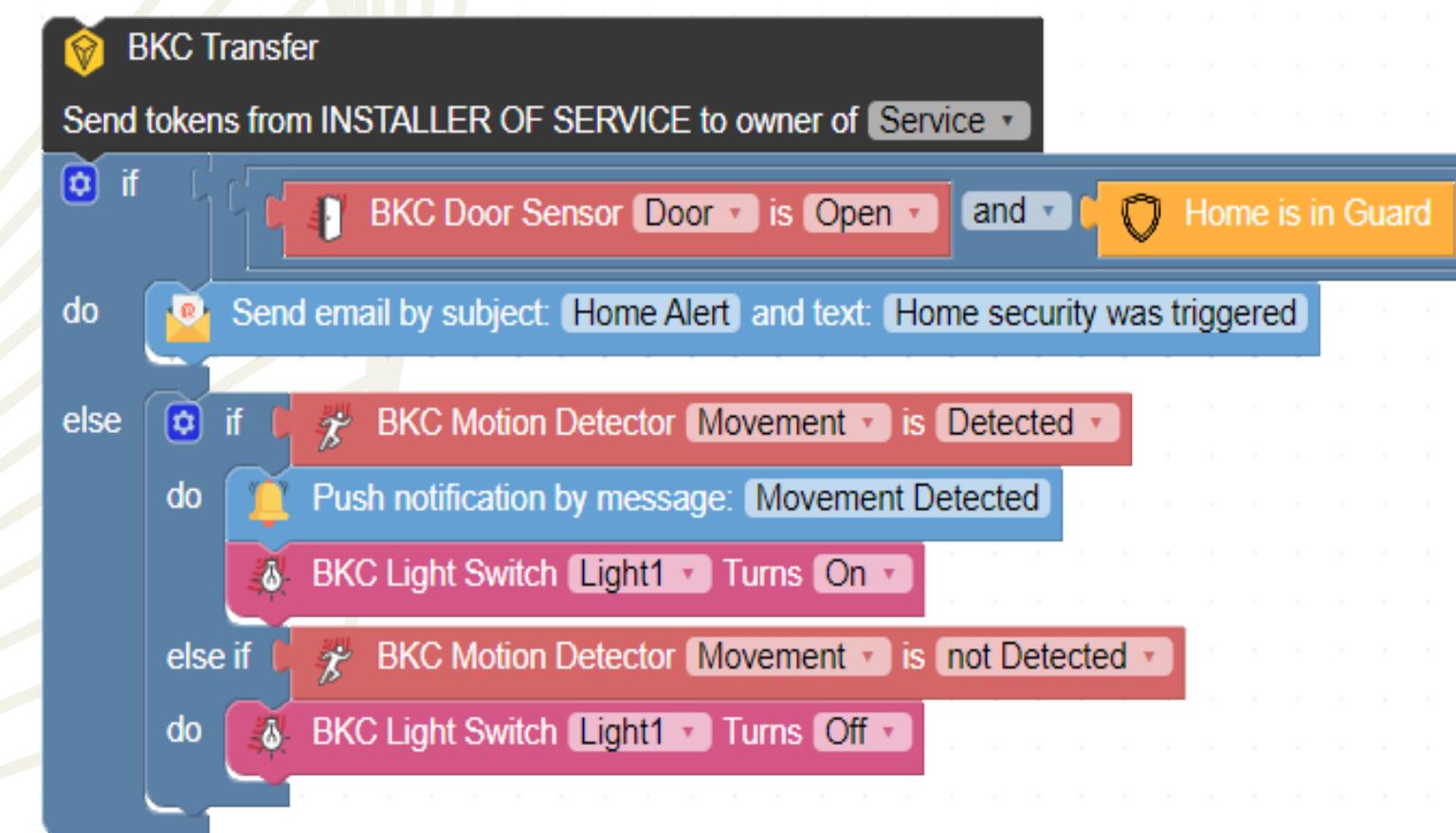
Blocklychain Smart Devices

Programmable Device

Mesh IoT Network

Monetizing Your IoT Devices

Blocklychain Smart Device is a complete IoT solution for smart home. This package includes Door Sensor, Motion Detector, Smart Plug, Thermometer Hygrometer, Smart Button, and Multi Sensor. All devices can be controlled and monitored through Blocklychain Mobile App. Also, they can send data to Blocklychain Web App for monetization purposes.



