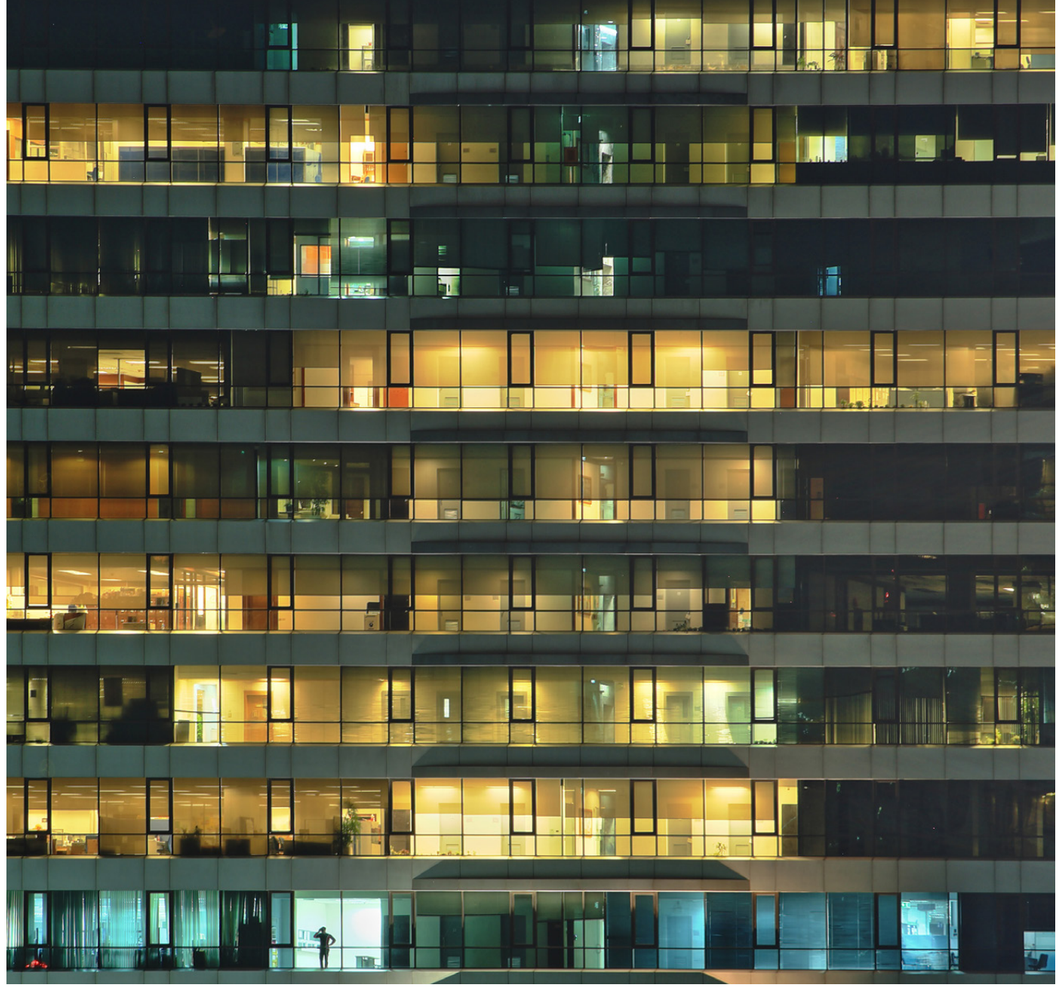
nextDrive

無處不在，無所不能：
以物聯網打造能源韌性城市

區域能源管理解決方案



科技始於人性，而文明建立於能源發展。

每一次的能源典範轉移，都轉動著新時代的巨輪。如同煤與蒸汽機推動工業革命、石油與內燃機驅使重工業發展。在未來 2025 年，台灣能源將進入永續能源的篇章，但在此之前，城市的基礎建設、電網架構，勢必需要數位轉型以奠定未來科技發展的基石。

NextDrive 區域能源管理，提供不同場域類型的 Home Area Network 能源管理解決方案，使能源「可視」、「可控」、「可預測」、「可調度」，藉由 IoE (Internet of Energy) 科技打造分散式、具備反應能力的彈性能源物聯網平台。

