CONFERECE REPORT
2nd ANNUAL ACI-WORLD BANK AVIATION SYMPOSIUM &
8th ANNUAL AIRPORT ECONOMICS & FINANCE CONFERENCE

7-9 MARCH 2016 | LONDON, UNITED KINGDOM
WHAT’S INSIDE?
This white paper summarizes discussions that took place at the 2nd ACI-World Bank Aviation Symposium (7 March 2016) and the 8th Airport Economics & Finance Conference (8-9 March 2016) in London, United Kingdom. The report covers the information presented and any associated discussions during the panel sessions.

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7 MARCH 2016

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ACRONYMS

ACI  Airports Council International
ACSA  Airports Company South Africa
AFR  Africa Region
ANSP  Air Navigation Service Provider
APEC  Asia-Pacific Economic Cooperation
APEX  Airport Excellence (ACI)
ASA  Air Service Agreement
ASEAN  Association of Southeast Asian Nations
ATC  Air Traffic Control
ATM  Air Traffic Management
ATNS  Air Traffic Navigation Services
CAA  Civil Aviation Authority
CANSO  Civil Air Navigation Services Organization
CAPEX  Capital Expenditure
CNS  Communications, Navigation, and Surveillance
CPH  Copenhagen Airport
CPM  Corporate Performance Management
CSR  Corporate Social Responsibility
DAA  Dublin Airport Authority
DGAC  Direction Generale de l’Aviation Civile
E&S  Environmental and Social
EAC  East African Community
EAP  East Asia and Pacific Region
ECA  Europe and Central Asia Region
EIB  European Investment Bank
FAA  Federal Aviation Administration (US)
GDP  Gross Domestic Product
GIP  Global Infrastructure Partners
IATA  International Air Transport Association
ICAN  International Commission for Air Navigation (ICAO)
ICAO  International Civil Aviation Organization
IFC  International Finance Corporation
IFI  International Financial Institution
IPO  Initial Public Offering
KPI  Key Performance Indicator
LAC  Latin America and the Caribbean Region
LCC  Low-Cost Carrier
MAG  Manchester Airport Group
MDB  Multilateral Development Bank
MNA  Middle East and North Africa Region
MPPA  Million Passengers per Annum
MTR  Minimum Technical Requirement
NAC  National Airport Company
OPEX  Operational Expenditure
PAIP  Pacific Aviation Investment Program (World Bank)
PAX  Passengers
PFC  Passenger Facility Charge
PM  Performance Management
PPI  Public Private Investment
PPP  Public Private Partnership
RAB  Regulatory Asset Base
ROCE  Return on Capital Employed
RSA  Runway Safety Area
RVT  Remote and Virtual Towers
SAR  South Asia Region
SIP  Share Issue Privatization
SLA  Service Level Agreement
UAS  Unmanned Aerial Systems
UTM  Unmanned Traffic Management
This year marked the second joint initiative between Airports Council International (ACI) and the World Bank Group (World Bank, IFC). For the World Bank, this is the 12th year it has collaborated with the industry to hold an aviation conference. The overall objective was to take stock of developments to assist the Bank’s efforts to develop the air transport sector, exchange knowledge and learn about developments in the industry.

The 2nd ACI-WB Aviation Symposium (7 March 2016) recorded more than one hundred participants with affiliations ranging from airport operators, financial institutions, regulators, rating agencies and advisory firms. A major focus has been on airports’ Private Public Partnerships (PPPs). Following an initial assessment of the current status of PPPs in the airport industry, a presentation of different case studies offered a practical perspective on the challenges and opportunities offered by PPPs. A special briefing by the World Bank Group, performed by Dr. Charles E. Schlumberger from the World Bank and Christopher Ian Twinn from the International Finance Corporation (IFC) presented the details of the process by which airports get funding from the World Bank. Remarkable has been also the following session on the challenges that the climate change is imposing on the air transport sector, and how these challenges are being addressed. The last session has been centered on security and facilitation, in the post 9/11 era characterized by an escalation of extreme security levels.

To promote the audience’s engagement and stimulate discussion, the Symposium featured also an interactive voting session led by Dr. Charles E. Schlumberger from the World Bank. The polling revealed a good level of awareness around the challenges of PPPs, demonstrated a global readiness and a very good prospect in undertaking PPPs. More than four fifths of the audience indicated that the environment for airport’s PPPs has not worsened, with more than half indicating that it has been improving. Subsequently, 61% of the public indicated that the biggest challenge is to convince the owner to undertake a PPP, with capital rising being only the second most difficult task. Voters indicated also a high level of concern around the instability of financial markets, recessions and a potential rebound of oil prices.

To the Aviation Symposium followed the 8th edition of the two-day ACI Airport Economics and Finance Annual Conference (8-9 March 2016). The conference offered several networking events and registered two hundred and fifty participants from airport operators, regulators, advisors and financial institutions. Several topics have been discussed. During the first day the focus has been centered on airport competition, the impact of expanding hubs on regional airports and the role that Low Cost Carriers (LCCs) have been playing in this context. Has been also explored the suitability of today’s models of airport economic regulation in a changing framework airports and business partners. The first day’s last session presented a comprehensive overview on capital expenditure and financing methods for airport infrastructure. Major topics during the second day have been route development, emerging markets and presentations and discussions around aeronautical and non-aeronautical revenue.
2ND ACI-WORLD BANK AVIATION SYMPOSIUM

WELCOME ADDRESS
Dr. Charles Schlumberger, Lead Air Transport Specialist, The World Bank

This year marked the second joint initiative between Airports Council International (ACI) and the World Bank Group (World Bank, IFC). For the World Bank, this is the 12th year it has collaborated with the industry to hold an aviation conference. The overall objective was to take stock of developments to assist the Bank’s efforts to develop the air transport sector, exchange knowledge and learn about developments in the industry. Focus has been centered on Private Public Partnerships (PPPs) in airports.

Charles E. Schlumberger, the World Bank’s Lead Air Transport Specialist, opened the summit focusing on how the air transport industry has been progressing during the last decade, recalling the crisis and appreciating the recovery.

He progressed highlighting the ultimate objective of the ACI – World Bank Symposium: a unique occasion where every year the World Bank commits to sit together with the industry in order to exchange opinions, share and understand analyses, and jointly set the course for the upcoming years. It represents indeed a key moment for airport businesses to be successful, profitable and able to foster the global health of the air transport industry.

Followed an introduction of the previous year’s Symposium, recalling the major topic of Public-Private Partnerships (PPPs). This year there will be a follow up on the PPPs, in order to understand how the industry has been progressing and where we are now.

A major other topic is security and facilitation. After the 9/11 attacks, the air transport industry experienced a dramatic change to extreme security. Are we going today in the right direction? Is the industry balancing a secure and a sustainable aviation?

The last remark went to Climate Change. After the global impact of the COP21 (Conference of the Parties) held in Paris on November 30 - December 12, 2015, every industry is today engaged to face its responsibility and contribution to the climate change and thus develop actions to lower and control carbon emissions. Aviation, even though as a whole sector contributes for only 2% for the world’s carbon emissions, is expected to develop effective mechanisms to reduce emissions and be aligned with global environmental efforts.

SESSION ONE: PUBLIC – PRIVATE PARTNERSHIPS (PPPS) AND FINANCIAL INVESTORS – UPDATE ON MARKET DEVELOPMENTS: WHERE ARE THE NEW OPPORTUNITIES?

Review of the fundamentals of PPPs: financial and legal structure of typical PPPs in air transportation (airports, ANSPs); the role of the regulator in PPPs, risk and opportunities.

Chair: Dr. Charles Schlumberger, Lead Air Transport Specialist, World Bank
Christopher Ian Twinn, Manager, Global Infrastructure, International Finance Corporation
J. Doramas Jorge-Calderon, Senior Economist,
The session opened focusing on the status of PPPs in the airport industry and on the number of airports in the world that actually have PPPs in place. PPPs are not 100% concessions, and scenarios can range from just managing an airport, to owning and operating. In the world there are approximately 3,000 commercial airports, of which three fourths are public and handle more than half of all passengers. Why are PPPs so advantageous? Benefits are observable in several aspects, from the capital management, efficient financing methods and structures, operations and financial management, more effective marketing and better engagement with airlines. Nevertheless PPPs come with challenges too, but surprisingly these challenges are different from the expectations: for example, raising capital is not as difficult as it could be expected.

