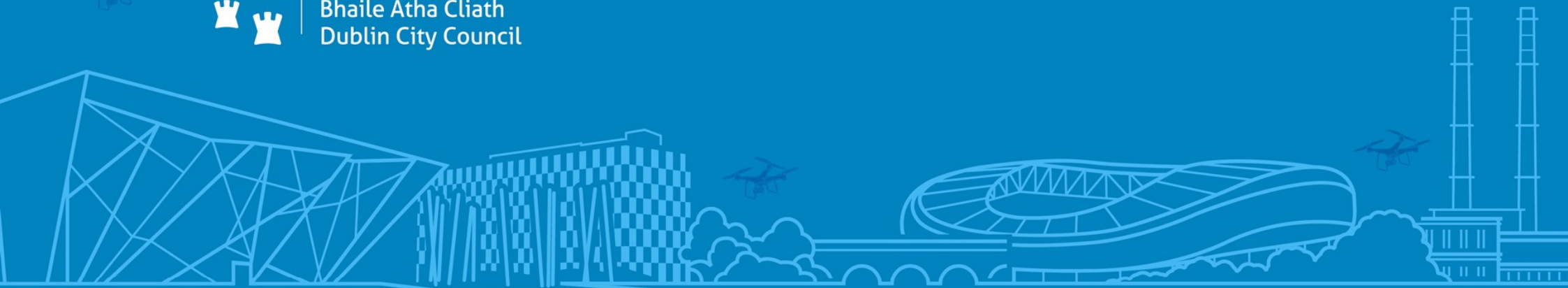




Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council



Drone Presentation

Tom Curran – Manager Land Surveying & Mapping and Corporate Drone Unit

02/04/2025

OHSI Conference - Tullamore

USE CASES

Current Irish Context Overview

MAIN DRONE USES

- **Delivery Services:** last mile delivery of packages, groceries and medical supplies
- **Emergency Services:** search and rescue, aerial view during emergency
- **Environmental Monitoring:** wildlife tracking, biodiversity mapping, pollution monitoring, assessing land/forest
- **Construction & Infrastructure:** aerial mapping, surveying, progress monitoring, structural inspections
- **Agriculture:** precision, livestock tracking, pesticide/fertilizer spraying
- **Urban Development & Smart Cities:** digital twin, public safety, crowd management, asset mapping
- **Media and Entertainment:** aerial footage, tourism
- **Survey & Mapping:** topographic surveys, coastal erosion, flood mapping, 3D models
- **Security & Surveillance:** monitoring during events, police crime investigations and crowd control
- **Research & Innovation:** UAM, frameworks for safety, etc

Use of drones in Dublin City Council

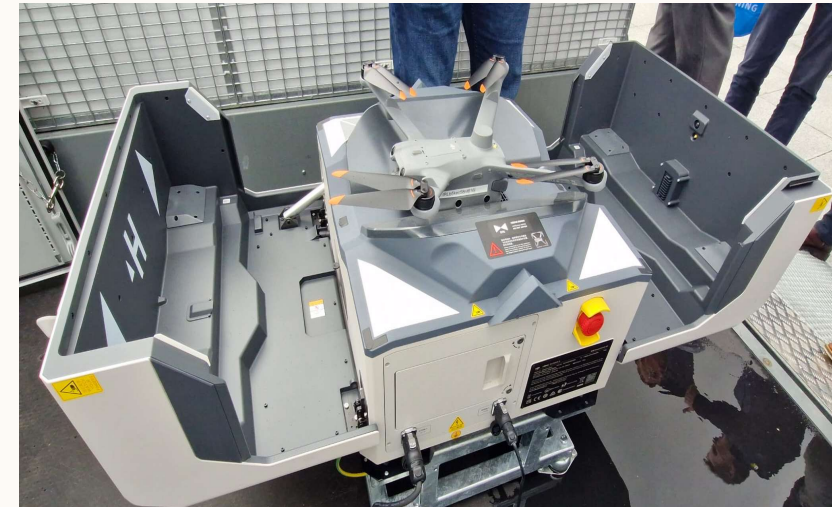
Since 2017, at the beginning mainly for Survey and Mapping (orthophotos, 3D models)

