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# DRONE ENABLE

## ICAO'S UNMANNED AIRCRAFT SYSTEMS INDUSTRY SYMPOSIUM

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ICAO Global Drone Registry Concept



# The Challenges

- How can a law abiding individual remain so, and operate their drone seamlessly in different States?
- How can law enforcement monitor compliance with local rules and regulations?
- How can industry contribute to the facilitation of international drone operations?





# Feedback from States

- The primary concerns:
  - Individual State sovereignty is maintained
  - ICAO should not *mandate* a State drone registry
- The main requests:
  - ICAO to facilitate State interoperability for international drone use
  - ICAO to leverage it's experience to support States in a rapidly evolving environment





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# The Current Situation

## Drone (UA) Registration Systems:

- Lack of consistency between States
- Majority of States without *any* registration system
- No ability to identify and contact operators
- No ability to track drones across borders

A screenshot of a web-based 'Drone Registration Form'. The form has a grey header with the title 'Drone Registration Form'. Below the header is a paragraph of text explaining the registration process. The form contains several sections with input fields: 'Registration Type' with a dropdown menu, 'Drone Information (Stage)' with a dropdown menu, 'A. OPERATOR INFORMATION' with fields for 'Name', 'First Name', 'Last Name', 'Company Name', 'Email Address', and 'Custom Email Address'. There is also a 'Phone Number' section with fields for 'Country Code', 'Area Code', and 'Number'. The bottom section is 'B. LOCATION INFORMATION' with a 'Physical Address' field.



# The Aircraft Registration System

- For the provision of aircraft registration data, ICAO operates the **Aircraft Registration System (ARS)** which integrates with the **International Registry of Commercial Aircraft (IRCA)**
- As the volume of UA increases, with potential for international use, the need for an interoperable, global registry becomes apparent.



- MAKE: Boeing
- MODEL: 747
- SERIES: 4B5
- SERIAL NO: 26395
- REG. MARK: N-539BC
- etc...

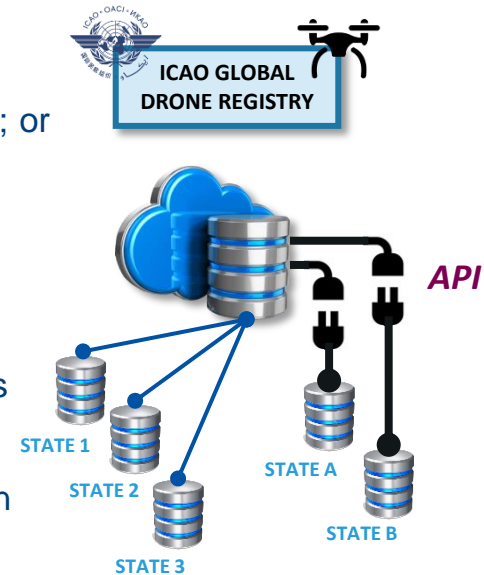
**ICAO is the natural and logical international organization to coordinate efforts for global drone registration**

ICAO AIRCRAFT REGISTRY SYSTEM						AIRCRAFTS LISTED BY STATE	
MAKE	MODEL	SERIES	MANUFACTURER	SERIAL NUMBER	REG. MARK	CERT. NUMBER	REG. DATE
BELL	427	NO SERIES EXIS	Bell Helicopter Textron Canada	56223	N-427ES		2013-12-17
BOEING	747	4B5	The Boeing Co.	26395	N-539BC		2014-04-18
BOEING	737	73V	The Boeing Co.	30249	N-559BN		2015-12-09
BOEING	747	4B5	The Boeing Co.	26396	N-499CC		2014-04-20
HOLB	TWINOTAR	II	Ambair Construction	M3-138	N-4294G		2014-04-09
MCDONNELL DOUG	M300	30	McDonnell Douglas Corp.	53819	N-4524S		2013-09-17
MCDONNELL DOUG	M300	30	McDonnell Douglas Corp.	53464	N-4994S		2013-02-04
PIPER	PA31	UNDESIGNATED	Piper Aircraft Corp.	31-619	N-4992A		2012-04-13



