



Connected Roadworks

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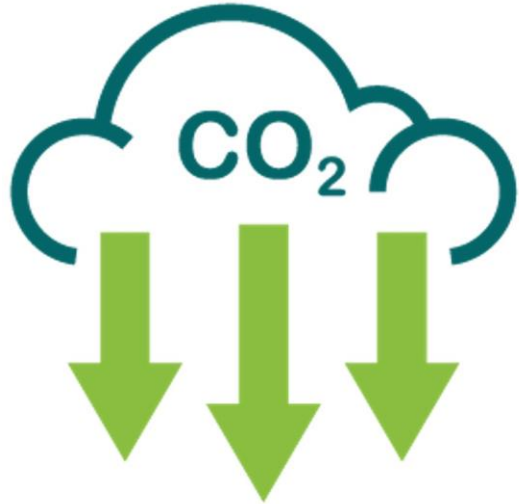
Fact file

Connected Future

- The number of IoT devices is expected to increase from **12 to 27** billion by 2025 despite current supply chain disruption
- IoT devices connected via cellular are expected to reach **2 billion** driven by 5G and embedded SIM
- Connected vehicles sales to reach **30 million** about 40% of total car sales with majority of new cars now able to interface with smart phones
- Digitisation is now increasingly focusing on traditionally 'dumb' assets with potential to transform mobility and

Digitisation - Connected Assets

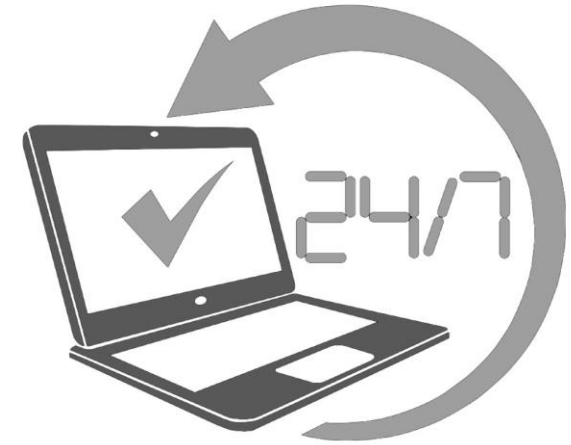
What does it offer our sector?



Reducing carbon emissions and unnecessary mileage



Effectively utilising scarce human resources



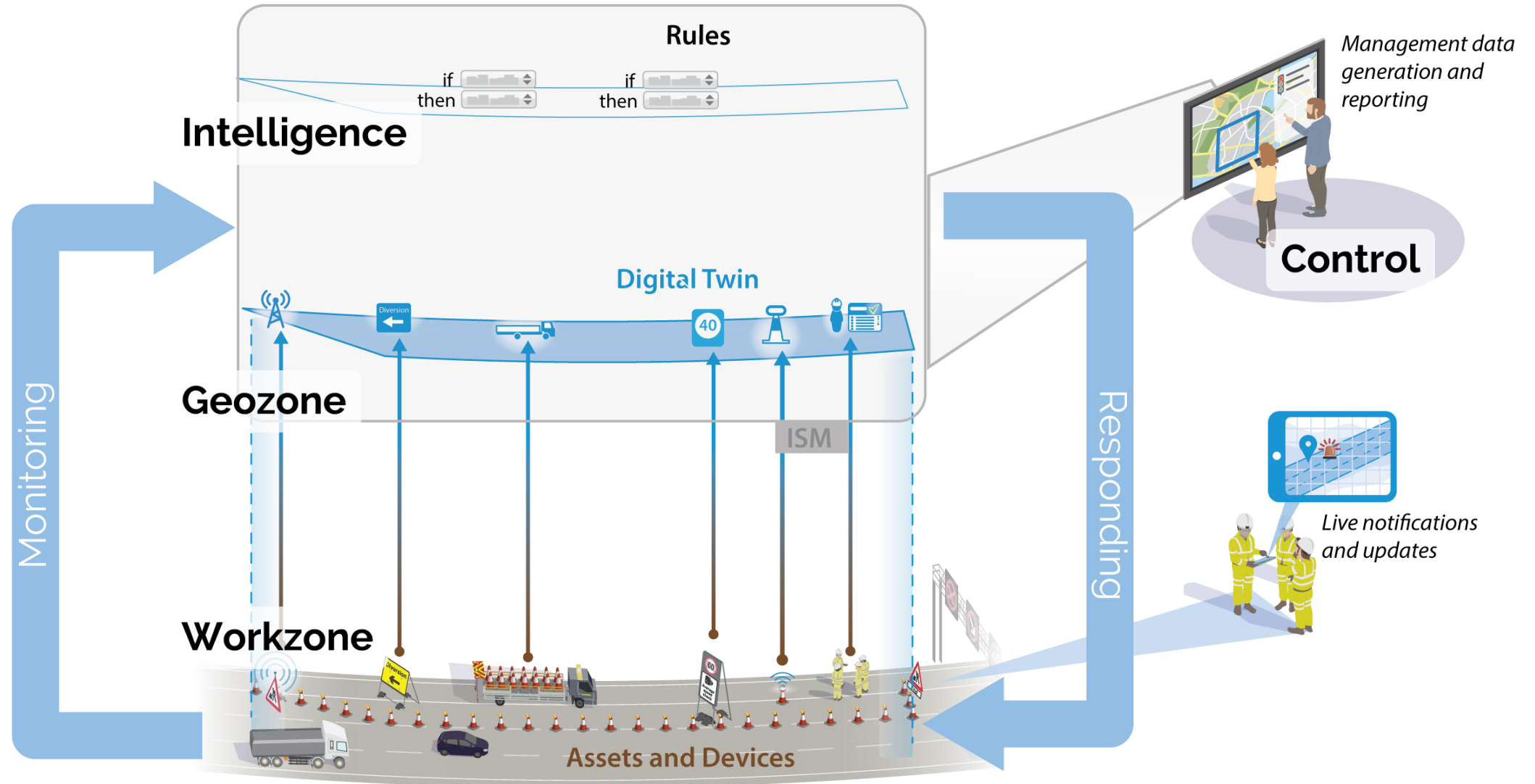
Providing reliable real-time information to road users and stakeholders