以智慧城市層級，佈局能源加值產業發展

2021 年躉售與綠電憑證獲利能力開始交叉

過往太陽能成長動能來自於政府提供的高額躉售回饋，然而隨著太陽能發電占比逐漸提升，能源補助終有停止的一天。回歸市場機制，太陽能使用情境將擺脫躉售模式，成為各區域能源自給自足的主要電力來源。

60 萬憑證需求 v.s. 5 千憑證供給

其電力除自發自用外，產電期間所產生綠電憑證也將成為綠能市場延伸商品。供應企業發展 RE100 綠能目標所需，實現「城市發展」、「綠能永續」、「低碳經濟」的全新智慧能源城市願景。

市民參與，共享綠能

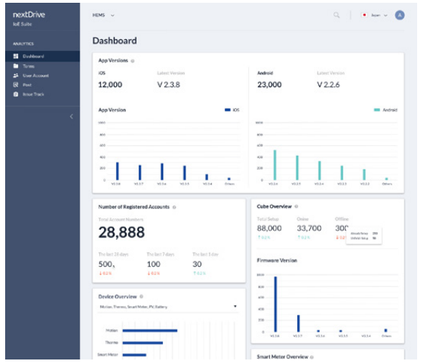
匯集區域內住戶白天超額供給能源，提供公共建設、電動車停車場、商業辦公與商場場域等用電需求，建構城市級別的 Energy as a Service 綠能服務，並將費用回饋給共享電力之市民，打造善用每度電的正向經濟循環。

NextDrive 全方位能源物聯網平台

能源管理系統

Ecogenie 家庭能源管理 App

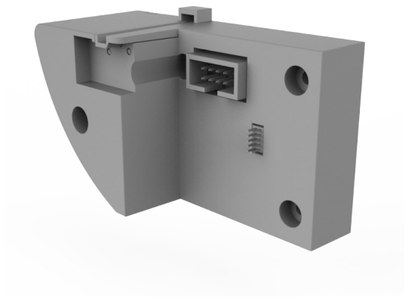
Ecogenie 幫助用戶即時掌握電力費用，並整合太陽能、蓄電池等能源裝置，讓用戶一目了然家中能源狀況。此外亦可遠端控制、定時排程冷氣、熱水器、燈具等電器，同時提供智慧能源與智慧家庭兩種服務。



IoE Suite 能源管理系統

匯流所有能源數據、裝置資訊、與系統紀錄，我們提供客戶一站式的平台管理服務，幫助客戶聚焦問題，洞察數據，化為行動。

能源管理裝置



Route B 通訊介面單元

相較於智慧電表電力公司端的 FAN, NextDrive 開發之 Route B 通訊介面單元，最快可「每秒更新」一次用電數據。則可作為 HAN 家庭能源網路通訊，安裝於智慧電表中搭配閘道器，即可取得即時電力資訊。

智慧能源 / 數據閘道器

NextDrive 開發之閘道器整合 Wi-Fi, Wi-SUN, BLE, ECHONET Lite 等多元通訊技術。確保電力數據妥善安全的保存，並即時傳送至用戶手機中。並可透過 NextDrive 開發之 App - Ecogenie 操控 Cube，實現手機遠端控制家電等智慧家庭應用。

能源數據服務

能源數據，還權於民

在電力自由化的日本，電力數據已開始大量運用在第三方的商用服務。例如「電力資料情報銀行」的概念，在取得用戶許可並提供相對應報酬的前提下，將用戶去識別化的電力資料進行儲存及利用。

未來電力公司結合能源服務商與物聯網業者，便可自動化調控住戶的大型用電裝置，如電熱水器、大型空調、蓄電池等等，並根據節省下的電力用量給予住戶回饋。其中開放的即時電力資料平台，便成為串聯起能源生態系的橋樑，共同創造更加彈性多元的能源管理方式，促使「電力公司」、「能源服務業者」與「電力用戶」三贏，創造經濟、社會、城市升級，人人受惠的能源韌性城市

Taiwan

contact@nextdrive.io

8F, No.8, Lane 47, Sec 3, Nangang Rd,
Nangang Dist, Taipei City 115, Taiwan

115台北市南港區南港路三段47巷8號8樓

Japan

salesjp@nextdrive.io

3-19-22 Nishiazabu, Minato-ku, Tokyo
Japan, 106-0031

106-0031 東京都港區西麻布 3-19-22

nextDrive

www.nextdrive.io

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Energy is Everywhere: Establishing Energy Resilience Cities through IoE Technology

NextDrive Community Energy Management System

Technology comes from humanity while civilization is built on energy development.