Emergency response and 3D models of high-risk sites for pre-incident planning (Dublin Fire Brigade)

Search and Rescue (Dublin Civil Defence)

Video and photography for promotion materials

Video and photography for inspections (brownfield and dangerous sites, buildings in construction, dangerous buildings, roofs, monitoring flood defense defects)



Drone and Urban Air Mobility Strategy for Dublin City Council 2024 - 2029



Benefits of using drones vs traditional survey based on example of Iveagh Markets rooftop survey

A full video rooftop survey via **drone** was carried out at short notice responding to a structural issue related to the Iveagh Markets building. This involved the following tasks:

- + The pre-planning work and associated IAA documentation /approvals (1 hour)
- + A drone survey carried by in house drone pilot from the Survey & Mapping team (30 min. flying /30 min travel)
- + Post processing of data and end product was delivered to the internal client (Dangerous Building section) via sharefile (1 hour)

The total cost of the operation was 300€ (excluding the cost of the drone*).

The same survey done by external drone company would cost around 1,000€.

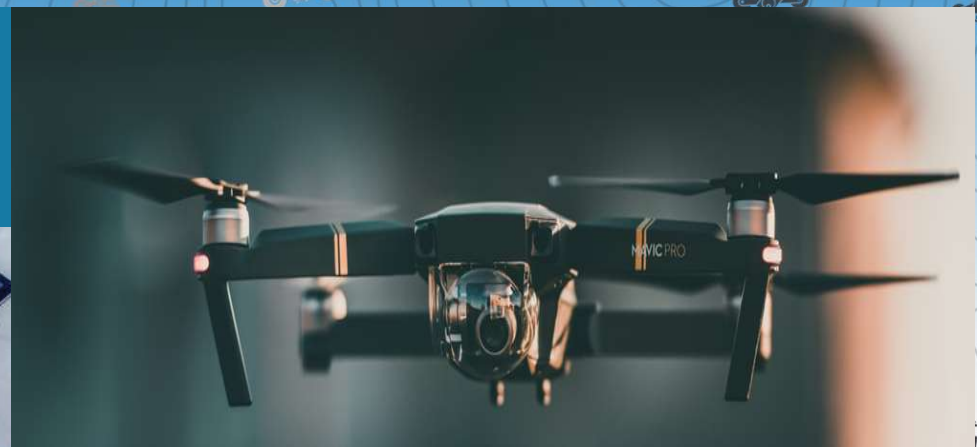
* The Drone Used was a DJI Mini3 (Cost 1,200€)

Traditional rooftop assessment:

- + Preparation of a full project plan, which includes preparation of Risk Assessment and Traffic Management Plan and additional DCC personnel attendance to monitor the closure of the road during the survey (2 people) is estimated at 600€.
- + Hiring of a cherry picker machine for a full day (20m height range and reach of 15m) with mounted camera. The total cost of the machine and the driver's time would be approx. 800 €.

This traditional way of survey might be completed within approximately 5-10 days from the request, as it requires a significant pre-planning activities and paper work approved.

Taking all of the above into consideration the approximate cost of this survey would have been approx. 1,400€.