Where to start?



Digital Twin

Creating an eco system that replicates the real world





Intelliframe®



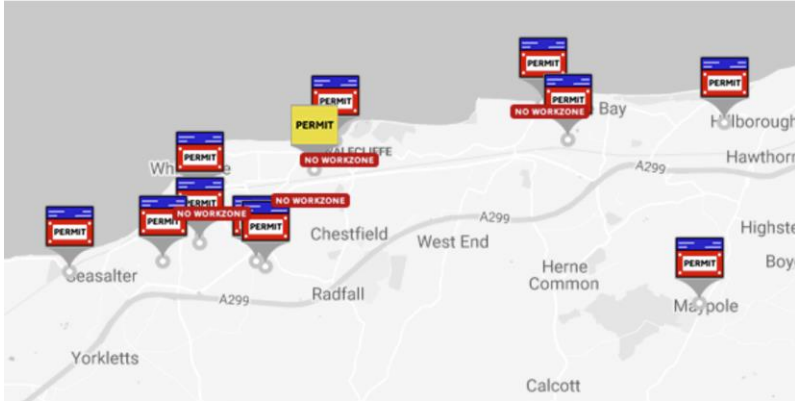
Intelliframe[®] lite



CASE STUDY

Streetworks

Reducing Non-Compliance



CHALLENGE:

Incorrect or missing permit information is a major challenge for utilities, highway maintenance contractors and local authorities whilst updating of portals such as street manager is time consuming

SITUATION:

Industry practice is to hand write permit numbers on temporary signs and manually manage these permits leading to a large number of non-compliances and resulting fines (and inconvenience to the general public)

SOLUTION:

Clancy used Intelliframe® to digitally display permit information and proactively manage permits to prevent overstay