Mark Barges, from Linklaters LLP, presented the interesting case of the airport privatization in France, bringing the attention on the specific case of Toulouse. Followed an introduction to the three categories of airports in France: the airports managed by Aéroports de Paris (ADP), the regional airports and the decentralized airports run by the local authorities. No relevant events took place in France in terms of PPPs during the last year. The previous privatization of the Toulouse International Airport (IATA: TLS) generated several discussions and contestations around the process for which the privatization happened and/or should happen. A major point has been about the Directorate General for the Civil Aviation’s (DGAC, the French Civil Aviation Authority) lack of autonomy in the decision making through the process. A change is expected soon, even though this did not happened by 2015.

In France upcoming PPPs will take place for the airports in Nice and Lyon. These airports worth respectively 1.8B euros and 1.4B euros, with relatively long concessions (2024 and 2047). There is though a major difference between the two airports: in Nice there is no economic regulation, meaning that investors do not have specific obligations to comply with the economic regulator.

The privatization for each airport will be approximately 60%, and a call for tender is expected for the summer 2016. Given the experience and criticism from the privatization of the airport in Toulouse, it is interesting how specific criteria have been imposed for the privatization process undertaken by the key stakeholders. These criteria are basically a response to the criticism generated from the previous transaction, create a higher level of engagement for stakeholders and contextually create a more rigorous and transparent framework for future PPPs.

The main presented requirements are:

- Previous experience in airport management;
• Preservation of key matters of national interest;
• Preservation of the attractiveness of the territory; and
• Dialogue with local authorities.

Nevertheless, PPPs come also with shortcomings. Indeed, even though PPPs are clearly beneficial for the airport’s operational and financial performance, concerns may arise from a user standpoint (e.g. a passenger or a private pilot), regarding the lack of protection in case of an increase in landing fees.

An attractive sector

Ian Twinn, from the International Finance Corporation (IFC), presented insights on IFC’s portfolio and activity. IFC capacity ranges from investment services (loans and equity), advisory services and asset management. Airport finance constitutes a major area for the aviation work, which also includes financing of airlines. Examples of airport works comprehend loans and equity in several regions in the world.

To the introduction followed a focus on the attractiveness of the airport sector for investors. During the last three to five years, the number of investors looking at airports is growing. We see a large variety of funds, such as pension funds, intra funds, conglomerates and operators that are looking at the airport business with a strong interest as their best opportunity among different investment options. The development markets present high potential possibilities characterized by high growth that can be even faster if Low Cost Carriers can be successfully leveraged.

Are airports less exposed to confiscation or more protected versus other types of investments?

Today, in these markets, people are mostly using the bus to commute. The development of a sustainable air transport infrastructure would have the power of letting people travel by air. Philippines, India, Greece and Brazil represent just few examples of promising markets that are progressively more attractive to investors. Besides the magnitude of return on investments generated by airport infrastructure investments in emerging markets, It has been also highlighted the level of financial security offered by these investments. Are airports less exposed to confiscation or more protected versus other types of investments? This can be determined basically through a careful analysis of the legal documents: How is the global quality of the legal documents? Are the concessions reliable? What are the risks of the country? Is the political context supportive or it may represent a threat? Ultimately it is necessary a case-by-case basis.

In terms of risk mitigation, the Multilateral Investment Guarantee Agency (MIGA), which is part of the World Bank Group, is specialized in containing these risks, offering guarantees for investors operating in complicated environments such as countries belonging to emerging markets.

European Investment Bank: A global player

J. Doramas Jorge-Calderon from the European Investment Bank (EIB) provided an overview of the Bank’s activity and mission. The EIB was founded in 1958 under the Treaty of Rome and it is headquartered in Luxemburg, employing nearly 2,000 professionals. It is the only bank owned by and representing the interests of the European Union Member States. EIB works closely with other EU institutions for the implementation of the EU policy.

As the largest multilateral borrower and lender by volume (84,5B euros), EIB provides finance and expertise for sound and sustainable investment projects that contribute to furthering EU policy
objectives. More than 90% of the EIB’s activity is focused on Europe but it also supports the EU’s external and development policies.

The owners of the Bank are the 28 European Union member states; EIB has reported approximately 540B euros on its balance sheet for the fiscal year 2014, and it funds are raised on the international capital markets through the issuance of AAA-rated financial products. EIB has been active in financing airport works. Examples of recent airport projects focus mostly on improving or expanding existing facilities to optimize and/or increase capacity. Another major focus area regards the necessary works to achieve compliance with international safety and security standards.

In a context where the growth in Europe is not high, it is anyway expected a reduced risk in investments. Mr. Doramas continued introducing the EIB’s three pillars of structuring a reform for a more friendly and adaptive regulation, fiscal responsibility to restore the solidity of the public finances, and the European Fund for Strategic Investments (EFSI) to enhance the risk bearing, to make EIB to address the current shortage of risk-financing.

Mr. Jorge-Calderon concluded his presentation reasoning on the European Union states’ economic performance. In a context characterized by a limited growth, it is important to understand if it will be easier or more difficult to invest in airports. When the private sector wants to enter a market, there is the need to ensure in some way the returns on the investments, and this constitutes a major obstacle for new deals. The current air transport markets show clearly that airports are ready to receive investments, but the unlocking solution has to focus on how the risk is being addressed, how is being reduced.

**New competitors for investments**

Arturo Recio, Global Head Of infrastructure at HSBC, introduced to the audience HSBC’s presence in
airport investments and outlined some major transactions. He recalled the impact of the London City Airport and introduced the upcoming transaction of Lyon Airport. Arturo Recio highlighted the strong differences of these financial operations specifying that even being very attractive, they appeal to different audiences. He continued with a global airport sector evaluation, which shows very interesting opportunities for growth where he expects to have more and more projects in airports in the upcoming years.

Today, the opportunities in the airport business are ultimately two. The first is to invest in the so-called brownfields, the already existing airports. This would consist basically in the privatization of an airport, and this is a good moment for this option. The second are greenfield airports, or brand new airports.

The presentation progressed towards an interesting assessment of the competition and how this is also changing. Indeed, there is a considerable evolution subsequently issue the related project bonds in the secondary capital markets; the main competitive advantage for banks is the low interest rate. Even though this increased and differentiated competition creates a more complicated environment, it is ultimately a catalyst for fair and fruitful competition.

Interacting with Dr. Schlumberger, Arturo Recio explored also the risk for asset inflation, reasoned around the low likelihood of a potential bubble, and concluded that the signs are mostly due to high competitiveness of the market, expected to be even higher in the very next future: to provide an example, if the business plans are bankable, even hedge funds would look to invest in airports.

<table>
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<th>Organization</th>
<th>Company Name</th>
<th>Target Date</th>
<th>Form</th>
<th>Duration</th>
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<tr>
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<td>3Q’16</td>
<td>O&amp;M lease</td>
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<td>Taif Airport</td>
<td>In preparation</td>
<td>4Q’16</td>
<td>BTO</td>
<td>25 years concession</td>
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<td>Riyadh airport T5</td>
<td>Dublin Airports Authority</td>
<td>1Q’15</td>
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<tr>
<th>Organization</th>
<th>Form</th>
<th>Year</th>
<th>Duration</th>
<th>Name</th>
<th>Value of Project</th>
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<tbody>
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<td>BTO</td>
<td>2011</td>
<td>25 years</td>
<td>Tubah (Turkey TAV; Saudi Oger, Al-Rajhi Holding)</td>
<td>$1.2b project cost with major financing from Saudi banks</td>
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<tr>
<td>Jeddah Airport</td>
<td>BOT</td>
<td>2006</td>
<td>20 years</td>
<td>Qatarat Saqia Company</td>
<td>$35m</td>
</tr>
<tr>
<td>Jeddah Haj Terminal</td>
<td>BOT</td>
<td>2006</td>
<td>20 years</td>
<td>SBG and ADPl</td>
<td>$250m</td>
</tr>
</tbody>
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Investors such as private funds and pension funds constitute the main new competition for the banks.

Figure 2: PPPs in Saudi Arabia

Developments in Saudi Arabia

Janet Cross is the Director for the Strategic Planning & Development for the General Authority of Civil Aviation (the Saudi Arabia’s Civil Aviation Authority); she possesses the record of being the Saudi Arabia’s first women to be assigned to a management role.
Saudi Arabia has been recently experiencing a dramatic change. Even though the reason could be found in the drop of oil prices, major impacts are actually coming from the innovative approach that the new Governments has been implementing. The evolution of the country’s economy has been touching several different areas, not only due to drop of oil prices. It has evolved from building everything to being very careful in planning a choosing the most beneficial investments for the country.

There are definitively innovative approaches and policies for foreign and private investments. There is more support from the Saudi banks that are more involved in deals. The privatization process does not possess a centralized and standardized methodology, but is more about a case to case approach. In this year Saudi Arabia is experiencing also an important change for the regulations, where a more transparent regulatory framework aims to provide more assurance to foreign investors. Globally, the airport infrastructure is much less developed than expected. The General Authority of Civil Aviation owns all the airports (27, except for Madinah), of which 5 are international and 10 regional. The Air Navigation Service Provider (ANSP) is also owned by GACA, and will undertake a privatization process this year.