# A Potential Solution

- An ICAO hosted global Drone Registration platform to:
  - a) Provide a plug-and-play option for States without an existing drone registry; or
  - b) Enable API integration with a State's existing drone registry
- Optional participation, but necessary in order to benefit from:
  1. Features that facilitate international operations for both States and Operators
  2. Third party apps developed around the global information database
  3. Streamlined & consistent registration process to encourage user participation

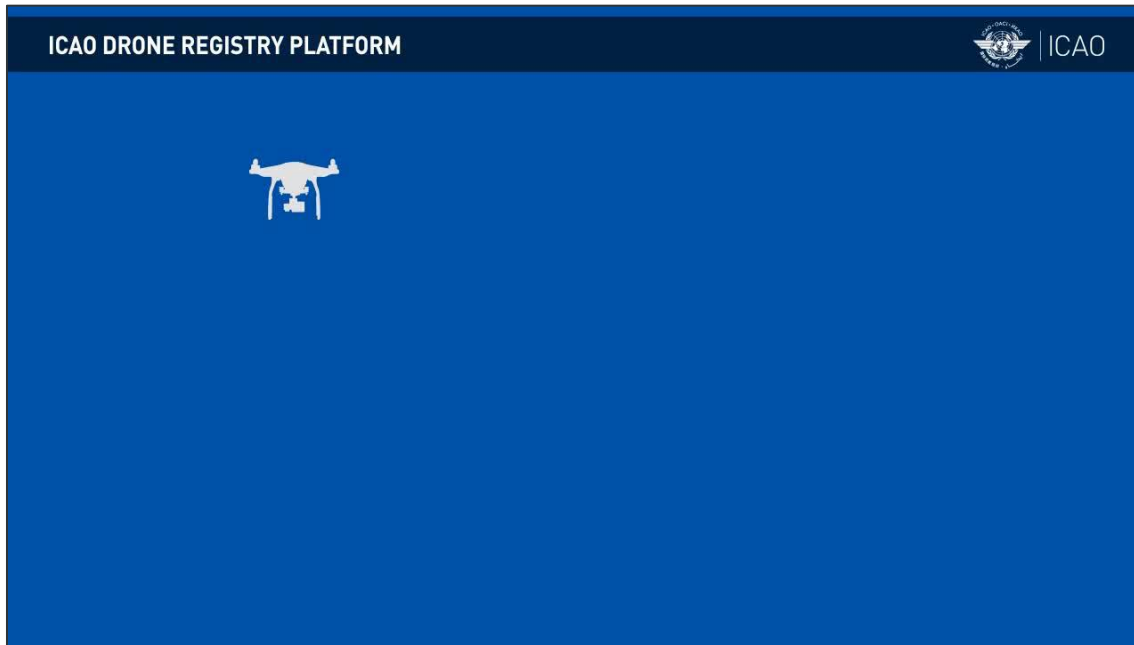




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# The Drone Registry Concept







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# The Key Points

1. A Global Drone Registry Database, that:
  - a) provides custom State-specific registration platforms, powered by ICAO
  - b) enables optional integration of existing State systems
2. State maintains approval authority in accordance with own regulations
3. State adoption is optional but necessary for interoperability
4. Foundation for future developments of 3<sup>rd</sup> party applications