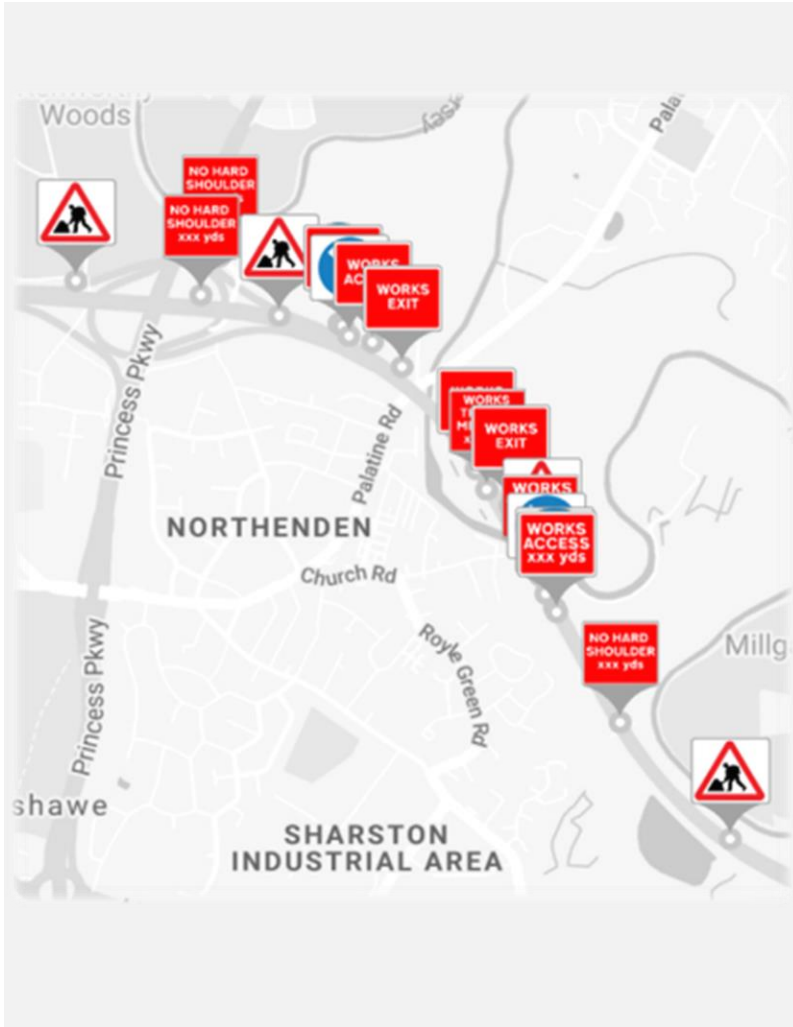
RESULT:

Intelliframe® enabled Clancy to amend incorrect or missing permit numbers remotely whilst eliminating overstay with no FPNs where Intelliframe was used

CASE STUDY

M60 Palatine Road

Reducing Carbon Emissions



CHALLENGE:

Ensuring the integrity of TTM whilst reducing cost and carbon emissions

SITUATION:

Installation of two permanent hard shoulder closures (12 months) to protect vital bridge repairs. Traditionally this requires several daily checks to ensure the TTM remains compliant and safe.

SOLUTION:

Using Intelliframe® Lite and Smart Taper made it possible to move from routine to event-based maintenance.

RESULT:

over the course of 12 months since March 2021 over 27 tonnes of carbon saved and 1400 live traffic/operative interfaces elimination

CASE STUDY

M11 Moore Hall Diversion

Customer confidence

NH East Region Ace Award Winner 2021



CHALLENGE:

Closure of an over bridge meant a significant disruption to road users and the effectiveness of the diversion route was paramount to NH and Essex County Council

SITUATION:

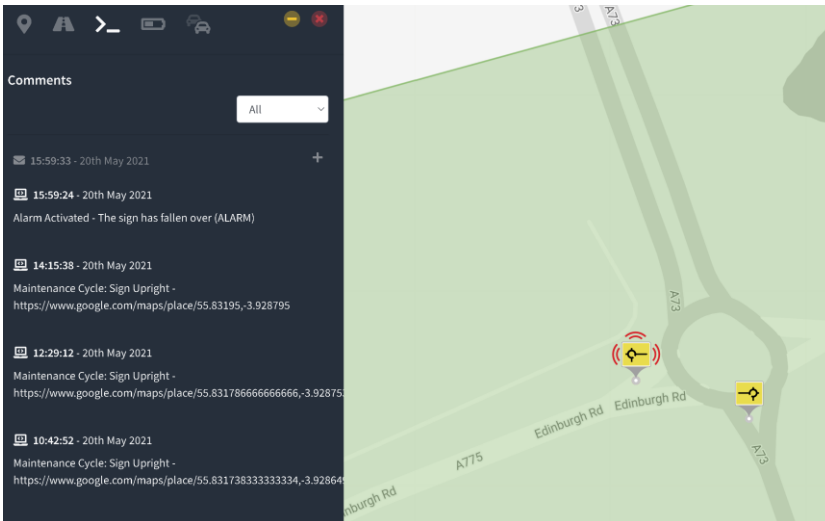
Typical 2-4 hourly maintenance checks could still lead to long periods with potential for signs being down and the diversion route compromised

SOLUTION:

Using Intelliframe® it was possible to monitor the diversion route in real-time and respond to issues without physically driving the route

RESULT:

Over the course of the 10-day scheme it was possible to safeguard the integrity of the route whilst reducing carbon emissions by 635kg. It was also possible to recover a sign that was left on site by accident thereby reducing sign clutter.





Where next?

Moving to event-based maintenance of TTM to reduce carbon emissions and free up resources

Delivering real-time information of hazards and TTM into vehicles

Automating work-flow and improve information reliability