Challenge Report
Team Air A

Background
Challenge
Report & Presentation
Pamphlet
Team Members
The 20th ASEF Summer University (ASEFSU20) was held from 15 August – 3 September 2016 across China, Mongolia and the Russian Federation on the theme “Gateways to Asia and Europe: Connectivity by Land, Sea and Air”. 47 participants representing 45 ASEM partner countries joined the 3 week educational journey and solved real-life challenge scenarios on the topics of connectivity and transportation linked with 4 major transportation modes: 1) road, 2) rail, 3) maritime, and 4) air.

The route included Beijing, Harbin, Vladivostok, Chita, Irkutsk and Ulaanbaatar, and each of the 6 cities visited focused on a different facet of connectivity. Participants attended lectures, trainings and workshops on the specific topic and also simultaneously explored it hands-on through site visits to historically important locations, transportation hubs and commercial centres.

The participants, carefully chosen from 8,222 applicants, developed business plans, mobile applications, social media strategies, policy briefs and promotional materials on the 9 following challenges:

- Safe transportation of cultural artifacts
- Accessibility to public transport for physically disabled people
- Green logistics
- Spread of infectious diseases through increased air traffic
- Security at railways
- Sustainable ecotourism
- Frameworks on the management of autonomous underwater vehicles
- Combat of human trafficking at major transportation hubs
- Enhancing the visibility of the ASEM Transportation Ministers’ Meeting (ASEM TMM).

Organised by the Asia-Europe Foundation (ASEF), the ASEFSU20 journey was made possible due to the joint efforts of many partners involved in this project: the Ministry of Foreign Affairs of the People’s Republic of China, the Ministry of Foreign Affairs of Mongolia, the Ministry of Foreign Affairs of the Russian Federation, the Ministry of Education and Science of the Russian Federation, Beijing Jiaotong University, Harbin Institute of Technology, Vladivostok State University of Economics and Service, Transbaikal State University, Irkutsk State University, Mongolian Youth Federation and Ulaanbaatar Railway Joint Venture Company. The project was also supported by the Far Eastern Federal University, Russian Railway Tours, UNICEF, Heiko Seibel Fotographie, Fraport AG, Subnero, Safehouse Foundation, Chester Beatty Library, the European Network on Independent Living among many others.
Challenge
Team Air A

#aviation #pandemics #connectivity
What actions need to be taken to secure safety and respect cultural needs of passengers and employers at airports as well as the local population in case of a pandemic outbreak?

#aviation #pandemics #connectivity
“Pandemics will move as rapidly as the vectors that transport the pathogen.” (Gaber et al, “Screening for infectious diseases at international airports.”)

In the past, ships served as vectors that carried infectious diseases across continents. With aviation becoming the second most popular travel mode (“Tourism travel by transport modes”, European Environment Agency.), airports have become today’s gateways for the international spread of infectious diseases.

Infectious diseases can easily reach all corners of the globe. Non-stop flights and airport hubs like Frankfurt, where up to 50% of the passengers are in transit, facilitate a rapid transmission of viruses. The fast spread of the Severe Acute Respiratory Syndrome (SARS) pandemic serves as an illustration. Within 3 days, SARS affected patients across 4 continents. Strict entry and exit controls at high-risk airports are therefore crucial to “events that may constitute a public health emergency of international concern.” (Dickmann et al, “New influenza A/H1N1 (“swine flu”).) Towards this purpose, high-security surveillance and response systems for airports, as mandated by the International Air Transport Association (IATA), generate crucial data on the movement and tracking of passengers’ contacts.

Still, what will happen in the case of an emergency? Imagine…

an Airbus A380 with 600 passengers and 30 staff, representing 21 nationalities on board, has just landed at Frankfurt International Airport. At the same time, the Federal Ministry of Health receives a statement issued by WHO about the outbreak of a highly infectious disease abc in country xyz. Both virus and source are so far unknown. Health experts suspect that the virus was contracted via air droplets; final confirmation is pending. First symptoms are fever, body ache, rashes and heart palpitations.

A first screening of the passenger list shows: circa 10 passengers originate from the country of outbreak. Furthermore, over 40% of the passengers are on transit, amongst them 20% without a Schengen visa.

Fraport AG and the team of Dr GABER have built up in-depth experience in pandemic management at a major airport, to ensure the safety of passengers, employees and the local population.

