



ICAO Legal Seminar 2024

**New mobility market player's perspective on
legal and regulatory framework**





JEONG IL, KIM
(Vice President)

JOB EXPERIENCE (SK telecom, 2001~Current)

Dec 2023-Current (Vice President)	Head of Global Solution UAM Business Office
Jan 2022-Dec 2023 (Team Leader)	UAM Pilot(Demonstration) Business and Commercialization
Jan 2019-Dec 2021 (Team Leader)	Cloud Business Development and management
Jan 2018-Dec 2018 (Team Leader)	SKT's Online channel management
Jan 2001-Dec 2017	Planning & development segment Product, Implementing the marketing Supporting the CEO's leadership enforcement & organization management Establishing Future channel strategy & Implementation Jul 2011-Dec2013

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Education

Feb 2001	B.S. in Economics, Yonsei University
Mar 2002-Aug 2002	Advanced Program for Innovative Consultants, KAIST Business School
2009-2010	MA & MBA, Business Administration and Management, Strategy, Seoul National University

SKT UAM



Aviation Technological Innovation

Emergence of eco-friendly technologies, prompting technological innovations



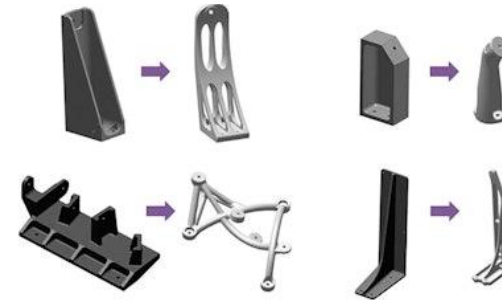
eVTOL

- Electric Powered
- CO₂ Zero Emission
- Low Noise ^{55~65dBA}
- * 60dBA: Normal conversation
- Reliability ^{Multi Rotor}
- Vertical Take-off & Landing
- Low Altitude ^{300~600m}



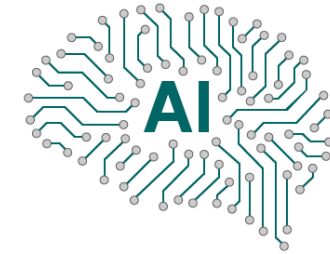
Bio Aviation Fuel

- Low Containment
- Reduce CO₂ Emission
- Eco-friendly feedstocks
- * Algae/Crops/Waste/Fats/Oils
- High Compatibility



3D Print

- Customization
- Complex Geometries
- Fast Prototyping
- Light Weighting
- On-Demand Manufacturing



AI-Big Data

- Improved Decision Making
- Enhanced Predictive Analytics
- Increased Operational Efficiency
- Advanced Risk Management

➤ International organizations and nations are actively engaged in efforts to establish standards, regulations, and policies for new technologies

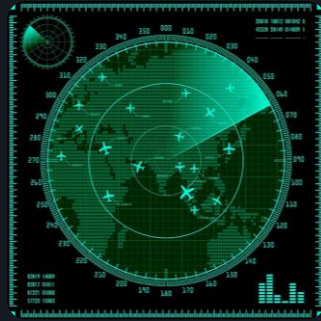
“ UAM? ”

Transportation that carries passengers/cargo
over the urban area

Cutting-Edge solution for traffic congestion and pollution in city area
by using **electric-powered eVTOL*** with zero emission.

* electrical Vertical Take-Off and Landing

UAM Business Value Chain



Vehicle Manufacture & Operation

- Vehicle Manufacturing
- Vehicle Maintenance
- Vehicle Components
- Training & Licensing on Pilots, Maintenance and etc

Service Provider

- Operating Service
- Integrated Control
- Communication System
- Service Platform

Infrastructure

- Vertiport Construction
- Vertiport Operation
- Vehicle Charging Infra
- Security

Regulatory Body

- Business Rights
- Route Permission
- Law
- Qualifications
- Aircraft Certification

Local Governments

- Development of Specialized Routes
- Vertiport Authorization

Why SKT UAM?