Following the introduction to the aviation sector and policy in the country, Janet Cross’s presentation focused on how Public Private Partnerships are implemented. The country has already embarked on successful PPPs in other sectors, some with innovative structures. Works in aviation have been in airports (terminals, boarding bridges, desalination plants, water and chilled water plants). Have been outlined Saudi Arabia’s PPPs (current and future) in the aviation sector, including Madinah, Jeddah, Riyadh and Taif airports, among others. A table summarizing project’s values and duration is reported for reference.

In order to support future projects, also in place is the issuance of Islamic bonds as an additional form of financing. Investments are facilitated by a solid legal framework that protects the investors’ rights, a solid backing from the Government, and by a supportive context that records no disputes, arbitrations or litigations to date: a genuine willingness that aims towards arrangements that work well for both sides. A very important and country-specific requirement is to tailor the PPPs; it is also very important is to educate the local market and the investors preparing a complete and sound economic justification.

Referring to the last polling, Dr. Schlumberger reminded to the audience that the most challenging step in order to pursue a PPP is to convince the Governments. At this point in time where the Saudi Government is prone to undertake diversification and PPPs, there may be a risk in diversifying the economy in the case of a return of high oil prices, which could transform this strategy in a mistake. Jan Cross observed interestingly how this evolution is actually being caused by a renewed approach where the management is more similar to a Government rather than a traditional Royal Family.

An outlook on the global growth
Andrew Senta from PWC (previously in British Airways) began his presentation referring to the global state of the economy, showing how the demand for airports is aligned with the demand for air travel and GDP. Nevertheless, economists usually insist to build airports (and in general infrastructure) in order to foster country development: the economic growth is a complex mechanism where airport development is itself a main driver for GDP growth.

The financial press presents a negative future, but from a global perspective it is much relevant to consider that the world’s GDP in the year 2000 totaled US$33T and doubled in less than two decades (approximately US$75T today), including the disastrous effects of the global financial crisis (that was not sustainable due to a not creditworthy debt), through an average of 3.5% growth rate worldwide. Andrew Senta continued outlining the divergences in growth across the different western economies. Good growth is being experienced in the United States, United Kingdom, Canada and Germany, mostly driven by regulatory facilitations. A less performing group contains countries such as France, Italy, Russia and Japan. The Chinese economy is slowing down and experiencing a consolidation phase where there is a transition towards a services economy (e.g. online retailing is showing very strong growth).

Supported by the very low oil price, aviation is experiencing a promising growth. Another structural fact is that the services’ industry growth is strong and supported by the air transport industry globally (which is not growing as strong as prior to the financial crisis). These considerations led to the conclusion that the global growth is expected to be a mixed picture composed by low and strong growth, along with saturated contexts where the use of larger aircraft could counterbalance the saturation and foster the development.

**Interactive polling session**

Dr. Charles Schlumberger led an interactive polling aiming to assess the audience’s perspective around PPPs and the related challenges. Interactive polling has been also used also during the 2015 World Bank – ACI conference and it has been demonstrated a successful tool to engage more the audience and inspire discussions. The first question aimed to understand the level of change in the global environment for airport PPPs during the past year. Optimistically, more than four fifths of the audience indicated that the environment for airport’s PPPs has not worsened, with more than half indicating that it has been improving. The second question solicited the audience’s opinion around the main global challenges for the industry’s and airport’s PPPs. In this case the audience provided more fragmented answers, even though based on a cohesive, negative perspective on the performance of the financial markets. More than 35% indicated that main challenges are on the uncertainties about the global stability, such as recessions and/or national defaults; more than 20% identified the instability of financial markets as the main challenge; much smaller groups of voters selected the risk of a rebound of oil prices.

The world’s GDP in the year 2000 totaled US$33T, doubling in less than two decades (approximately US$75T today)
(4.4%) and security and conflict (8.8%) as the main causes; and nearly one third of the audience indicated that the combination of all these causes is the actual challenge that the airport sector will have to face. Followed the last question regarding the biggest challenge of establishing an airport PPP, and how this is changed from last polling of the previous year. 61% of the public indicated that the biggest challenge is to convince the owner to undertake a PPP. Raising capital is actually the second most difficult task (indicated by approximately one fourth of the audience); convincing users, such as airlines and passengers, and dealing with unions of public users accounted for minor shares of voters (9% and 7%). The audience’s awareness demonstrated in the interactive polling showed a global readiness and a very good prospect in undertaking PPPs.

To the session followed a panel discussion initially centered on understanding what would be the main owner’s purpose to undertake a PPP. Janet Cross indicated that for the owners’ side the main objectives are of course to raise capital, but also implement a better and more efficient infrastructure that could result ultimately in an improved user experience; additionally, there is also the intent for the Civil Aviation Authority to implement a higher level of regulation. According to Mrs. Cross, the Government is clearly aware of the role Saudi Arabia’s role in the air transport industry in the region; PPPs indeed aim to reinforce our role, which is a strong religious tourism business, and not a hub. PPPs are absolutely not aiming to any form of expansion towards a hub that may compete in the future with the Middle East carriers based in the Gulf. Mark Barges’ intervention confirmed, from his perspective, how raising capital constitutes one the main requirements for airports, along with a global improvement of service level and efficiency of operations. The panel later considered the consistent growth of regional airports generated by the joint effect of a favorable regulation and the increased presence of Low Cost Carriers, and focused on the possible mechanism for which could be possible to support the growth of small airports that are not as financially attractive as large hubs.

Arturo Recio from HSBC presented how this actually constitutes a problem due to the difficulties encountered while evaluating the financing of regional airports. The only possibility is the condition of a strong multilateral approach across all the stakeholders that in this way would counterbalance the risk. Mr. Recio concluded that under these conditions is sometime impossible to bank those airports, and underlined that in the case of greenfield airports is impossible nearly for 100% of the cases. Nevertheless, a greenfield airport could be possible if sponsored by an entity that owns already a commercially viable airport in the country. Greenfield airports can be bankable if an entity owning already a commercially viable airport in the country wants to realize a greenfield project.
As a general rule, below the traffic threshold of one million passengers PPPs are not even thinkable; this is actually a real issue where there is room only for private equity as a form of investment. For extreme cases, such as for example airports in the Pacific Islands, which are remote and characterized by long haul routes and thin traffic (as low as 90K passengers per year), development works can be supported only through investments coming from institutions like World Bank’s IDA or IBRD. J. Doramas Jorge-Calderon followed up referring to EIB and its role in helping small airports in Africa. In the interesting case of the European Union, such as Spain, Portugal and Greece, airports have been helped with PPPs (grants from the coalition’s funds), even not being commercially viable. An interesting question came from the audience and referred to the unclear fact of Nice’s Airport, which has no regulation but still requires that its budget complies with the regulation. Mark Barges, who previously presented the case of Nice and Lyon, explained that the required consistency with annual budget is intended to enforce the business performance of the asset.

**SESSON TWO: PPP CASE STUDIES – NEW DEALS AND LESSONS LEARNED**

Basic financials of PPPs in air transportation; financial models with risk and return; what banks like/dislike in airport PPPs and how risk can be mitigated.

**Chair:** Dr. Charles Schlumberger, Lead Air Transport Specialist, World Bank  
**Andrew Vasey,** President and Founder, Vasey Aviation Group LLC

**Rigobert Tina Rakotoarinirina,** Secretary General, Ministry of Tourism, Transport and Meteorology, Madagascar  
**Tadashi Shimura,** Managing Director and Vice President, New Kansai International Airport Company Ltd (NKIAC)  
**Brad Miller,** Corporate Development Director, Manchester Airport Group

Dr. Charles E. Schlumberger started the second session recalling the results of the previous’ year interactive polling session, recalling that a not developing traffic constitutes the biggest risk of an airport owner. The second point recalled has been the most important due diligence work when preparing a PPP: the regulatory framework and the understanding of potential conflicts between the public and the private sides. In order to overcome this obstacle, sound and reliable technical and financial advisors are the key for a successful process.

**The first case study**

To this introduction followed a presentation of the panel and the first case from Andrew Vasey, who firstly shared a retrospective of airport investments and then focused on the San Juan (IATA: SJU) transaction.

