

UNSW Aviation Society

# Aviation International Study Abroad Program Report

South Korea 2018



A collaboration between the  
UNSW Aviation Society & UNSW School of Aviation





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Air Transport Research Society (ATRS) administration team

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Prof. Gabriel LODewIJKs, Head of School, UNSW School of Aviation

Dr. Tay KOO, Lecturer, UNSW School of Aviation

This report has been produced by all study participants:

Air Transport Research Society (ATRS) - Aanchal BHARAMBE, Eliana CHOUEIFATI and Asharie DISSANAYAKA.

Korea Airports Corporation - Kevin TAO, Hugo WALSHAW and Jonathan WONG.

UBjet - John NAYAN, Dana THOMAS and Annie ZHAI.

Jeju Provincial Government and Jeju University - Siriyakorn CHAIMUEANGMUN, James TAN, Tina TRUONG.

Korean Air Site Visit- Weijin MIN, Juayma PEREZ, Asta TSE.

Incheon International Airport - Calvin CHAN, Linfeng DAI, Mook SIMARAKS.



# 22nd Air Transport Research Society (ATRS) World Conference

By Aanchal Bharambe, Eliana Choueifati and Asharie Dissanayaka



**AISAP participants at the ATRS World Conference, Intercontinental, Seoul Parnas (Image: AvSoc)**

In the heart of Seoul, at the InterContinental Grand Seoul Parnas, the Air Transport Research Society (ATRS) held their 22nd annual four-day conference. From the 2nd to 5th of July, academics presented their reports and research on various aspects of the aviation industry.

On the first day, a welcome reception was held for all participants, it was a good opportunity for us to network with the individuals in the industry.

The second and third day comprised of information sessions and panel sessions on topics such as tourism, regulatory air policy, air traffic control, aviation safety and security, human



**Dr Ian Douglas presenting at the ATRS World Conference (Image: ATRS)**

resource management, airport and airline strategy. These sessions provided with a good insight into the current aviation industry and the various measures of impact that certain actions may have on the industry as a whole. Academics from UNSW: Dr Ian Douglas, Dr Tay Koo

and Dr Cheng-Lung (Richard) Wu also presented at these sessions. The ATRS General Assembly was held on the fourth day to mark the conclusion of the conference and afterwards participants were presented a chance to visit the DMZ (Demilitarized Zone) or to go on a Seoul City Tour. Overall, this conference provided knowledge on how external factors can affect the industry, for example, implementing a tax on fuels and carbon emissions



**Dr Cheng-Lung (Richard) Wu presenting at the ATRS World Conference (Image: ATRS)**

**AISAP participant Hugo Walshaw (third from left) collects his lucky dip ATRS prize (Image: ATRS)**



The UNSW Aviation Society thanks the UNSW School of Aviation for their generous sponsorship. Attendance at the ATRS World Conference would not be possible without the UNSW School of Aviation's generosity.





# Jeju National University Museum

By Siriyakorn Chaimueangmun, James Tan and Tina Truong

As we visited Jeju island, it was crucial that we learn about the history of the island so that we were able fulfill our understandings of the traditions, cultures and people on the island.

We explored these understandings through visiting the Jeju museum located in Jeju National University (JNU). Curated within the museum included artworks of Confucian figures, tradition Jeju tools and clothing, natural artefacts originating in Jeju and examples of signs and symbols used by the people of Jeju. These histories have made Jeju a unique and must visit place.

Through this experience we are able to enrich our knowledge regarding



**AISAP participants & Dr Gabriel Lodewijks relaxing at JNU (Image: Eliana Choueifati)**

the reasons why tourists visit Jeju (such as for the purpose of cultural immersion) and hence draw implications on the popularity of Jeju to global tourists and its implications to Jeju International Airport such as the need for expansion to facilitate increased aircraft movements.