“ Three major areas AI infra, AIX, AI service , Road to Global AI company through 'AI Pyramid' ”

→ Expanding into UAM business with AI capabilities to emerge as a Mobility leader

AI service

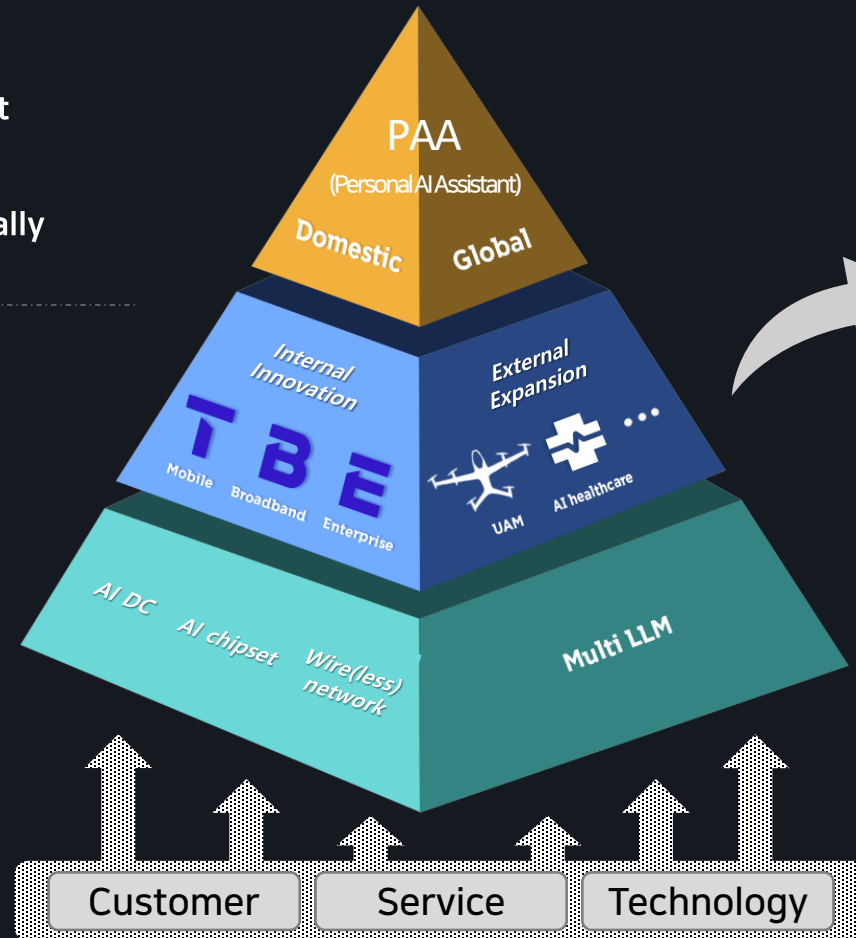
- Successfully launching the AI personal assistant service "A-dot" into the market
- Regaining customer engagement through globally top-notch Personal AI agent(PAA)

AIX

- Transitioning core businesses such as Telecommunication and enterprise into AI
- Expanding AI capabilities into other industries like UAM and healthcare

AI infra

- Leveraging accumulated capabilities in AI-based areas such as AI DC, AI semiconductors, On-device AI, LLM to quickly generate visible results in the rapidly growing AI era



Mobility Leader

Realizing 3D connection between Air to Ground through differentiated technological bases such as AI, 5G/6G, autonomous driving, becoming a leading Mobility Operator





All-round Business Cooperation (Aircraft, Service, System and etc)

* SKT's \$100M equity investment in Joby Aviation (June 2023)

K-GC Collaboration Agreement (Sep 2023)

Joint Development of UAM Biz in Korea

- First to introduce Joby's aircraft overseas for demonstrative purpose
- Joint Participation in K-UAM Grand Challenge
- Collaboratively develop Local UAM Markets