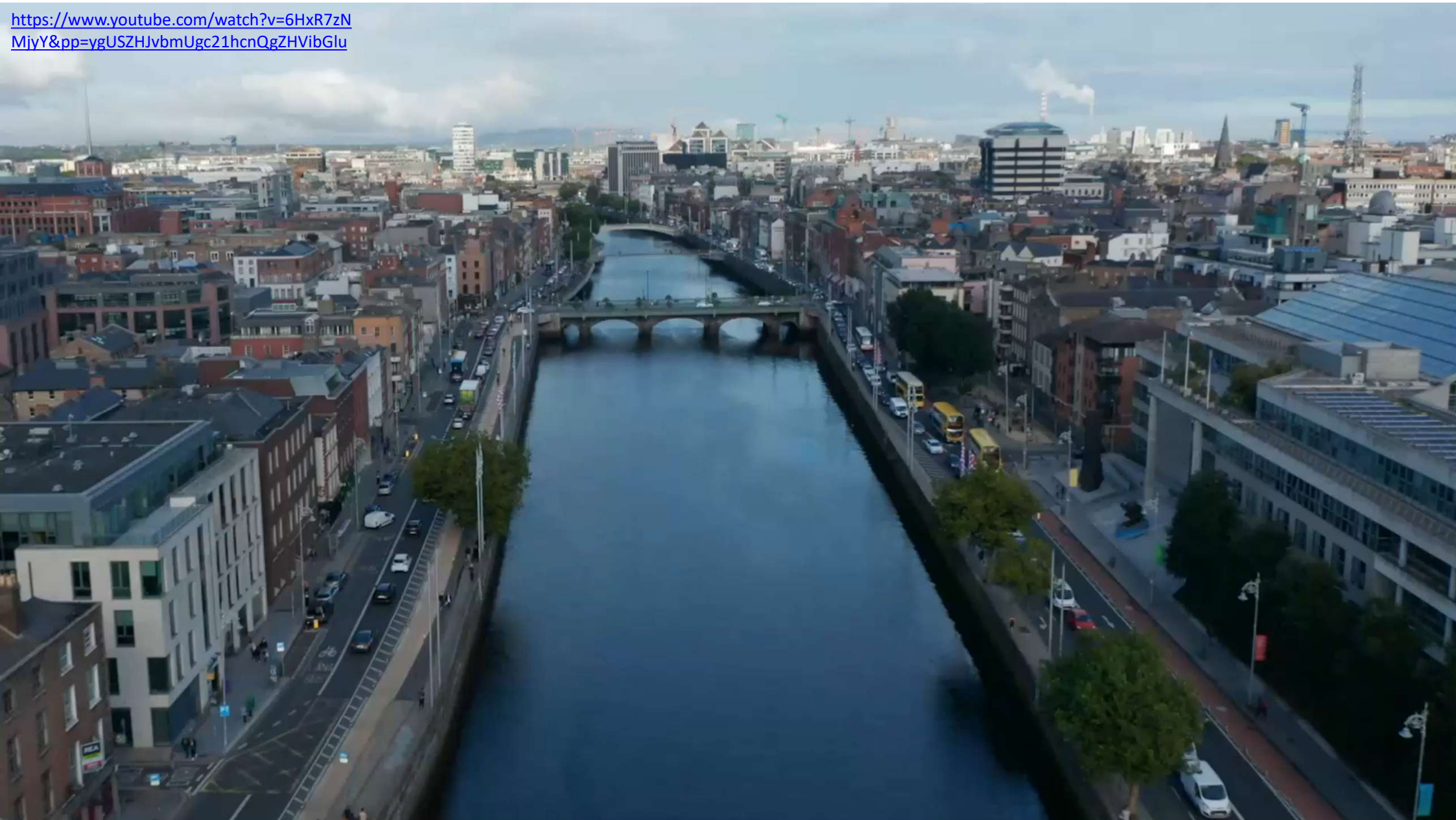
Benefits of using drones vs traditional way:

Reduction of cost by 4.5 times

Time efficiency - drone data delivery in few hours vs days/weeks

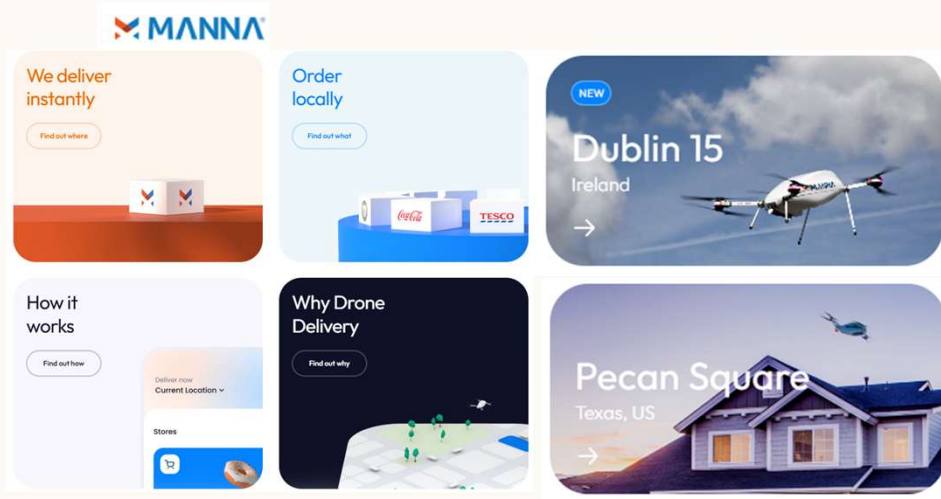
Significantly improved staff safety

<https://www.youtube.com/watch?v=6HxR7zNMjyY&pp=ygUSZHZvbmUgc21hcnQgZHVibGlu>






PRIVATE SECTOR



Drone delivery in Ireland

 Wing in Ireland



Medical drone delivery in South Dublin

Wing and Apian have partnered with Blackrock Health and St. Vincent's Private Hospital in Dublin along with leading healthcare technology company, Medtronic, to launch an innovative drone delivery trial demonstrating the benefits drones could offer in healthcare logistics.

[Read more →](#)



Delivery demonstration in Lusk

Wing is currently running select demonstration operations. The community demonstration has concluded.

- Delivery Services
- Environmental Monitoring
- Construction & Infrastructure
- Agriculture
- Urban Development & Smart Cities
- Media and Entertainment
- Survey & Mapping
- Security & Surveillance
- Research & Innovation

MEDICAL

Wing drones to deliver medical supplies to Dublin hospitals

Updated / Wednesday, 3 Jul 2024 10:26

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company Alphabet, has announced plans to carry medical supplies and devices to Dublin hospitals.

The two firms are teaming up with Blackrock Health and St Vincent's Private Hospital in Dublin along with healthcare technology company, Medtronic to launch a drone delivery trial designed to demonstrate how drones could be used in healthcare logistics.

The delivery service will commence with items including a Medtronic ingestible camera, sutures, surgical tools and heart valve repair products, with plans to expand to pacemakers and Implantable Cardiac Defibrillators (ICDs) in the future.

[https://www.rte.ie/news/ireland/2024/0702/1457657-drone-delivery-hospitals/#:~:text=Wing%20drones%20to%20deliver%20medical%20supplies%20to%20Dublin%20hospitals&text=The%20delivery%20service%20will%20commence,\(ICDs\)%20in%20the%20future.](https://www.rte.ie/news/ireland/2024/0702/1457657-drone-delivery-hospitals/#:~:text=Wing%20drones%20to%20deliver%20medical%20supplies%20to%20Dublin%20hospitals&text=The%20delivery%20service%20will%20commence,(ICDs)%20in%20the%20future.)

<https://www.irishtimes.com/business/2024/12/07/simulation-test-using-drones-to-deliver-life-saving-equipment-is-a-success/#:~:text=The%20simulation%20flight%20on%20Friday,garden%2C%20in%20around%20two%20minutes.>

THE IRISH TIMES

Business

Simulation test using drones to deliver life-saving equipment is a success

Test delivers defibrillator to home where a person could be having a heart attack in about two minutes

Expand

The equipment easily fits into one of Manna's drones. Photograph: Andrew Watson

Claire O'Brien

Sat Dec 07 2024 - 06:00

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A new pilot project that uses drones to bring life-saving cardiac equipment quickly to patients who suffer heart attacks at home took a step closer to being rolled out, following a successful simulation flight.

