

A close-up, high-angle shot of a drone's central hub and four arms. A brown cardboard box is mounted on the hub. The box has a black 'FRAGILE' label with three icons: a hand holding a box, a glass, and two upward-pointing arrows. The drone is flying over a blurred cityscape at night, with lights creating a bokeh effect. The text 'Ready for take-off? Integrating drones into the transport system' is overlaid in white on the left side of the image.

# Ready for take-off? Integrating drones into the transport system

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# Das ITF

- **Inter-governmental organisation**
  - OECD framework, but 63 member states
- Only global platform that covers all modes of transport
- **Think tank** for transport policy
  - **Data and statistics**
  - **Analysis, identification of best practices**
  - **Knowledge sharing**
- Facilitation of global dialogue for better transport
  - **Annual summit**, largest event to bring together ministers of transport
  - **Corporate Partnership Board**
  - “Platform for **Discussion and Pre-negotiations**”
- Current **focus areas**
  - Digitalisation, connectivity, safety & security, universal access, decarbonisation



# Motivation and Background

How to prepare for the large scale deployment of drones?

Public concerns beyond safety need to be addressed  
Current regulation is too restrictive/lags behind

# “Drones” in this work...

... include all sizes and weights

... include all design layouts or engine types

... irrespective of the altitude at which they operate

... transport freight or passengers, or support the transport system

## What we did

- **Market potential** and **economic impacts** of drones
- **Societal impacts and acceptance** of drones
- **Environmental impacts** of drones
- **Drone infrastructure** – governance and funding
- **Integration of drones** into the existing transport system

### **NOT PART of our work:**

Safety and security questions → Starting point of this work:

“What if drones are safe to fly?”

# What we found

- **Drones enable significant economic activity and can deliver** substantial economic, social and environmental **benefits**
- **Adapting aviation regulations will be insufficient** to leverage benefits
- **Substantial knowledge gaps** remain about issues that will raise public concern

# What we recommend to policy makers (I)

- **Clarify drones' status** within the framework of airspace regulation
- Establish “**drone**” **authorities with interdisciplinary competencies**
- **Establish clear objectives and priorities** for the introduction of drones
- **Coordinate** with the drone **industry**
- Incorporate drone operations into **long-term urban planning strategy**

## What we recommend to policy makers (II)

- Implement a **robust Unmanned Air Traffic Management (UTM) system**
- Design a **communication strategy** that addresses public concerns
- Assess the **impact of drones' full life cycle on the environment**

**+ specific policy proposals by (sub)chapter**



## What we recommend - Two examples

- Design a **communication strategy** that directly addresses public concerns → **WHAT ABOUT PRIVACY?!**
- Develop a method to **assess the impact of drones' full life cycle on the environment** → **WHAT ABOUT NOISE?!**

**+ specific policy proposals by (sub)chapter**

# What about privacy?! (Example 1)

- Advise drone operators on how to mitigate concerns
- Consider no-fly zones / times
- Consider mandatory registration and remote identification of drones
- Communicate about drones to foster public acceptance
- For a specific service:
  - Assess what data a drone is allowed to collect
  - Assess potential concerns and mitigate
  - Inform the public in the vicinity of the service

## What about noise?! (Example 2)

- Support research on actual + perceived drone noise and how to mitigate it
- Implement drone-noise monitoring and reporting procedures
- Stimulate low noise flight procedures
- Define drone operating restrictions
- Support a staged approach to drone integration

# Working Group

- **> 30 renowned practitioners and academics**
- **14 countries/3 IGOs** : Austria, Canada, Czech Republic, Germany, New Zealand, Norway, Poland, South Korea, Sweden, Switzerland, United States, The Netherlands, UK, France, ICAO, UNICEF, OECD
- **Industry consultation:** Matternet, Lilium, Airbus etc.
- **Chair:** Richard Cross, Transport Ministry, New Zealand, previously: Laura Ponto, Hogan Lovells



**Thank you**

For your questions & comments

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