Mesh
Network



Programmable
Device



Monetizing
IoT Devices

Blocklychain Smart Devices



RISC-V enabled Blocklychain Smart Devices

Blocklychain Smart Devices Microcontroller

RISC-V is an open standard instruction set architecture (ISA) based on established RISC principles. Blocklychain Smart Devices are powered by ESP32-C3 that integrates a 32-bit core RISC-V microcontroller.





Blocklychain Smart Devices

Blocklychain Smart Devices Available to buy on



amazon.ca Hello Select your address All Blocklychain

All Buy Again Deals Store Best Sellers Prime Gift Ideas Gift Cards New Releases Coupons Beauty & Personal Care Kindle Books Home Books

Tools & Home Improvement Best Sellers Power & Hand Tools Lighting & Ceiling Fans Kitchen & Bath Fixtures Plumbing Safety & Security Smart Home Deals

Multi Sensor

\$40⁰⁰

Get up to 5% back at Amazon.ca for 6 months upon approval for the Amazon.ca Rewards Mastercard. No annual fee.

- Blocklychain Multi Sensor
- Programmable
- Easy to Use
- Wi-Fi 2.4GHz
- Monitor Anywhere, Anytime.
- Temperature sensor
- Humidity sensor
- Door sensor
- Motion detector
- Smart Button

Click to open expanded view

Report incorrect product information.

Product description

Multi Sensor is an all-in-one sensor package. It will send data related to the opening/closed states of the door or windows. Also, it can accurately measure the Temperature, Humidity, and Movement and send the data to Blocklychain App.

PROGRAMMABLE DEVICE: Using the BKC Control Panel, you can program your Multi Sensor to expand functionalities of your device. Blockly console in BKC Control Panel provides an easy-to-use platform to develop your services.

EASY TO USE: Blockly console in BKC Control Panel provides an easy-to-use platform for developing services.

amazon.ca Hello Select your address All Blocklychain

All Buy Again Deals Store Best Sellers Prime Gift Ideas Gift Cards New Releases Coupons Beauty & Personal Care Kindle Books Home Books

Industrial & Scientific Best Sellers Lab & Scientific Janitorial 3D Printing & Scanning Health & Safety Test & Measurement Deals

Industrial & Scientific > Test, Measure & Inspect > Temperature & Humidity > Temperature Indicators

Thermometer Hygrometer

\$35⁰⁰

Get up to 5% back at Amazon.ca for 6 months upon approval for the Amazon.ca Rewards Mastercard. No annual fee.

- Blocklychain Thermometer Hygrometer
- Programmable Device
- Easy to Use
- Wi-Fi 2.4GH + Rechargeable Battery
- Monitor Anywhere, Anytime.

Specifications for this item

Report incorrect product information.

Door Sensor

\$35⁰⁰

Get up to 5% back at Amazon.ca for 6 months upon approval for the Amazon.ca Rewards Mastercard. No annual fee.

- Blocklychain Door Sensor
- Wi-Fi + Rechargeable Battery
- Monitor Anywhere, Anytime.

See more product details

Report incorrect product information.

Product information

Technical Details

Additional Information



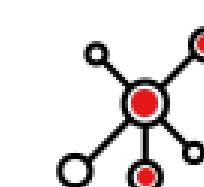
Monitor, Control, Your Smart Devices Data
Anywhere and Anytime

Blocklychain Mobile App

Blocklychain Mobile App lets users monitor and control their IoT devices. Blocklychain Mobile App is available on Apple App Store and Google Play Store.



High Rate
Usability



Access
Everywhere



Task
Oriented

Web App Feature



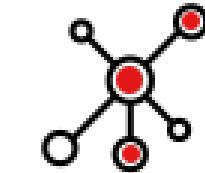
Monetize Your Smart Devices Data
Anywhere and Anytime

Blocklychain Web App

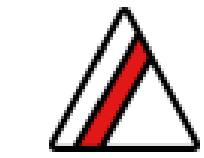
Blocklychain Web App is for writing Blocklychain Services and monetizing IoT devices data.



High Rate
Usability



Access
Everywhere



Task
Oriented

Web App Feature



Service Market

Blocklychain introduces Blocklychain Service concept to enable device owners to extend IoT device functionalities. Blocklychain Services are mini apps that add new features to IoT devices to monetize their data.