LATEST STORIES >

Golden Globe nominations 2025: Paul Mescal and Saoirse Ronan lead Irish hopes

Women, older and single people stay longer in psychiatric hospitals, research finds

Laura Delany's late heroics help Ireland secure T20 clean sweep over Bangladesh

Judge tells Diarmuid Phelan trial jury verdicts of murder, manslaughter or acquittal are open to them

Cosgrave family settle row over control of construction group companies

THE IRISH TIMES

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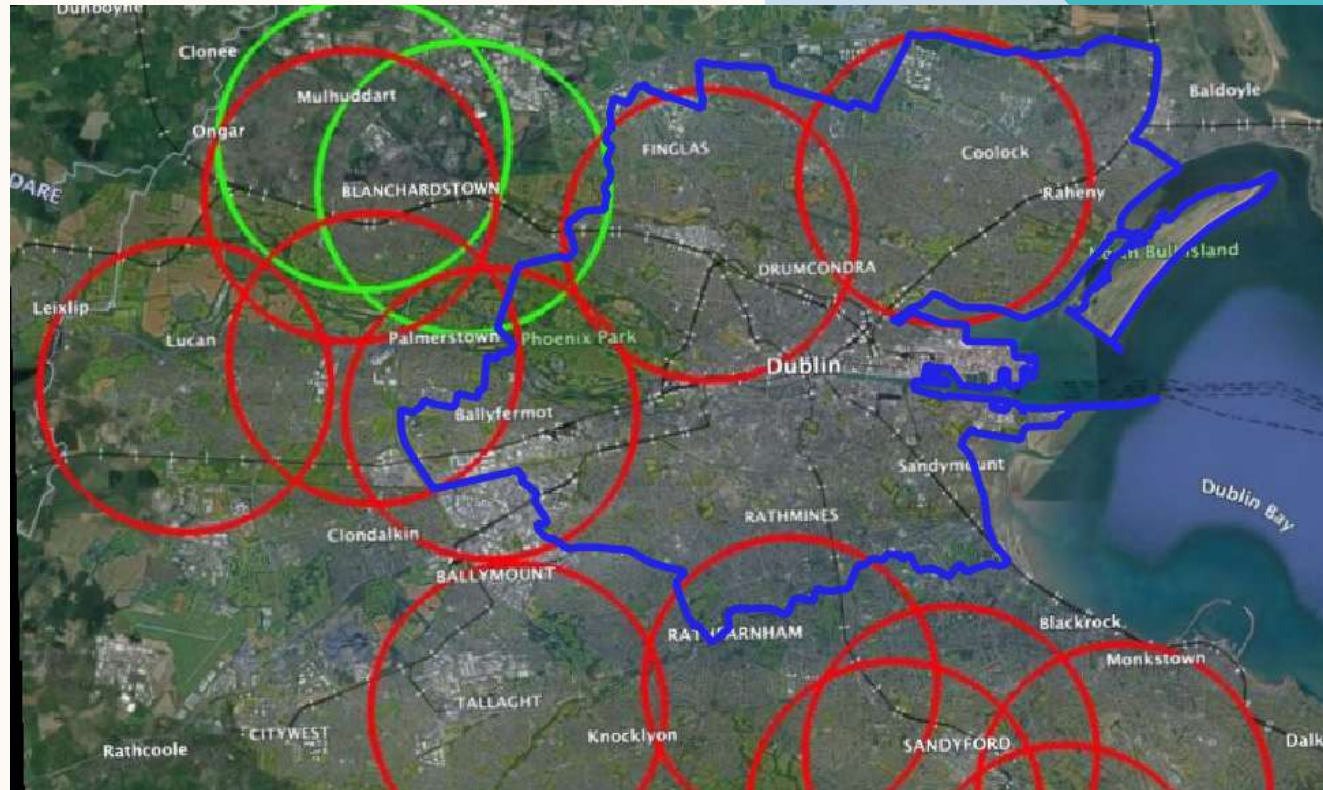
Sign up