**Your Mission:**

Your mission is to assist Fraport AG and Dr GABER’s team by developing an Action Paper for this scenario, including out-of-the-box, creative solutions applying apps, campaigns, policy recommendations, initiatives, etc.
Further Reading

Information on Frankfurt International Airport & Fraport AG

1) Fraport AG.

Information on the correlation of public health and aviation:

1) “Standards, manuals and guidelines: Safety & Ops.” International Air Transport Association (IATA).
http://www.iata.org/publications/Pages/standards-manuals.aspx

http://www.icao.int/safety/Pages/default.aspx

http://www.capsca.org/

4) “International travel and health.” World Health Organization (WHO).
http://www.who.int/ith/en/

http://www.aci.aero/About-ACI/Priorities/Health

pandemic action plan for Frankfurt Airport

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Andrea Solomonides | Cyprus
Yosea Kurnianto | Indonesia
Martina Kadunc | Slovenia
Andrej Mikula | Slovakia
An Airbus A380 lands at Frankfurt Airport

- 600 passengers
- 30 staff
- Representing 21 nationalities
- 10 passengers from country of outbreak
- 240 transit passengers (40%)
- 48 transit passengers do not have a Schengen visa

WHO issued a statement of an outbreak of a highly infectious disease to the Federal Ministry of Health.

Virus suspected to be contracted via air droplets.

Symptoms are fever, body ache, rashes and heart palpitations.

Our mission is to assist Fraport AG and Dr GABER’s team by developing an Action Paper for this scenario, including out-of-the-box, creative solutions applying apps, campaigns, policy recommendations, initiatives, etc.
THE CRISIS MANAGEMENT TEAM LEADS THE PROCESS ONCE THE AIRPORT RECEIVES INFORMATION OF POSSIBLE PANDEMIC OUTBREAK. THE CRISIS TEAM INTERACTS WITH OTHER TEAMS WHEN NEEDED.

- **CRISIS MANAGEMENT TEAM**
- **MEDICAL TEAM**
  - Ensures the rescue services, provides emergency medical care, ambulance transports, medical emergency management, and other medical services. The team consists of 20 members with at least one male and one female doctor.
- **COMMUNICATIONS TEAM**
  - Is in charge of all communication and stakeholder coordination aspects of the process and supports the medical team to inform passengers, airlines, and stakeholders. The team consist of at least 3 members with expertise in crisis communication.

- **Safety and Security Control Center**
- **Airport Fire Services**
- **Security**
OUR SOLUTION: A 5 Step Process

This action plan provides a staged approach for the airport to ensure that the pandemic is identified early and contained early. This helps to prevent the spread of the pandemic whilst minimising any impacts on airport operations.

The purpose, key responsibilities and relevant processes of different stakeholders are explained at each stage. Within each stage out-of-the-box ideas are also proposed that could improve the efficiency of the overall process.
### SUMMARY OVERVIEW OF THE STEP BY STEP ACTION PLAN

<table>
<thead>
<tr>
<th>Step</th>
<th>Time after the plane lands</th>
<th>Who is in charge?</th>
<th>Core task</th>
<th>Our crazy out of the box ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1</strong> Information kick-off</td>
<td>10 min</td>
<td>COMMUNICATIONS TEAM</td>
<td>Prepare and manage information flow to relevant stakeholders</td>
<td>Slide 8</td>
</tr>
<tr>
<td><strong>STEP 2</strong> Passengers screening</td>
<td>25 min</td>
<td>MEDICAL TEAM</td>
<td>Prioritize Passenger Screening reduce airport disruption</td>
<td>Slide 11</td>
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<tr>
<td><strong>STEP 3</strong> Passenger allocation</td>
<td>45 min</td>
<td>MEDICAL TEAM</td>
<td>Allocate passengers quickly and safely</td>
<td>Slide 14</td>
</tr>
<tr>
<td><strong>STEP 4</strong> Quarantine</td>
<td>+ 1 day</td>
<td>MEDICAL TEAM</td>
<td>Create a safe and culturally appropriate environment</td>
<td>Slide 16</td>
</tr>
<tr>
<td><strong>STEP 5</strong> Handover</td>
<td>+ 1 day</td>
<td>MEDICAL + COMMS TEAM</td>
<td>Distribute further actions to relevant stakeholders</td>
<td>Slide 18</td>
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</tbody>
</table>
STEP 1 INFORMATION KICK-OFF AIMS TO PREPARE AND MANAGE INFORMATION TO RELEVANT STAKEHOLDERS AND PASSENGERS OF THE POTENTIAL PANDEMIC OUTBREAK

This step is managed by a crisis communication team established as a separate team within the crisis management team. The team has at least three members: a head of passengers communication, a head of internal communication and a head of external communication.