Using a Blocklychain Service, users can monitor the data and the state of an IoT device and send control commands to other IoT devices accordingly.

Blocklychain Services can be published on Blocklychain Service Market which is a gallery of different services. Users can browse the gallery and apply available services.

New Paradigm in Internet-of-Things



Blocklychain Service Market



Web App Feature

Service Creator

Service Creator is part of Blocklychain Web App to create Blocklychain Services and publish them on Blocklychain Service Market. Developing new services for the Service Market will bring users innovative ideas about monetizing their personal, health, and living area data to the real world. This means people can share their data with others and make money.

In the Service Creator section in Blocklychain Web App, users develop new services using;

◆ **Visual Console** which is a graphical development console empowered by Blockly language.

◆ **Coding Console** which is a text-based coding console empowered by a programming syntax similar to JavaScript.

Motion Detector

did:bkc:MUE6M0Q6NUM6MkU6OEQ6M0Y=



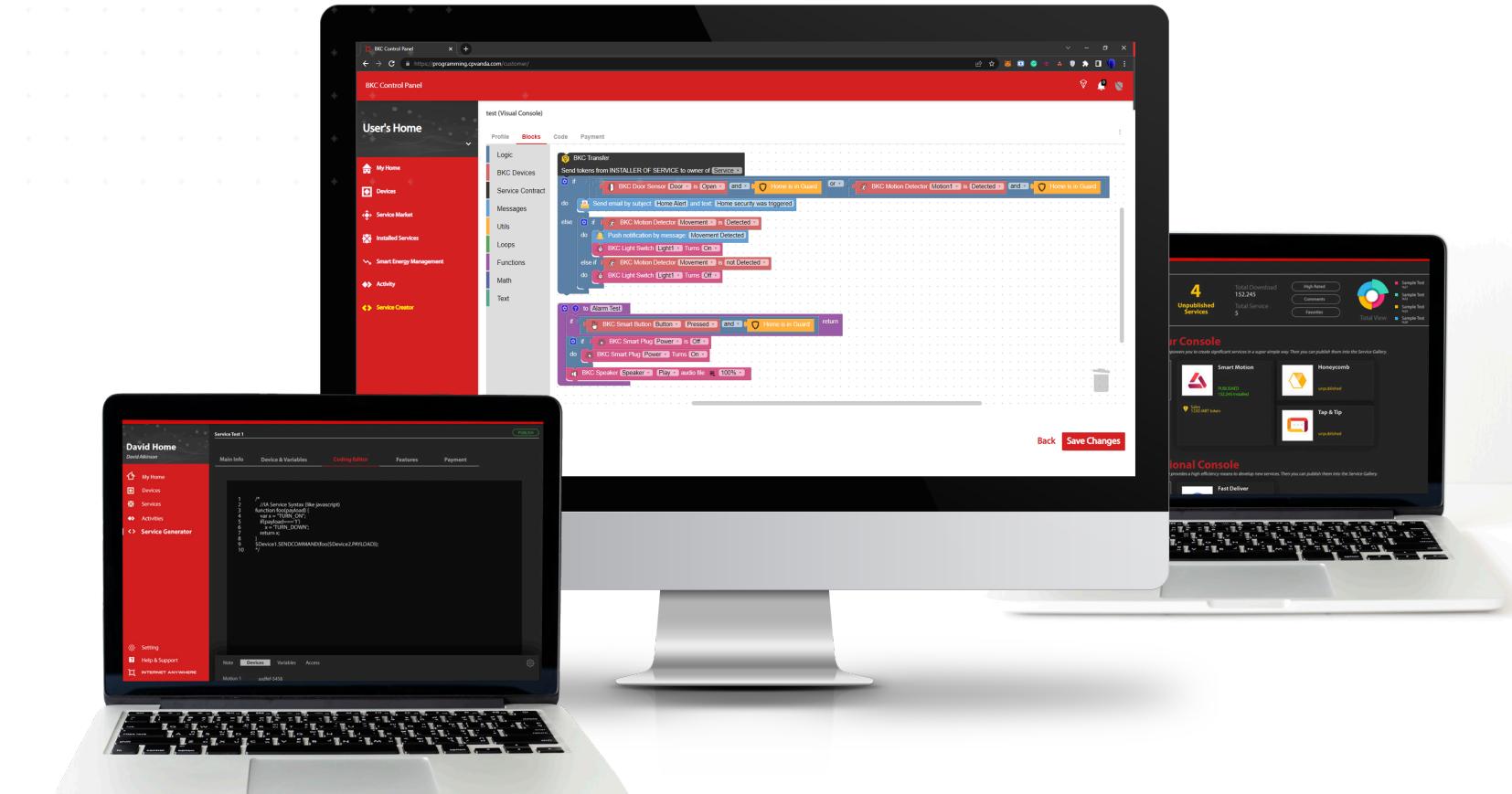
Smart Plug

```

BKC Transfer
Send tokens from INSTALLER OF SERVICE to owner of Service
if [BKC Door Sensor Door is Open and Home is in Guard] or [BKC Motion Detector Motion1 is Detected and Home is in Guard]
do [Send email by subject: Home Alert and text: Home security was triggered]
else if [BKC Motion Detector Movement is Detected]
do [Push notification by message: Movement Detected]
[BKC Light Switch Light1 Turns On]
else if [BKC Motion Detector Movement is not Detected]
do [BKC Light Switch Light1 Turns Off]

to Alarm Test
if [BKC Smart Button Button Pressed and Home is in Guard]
do [BKC Smart Plug Power Turns On]
[BKC Speaker Speaker Play audio file at 100%]

