UNMANNED AVIATION 2022

DRONE ENABLE 2022

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Keynote & ATM/UTM

Keynote

- Regulatory framework responsive to technology and innovation
- Communications, collaboration and learning are key enablers of UAS
- Societal benefits

ATM/UTM

- Dynamic flight planning and automated decision-making
- Great number of third party service and data suppliers
- UAS integration is much more than UTM
- From segregation to integration - conspicuity and equipage

Facilitation Challenges & Environmental Impacts

FACILITATION OF UAS OPERATIONS

- Annex 9 regarding facilitation – applicable to international UAS operations
- UAS cross-border customs requirements and stakeholders
- Security – crucial to identify the applicable stakeholders

ENVIRONMENTAL IMPACTS – NOISE AND LIFE CYCLE EMISSIONS

- Need for environmental standards for UAS operations
- Life cycle perspective
- Early community engagement to support societal acceptance

Experiences/Best Practices of UTM Systems and Services Deployments

- UTM requirements vary by State and local applications
- Strategic and tactical de-confliction
- Cooperative air traffic
- UTM development and implementation will be incremental
- UTM implementation convergence versus fragmentation

ICAO Materials Supporting Safe Operations

ICAO MATERIALS SUPPORTING SAFE OPERATIONS

- **UAS Model Regulations support harmonization**
- **Training courses inform key personnel**
- **UAS iPack supports implementation**

For more information, please go to:
WWW.ICAO.INT/SAFETY/UA

UAS for Humanitarian Operations

UAS FOR HUMANITARIAN OPERATIONS - JOINT ICAO, UNICEF and WFP

- Diversity of operations
- Challenges: lack of regulations, harmonization, and mutual recognition
- Collaboration between ICAO, UNICEF and WFP
- Future work
  - More data
  - Flight rules
  - Facilitation framework

UTM Data Requirements

- Different use cases = different data tiers
- Standardization
- Data driven approaches
- Trust & Security - bake it in vs sprinkle it on
- Cross-pollination and integration of data across ATM and UTM

Digital Road to UTM Implementation

- Digitilization will lead to operation centric approach
- Transition from analog to digital
- Trust in data quality and reliability
- Flight rules in a more digital environment

ADVANCED AIR MOBILITY – INITIAL CONCEPT OF OPERATIONS

- Sense of urgency to enable AAM to benefit society
- Harmonized concept of operations is needed
- AAM evolutionary approach
- Lessons learned from UTM
- Many areas need to be addressed
- ICAO is stepping up to ensure harmonization

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Thank You!

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