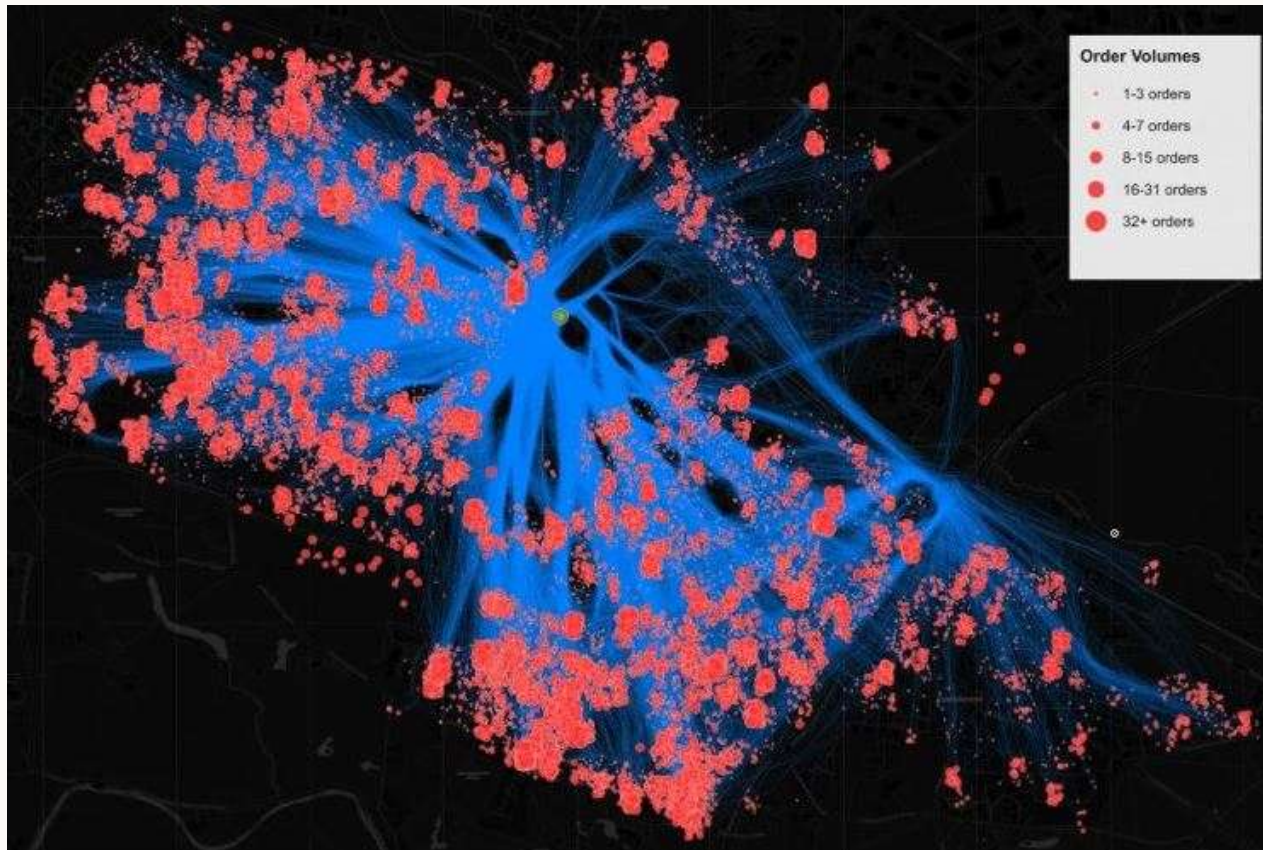
MANNA EXPANSION 2025

- Serve 1 million customers
- Expand to 14 new areas
- Applying for Planning Permission to SDCC: only mention drone hub, ask for containers & fence – there is no flight volumes, etc.
- Target: suburban area with garden (delivery space), close to food courts, base in industrial (dark kitchen / car parking)