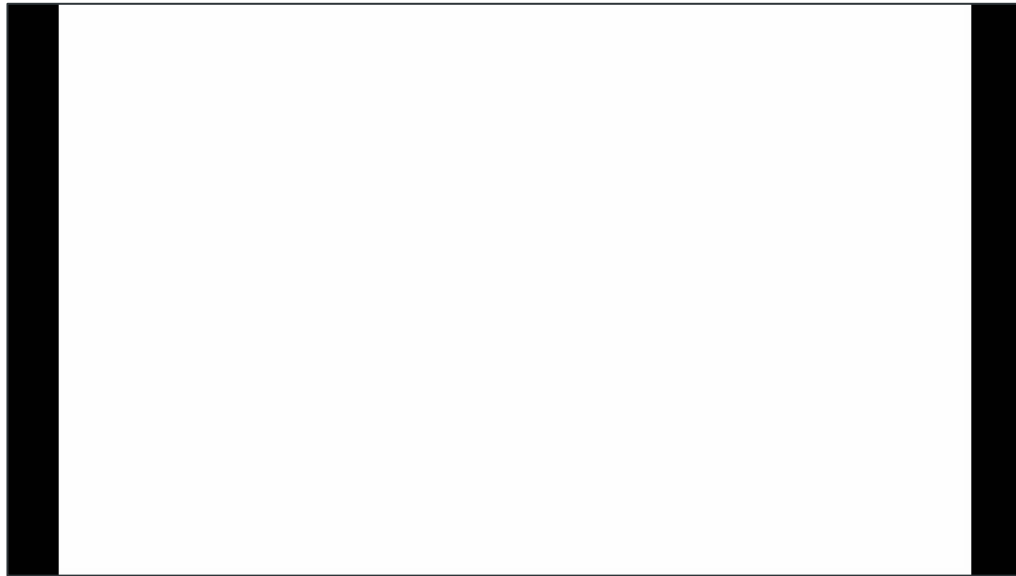




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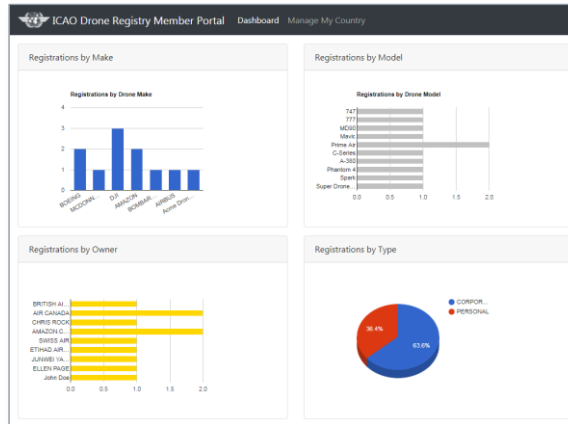
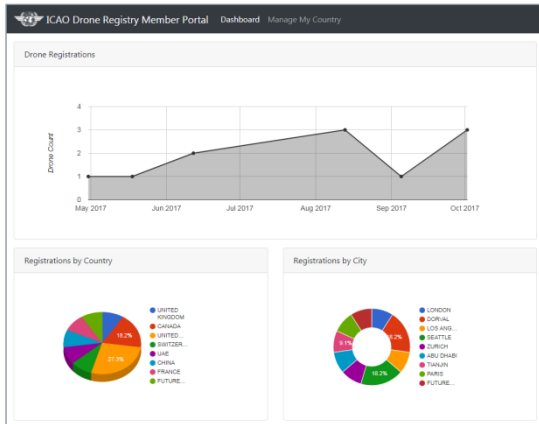
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# The User Registration Example



# The Global Relevance

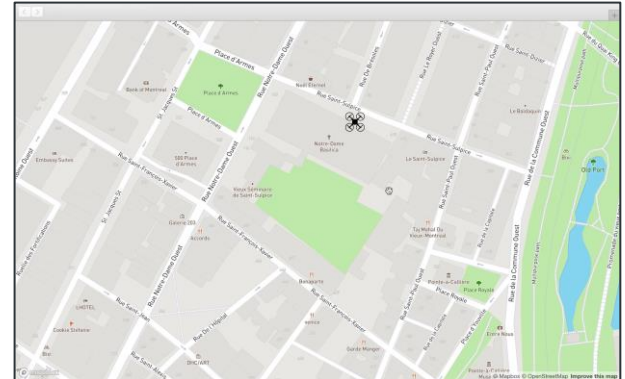
- Access to international datasets on drone statistics
- Facilitate international operations for both States and Operators



# Third Party Applications

The ICAO platform could fuel the development of third party applications

- Consistency of
  - common data fields
  - interaction with a single, global dataset
- Reduced
  - technical complexity
  - development costs





# The Next Steps

- ICAO seeking **feedback** from attendees
- Request for State(s) interested in participation in a pilot programme:
  - A State with existing platform to connect via API
  - A State looking to create their own drone registration platform
- Establishing unique identifier

**TARGET: an operable international registry by next DRONE ENABLE**



# So tell us what you think!

Are we hitting the mark on the recognized challenges...?



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THANK YOU