PASSENGERS: Early and transparent communication to passengers on the plane to build trust, manage uncertainty and fear:
- Announcement to passengers on the plane: Pilot announces the landing procedures will be extended due to operational reasons. Further details are communicated by the head of passengers communication once the emergency team boards the plane.
- The head of passengers communication ensures a pictorial pamphlet with the description of the emergency process, contacts and passengers location cards are ready for distribution to passengers.
- A hot line for family and friends is established and appropriately resourced.

STAKEHOLDERS: Early and continuous engagement with national and international stakeholders:
- Airlines provides passengers data to the crisis communication team.
- Information channel is established with the Ministry of Health, Ministry of Foreign Affairs, Ministry of Transport, Police Department, Local Health Department, ECDC. Communication is carried out through a secure line (e.g. VPN that is not affected by the network overloads).
- Stage loop for stakeholders: Information to stakeholders informed of developments at the end of each stage of the process and vice versa.

MEDIA: Tightly managed media:
- Ready made Press kit, list of media outlets [this needs to be in place before any pandemic – usually the marketing department of the airport has a list in place – it needs to be updated regularly]
- Instructions for the press in place [basic procedural at first like “don’t spread panic, this is the only official communication they are going to be getting etc.”]
- Establish a 10 min loop for information
- The airport deploys a ready made basic health prevention video to play in the airport [Calm video that demonstrates how to protect yourself, that there is no reason to panic etc.]
- Location specified and equipment ready
Pictorial pamphlet for passengers
INFORMATION KICK-OFF
CRAZY IDEA SECTION

1. APP for scanning Press representatives, holding information and issuing press tags automatically on the phone in order to track press related material for post-crisis evaluation.

2. Use Facebook Live for people that want to have real time information loop.

3. Live streaming in other means of social media.
**STEP 2 PASSENGER SCREENING** AIMS TO RISK PRIORITISE PASSENGER SCREENING TO CONTAIN THE PANDEMIC AND REDUCE DISRUPTION TO AIRPORT OPERATIONS.

This step is implemented by the airport medical team in conjunction with the airport communications crisis team. The airport medical team comprises of two doctors, two public health officers and two communication officers.

**Airport medical team comprises:**
- two doctors, two public health officers and two communication officers.

**Responsibilities**
- **The doctor** will be the medical and team lead for this stage on the plane. They will be the authoritative voice in communicating the medical perspective of the crisis and final determination on passenger screening issues.
- **Communication officers** are responsible for undertaking all communications with passengers (with appropriate doctor input), including but not limited to: announcements over the public announcement system, answering passenger questions and distributing pictorial pamphlets describing the process that passengers will experience. Importantly the role of communication staff is to exude calm and ensure passenger screening can be undertaken with minimal disruptions.
- The two **public health officers** are responsible for rapid risk assessment of passengers including looking for initial symptoms of the pandemic amongst passengers and crew, and colour coding passengers appropriately.
- **Cabin crew** will look out for passengers suppressing symptoms to avoid quarantine measures, assist with distribution of pictorial pamphlet, distribute Passenger Location Cards and assist with translations of announcements as required.

**Steps**
- Medical team enters plane equipped with the standard kit of personal protective equipment

  **Communication officer**
  - Communication officers and cabin crew distribute pictorial pamphlets.
  - Accompanies public health officers and the doctor during screening processes.
  - Communication person introduces procedures to be undertaken by medical personnel in English and German. Additional translations to be provided by cabin crew.
  - Calm people down, ensure key messages are reinforced in an appropriate calming manner. They will deal with any questions from other passengers not currently being initially screened.
STEP 2 PASSENGER SCREENING AIMS TO RISK PRIORITISE PASSENGER SCREENING TO CONTAIN THE PANDEMIC AND REDUCE DISRUPTION TO AIRPORT OPERATIONS.