System/Data Cooperation

- Cooperation for Local UAM Data Analysis
- Collaborative System & Platform Development

278 km max range	330 km/h top speed	3,048m top height	Low noise level
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GOING THE DISTANCE	*Full-scale Test Flights Numbers	
17,380+ km flown	1,500+ flight tests achieved	400+ means of compliance accepted

K-UAM Grand Challenge

“ Private-public joint demonstration project hosted by MOLIT & KARI, validating K-UAM operation standards, system integration and safety ”

Vehicle · Operator

- UAM Vehicle Safety (Performance, Handling Quality)
- Operation procedure and integration



Vertiport Operator

- Vertiport operation, surveillance and airspace design
- Design standard, ground & passenger handling



ATS Provider

- ATS capability (Traffic Monitoring/Airspace Management)
- CNSi service capability



SDSP Supplement Data Service Provider

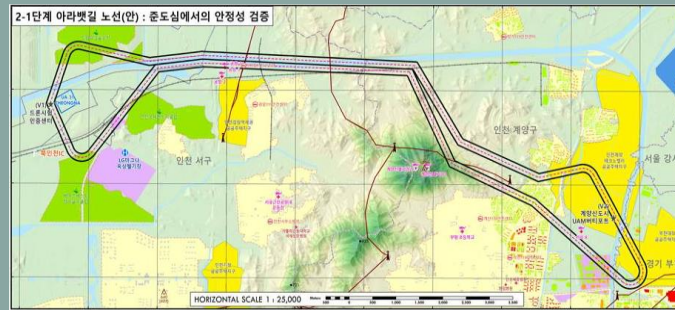
- 3D map visualization with precise terrain information
- Vertiport/En-route Weather information



GC Stage 1 (Goheung)
Aug. 2023 ~ Dec. 2024



GC Stage 2-1 (Incheon)
Jul. 2024 ~ Mar. 2025



GC Stage 2-2 (Seoul)
Apr. 2025 ~ Jun. 2025



Local Business Development

Seoul · Incheon

- Grand Challenge 2 stage^{Aug 24~} Participate
- Preoccupying influential routes and preparing for commercialization

Chungcheong

- Chungcheong ultra-wide area MOU^{Oct 2023}
 - Preparing for UAM site, facility for commercialization

Jeju

- Consortium-Jeju MOU^{Sep 2022}
 - SKT-Joby-Jeju MOU^{Oct 2023}
- Jointly develop Initial Vertiport Sites & routes



Daegu · North Gyeongsang

- Consortium-Daegu MOU^{Oct 2022}
- Consortium-North Gyeongsang^{Nov 2023}
- Preparing for UAM Transportation Network & Routes linking the Daegu-North Gyeongsang New airport²⁰³⁰

Busan · South Gyeongsang

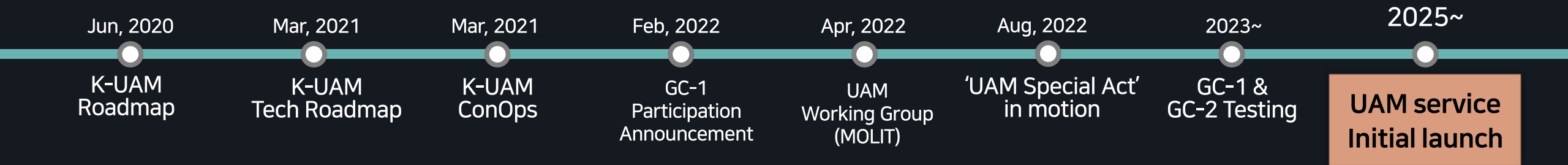
- Busan EXPO UAM collaboration MOU^{Feb 2023}
- South Gyeongsang MOU for UAM biz dev at South Coast Tourism Belt^{May 2023}

Legal Perspectives



Korea UAM Policy Trend

History



Issues

UAM Selected as one of South Korea Presidential Agendas

- To establish infrastructure, regulation and testbed for UAM commercialization in 2025