```





Web App Feature

Service Creator

For example, using Service Creator and a Blocklychain Thermometer Hygrometer, users can create the most accurate and comprehensive weather map from their living environment and sell the data online on the Internet to different companies such as environmental or hydro ones.





Thermometer Hygrometer
did: `bkc:MUE6M0Q6NUM6MkU6OEQ6NWE=`

```

BKC Transfer
Send tokens from INSTALLER OF SERVICE to owner of Service
if [BKC Door Sensor Door is Open] and [Home is in Guard] or [BKC Motion Detector Motion1 is Detected] and [Home is in Guard]
do [Send email by subject: Home Alert and text: Home security was triggered]
else if [BKC Motion Detector Movement is Detected]
do [Push notification by message: Movement Detected]
[BKC Light Switch Light1 Turns On]
else if [BKC Motion Detector Movement is not Detected]
do [BKC Light Switch Light1 Turns Off]

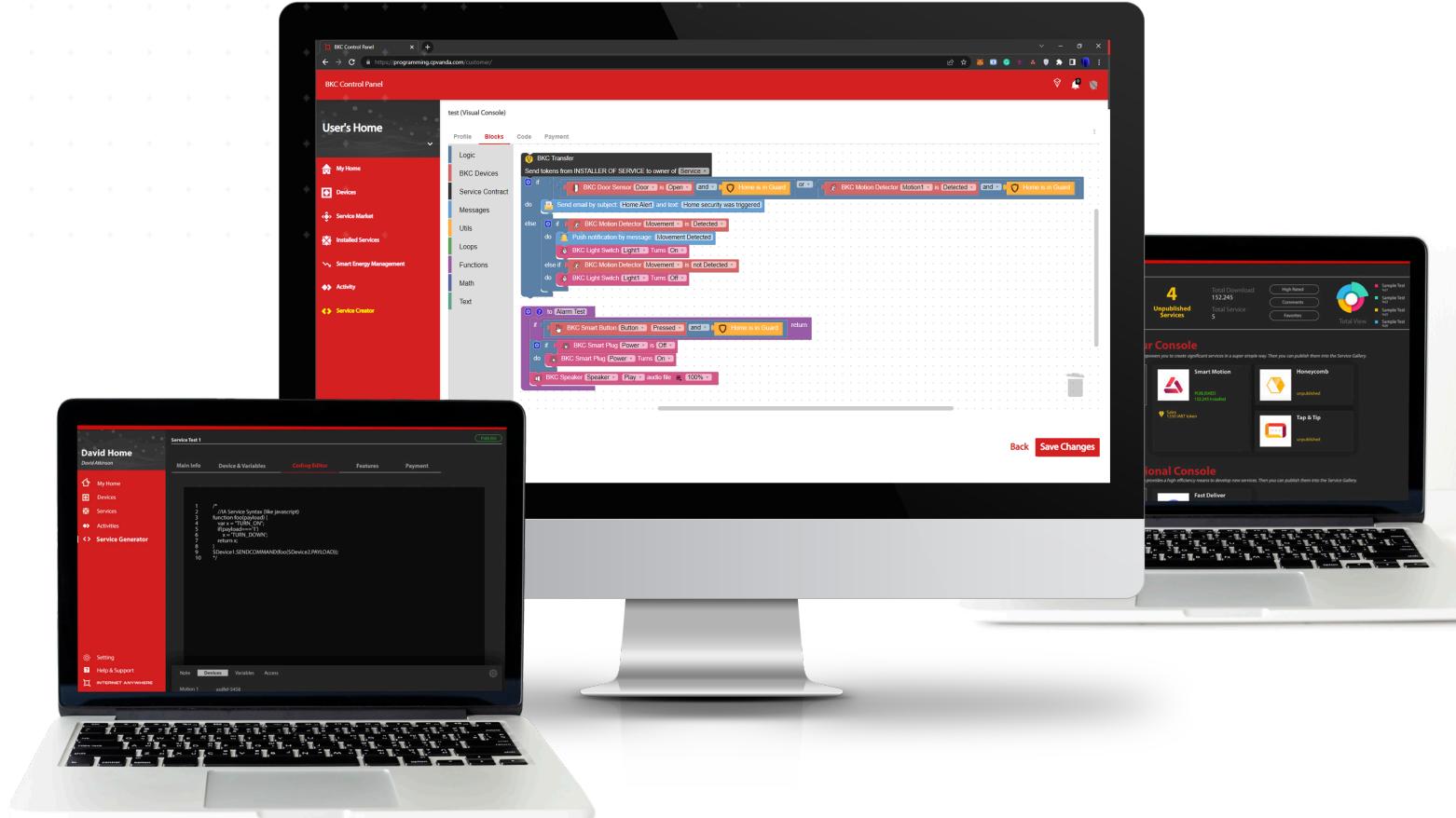
```



```

to Alarm Test
if [BKC Smart Button Button is Pressed] and [Home is in Guard] return
if [BKC Smart Plug Power is Off]
do [BKC Smart Plug Power Turns On]
[BKC Speaker Speaker Play audio file at 100%]

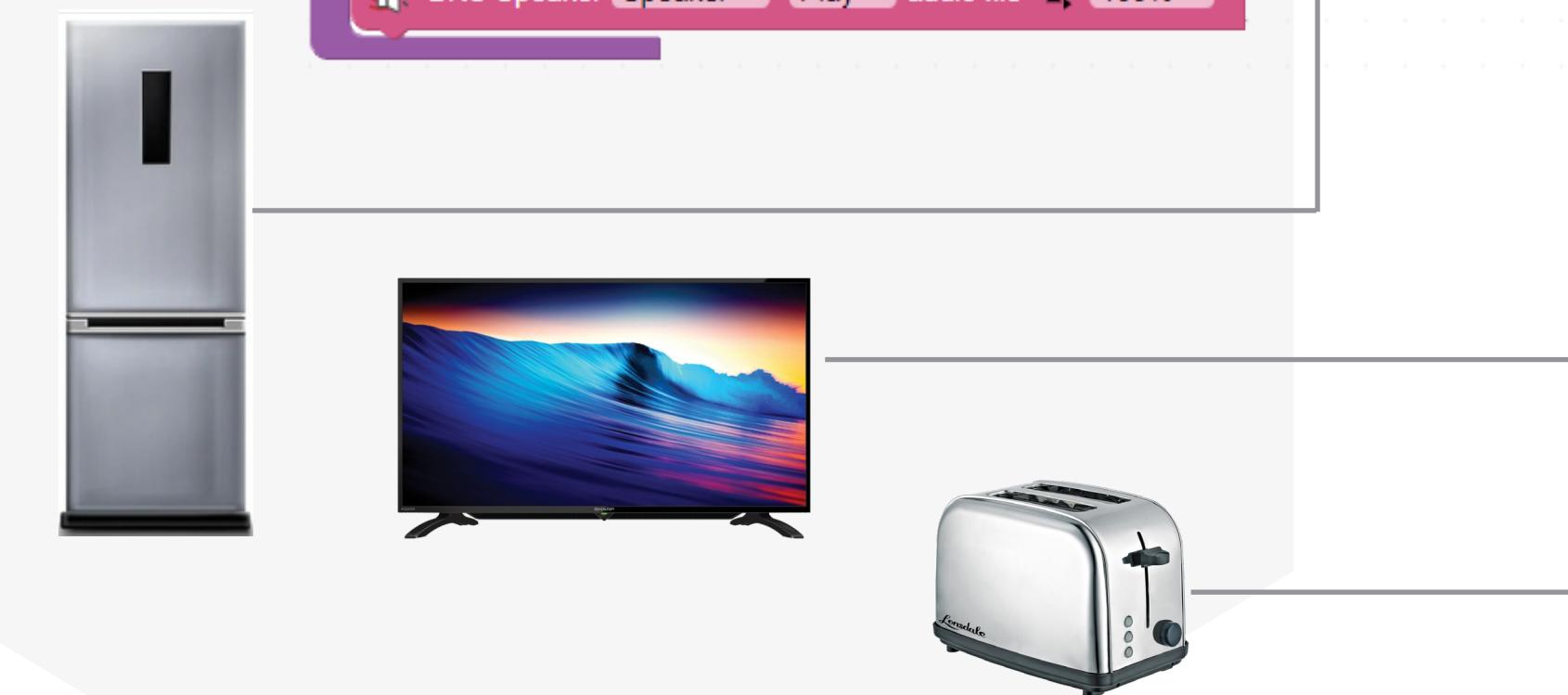
```