**AISAP participants & UNSW staff at the JNU Museum (Image: AvSoc)**



# Jeju Provincial Government Policy

By Siriyakorn Chaimueangmun, James Tan and Tina Truong



**AISAP participants & UNSW Staff at the Self-Governing Province Office of Jeju (Image: AvSoc)**

Our stay in Jeju consisted of a presentation held at the Self-Governing Province Office of Jeju. We were presented with the strategies implemented by the Jeju tourism organization along with Jeju's tourism trends

The impact of tourism on Jeju were shown through events such as the introduction of Malaysian tourists through Air Asia X's route from Kuala Lumpur to Jeju and China's halting of flights between China and Jeju. We were shown the initiatives that were introduced to promote tourism such as buses with English writing and free Wifi at every bus stop

In general, we have learnt that diversification in tourist's origins, is desirable to mitigate shocks and risks within the tourism industry



# Korean Air

By: Weijin Min, Juayma Perez and Asta Tse



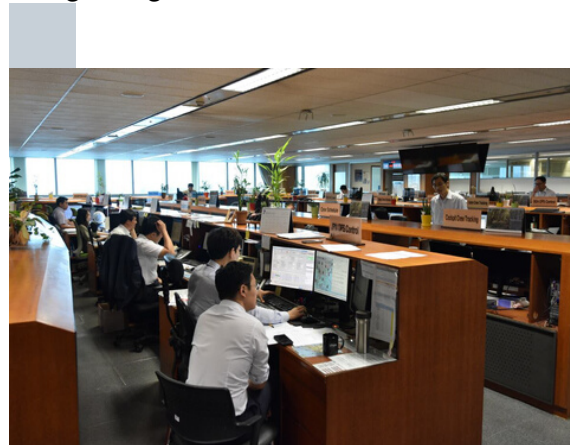
AISAP participants & UNSW Staff at the Self-Governing Province Office of Jeju (Image: AvSoc)

The visit introduced students to knowledge of various planning and operational functions of an airline. The Korean Air Headquarters was simple but grand with distinct departments such as the scheduling and operations control centre which the UNSW aviation students saw first-hand.

Daily operations of several staff members and their duties were explained to students, such as scheduling, crew rostering and flight dispatcher roles including the monitoring of fuel consumption, weather, weight and balance and any other problems that may arise over the course of a flight. Students also learned how operational staff overcome challenges and



Korean Air Operations Control Centre (Image: Hugo Walshaw)



Korean Air Operations Control Centre (Image: Jonathan Wong)

communicate with each other and their flight crews within Korea and globally.

In addition, the students were given the opportunity to fly a B747 simulator with an instructor who briefly explained the process of flying. He also patiently answered many questions regarding the numerous controls.



Korean Air 747 simulator (Image: Weijin Min)

The students also visited the hangar and saw the maintenance operations of Korean Air aircrafts, which was an eye opening and exciting experience. The visit greatly increased the student's knowledge of the operations and work behind the scenes of an airline but also consolidated the student's passions to work in the aviation industry.



Korean Air 747 FMC (Image: James Tan)

**AISAP participants & UNSW staff at Korean Air's HQ hangar with Korean Air aircraft in the background (Image: AvSoc)**





# Korea Airports Corporation

By Kevin Tao, Hugo Walshaw and Jonathan Wong



**AISAP & UNSW Staff participants with KAC manager of the Air Navigation Facilities Team Byong Kwang Kim & UBjet CEO Jason Jaesong at the KAC Head Office, Gimpo International Airport (Image: AvSoc)**

The Korea Airports Corporation (KAC) information session was held at the KAC head office building, located directly adjacent to Gimpo International Airport's Domestic Terminal.

The information session provided us with a broad-scoped overview of KAC including the 14 Korean airports they manage, to the daily operational procedures. We were enlightened to the corporation's philosophy of continuous improvement and advancement within the realm of technology, as well as their underlying focus on maximising customer satisfaction.

The information session delved into

specific operational procedures relating to KAC's management. For example, airports utilise a combination of primary and secondary radars in their air traffic control towers.