UAM Special Act (Oct 2023)

- Inducing active participation by establishing regulatory exceptions and business support for UAM (Assembly Approval / Oct 2023)

Head Ministrative



R&D Project

- K-UAM technology development projects carry out by 5 ministries
- SK Telecom is participating as part of consortium

Organizing Agency



Grand Challenge

- Safety and operability demonstration with public/private joint demonstration program
- SK Telecom is one of the participants joining Grand Challenge partnering with Joby Aviation

Vehicle Certification



Global UAM Policy Trend



K-UAM Roadmap Jun 2020

K-UAM Tech Roadmap Mar 2021

K-UAM ConOps Mar 2021

UAM Grand Challenge Dec 2021

UAM Team Korea Dec 2022

UAM Special Act Oct 2023



Agility Prime Program Feb 2020

UAM ConOps Ver 1.0 Jun 2020

AAM National Campaign

AAIM Act(H.R 6270) Jun 2022

UAM ConOps Ver 2.0 Apr 2023

Innovate28 Jul 2023



(EASA) SC-VTOL-01 Jul 2019

(EASA) MOC-SC-VTOL May 2020

(EASA) Artificial Intelligence Roadmap Feb 2020

(UK) Future flight challenge May 2020

(France) Re.Invent Air Mobility Challenge 2020~

(EASA) Artificial Intelligence Roadmap 2.0 May 2023

- Differences exist in policies, depending on each country's flight environment, legislative system, UAM Roadmap, etc.
- BUT, most regulations globally abide by existing aviation laws applicable to each country.

ICAO SARP's Characteristics



Personnel Licensing



Rules of the Air



Meteorological services



Aeronautical Charts



Unit of Measurement



Operation of Aircraft



Nationality and Registration



Airworthiness of A/C



Facilitation



Tele-communication



Air Traffic Services



Search & Rescue



Accident & Incident Investigation



Aerodromes



Aeronautical Information



Environmental Protection



Security



Safe Transportation of DG by air



Safety Management

Regulatory Implementation

- Highly uniform to international standards
- Most countries comply with ICAO standards
- Should notify ICAO on any deviations

ICAO USOAP

Compliance Evaluation

(*In regard to Law, Organization, Qualification, Operation, Airworthiness, etc.)

- (KOR) Overall compliance rate of 98.57% ²⁰¹¹
- (Avg.) Approximately 70% ²⁰²⁴
- * Law/regulations (77%), qualifications (73%), navigation (71%), etc.

- The UAM legal framework closely relates to ICAO SARPs, thus should take into consideration the social, economic, and administrative impacts of SARPs revision
- ICAO's SARPs are highly relevant to the UAM industry in all aspects.
- South Korea has a high compliance rate with ICAO USOAP.

Consideration of enactment/revision – International & National

Industry perspective - Shape regulations considering countries' legal systems & for revitalizing UAM

International Level

Share information

- ✓ Foster participation from various nations & industries, by equivalent information sharing

Understand difference

- ✓ Take account the difference in Country's level of accepting international standards

Thoroughly analyze impact

- ✓ A multi-faceted approach on the impact of regulations

National Level

Regulatory Impact Review

- ✓ Examine the impact on the regulated party from various aspects

Enforce safety regulations

- ✓ Provide strong enforcement power on safety issues and regulations

Revitalize the Industry

- ✓ Supportive regulation to revitalize new businesses such as UAM

- Regulations should be reviewed in multiple aspects, considering similarities & differences
- Supportive regulation should be established to revitalize the UAM industry.