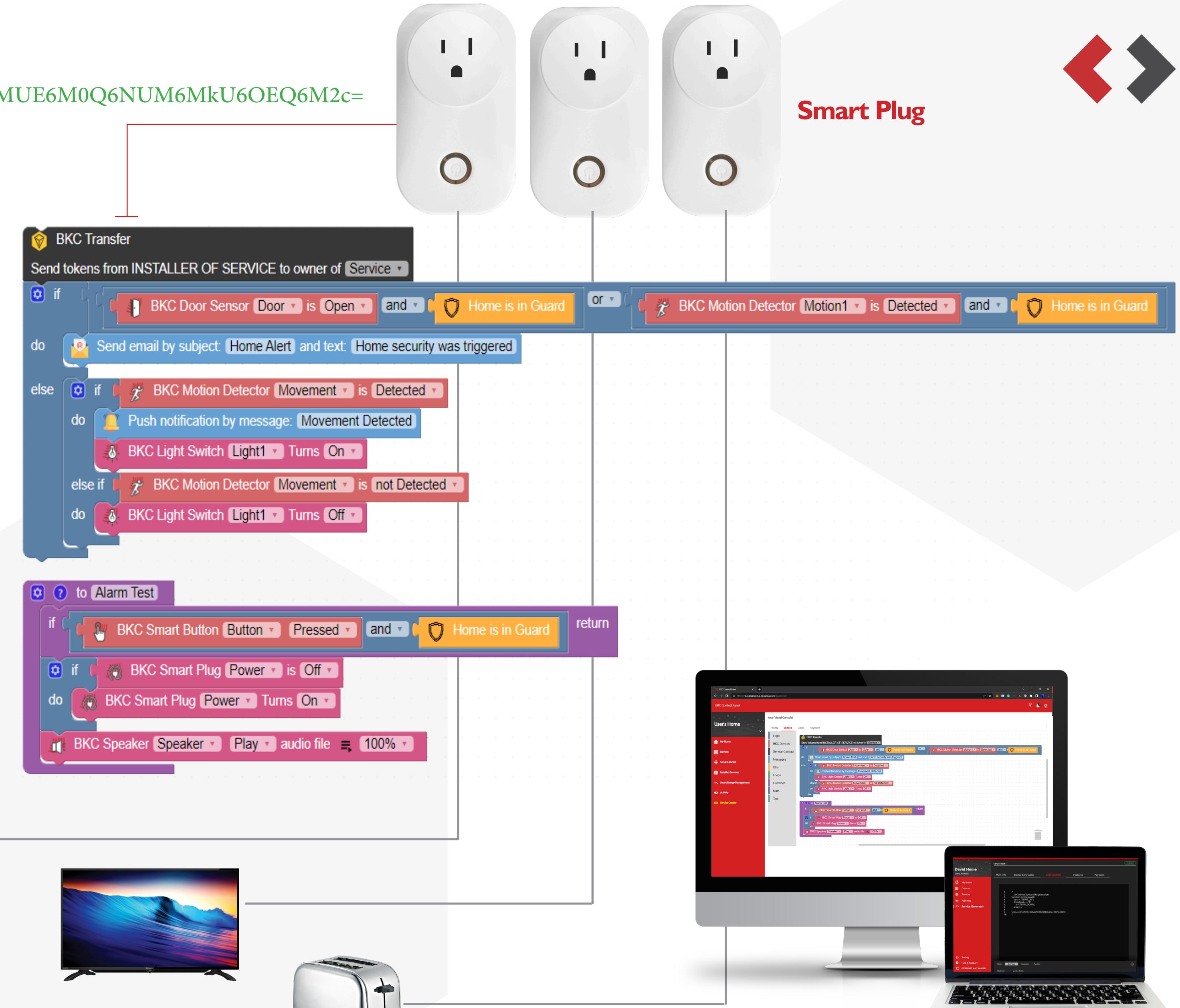
Web App Feature

Service Creator

Using Service Creator functionality and the power consumption monitoring feature which is available in Blocklychain Smart Plugs, hydro companies can identify which user smart plug is connected to what home appliances, determine the performance of the users' appliances remotely, and apply their reward programs online.



did:bkc:MUE6M0Q6NUM6MkU6OEQ6M2c=



Blocklychain Roadmap



1 Blocklychain-enabled IoT Device
- Developing Multi Sensor



2 Mobile App (Android, iOS)
Device management



3 Web App
Device management



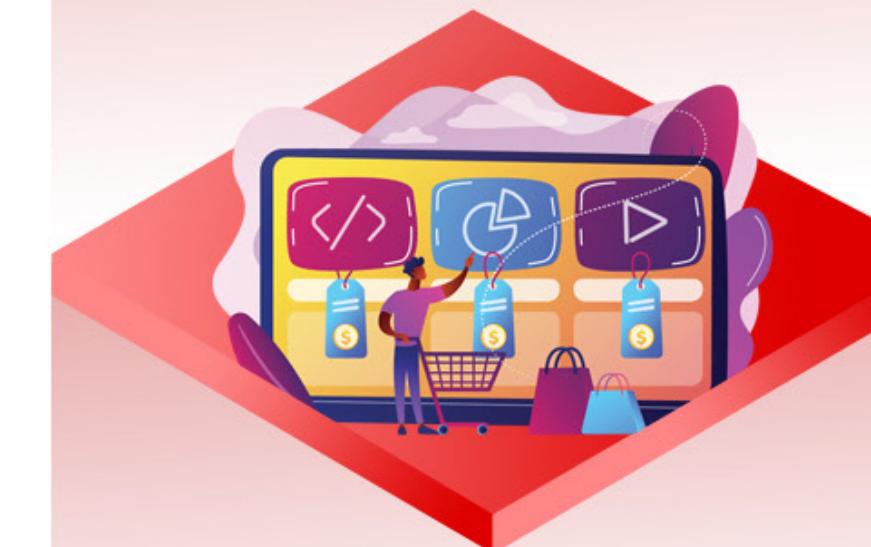