Primary radar, which identifies position only, has coverage of 60nm up to FL250. Secondary radar, which interrogates an aircraft's transponder for details such as altitude, callsign and heading has coverage of 200nm up to FL1000.

At Gimpo International Airport, there is both a primary control tower and backup control tower, in case of failures in the former KAC's airports employ Instrument Landing Systems



The ATC Tower at Gimpo International Airport (Image: Jonathan Wong)

(ILS) for inbound aircraft. The ILS consists of a localizer, which guides an aircraft's lateral position, and glideslope, which guides an aircraft's vertical position. Gimpo International Airport has Category 1 ILS systems on 3 of its runways and Category 3a on one runway.

Gimpo International Airport's northerly position relative to Seoul Incheon International Airport means that its radars can also be used to scan for and identify aircraft movements in North Korean airspace. This means that KAC can play an active role in airspace safety management.



The Old ATC at Gimpo International Airport (Image: Jonathan Wong)



Aircraft at Gimpo International Airport (Image: Hugo Walshaw)



# Seoul Incheon International Airport

By Calvin Chain, Linfeng Dai and Mook Simaraks



Seoul Incheon International Airport Terminal 2 departures floor (Image: Jonathan Wong)

Seoul Incheon International Airport Terminal 2 had just opened in the beginning of 2018 with 5 storey terminal preparing to serve over 18 million passengers a year.

Currently, four airlines operate from this terminal: KLM, Korean Air, DELTA and Air France.

Terminal 2 involves 3 phrases: "Green", "Ecofriendly", "Smart".

Green: The terminal design is very unique especially the glass ceiling design, which can let the natural light enter the terminal and indoor garden.

Eco-friendly: Natural lights, Solar panels and geothermal system reduce energy consumption and therefore makes it ecofriendly.



Skylight at Incheon Airport (Image: Mook Simaraks)



Smart: "Smart Airport", with highly advanced technology for self check-in, bag drop, customs, immigration and boarding gates.

Incheon airport Terminal landside site visit: looked at AREX railway express connecting passengers between T1 and T2.

Incheon Airport Observatory: a brief presentation of the history and future development of T2. The innovation of the "cleaning robot" fascinated everyone.

We have explored a bit of everything about the airport. We got to see how South Korea operates their airport with new technologies, terminal design, security system, etc. and maintain their current facilities to maintain their competitiveness. We learned from being able to compare



**Cleaning Robot at Seoul Incheon International Airport (Mook Simaraks)**

our airports with those in Korea, gaining a deeper appreciation of the design concepts and behind the scenes features.

**Airside at Seoul Incheon International Airport Terminal 2 (Image: Jonathan Wong)**





# UBjet Aviation

By John Nayan, Dana Thomas and Annie Zhai



**AISAP & UNSW staff participants with UBjet Aviation CEO Jason Jaesong at Seoul-Gimpo Business Aviation Centre (Image: AvSoc)**

UBjet Aviation is an on-airport service provider which we had the amazing opportunity to visit as part of the study abroad program in Seoul. With a small staffing strength of less than 10 people, UBjet provides support service for business and private aviation through management of third party contractors. This allows them to cover a large range of on airport support services including operational support, ground handling, crew and passenger service at airports within Korea.

We were also brought to the Seoul-Gimpo Business Aviation Centre (SGBAC), a dedicated VIP terminal located at Gimpo Airport. This visit showed us the inner workings of a private business terminal, which



**The view of the tarmac at the SGBAC (Image: Hugo Walshaw)**

included the design of the passenger lounges, cabin crew quarter, and an exclusive Customs, Immigration and Quarantine (CIQ) area. In particular, the cabin crew quarter is well equipped with rooms for pre-flight briefings, refreshments and sleeping quarters that ensure the safety and fatigue management of the cabin crew.

During this visit, we all had an amazing experience learning about the operations of a private terminal, its hiring, landing processes and the overall expenses in providing this private sector service.

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**The lounge at SGBAC (Image: Hugo Walshaw)**







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