Considerations for International standards

Share information

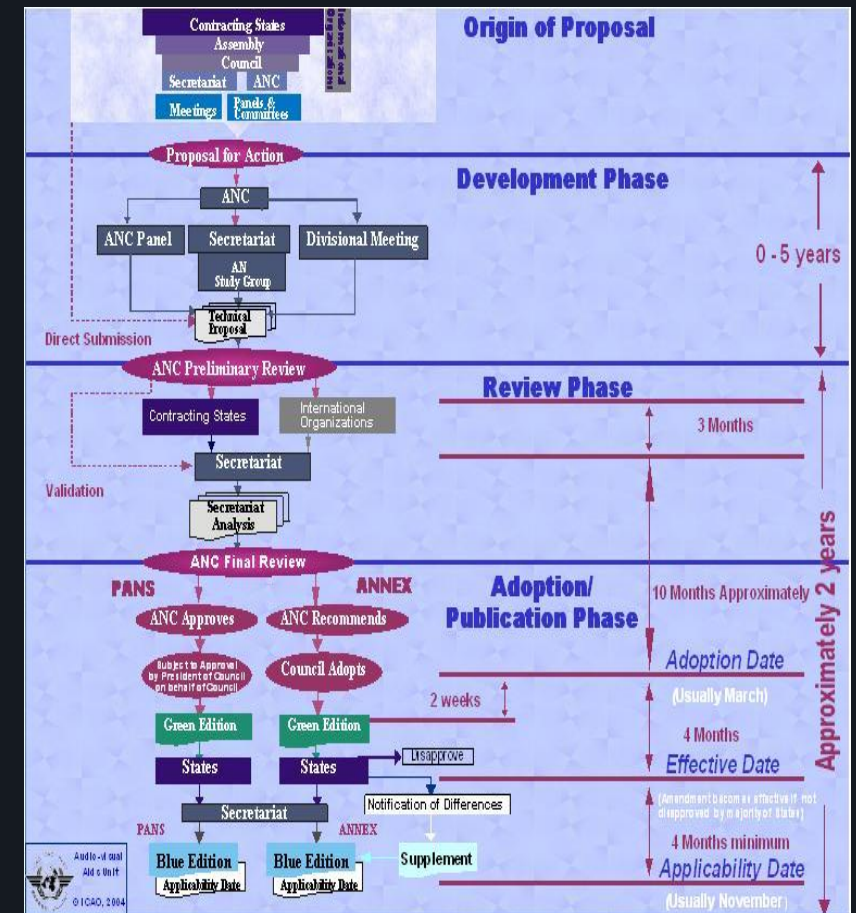
- ✓ The level of information varies largely by whether the country is a member of the navigation commission/panel or not.
- ✓ Especially for eVTOL, should actively participate in sectors affected by regulatory amendments

Understand difference

- ✓ Should take account country's legal systems (Soft law/Hard law) and the degree to which the country can accept international standards
- ✓ Sufficient time and guidance needed for Contracting States to fully collect opinions from industry and relevant parties.

Thoroughly analyze impact

- ✓ Before adoption, proactively analyze regulatory impacts via Panels & SGs
- ✓ Make use of quantitative analysis, collect opinions from relevant stakeholders



SARP's amendment Process

- Prior to enactment/revision, thoroughly provide information & collect opinions from Contracting States.
- Conduct quantitative impact analysis & Perform legal advisory roles to various stakeholders

Considerations for Contracting States

Regulatory Impact Review

- ✓ Examine the impact on the regulated party from various aspects
- ✓ Consider alternatives and quantify cost-benefits
- ✓ Revitalizing new biz through continuous monitoring & feedback

Enforce safety regulations

- ✓ Strengthen enforcement power to ensure safe flights for eVTOLs
 - ✓ Airworthiness, flight rules, qualifications, operation, air traffic management, etc.
- ✓ Deregulate only after sufficient verification with actual flight tests & simulations

Revitalize the Industry

- ✓ Enhance public acceptance by expanding UAM into public services
 - ✓ Public-led infrastructure, Guarantee public demand, subsidy support, etc



Regulatory Impact Analysis Schemes

- Examine regulatory impact on affected parties & review alternatives in diverse aspects
- Maintain safety regulations while introducing means for industry support

Thank You