The Aerostar team has been created in 2010, and there has been a complicated context where RFPs were changing due to the changing approaches coming from the different governments: it started with a conservative government, and after the change even though the new government didn’t refuse to continue the PPPs, several difficulties have been encountered in order to close the financial transition. The transaction was ultimately honored and the PPP concluded in February 2013 after USDOT and FAA approvals and the transfer of the authority to Aerostar from the Puerto Rico Port Authority. It has been completed the third year of operations in
SJU, that successfully registered a passenger traffic increased by 14% since the 2013 PPP transition. Remarkable is Aerostar’s current contribution to the Puerto Rico government, and a major terminal capacity enhancement program has been completed (totaling US$240M). Also remarkable is the implementation of modern technology aiming to enhance the operational and financial performance: an example is the deployment of CrowdVision, which is crowd analytics tool.

**In the third year of operations, SJU has successfully registered a passenger traffic increase by 14% since the 2013 PPP transition**

There have been challenges to overcome in order to join the FAA program. The main issues were: (i) Multijurisdictional airport ownership structures; (ii) Lack of knowledge; (iii) Lack of political will; and (iv) Lack of understanding of enhancing the assets’ attractiveness on the market, and reassessment of the market value.

The United States’ regulation requires that 65% of airlines operating at the airport and 65% of the landed weight agrees on policy and management decisions coming from the airport – something only feasible if there’s the will of the most relevant stakeholders, due to airlines’ interest to secure a profit share in a competitive context.

Aviation transactions are very complex and have to be supported multilaterally in order to be attractive

It is interesting to notice how there have been no US deals since SJU’s transaction in 2013. Even though there have been no full PPPs opportunities under the FAA program, there are some ongoing PPP opportunities:

- LaGuardia: Central terminal building (with US$200M in equity);
- Austin: South terminal reactivation;
- Denver: Great hall program
- Indianapolis: Private airport utility
- Seattle: Paine Field Terminal
- Los Angeles: Landside program

Mr. Vasey concluded the presentation of the first case study highlighting that aviation transactions are very complex and have to be supported multilaterally in order to attract investors, in a process very different from road works or other kinds of infrastructure.

**Madagascar**

Rigobert Tina Rakotoarinirina, the Permanent Secretary of the Ministry of Tourism, Transport and Meteorology of Madagascar, presented the second case study, about airport infrastructures’ PPPs in Madagascar.
Was then shared a general introduction covering Madagascar’s geographic location, fauna and flora characteristics, export records (first exporter of vanilla in the world) and potential for the air transport industry due to its growing market driven essentially by tourism, referring also to the ambitious plans of reaching one million tourists by 2020.

Mr. Rakotoarinirina then shared the most recent evolutions of the aviation context in Madagascar, where several are the internationally and regionally operating airlines: Air Madagascar, Air France, Corsair, Turkish Airlines, South Africa Airlink, Kenya Airways, Air Mauritius, Air Austral, EWA Air, AB Aviation, Inter Îles and Air Seychelles.

In Madagascar there are 56 airports open to the public: Two main international airports, six secondary international airports around and forty-six domestic aerodromes domestic with flights on demand, in a global context where there is a strong economic and touristic regional potential and an airport network sufficiently developed for opportunities.

The country’s airport planning, development, management, research for investors and engagement for the state’s PPPs is under the responsibility of Aeroports de Madagascar or ADEMA S.A.

Mr. Rakotoarinirina progressed sharing Madagascar’s experience in airport concessions recalling the examples of Ivato (cost: US$192M) and Nosy-Be (US$31M) airports, which are the country’s two main airports currently in concession to partnerships of French companies including ADPM, Bouygues, Colas and Meridiam.

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<tr>
<th></th>
<th>Ivato</th>
<th>Nosy-be</th>
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<tbody>
<tr>
<td>2015</td>
<td>0.758 MpaX</td>
<td>0.122 MpaX</td>
</tr>
<tr>
<td>2043</td>
<td>2.45 MpaX</td>
<td>0.450 MpaX</td>
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Figure 4: Ivato and Nosy-Be current and expected traffic levels

Were subsequently presented the major problematics to realize PPPs, mostly related to the weakness of traffic level (passenger and cargo) and purchasing power:

- High cost of capital investment;
- Very long return of investment;
Mr. Rakotoarinirina then concentrated the audience’s attention on the recommendations and prospects that the country is committed to achieve in order to facilitate the implementation of PPPs. There is the important need to framing the PPPs process: from the law, to the training, to the strengthening of the national’s capacity. Moreover pre-feasibility studies and the identification of different ways by which is possible to realize PPPs, tailored on to the unique need of every airport or aerodrome, can strongly ease the attractiveness of such deals. Other areas to be improved regard a more clear definition of the responsibilities of both parties (public - private) in terms of operations and in term of investment needs, along with a well-defined share of financing risk between the private and the public especially for the aeronautical investments (runway, navigation equipment aids), important for the case of airports which process less than one million passengers per year. Also to be improved is the elaboration of a master plan oriented to the long term development for each airport, to increase and optimize the traffic and to improve the accessibility and intermodality. In order to implement such measures, it is vital for airports to obtain help from the donors, with financial contributions in the form of subsidies of investment and exploitation of PPPs, which possess a great potential given the unique record achieved in Madagascar, a great example where it was possible to arrange PPPs and raise more than US$200M even with a very low traffic level (less thank 200K per year).

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<tr>
<td></td>
<td>21 741</td>
<td>22 675</td>
<td>24 320</td>
<td>18 675</td>
<td>19 883</td>
<td>19 474</td>
</tr>
<tr>
<td>Passengers</td>
<td>1 198 632</td>
<td>1 296 240</td>
<td>1 390 999</td>
<td>1 289 463</td>
<td>1 304 642</td>
<td>1 165 410</td>
</tr>
<tr>
<td>Freight (ton)</td>
<td>13 679</td>
<td>13 150</td>
<td>23 074 (*)</td>
<td>14 611</td>
<td>13 905</td>
<td>13 252</td>
</tr>
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</table>

Figure 5: Traffic statistics of the 6 last years in Madagascar (all networks mixed)

The cases of Kansai and Osaka

Tadashi Shimura, Managing Director and Vice President of the New Kansai International Airport Company, Ltd. (NKIAC), shared insights of the PPPs transactions in Japan through the lessons learned with the Kansai International Airport (IATA: KIX) and the Osaka International Airport (IATA: ITM) concession deals. The KIX and ITM airports were merged in July 2012 and experienced a managerial integration in preparation of a concessional deal. Both airports are located in the Kansai region, which is the second largest economy in Japan, and both belong to the group of the country’s ten largest airports. KIX is a full off-shore airport offering two 4,000 meter class runways with full 24-hour service, while ITM is an urban airport located just 10km from CBD providing a highly convenient service. Overall the Japanese context demonstrated the necessity for infrastructure concessions as an infrastructure maintenance method. In Japan the national budget is getting severe year after year and the population has started to decline. With a not well performing economy, in Japan have been produced more and more bonds, resulting in a consistent...
accumulation of governments bonds that totals 807T Yen (2015 data).

Japan has recently promoted PPPs; for April 2016 has been planned a concession to different companies with stakes ranging around 40%.

<table>
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<th>Public Entity</th>
<th>Private Entity</th>
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<tr>
<td>Cost of capital</td>
<td>Lower Higher</td>
</tr>
<tr>
<td>Growth of the infrastructure</td>
<td>As a result, Lower Potentially Higher</td>
</tr>
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Figure 6: Benefits of PPPs in Japan

The private intervention in infrastructure operations can reduce the financial burden of the government and achieve the higher growth of the infrastructure, which ultimately leads to the national economic growth in a current situation where inbound passengers are escalating, a signal that shows clearly the growth potential of the airport. Three different approaches have been implemented to deal with the financing issue. The first is the self-improvement of the business, to increase the business value. The second approach has been a financial scheme that could help to meet both the private and public side interests, basically creating an affordable private scheme for interest lowering over a period of 45 years. The third and last approach consisted in the creation of a competitive environment for the deal that could lead to a higher bidding price. The last approach, even though being theoretically promising, didn’t actually develop as expected in the two airports, and ultimately only one bidder submitted a proposal. The main concerns posed from the domestic investors were mostly originated by the local practice and culture, being the terms of the contract too innovative and far from the traditional practice. A 45 years repayment period looked too long, and the business judgment and rumors more influence that real business valuation of a company.

Mr. Shimura concluded his presentation discussing the main lessons learned from the KIX-ITM deal, focusing on the importance of the full utilization of the special features of the public side (including the lower cost of capital); understand if the nature and structure of the deal is correctly recognized culturally; and the need to understand the minimum requirements necessary to generate the conditions of a competitive bid.