Current:

- Operates in Blanchardstown
- 300 flights daily
- Main deliveries: coffee, ice cream, burgers
- Completed 170,000 deliveries
- Market projection: \$4.2 billion by 2030





Drones Key Challenges

- Illegal drone flights
- Lack of planning legislation covering drones, drone nests
- Noise
- Complicated regulations
- SORA - consultant required, complex documentations

REGULATIONS

At European Level:

- EASA (UAS webpage: <https://www.easa.europa.eu/en/light/topics/drones>)

At Irish Level:

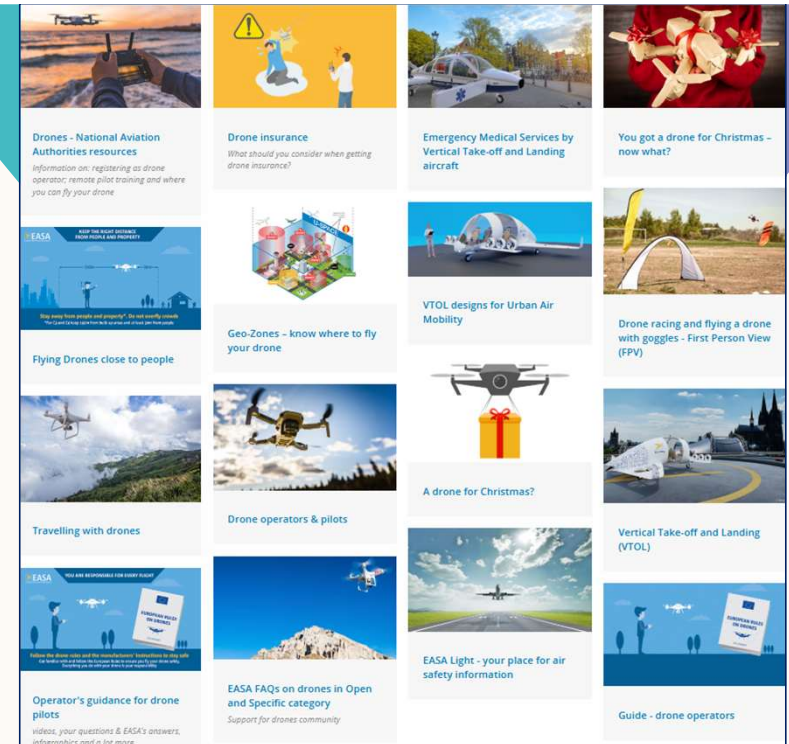
- IAA is the regulator (UAS webpage: <https://www.iaa.ie/general-aviation/drones>)
- AirNav provides air traffic management services

Safety &
Regulations

Drone Operator
Registration

UAS Geographic
Zones

Drone Training &
Certification



DO I NEED TO REGISTER MY DRONE?

EU Drone Regulations require all drone operators using any drone over 250grams, or those with a camera or sensor to be registered.

WHAT TRAINING IS REQUIRED?

