Why is EV Charging so complex?

Merchant Acquiring Conference 2024

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NMI

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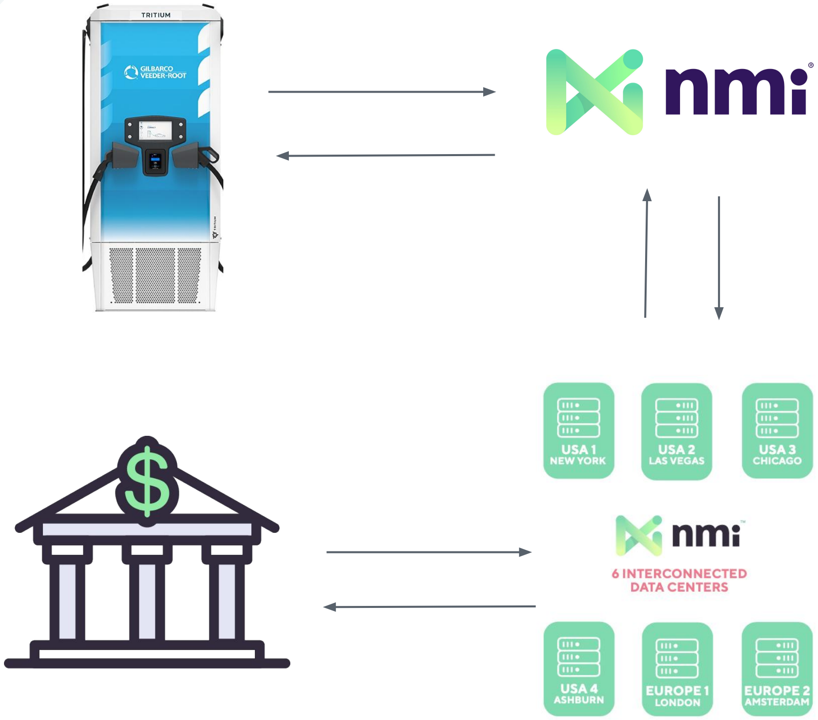
Agenda

- What is NMI? - Role of a Payment Gateway
- Enablement
- Today's solution
- Parties in a deployment
- New Regulations
- Card terminals being used in the market today
- The role of apps and eCommerce
- Predictions for the future of EV

The Role of the Payment Gateway

- NMI
    - $250bn pa
    - Specialists in unattended payments
    - Process for major manufacturers and operators in UK
- Payments are critical in the overall user experience
- Links the reader to the chosen bank (acquirer)
- Maintains security of data (PCI DSS)
- Provides reporting information on all transactions
- Provide options for customers to pay in a way that suits them

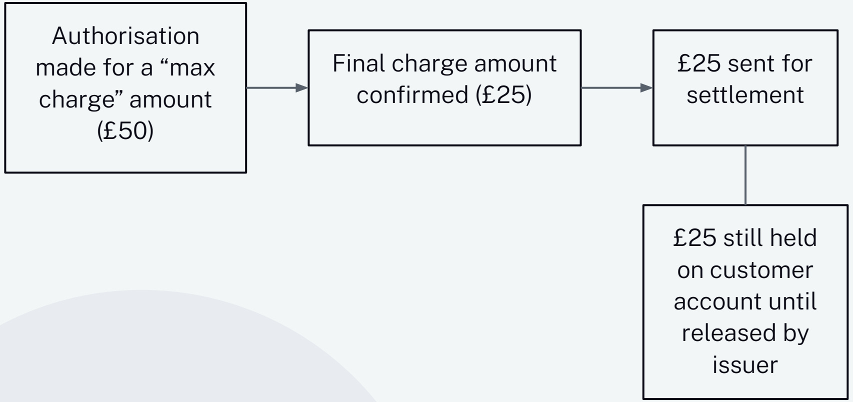


Enabling on-machine Payment

- **Payment gateway** to handle authorisations and provide reporting
- **Card terminal** interfaced with the charge-point controller
- **Connectivity** - Internet via ethernet, WiFi or 4G+
- **Merchant account** with an acquiring bank

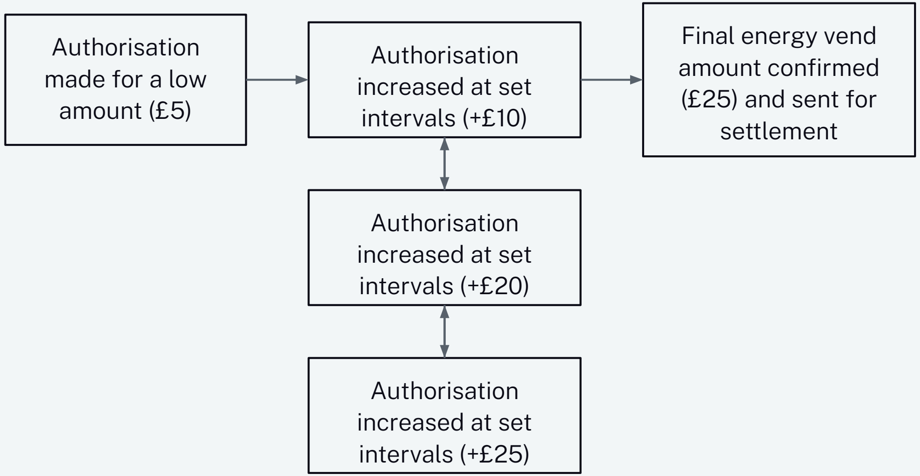
Today's solution - Pre-authorisation vs Incremental authorisation