Figure 7: KIX and ITM characteristics

The economic opportunities of drones

Alan Robinson opened his presentation reasoning on how the technology can optimize the business, and continued introducing the several reasons for which we talk about things that we fear today-hazards to safety. Fears lead to new paradigms, hold opportunities that if understood, embraced, developed and integrated into airport operations, will be significant to the economics of operations capital funding of regional and hub airports. In USA
alone 70% of top 300 airports are under 1 million enplanements, of these FAA has sought to close 149 ATC towers in budget cuts due to the high security costs with large areas to cover, maintain and upgrade. Additionally, the public view amateur drones as high risk to their safety, but in Europe for example, ATC, RFFS, Security and Maintenance are the major cost centers for Regional Airports with minimal financial support from the governments. Historically, new technology paradigms are shunned at first, and take ten to fifteen years to mature into a profitable common commercial use. Remarkable progress has been done on Unmanned Aerial Systems (UAS), Remote Virtual Towers (RVT) and UTM, but much more has been done towards integration.

The change is very relevant: in the case of Dubai, UAS have been used even to give clearance for flights in the airports. Through Mr. Robinson’s experience as an entrepreneur and commercial pilot with relevant experiences also in the airport business, he could clearly see UAS as the great opportunity to cut and dramatically reduce overheads through these systems. Along with UAS, also the technology of remotely controlled control towers (RTV – Remote and Virtual Towers), constitute a considerable progress towards cost reduction.

The integration of manned and unmanned aircraft is inevitable and necessary:

- Military started flying RPAS/UAS “out of line of sight” in the 1960’s and during the Vietnam war;
- The Pentagon budget for UAS in 2016 is greater than US$3B;
- DJI (a major commercial drones’ manufacturer headquartered in China) alone has been selling 20,000 units per month into USA in 2015;
- West Wales airport 30 September 2015, NATS managed first UAS flight into controlled airspace;
- NATS quotes “Unmanned air freight, search and rescue, telecommunications relays and environmental monitoring with UAS the size of conventional airliners are all future possibilities”
Also the RVT technology achieved remarkable progress. Germany, Norway and Sweden each have validation sites for RCT (Remote Control Towers) trials in 2012-2015 under SESAR Joint Undertaking; the SAAB Group has been trialing RVT in Alice Springs, Australia since 2012, and in February 2015 Swedish passengers landed at Sundsvall Airport, with RVT from Ornskoldsvik 100km away. In USA in August 2015 a three months RVT trial commenced at Leesburg, VA, and in October 2015 FAA announced KFNL in Colorado will be a site of first full RVT trials in 2016. This is due to the substantial benefits of RTVs:

- Cost effective for operations and build capital;
- Ability to operate for longer periods on shared man power and lower staffing costs; and
- Support regional economy growth.

Alan Robinson concluded his presentation referring to the NASA and AMES research centers, which are working on two types of possible Unmanned Traffic Management (UTM) systems. The first is a portable UTM system to support operations such as precision agriculture and disaster relief. The second is a persistent UTM system, supporting low-altitude operations for continuous coverage of geographical areas. Both systems will provide communication, navigation, and surveillance (CNS) coverage to track, ensure, and monitor conformance.

Dr. Charles E. Schlumberger conducted the voting session that followed to the last presentation. This aimed to determine the attractiveness of the case studies from different perspectives. The first question focused on the most attractive business case: the audience indicated the case presented Tadashi Shimura from NKIAC as the most interesting (28.3%), followed by Alan Robinson’s (25%) and Andrew Vasey’s (regarding Puerto Rico, 22.8%). The Japanese case obtained the highest number of votes for being the investment having the lowest risk for the investors (51.1%), followed by Puerto Rico with 26.7%. The Japanese was again the most voted to be a PPP rather than to stay public, making Mr. Shimura’s case definitively the most attractive business.

**SPECIAL BRIEFING BY THE WORLD BANK – WHAT IS THE PROCESS FOR AIRPORTS TO GET FUNDING FROM THE WORLD BANK?**

Jointly led by Dr. Charles E. Schlumberger, Lead Air Transport Specialist, World Bank, and Christopher Ian Twinn, Manager, Global Infrastructure, International Finance Corporation

Christopher Ian Twinn from the International Finance Corporation (IFC), together with Dr. Charles E. Schlumberger from the World Bank, presented the process by which the financing of projects, specifically airport infrastructure, can be obtained from the World Bank Group (WBG), highlighting the specificities for the public sector (World Bank) and private sector funding (IFC).
The World Bank Group is a vital source of financial and technical assistance to developing countries through the provision of low-interest loans, grants, credits, and advisory services. By 2030 The World Bank Group aims to end extreme poverty by decreasing the percentage of people living on less than $1.25 a day to no more than 3%, and promote shared prosperity by boosting the income of the bottom 40% of the population in every country. Investment sectors include education, health, public administration, private sector development, agriculture, transport, information and communication technology (ICT).

The WBG is funding air transport projects in developing and emerging countries in both the public and private sectors. Funding projects in the public sector requires the establishment of a country engagement between the WBG and the client country. From July 2014, the WBG is following a new systematic and evidence-based approach to country engagement – the Country Partnership Framework (CPF).

The CPF is based on a Systematic Country Diagnostic (SCD), a diagnostic exercise conducted by the WBG in close consultation with national authorities, the private sector, civil society and other stakeholders. For a specific sector to receive funding, e.g. air transport, the sector needs to be identified in the SCD and included in the CPF.

Funding of air transport projects for the private sector in developing and emerging countries (IFC) is typically initiated by a concrete investment proposal from a private entity to IFC. However, IFC does not lend directly to small enterprises or individual entrepreneurs, as many of
their investment clients are financial intermediaries that on-lend to smaller businesses.

For a project to be funded by IFC, it must be located in a developing country that is a member of IFC, be in the private sector, be technically sound, have good profitability prospects, benefit the local economy and comply with the IFC’s and host country’s environmental and social standards. Even though air transport plays a crucial role in fostering development, facilitating economic integration, generating trade and tourism, and creating employment opportunities, in many countries the equipment and infrastructure, regulatory frameworks, and safety and security oversight systems are inefficient or inadequate.

The WBG is the largest provider of development finance for transport globally, with an active portfolio of around US$47B. The WBG is uniquely positioned to support large-scale transformational projects and deliver innovative cross-cutting solutions for greater connectivity. The three principles of safer, cleaner and more affordable, guide the Bank’s infrastructure investments and policy work. In view of these challenges, the World Bank is mandated to undertake the following major activities: operational work through projects and technical assistance; economic sector work, research, and knowledge dissemination on air transport related issues; external relations and collaboration with partner organizations in various air transport related matters. The World Bank’s original lending arm is the International Bank for Reconstruction and Development (IBRD, established in 1945), which lends to governments of middle-income and creditworthy low-income countries. The International Development Association (IDA) is the part of the World Bank that provides interest-free loans, or credits, and grants to governments of the poorest countries. WBG’s Air Transport Portfolio in FY14 amounted to US$1.43 billion and increased by 5% from the previous fiscal year. The Air Transport segment makes up over 3% of the WBG’s US$47B transport portfolio. The WBG’s FY14 Transport portfolio constituted approximately 19% of the WBG’s active portfolio of US$248 billion (excluding MIGA).

The Air Transport portfolio includes around 30 projects or project components through the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), as well as the International Finance Corporation (IFC, lending and advisories). Project highlights in 2014 include strengthening of investments in the Pacific Islands through the approval of the Samoa Aviation Investment Project, the Pacific Aviation Safety Office Reform Project, and additional financing for ongoing projects in Tuvalu and Kiribati. Other major ongoing projects include the Cairo Airport Development Project, which is being funded through a US$280M IBRD loan and the Shangrao Sanquingshan Airport, which is being funded through a US$50M IBRD loan. The World Bank also continues to be actively engaged in Africa, with ongoing commitments in Tanzania, Kenya, Burkina Faso, and the Democratic Republic of Congo, among others. The focus of these projects is primarily on safety, infrastructure rehabilitation, institutional strengthening, and capacity building.
IFC represented the highest growth segment, with a 9% increase from FY13 to US$647M. Several new IFC commitments were made in 2014 including ASECNA in Africa, Queen Alia II in Jordan, and Zagreb Airport in Croatia. IFC Advisory Services have also been initiated in Brazil (Galeão and Confins Airports) and in Saudi Arabia (Jeddah Airport and Taif Airport) in 2014. MIGA has been involved in the air transport sector in the past through the issuance of guarantees for two airport projects in Ecuador and Peru.

