

2021 WITSA Global ICT Excellence Awards Nomination Form

Informed Solutions Award Entry: Emerging Digital Solutions Award

The Emerging Digital Solutions winner is selected for their proven and scalable innovative digital solutions capable of transforming the wellbeing, prosperity, connectivity or productivity of others around the world.

This award will take into consideration the successful application of ICT in such areas as humanitarianism, health, social awareness and justice, rule of law, sustainable growth, business and commerce, health care, education, as well as the effective delivery of public services and transparency.

The Emerging Digital Solutions program recognizes early-stage or veteran companies whose solutions are new, and scalable to other locations throughout the world. The Emerging Digital Solutions program is looking for solutions that can be presented to interested policy makers, investors, corporations and social stakeholders with the potential to boost its development and deployment, aiming to significantly impact individuals, groups and societies.

YOUR NOMINEES (limit three nominations per award category). *Please specify whether the nominee(s) are for the private or public sector category.*

Public Sector Category

Improving the UK's Air Quality: Delivering a Digital Service to Support Clean Air Zone Management

Candidates: The Joint Air Quality Unit (JAQU) - a joint unit between the Department for the Environment Food and Rural Affairs (Defra) and the Department for Transport (DfT) and Informed Solutions.

REASONS FOR NOMINATION

Clean air is essential for making sure our cities are welcoming and healthy places for people to live and work, now and in the future. By improving air quality, we can reduce the impacts of Nitrogen Dioxide (NO₂) pollutants on people's health and create great places for living in, as well as great places to make a living.

The UK Government has overall responsibility for meeting air quality standards. The Department for the Environment and Rural Affairs (Defra) in partnership with the Department for Transport (DfT) has lead responsibility for meeting these targets with levers for action shared across Government departments as well as Local Authorities. Strong cooperation and collaboration between these stakeholder communities is critical to tackling air pollution effectively.

As set out in Defra's 2019 Clean Air Strategy, transport is a significant source of emissions of air pollution. The immediate air quality challenge is to reduce emissions of nitrogen oxides in the areas where concentrations of these harmful gases currently exceed legal limits.

The Joint Air Quality Unit (JAQU) was formed as a joint unit between Defra and DfT to deliver the Government's NO₂ reduction strategies.

<https://www.gov.uk/government/publications/clean-air-strategy-2019/clean-air-strategy-2019-executive-summary>

The Challenge

JAQU is charged with delivering HM Governments legal commitments to reduce dangerous levels of NO₂ pollution in the air we breathe. To achieve this goal, the Clean Air Zone (CAZ) Framework was developed. The Framework permits Local Authorities to charge a vehicle for navigating a CAZ if it does not meet certain Euro emissions standards. These charging measures aim to influence changes in motorist behavior that lead to reductions in transport related NO₂. A critical factor for CAZ success was deemed to be the delivery of a Central CAZ Service – a central digital service that provides any Local Authority with the infrastructure for determining whether a vehicle travelling within a CAZ is liable to be charged and allows motorists to pay charges due.

The key delivery challenge was to integrate and coordinate the efforts of a wide-ranging delivery partner and supplier network, which spanned: citizens, business owners, JAQU, the DVLA, Local Authorities, 300 taxi Licensing Authorities, the Ministry of Defence, the Energy Savings Trust, Amazon Web Services (AWS), and the Government Digital Service (GDS). The approach had to ensure that the Central CAZ Service was delivered successfully to challenging and high-profile deadlines agreed between Government ministers and Council leaders.

Achieving this goal was dependent on all parties adopting a collaborative and agile delivery culture: adopting a technical strategy that accelerated and de-risked delivery through 'cloud first' and UK Technology Code of Practice principles.

Informed Solutions was appointed by JAQU to deliver, support, and continually improve the Central CAZ Service. The specific challenges that the Central CAZ Service had to solve included:

1. Using data captured via Local Authority Automated Number Plate Recognition (ANPR) cameras to determine whether a vehicle navigating a Charging CAZ is compliant with Euro emissions standards specified by the CAZ Framework.
2. If a vehicle is not compliant, determining if it is liable to be charged and, if so, how much.
3. Enabling any motorists to pay any charges that they are liable for.

Achievements

The GOV.UK 'Drive in a Clean Air Zone' service has:

- Enabled citizens and businesses to understand whether they would be charged for driving in a CAZ ahead of CAZ's being launched and, if they were, identifying proactive actions they could take to avoid this.
- Enabled citizens to easily pay any charges that are due, either before or after they travel into a CAZ.
- Enabled fleet operators of all sizes to create a 'Business Account' that enables them to manage and pay CAZ charges more efficiently.
- Encouraged significant public uptake by adopting a user-centred delivery approach based on face-to-face research, iterative prototyping, and development to ensure that user needs were met as efficiently as possible. This also catered for users with assisted digital needs, by providing the ability to pay by telephone etc.
- Allowed JAQU/DVLA to benefit from adopting a cloud first and 'buy don't build' technical strategy. Delivery was accelerated, de-risked, cost effective (due to the cloud pay as you go model). Currently, the service reliably and comfortably processes over 30k transactions per day and is designed to scale to 10x this figure as further LAs launch CAZs.
- Allowed citizens and all delivery partners to benefit from adopting an agile delivery approach using Continuous Integration tools and technologies – continual service improvements can be taken from concept to live easily, ensuring that user feedback and new requirements can be actioned quickly.
- Allowed JAQU/DVLA to secure a wealth of operational data that they can use to evaluate, inform, and optimise the implementation of clean air policy, now and in the future.

Outcomes

Working together, Informed Solutions and JAQU continue to successfully support, maintain, and continually improve the CAZ Service. As a result, the first Clean Air Zones have launched in 2021 and the solution will play a vital role in improving the quality of the air we breathe. Several services are already live, including the Vehicle Compliance Checker – a national GOV.UK service used by motorists to determine if they will be charged for driving into a CAZ. 61 Local Authorities are involved in the programme, with Bath and Birmingham having already launched CAZ schemes, with a further 7 currently preparing to launch in the coming 12 – 24 months.

The scalable infrastructure and service developed has the potential to be rolled out internationally for smart city and sustainable environmental initiatives.

To date:

- The central service has recognised 1.5 million unique vehicles and over 7.5 million vehicle journeys that have travelled through a Clean Air Zone
- There have been over 1.6 million chargeable journeys through Clean Air Zones
- The introduction of the Birmingham Clean Air Zone saw a 30% reduction in chargeable entrants during the first week of payments.
- There were over 206,000 users on 1st June (Birmingham launch day)
- There have been almost 3 million user interactions since February 2020.
- The service reliably and comfortably processes over 30k transactions per day.
- There has been over 99.8%+ service availability in 2021.

SUPPORTING INFORMATION: Please send any supporting information to the address above, including information from candidate (i.e., excerpt from program description, web site print-out, press release, etc.)

<https://defradigital.blog.gov.uk/2021/03/16/all-i-need-is-the-air-that-i-breathe/>

NOMINEE CONTACT INFORMATION (for award follow up and coordination)

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