Public health officer

- Undertakes initial screening of passengers looking out for visible symptoms (fever, body ache, rashes and heart palpitations).
  - For example, identifying fever via. thermoscans and non invasive medical screening.
- Color-coding of passengers commences with visibly ill passengers, the 10 passengers from the pandemic country of origin and those within 2 metres of high risk passengers.
- If a transit passenger shows any visible symptoms they are quarantined to prevent the disease spreading to other countries.
- An option of being screened by female doctors will be made available to passengers.
- Passengers will be allocated a colour coded estimote beacon bracelet linked to a data file for each passenger.
  - The estimote beacon bracelet will allow passengers to be tracked as they go through the process of screening and allows for data to be easily accessible to a range of appropriate stakeholders, including for medical and safety issues.
  - The communications person will take a snapshot of each Passenger Location Card and passport, and ‘activates’ the bracelet. [see slide 14 – passenger allocation].

Cabin Crew

- Cabin staff to observe passengers suppressing symptoms and report to appropriate medical staff.
PASSENGER SCREENING
CRAZY IDEA SECTION

1. Robot doctor to be deployed during pandemic situations reducing risk to airport staff and being equipped to undertake initial passenger screening.

2. Drone thermo scans which could quickly be used to provide passenger footage including passenger seating arrangements and may be able to use thermal technology to screen passengers to further reduce screening times.

3. All airport staff to utilise glasses that can layer data onto real life. For example, Google glasses if a version of this is ever produced commercially.

4. Use psychologic research to induce people to be more honest. For example, religious icons or text can make people become honest 10-15 minutes after seeing it.

5. Suits can be re-designed with more familiar colors of sketches in order to get act more friendly.
STEP 3 PASSENGER ALLOCATION AIMS TO TRANSPORT PASSENGERS QUICKLY AND SAFELY AT THE DESIGNATED AREAS BASED ON THE GROUP TYPE

This step is implemented by the airport medical team in conjunction with the airport communications crisis team. The team has at least 6 members: two doctors, two communication officers and minimum 2 public health officers.

Passengers with origin from pandemic outbreak country - direct transport of an infected person from the aircraft to the Frankfurt/Main University Hospital, Infection Department.

Contact persons during the flight within a distance of 2 meters, as well as non-infectious family and / or travel. Further medical screening in the quarantine area located at the airport or outside of the airport- hotel or gym (further elaborated on the following slide).

Passengers without close contact to the index patient. The designated Airport Physician or the representative of the Frankfurt/Main Health Department provides passengers with pamphlets on where to seek further information and the crisis hotline. No hospital or quarantine allocation needed even though they are also advised to seek further medical assistance if any symptoms develop.

Potential Adjustments

Pre-clearance for ambulance drivers/medical staff to attend in a crisis situation on the runway when airport medical resources are stretched.

Each bus should be equipped with scanning technology for the passenger bracelets, ensuring passengers get on the right bus whilst being able to track the location of people.
### Comparison of Quarantine Options

<table>
<thead>
<tr>
<th>Airport quarantine</th>
<th>Hotel</th>
<th>Gym</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ The closest location</td>
<td>+ Privacy for each passenger/patient</td>
<td>+ The biggest capacity</td>
</tr>
<tr>
<td>+ No need for public transport</td>
<td>+ All hygienic needs provided</td>
<td>+ Financially reachable solution</td>
</tr>
<tr>
<td>+ No issue for transit passengers</td>
<td>+ The convenience type of quarantine</td>
<td>+ Easy to make space changes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Limited capacity</td>
<td>- Highest expenses</td>
<td>- Low level of privacy</td>
</tr>
<tr>
<td></td>
<td>- Difficult decontamination process</td>
<td>- Additional hygienic development needed</td>
</tr>
</tbody>
</table>

*more info in STEP 4 – Quarantine [slide 15]*
1. Use Estimote beacons instead of just color coded stickers. Estimote beacon stickers are smart and can be programmed really fast to be connect with a relevant app so passengers are monitored more efficiently.

2. Organize passengers in teams with the challenge to always keep track of each other, help each other and inform each other.
This step is implemented by the airport medical team in conjunction with the airport communications crisis team. The quarantine medical team comprises of one doctor and minimum 4 health officers.

Responsibilities

- The quarantine area must enable passenger comfort and actively communicate all relevant information to affected passengers.
- The quarantine medical team must regularly communicate with appropriate external authorities and organizations.
- Staff must be regularly informed and wellbeing must be safeguarded. Staff must also be regularly screened for any signs of infection.