SESSION THREE: READY OR NOT, HERE IT COMES: THE AIR TRANSPORT SECTOR ADDRESSING THE CHALLENGES OF CLIMATE CHANGE

Chair: Callum Thomas, Professor of Sustainable Aviation, Manchester Metropolitan University
Leonie Dobbie, Head of Sustainable Aviation and Airports, WSP/Parsons Brinkerhof and Administrator, Airport Carbon Accreditation
Brian Pearce, Chief Economist, IATA
Venkata Rammama Putti, Senior Environmental Specialist, World Bank
Simon Clouston, Director, Wsp/Parsons Brinkerhof

In the light of the very recent progress toward more cohesive and consistent actions to control carbon emissions and fight climate change, the third session has been opened considering how an Airbus A380 (a twin-deck, four engines, long haul aircraft type) can represent carbon containment achievement offering, surprisingly, the same consumption per seat of a small family car. Globally people argue that since air transport plays a so important role for the world’s trade, integration and business, it should be exempted from the climate change topic. Aviation is generating “only” 2% to 4% of the world’s pollution, such as UK and Canada to offer a comparison, so it is not possible to conclude that it can be ignored due to its small contribution, also because consumption is growing very quickly and airports are major drivers and generators of carbon emissions coming from water consumption, passengers management, road traffic, the energy of terminals and the operations of aircraft. There is anyway some progress. Simon Clouston (Director, Wsp/Parsons Brinkerhof) explained that has been established the Airport Carbon Accreditation Program, which has set out the ambition of becoming the leading standard for carbon emission management for the airport industry worldwide. It is technically robust and endurable in time for evolution and progress. The program has been progressing through several milestones:

The A380 (twin-deck, twin-aisle, four engines, long haul aircraft type) offers, surprisingly, the same consumption per seat of a small family car

Figure 11: Airport carbon accreditation levels

- 2008 - ACI EUROPE and its members commit to reduce carbon emissions from airport operations fully within their own control with the ultimate target to become carbon neutral
2008 – Program development by ACI EUROPE and WSP
2009 – Program launched at ACI EUROPE annual assembly
2011 – Asia-Pacific
2013 – Africa
2014 – North America
2014 – Latin America

Mr. Clouston subsequently presented the different levels of accreditation (1 to 4), from the understanding of the airport’s carbon footprint to taking the best countermeasures. Has been experienced a growth in participation with 20 more airport participating every year, reaching 150 as total number of airports after the 7 years of the program.

The ultimate, ambitious objective is to move towards the carbon-neutrality of airports. There is indeed a clear declining trend of carbon emissions for airports that have been joining the program from 2009 until today. These results are even more significant given the change that will take the industry in the very next years due to the global emissions objectives set up recently by the international community: at the COP21 the governments agreed to aim to limit the increase to 1.5 Celsius degrees; UNFCCC and ACI MoU to enhance the Airport Climate Action; ACA – 50 carbon neutral airports by 2030.

Brian Pearce, Chief Economist from IATA, continued explaining the global mechanisms in place for the reduction of today’s aviation emissions. In the past fifteen years the fuel use, ton km flown and CO2 emission from commercial air transport has halved from 75 to 40, but given the strong growth of, there is a global increase in emissions. Mr. Pearce shared the economics of aviation CO2, prioritizing the most impactful items among the several possible options. Interestingly, the highest impact in reducing emissions would come from the European ATM improvements, the Chinese airspace redesign, The
NextGen program, rather than the reengineering of aircraft or engines.

In order to cap emissions have been established three global goals and four pillars of climate action. The three goals are (i) 1.5% improvement in fuel efficiency per year; (ii) stabilize net CO2 emissions from the sector at 2020 levels through carbon-neutral growth; (iii) reduce by -50% the CO2 emissions from aviation by 2050 (2005 baseline). The four pillars are Technology, operations, infrastructure, and global market based measure.

![Diagram of four pillars of climate action]

In order to work to develop a global market-based measure (MBM); in 2009 the industry presented governments at ICAO with climate plan. In 2013 the governments agreed to develop global MBM for sector, currently parties at ICAO are undertaking political and technical work to design MBM for agreement at 2016 ICAO Assembly and implementation from the year 2020.

Venkata Rammana Putti, Senior Environmental Specialist at the World Bank, performed a comprehensive presentation of the Bank’s expertise in the climate change related carbon funds. Over a decade ago, the World Bank established the world’s first carbon fund to support the objectives of the Kyoto Protocol and reduce greenhouse gas emissions. So far, US$3.8B are under management through 15 carbon funds and facilities, supporting 145 active projects in 70 client countries. These projects are responsible for reducing the equivalent of 187 million tons of carbon dioxide emissions till date. The World Bank Group is also implementing carbon market facilities that innovate and pilot new carbon market instruments for the post-2012 period by developing new approaches to performance-based payments, including the Carbon Partnership Facility, the Transformative Carbon Asset Fund, the Pilot Auction Facility and the Forest Carbon Partnership Facility & Bio Carbon Fund. The World Bank Group also plays a leadership role in shaping future carbon markets and regulatory instruments such as the Carbon Pricing Leadership Coalition, the Partnership for Market Readiness and the Networked Carbon Markets initiative.

Carbon Funds have been the primary source of demand for carbon offsets to date and are particularly attractive for new carbon market entrants. Carbon funds allow buyers to aggregate demand and reduce overhead and transaction costs; the volumes of assets sought, and government participation in the funds in many cases, gives Carbon Funds a significant market leverage and the ability to attract favorable commercial terms; cost-effective and low risk approach to meeting CO2 obligations for those firms that do not have the in-house expertise to establish their own carbon asset sourcing programs; excellent opportunity to examine in detail trends, projects, compliance market mechanisms and other compliance schemes.

Mr. Rammana Putti concluded the presentation stating that the global Market Based Mechanism to be adopted at the ICAO General Assembly will require the Aviation Sector to become an active player in the Carbon Markets. Moreover, an early action from the industry is critical to signal a strong demand and ensure that enough credits are issued,
and due to the level of supply, the airline industry will have to keep an open mind and be ready to source offsets from multiple and diverse origins. The recent agreement reached in Paris has opened the door for a Carbon Market 2.0 world and the development of new crediting mechanism. The World Bank Group, through its experience in Carbon Funds, innovative crediting mechanisms and policy instruments can advise the aviation sector on the implementation of the Global Market Based Mechanism. Mr. Rammana concluded that in order to verify that all the investments are made in the right direction and supporting the established goals, the MVR – Measurable, Verifiable and Reportable mechanism is being implemented.

**SESSION FOUR: SECURITY VERSUS FACILITATION: HOW DO WE STRIKE THE RIGHT BALANCE?**

*Chair: David Trembaczowski-Ryder, Head of Aviation Security, ACI EUROPE*

*Johnnie Müller, Immediate Past Chair of the ACI EUROPE Aviation Security Committee and Security Director, Copenhagen Airports*

*Alexis Long, Chairman, Smart Security Management Group & Head of Security Policy, Heathrow Airport*

*Rod Paterson, Head of Europe Team, Aviation Security Division, UK Department for Transport*

David Trembaczowski-Ryder, Head of Aviation Security at ACI EUROPE, opened the session describing the reactive nature of security-related regulation during the last four decades. In a context of terrorist attacks’ escalation, should be found a balance between security and facilitation. Today’s approach assumes that all passengers are suspected terrorists until it can be proven the opposite, resulting in queuing, intrusive screening, not respectful inspections—all issues that need to be addressed.
Johnnie Muller from Copenhagen Airports continued sharing insights from the perspective of the airport that won the prestigious Skytrax award for two years as the best security procedure. This has been achieved through a world class security, which works dividing in the main areas of service (customer oriented), efficiency and quality & management. The very beginning comes from hiring the best people, which is a very challenging task: how this can be achieved given the boring and repetitive nature of the security job? The answer is providing the best conditions for the employers, including a very high salary so that the job becomes very attractive. Generally the recruitment process is very hard, and everything is based on a customer oriented approach. It took eight years to change and transform that, and as a result the Copenhagen Airport has the longest security training through the main steps of basic training, on the field training, recertification of skills and recurrent brush ups. In order to validate the service level and quality, surveys are conducted on large samples (100K passengers per year), and to achieve service excellence, has been developed a delegation policy where it is very crucial that the staff owns their own solution for each checkpoint. As a result, the security procedures are compliant to all EU and Civil Aviation Authority regulations, the Security Quality Management System assure high quality, the level of employee satisfaction rates are high (participation of 92% in the latest survey), the passenger satisfaction rates are high (based on more than 100K passenger interviews per year), Copenhagen has been selected for possessing the Best Airport Security Processing – Skytrax Awards 2013 & 2014, and the Copenhagen Airport has been rated the most efficient airport in Europe for the ninth time in eleven years by the Air Transport Research Society.