Current solution (**Pre-authorisation**)



+ Additional solutions such as apps, membership schemes etc.

New solution (**Incremental authorisation**)



Parties in a deployment

- Machine manufacturer -Build the physical machines
- CPO -operate the chargers in the field
- Back-office provider -aggregate the energy information
- Payment gateway -provide secure and compliant means of taking payment
- Acquiring bank -settle the funds to the merchant
- Merchant -receive the funds from the chargers
- Card terminal manufacturer -manufacture the terminals used in the chargers to take payments
- Energy company / National Grid -involved in linking the chargers to the grid
- App developer/operator -provide an app solution for finding, charging and paying
- Parking operator -operate the car park or parking site
- Land/managing agent -responsible for the location the chargers are in
- Local authority -required to provide sign-off for projects / or own the project themselves

New Regulations

- Card terminals to be deployed on all new chargers >8kW and any existing >50kW -Nov 2024
- No apps or memberships required for drivers
- CPOs to connect to a roaming provider by -Nov 2025
- Rapid chargers required to have >99% uptime and report reliability statistics -Nov 2024
- 24/7 helpline support must be available - Jan 2025
- Display maximum cost per kW-hour on the display

Choice of Payment Device

- A number of low-cost, robust readers now available
- Most include GSM comms
- Simple to interface to chargepoint controller
- Agnostic gateways can provide choice of hardware

CARD TERMINALS

Payter

Crane PI

OTI

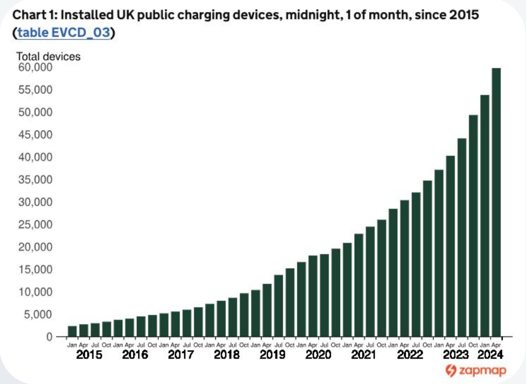
Ingenico

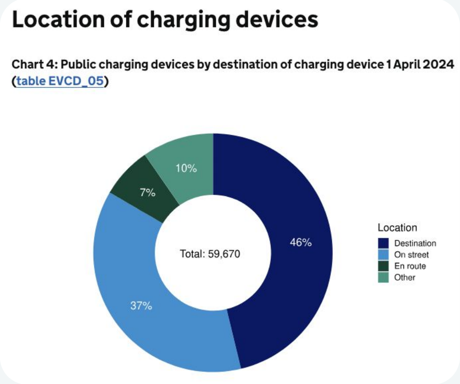
Apps and Ecommerce

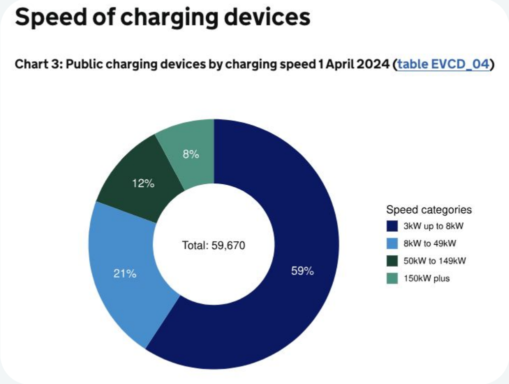
- Can the payment provider support mobile/online as well as on-machine payments?
- QR Code payments
- Look for unified reporting across channels to maximise value of data
- Apps allow loyalty schemes and incentives
- New regulation could lead to ‘closed’ apps opening up to support additional providers and aggregate

Predictions for the Future

- Increased transaction volume and ATV
- In-Car payments - card linked to registration plate - use ANPR and/or Plug and Charge
- Increased adoption of apps and QR Code payments - similar to parking
- Blurred lines between parking and EV charging
- Incremental Authorisations to become the new standard
- Consolidation of operators and payment acceptance providers
- Exempt from SCA requirements
- Renting of home chargers







 https://www.gov.uk/government/statistics/electric-vehicle-public-charging-infrastructure-statistics-april-2024/electric-vehicle-public-charging-infrastructure-statistics-april-2024

Thank You

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