Facilities

- The quarantine area will be fitted to facilitate passenger hygiene. This includes toiletries, shower facilities, and other appropriate amenities.
- Laundry services and set of one use clothes and underwear.
- Catering solutions will provide for various religious and dietary requirements.
- The area will be have facilities to allow affected passengers to observe various religious practices.
- High-speed Wi-Fi and portable charging stations will be provided to allow personal communication and entertainment.
- Living facilities should permit needed privacy. Families can have separate areas and changing rooms will also be provided.
- Other entertainment options should be provided, such as books, TV, games, etc.
1. Provide virtual reality glasses for entertainment and increased passenger satisfaction.

2. Install “capsule hotel” beds for easy organization and logistics, as well as increased privacy and reduced storage concerns.
This stage is lead by medical services team in conjunction with the airlines, security control, airport traffic control, and the entire crisis management centre. The flow of the process will be as follows:

**Handover of the plane.** Once all passengers and cabin staffs disembark:
- The medical services team leads the decontamination process of the plane and airport transportation vehicles used for transferring passengers.
- By notification from medical services team and approval from security and airport traffic control, the plane is reintroduced back into airport operations and operated by its airline.

**Handover of responsibilities from:**
- External communication team of the airport to external communication of the Ministry of Health in case of continuous crisis observation by press and related stakeholders.
- Airport medical services team to the hospital and Ministry of Health crisis team for passengers with yellow and red bracelets who are being quarantine.

**Executing and Compiling Final Evaluation:**
- The Airport Crisis Management Centre ensures data captured by the electronic database are preserved in a format that could be disseminated to public health authorities. This may require investigations for integrated databases.
- The Airport Crisis Management Centre has to consider sending a survey to staff, employees, and impacted passengers to provide base line data for areas of improvement.
- The survey content can use the data collected as the base on airport response and to provide parameters for future airport scenario testing.
1. Plane and airport transport decontamination by medical robot / censor and virus killer drone.

2. Create a smart list of communication material created in order to have a better evaluation outcome for the new improvements put in place.
A New Adventure

the process

Introducing your new friends

The doctor provides information

You will be checked if you feel ill

Board a bus with the same colour as your bracelet

You will then exit the plane

You will be given a bracelet

If you feel sick please let us know

If you have questions please ask us

We are here to help you

brought to you by:
Charlene, Martina, Andrej, Johann, Yosea and Andrea
TEAM MEMBERS

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Charlene works with the Australian Government as a planner for the second Sydney Airport project and is responsible for planning land use issues and running environmental impact assessments on noise, heritage and transport. Prior to this, she worked on the Australian Government’s Northern Australia White Paper and advised on labour, migration, infrastructure and planning issues. Last year she was awarded the ‘National Young Planner of the Year’ award by the Planning Institute of Australia.

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CUBIK-S
Andrea has co-founded two startups, “CUBIK-S”, a communication agency, and “INCUBO STRATEGIES”, a strategic consultancy. She is also an active member of the Cypriot Enterprise Link, Women Entrepreneurship Dear and Global Shapers. Andrea holds a Music Studies degree from Athens University, and is trained in public relations and communications. She has established a strong presence in the Cypriot social sector through her leadership in initiatives as the Fsyco project and the 180 Moires (180º) Social Enterprise.

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Yosea holds a Bachelor’s degree in Education and works in the Human Resources department of a national FMCG company. He has held positions in the Marketing team under Brand Management and Community Development and is experienced in the development of youth segments, community development, leadership, education and sustainable development.
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Andrej currently finalises his Bachelor studies in Air Transport at the University of Žilina. He acquired various aviation-related experiences through an internship at the Bratislava airport. He also developed new components for the world’s fastest ultra-light aircraft, Shark.Aero in 2015.

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Martina is a Senior Consultant with ICF International Policy and Economic Advisory Team. She holds a Master’s degree in International Finance and Economic Policy from Columbia University and a Diploma in Economics from the University of Ljubljana. She focuses on policy analysis and programme evaluation and provides evidence-based recommendations to policy makers for a variety of policy issues. Martina is currently based at the ICF Hong Kong office and work with governments and international institutions in the wider Asia-Pacific region. Prior to the ICF, she worked on projects with the Organisation for Economic Co-operation and Development (OECD) and the United Nations Environment Programme (UNEP). She was also a Microfinance Manager at Fundacion Microsol in Paraguay.