Alexis Long, from Heathrow Airport, is specialized in counterterrorism matters. He explained to the audience the Smart Security concept: a next generation passenger screening process, implemented with the partnerships of IATA and ACI. Smart Security envisions an improved journey from the land side to the air side, where passengers proceed through security checkpoints with minimal inconvenience, where security resources are allocated based on risk obtaining so a consistent optimization of airport facilities. The Smart Security solution to the problem is split in the three components of (i) Risk-based security and differentiated screening; (ii) Technology for enhanced detection capability; and (iii) process innovation for increased operational efficiency.

As a result, in 2015 have been tested the following components:

- Parallel preparation and reclaim;
- Lane automation;
- Centralized image processing;
- Advanced cabin baggage screening;
• Passenger security scanners;
• Explosive trace detection;
• Unpredictability and risk based approaches; and
• Checkpoint environment.

Mr. Long proceeded describing an outlook on the future steps, where he personally envisions to ideally reach a risk-based security and differentiated screening, where the main passenger-discrimination criteria would be, among others:

• High versus low risk;
• Behavior;
• Route based;
• Known traveler scheme; and
• Data driven targeting.

Mr. Long underlined how a passenger possessing the profile described in the second example is anyway legitimate, but nevertheless this creates a more risky profile. Another example of low-risk category is the domestic business flights.

The known traveler scheme deserves great attention given its huge potential in differentiating passengers and streamlining the security screening in airports. In order to provide a sense of how the known traveler scheme would work, Mr. Long brought the example of a Spanish family that every year is flying for their holidays to the same destination: this represents a group of low-risk passengers that would deserve a lower level of controls (thus considerably shortening the screening time). On the other hand, a random passenger that is flying long haul, without a luggage, purchasing a ticket at the last minute and that is coming from risky country would be an example of passenger to target through more in-depth controls.

Alexis Long concluded his presentation considering that while improving the security and optimizing the performance, this risk-based approach is also very efficient for technology investments, since the...
purchase of more advanced devices would be necessary in smaller amounts due to a reduced amount of risky passengers.

In the next presentations Nick Mower introduced to the public the main facts and figures of the European Regions Airline Association (ERA), an association that has 50 member airlines, totaling 960k flights and 45 million passengers per year, with averages of 71 minutes of sector time and 67 seats seating capacity. The total number of served routes by ERA member airlines is 1,200. Mr. Mower presented then ERA’s strategic objectives of contributing to a profitable, safe and secure industry, ensuring passengers and crew to arrive safely and securely at their destination (even though 100% of safety and security are not a ‘given’ and procedures have to be continually monitored, improved and implemented, implying certain costs, not only financial). This brings strategic concerns, such as conflicts between security, operational and consumer regulation, and creates the urge for states to recognize the terrorist security threats in the state or regime, not only to the airline, airport or its passengers. In this sense, air transport industry has the disadvantage of being much exposed to terrorist attacks that are actually never targeting the airport or airline itself, but the country’s government. To make a comparison, train or bus transportation systems do not have the same level of risk.

Hijacking, cyber threats, insider staff threat, flights over or to destination conflict zones, drones, laser attacks on aircraft, bomb threats, drugs, trafficking, disruptive passengers and crew safety when away from base are only some examples of threats that the airport and more generally the air transport industry have to routinely deal with. The reality is that ultimately security (and safety) has the airlines’ final responsibility, and this generates the need to educate the passengers, in a complicated framework where airlines already have to fulfil security requirements from multi agencies, from individual states to ICAO, ECAC, the European Commission, EASA, the military, the police (national and local), Eurocontrol, among others. To create an even more complicated environment, the majority of ground services are now contracted out by airlines. In this context, Mr. Mower wondered on what is the actual level of control over facilitation in airports.

The reality is that web/remote check-in is becoming the standard, and the very first passenger experience in an airport is often the security checkpoint. Ground agents are on financial penalties for delaying flights as are the airlines to pay compensation for any delay, and the flight crew are now locked behind armored doors. The cabin crew role is a very complex one, where they have to be safety experts, in-flight customer service (often the commercial edge), paramedics, expert fire-fighters and in certain circumstances even police officers.

Alexis Long envisions to a risk-based security approach with differentiated screening, with multiple passenger-discrimination criteria.
Nick Mower concluded his presentation focusing on some lessons learned in events such as Lockerbie and the 9/11, which probably represented missed opportunities. He also insisted on the importance of educating the passenger, both the frequent and infrequent flyers, engaging in a communication stream from booking to landing (API, PNR). He recalled also the importance of establishing a framework of known or trusted passenger scheme and, maybe, develop even a concept of trusted crew. The profiling of course wouldn’t be based on racial or religious stereotyping, but on the understanding of the reasons for which a passenger in on a certain flight.

The information exchange, particularly between state authorities and the industry, also plays a central role. There is globally the need to be more proactive, given the current situation where all the stakeholders are always focusing on fighting the last threat. The ‘soft targets’ are now normal, and a robust aviation security would be a deterrent. Should be always considered the ‘what comes next?’, stopping the threats on the ground.

Today security is associated to forbidden items, but the future needs to be about the person, towards the known passenger scheme.

In the following panel was highlighted the need for a massive change in the approach to security. The industry and the regulators are moving toward one extreme to the other (too secure or too unsecure in order to be facilitated). Today security is associated to forbidden items, but the future needs to be about the person, towards the known passenger scheme (currently existing in the US in the form of voluntary schemes). Also cargo is very critical: there is much regulation in this sense given the relevance of goods that are very important for the economy. Technology is crucial also for the cargo, so should be developed an approach similar to the one considered for the passengers.

Dr. Charles E. Schlumberger concluded the Aviation Symposium highlighting the importance of providing feedbacks and how this constitutes a key driver to understand a real, neutral point of view of the airport industry, regulators and advisors. He underlined how he has been impressed by the industry’s general optimism around PPPs as a form of capital rising, and also the audience’s awareness around how the main obstacle is actually to convince the government (rather than raising the capital). This is a key understanding given the fact that most of the airports of world (two thirds) are not profitable. With these premises, Dr. Schlumberger has been surprised for the great Madagascar’s success in implementing a PPP given its very small traffic.

Additionally, the growth that characterized the current and the past few years shows a shift in preferences and behaviors: a today’s family may prefer to purchase a trip instead of buying a car. This is something that justifies the importance of fostering growth also when economy is hard, in a context where air transport has become a commodity. It has been encouraging to see how the symposium tackled the very important topic of climate change, that the aviation community is facing seriously even if responsible for only 2-4% of the global emissions, and the issue of security and facilitation where a more secure and better service becomes ultimately a better customer experience.
8TH ANNUAL AIRPORT ECONOMICS & FINANCE CONFERENCE

AIRPORT COMPETITION, REGULATION AND FINANCE

WELCOME AND KEYNOTE ADDRESS
Conference Chair: Michael Burns, Partner, Corporate Finance, PwC
Angela Gittens, Director General, ACI World
Olivier Jankovec, Director General, ACI EUROPE
Patti Chau, Regional Director, ACI Asia-Pacific

Michael Burns, Partner Corporate Finance at PwC, opened the 8th Annual Airport Economics & Finance Conference welcoming the audience and thanking to the sponsors that made the conference possible. He shared with the public today’s UK airport economics, and reasoned on the uncertainty of oil prices, with unpredictable “how much” and “when”, and the related impact on the air transport industry. Mr. Burns indicated also a frequent question coming from investors and potential investors, whose main concern regards the financial security of airports’ investments, which are definitively good bets if the propensity to travel increases in markets where there is a strong growth of the population and a much limited number of airports.

Angela Gittens, Director General of ACI World, thanked the World Bank for the participation and the precious exchange of knowledge and introduced how the conference will cover several topics that will help the air transport community to work hard towards a more economically sustainable airport industry for all members, large or small, in every region of the world.

She presented a quick rundown of the preliminary worldwide 2015 airport traffic results and the summary findings of the 2015 ACI Airport Economics Report, which analyzes data from the 2014 financial year for 818 airports. The report, along with ACI’s 2015 Airport Key Performance Indicators, was just released the previous day.

The traffic headline is that in 2015 passenger growth was strong across all regions except for Africa, while air freight growth was weak across all regions except for the Middle East. The economics headline is that overall the airport industry in 2014 was healthy, with mature markets bouncing back and emerging markets remaining resilient in the face of weaknesses in their countries’ economies.

According to ACI’s preliminary statistics, the global passenger traffic grew by 6.1% in 2015, with equally strong growth in both international and domestic passenger traffic—+6.2% for both. Because transit passengers are included in the total and it was in decline, it drags down the total growth at the decimal level. This represents the highest growth rate in passenger traffic since 2010, when passenger traffic grew by +6.6%. As it is possible to notice, the numbers range from a drop of 0.1% in Africa to an increase of 11.3% in the Middle East.