Every time when an energy paradigm shifts, it opens up a completely new era. Similar to how coral and steam engines helped to power the Industrial Revolution, and how fuel and internal combustion engines promoted heavy industry development. In 2025, Taiwan is going to enter a world of sustainable energy. But before that, cities' infrastructure and power grid must go through digital transformation to build a solid foundation for future technology development.

NextDrive's Community Energy Management System provides Home Area Network for energy management solutions, enabling energy to be visualized, controllable, predictable, and dispatchable. Through the help of IoE (Internet of Energy) technology, we create a distributed and resilient IoE platform that possesses response capabilities.

Blueprinting Value-Added Energy Industrial Development with Smart Cities

Profitability of Wholesale & REC (Renewable Energy Certificate) Intersect in 2021

In the past, solar energy growth relied on a great number of wholesale rewards provided by governments. However, with the increasing percentage of electricity generation from solar energy, there would be a day when energy subsidies are suspended. In a market mechanism, the solar energy scenario would eventually abolish wholesale mode and become the major electricity resource for self-sufficient regional energy.

REC: 600K Demand v.s. 5K Supply

Besides the generated and utilized electricity, the REC (Renewable Energy Certificate) from electricity generation will also become an extended product in green energy markets. It supplies RE100 green energy goals for business development and realizes the vision of a new smart energy city that acquires "city development", "sustainable energy" and "low-carbon economy".

Citizens' Participation, Sharing Green Energy

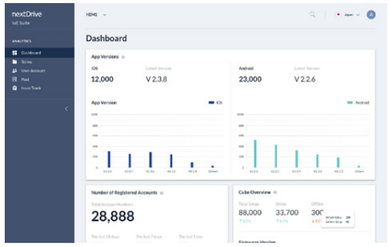
The excess generated energy from each community can be collected and provided to public facilities, EV (electric vehicle) parking lots, office buildings and shopping malls. It builds up a city-level "Energy as a Service" and offers fee refunds for citizens who share their electricity, creating a positive economic cycle of making the best of energy usage.

NextDrive All-Round IoE Platform

Energy Management System

Ecogenie — Home Energy Management System App

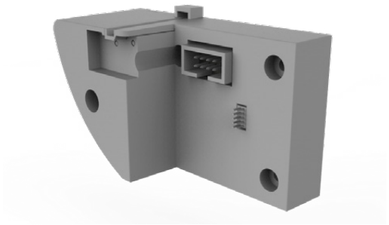
Ecogenie assists users to record electricity bills in real time. It integrates solar energy, storage battery and other energy devices and visualizes users' home energy consumption. Besides, Ecogenie provides both smart energy and smart home services such as remote control, scheduling air conditioners, water heaters, lighting fixtures and other appliances.



IoE Suite — Energy Management System

Integrating all energy data, device information, and system records, we provide customers one-stop platform management services to help them focus and act on the issues and data.

Energy Management Device



Route B Communication Interface Unit

Compared to smart meter electricity company's FAN, NextDrive's communication interface unit, Route B, can update electricity data in "seconds". It can apply in HAN home energy network communication and be installed in smart meters with gateways to obtain immediate electricity information.

Smart Energy / Data Gateway

NextDrive's gateway integrates various communication interfaces such as Wi-Fi, Wi-SUN, BLE, ECHONET Lite, ensuring that power data is stored properly and safely, and is instantly transmitted to users' mobile phone. Users can easily manipulate Cube through NextDrive's app—Ecogenie to remotely control home appliances with their smartphones and realize a smart home.

Energy Data Services

Energy Data, Return Power to the Society

Under Japan's electricity deregulation, electricity data has started to apply considerable third-party business services. For instance, the "Electricity Information Bank" concept is to store and utilize users' de-identified electricity data with their own permission and corresponding remuneration.

In the future when electricity companies combine both energy service providers and IoT operators, residents' large-scale electrical devices such as water heaters, large air conditioners and batteries would be automatically regulated. Besides, residents would be refunded according to the reduction of electricity consumption.

Our energy information platform would become a bridge that connects the entire energy ecosystem, builds up more resilient and diversified energy management. This is a win-win-win situation for "electricity company," "energy service providers" and "energy consumers". Updating our economy, society and cities, we are going to create an energy resilience city that benefits everyone.

Taiwan

contact@nextdrive.io

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