Open A1/A3

Open A2

Specific

Must be completed with an RTE approved by IAA

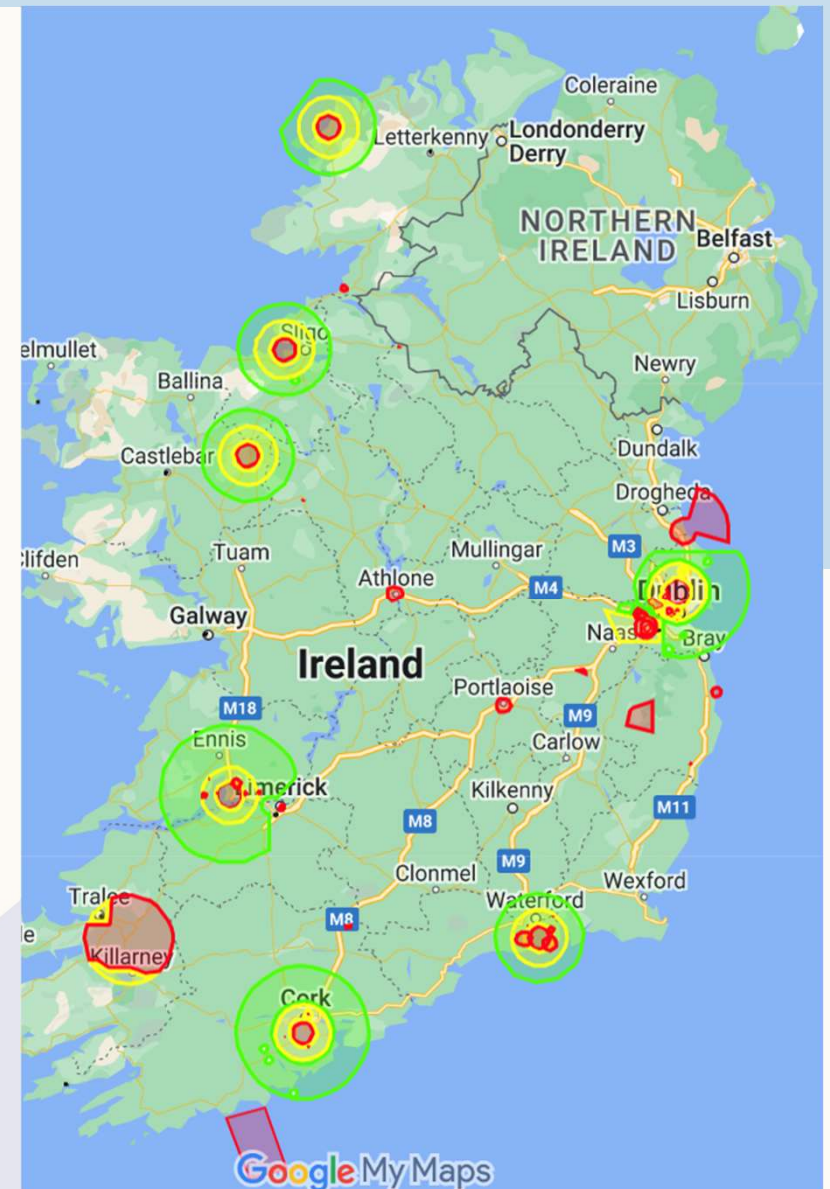
CURRENT MAP OF GEO ZONES

Red Zones (UAS Prohibited): Drones are prohibited; access may be requested through the zone authority for specific category operations.

Amber Zones (UAS Restricted): The greater of 30M AGL or the height of the tallest obstacle within 50M. Access above the specified height requires approval from the zone authority for specific category operations.

Green Zones (UAS Height Constraint): 90m. Access above the height restrictions may be requested through the zone authority for specific category operations.

*Current zoning map ([link](#))



NOISE

Research & findings

NOISE FINDINGS



17

IAA about Manna - Noise levels

- @65m cruising: 59-62dB
- @15m delivery: 70dB – kept minimum
- Off-shelf drones C1 (<900g): 85dB
- National noise limit on car exhausts : 99dB

Post Workshop

Noise - PSDN (DLR) - Follow up with Environmental Health

- ISO 1996-1:2016 - Environmental Noise Directive (END) apply tonal penalty +3 to +6dB on noise level for each annoyance factor (cumulative, keeping fairness)
- NORD2000 – Annoyance factors: defines the penalties for tonal noise (frequency is louder – by >5dB), impulsivity (rapid change: sudden, sharp sound), fluctuation (varying amplitude, whirring sound)

Quiet Areas - Follow up with Environmental Health

- END that requires members states to create the Strategic Noise Maps every 5 years and the Noise Action Plans.
- Noise Action Plan mandates that LA's identify Quiet Areas
- Quiet Areas: noise level for the Quiet Areas has to be <55dB







Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council



Thank you

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