4 Blocklychain Node ver.1
Device management



4 Matter
- Adding Matter compatibility to smart devices
- Developing Mesh Network with Thread protocol



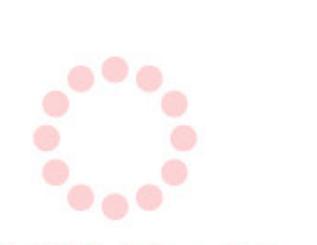
5 Decentralized Identifier
DIDs for devices and users

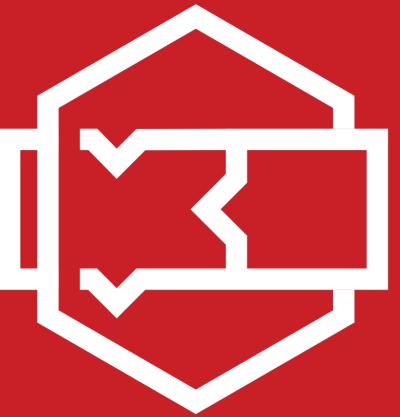


6 Blocklychain Service Market
- Monetize device data and services
- Create bridge to layer 1 blockchains



7 Blocklychain-enabled Wearable Devices
Developing communication method





Blocklychain

A Decentralized IoT Platform

Website > www.blocklychain.io

Email > info@blocklychain.io



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