Air freight markets were weaker compared to the passenger figures, with a modest 2.3% growth in total freight volumes for the year, largely due to subdued growth in emerging markets and developing economies, along with a more modest recovery in advanced economies. This growth is
comprised of +2.5% in international freight and +1.8% in domestic freight.

Reflecting the weak spots in the emerging markets, the business confidence experienced a limbo in 2015. As we’ve seen before, this resulted in a build-up of inventories and a reduction in orders by air. Downside risks will continue to persist in 2016. While the prospect of future global economic growth is cause for optimism, there are two forces at play that continue to move in opposite directions. As key regional economies such as North America get back on course, a slowdown in emerging markets dampens the potential for significant advances in the global air freight market. Due to an economic slowdown in several of the most important emerging markets such as Russia and Brazil, this category did not generate the traffic growth of recent years. While it is not known exactly when emerging markets will return to strong growth, it is known that they will and, when they will do, traffic growth will outpace even strong economic growth. The reason for this is market demographics—these are countries with large populations with large land masses or multiple islands, such as Indonesia, with a growing middle class with a greater propensity to travel, and travel by air. As these markets deliver airport investment, air traffic control modernization and liberalization of air markets, the propensity to travel by air gets realized and the traffic soars. Currently, the US has 25 more airline trips per capita than India. It wouldn’t take much of a change in that ratio to produce millions more trips in India. India needs more airport investment and ATC modernization. China and many African countries have relatively closed air service markets, and removing the constraints will have a big impact.

Angela Gittens then moved from traffic to economics. Industry income as a whole in 2014 grew by 8.2% over the previous year to US$142B. On a regional basis, European airports held the largest share of global airport revenues at 36%. This was followed by Asia-Pacific at 29% and North America at 19%. We saw the highest revenue growth in Latin America-Caribbean and Africa, followed by the Middle East.

**An economic slowdown in the emerging markets of Russia and Brazil**

**China and many African countries have relatively closed air service markets, and the impact of removing the constraints will have a big impact**

Regarding airport charges, is has been analyzed the trend of charges compared to overall airline operating expenses using data provided by ICAO and the reality is a long-term declining trend: airport charges to airlines are a lower percentage of airline costs than they were two decades ago. Continuing with facts, ACI’s data also show that worldwide passenger-related revenues constitute approximately two-thirds of total airport revenue, with aircraft-related revenues making up the
ACI’s data also show that worldwide passenger-related revenues constitute approximately two-thirds of total airport revenue. In recent years this proportion of passenger-related revenues has continued to increase, and with airports demonstrating disciplined management of their costs, we can anticipate that airlines worldwide will contribute an even lower share of overall airport revenues than they did in the past. As discussed during the December Economic Regulation conference in India, airports continue to have every incentive to increase passenger throughput, providing regulators with the opportunity to shift to light-handed and facilitated regulation. Introducing these efficiencies will provide more capital and enable growth. Worldwide, retail concessions remain the leading source of non-aeronautical revenue for airports. Car parking revenue and property revenue/rent follow retail concessions as the second and third largest sources of revenue.

Moving to the airport bottom lines it is important to consider that airports are asset-intensive businesses, they require large minimum investments to accommodate a single landing. Thus, there is a critical mass that must be achieved before an airport can start recovering its large operating costs and infrastructure investments. Their capital-intensive nature is the main reason that the majority of smaller airports are loss-making—they don’t generate enough revenue to cover their capital and operating costs. Return on invested capital is a robust measure of profitability because it not only considers the effective management of total revenues and total costs for a calendar year, but incorporates invested capital. The global return on airports’ invested capital was 6.3% in 2014. However, there are differences between airports in advanced economies and airports located in emerging markets. Furthermore size is a major contributing factor to whether an airport is profitable or not. The sweet spot for return on invested capital is for airports that serve between 5 and 15 million passengers per year. Airports that serve fewer than one million passengers per year have a negative return on invested capital—in other words, this represents an actual economic loss. Angela Gittens closed her presentation adding a note on an important thread that runs through the Economics Report, regarding the economic benefits that airports bring to their communities. These benefits extend beyond the direct benefits of job creation at the airport, to the benefits provided by suppliers and to the multiplier effects of connectivity for tourism and trade.

Olivier Jankovec, Director General of ACI Europe, reminded to the audience that, according to the general commercial assumptions, the passenger growth is usually two times the GDP growth. Nevertheless, it has been registered much more than this, given that the air transport today has become a commodity.

It has been recorded a change among the top five European airports: the first is still London Heathrow, the second is Paris Charles De Gaulle and Istanbul is surprisingly third (changes to this ranking are very rare). For Istanbul it is expected even a higher ranking in the upcoming years if the airport will keep the same growth rate. In this context, the decrease of oil price had a very positive impact in all markets.
and especially in the air transport, but there are still several threats to face, from the refugees crisis, to Russia and the UK exit from the EU, among others.

A key driver for these results, for airports, has been being more efficient and working with a better focus on their cost base, i.e. producing more realistic forecasts of CAPEX (CAPital EXpenditure) and as a result reducing the capital expenses. Mr. Jankovec continued citing another relevant change in the European air transport industry, which is the tendency for the very successful Low Cost Carriers (LCCs) to move progressively from secondary to primary airports. Additionally, another measure of the strong success of LCCs is their growing fleets, referring to Ryanair and EasyJet. Even though with a different order of magnitude, Aegan’s financial performance has been very interesting, since it could register good returns in a context of a bad and turbulent market. There is still the need to wait to see a more consolidated market, such as for example the consolidation conducted by Etihad Airways through Etihad Partners.

Differently from the LCCs’ performance, there was no relevant growth for network development. This is to a certain extent warring for the secondary airports, since it is translated in a consistent connectivity risk. Adversely, primary airports are the real battlefield of the business development, with the result of an increased and healthy airport competition. Good hub connectivity has been recorded for Rome Fiumicino (IATA: FCO) and Adolfo Suárez Madrid–Barajas Airport (IATA: MAD), among others. Airport competition is moving upmarket – much more is coming from LCC and non-European carriers, while the traditional market segmentation is less and less relevant.

The direction is towards new hub opportunities demonstrated by the cases of Gatwick and Milano, consisting in a strong and attractive connectivity product offered by airports to the airlines.

Patti Chau, Regional Director for ACI Asia-Pacific, shared with the public considerations and figures around the continued strong passenger traffic growth in Asia (+8%) and Middle East (+11.3%), supported by a wide proliferation of LCCs in the region and the experienced airfare reduction that increases traveling propensity. Freight has registered much different figures, with growth rates of 1.5% in the Asia-Pacific region and 10.7% in the Middle East.

Over the past twelve years the LCC seats capacity has more than tripled in South-East Asia and today LCCs are making their way in North East Asia. In China have been registered 7.1% and 8.4% of increased capacity coming from new actors such as Spring Airlines, China United and West Air that have more recently entered the market. Also promising is the growth of airport capacity in Beijing, Mumbai, Dubai, and Lang Thanh, along with Iran’s recent market opening.

There is a significant development strategy proposed by China: the One Belt, One Road initiative, for the realization of six economic corridors spanning Europe, Asia and Africa. In addition, with China leading the establishment of the Asian Infrastructure Investment Bank (AIIB), it is expected that more funding will be available for infrastructure developments in the region and airports projects will likely benefit from additional funding sources. Despite economic slowdown, China continues to invest in airport infrastructure by announcing 66 new airports projects.

Patti Chau moved to the topic of airports’ privatization, which is very active for example in Japan, through a US$18B concession program and in the Philippines, at Manila airport. Additionally, the airport authorities of India and Singapore signed a Memorandum of Understanding for the cooperation on the development of a network for an increased regional connectivity and wavering of taxes. The
progress of ASEAN Open Skies policy continues to face challenges, but with the ASEAN nations moving toward forming a new Economic Community, this will help further the realization of ASEAN Open Skies in the foreseeable future.

**Interactive Polling**

Dr. Charles Schlumberger, Lead Air Transport Specialist from the World Bank and Aldo Giovannitti, Aviation Specialist from the World Bank, conducted a second interactive polling session. The polling opened asking to the audience an opinion regarding the status of the global economy, compared to the previous year. Nearly half of the public thought that it had worsened being still good in a long term perspective (43.1%). 27.5% indicated that it actually improved, and 19.6% thought that it remained the same. Only the 9.8% of the audience expressed a pessimistic view, stating that the global economy worsened and that it will be negative in the long term. More specifically, the second question referred to the global performance of the air transport industry. The public shared a very positive impression, with only the 3.9% convinced that the industry is starting to get into troubles. Continued strong growth, growing but slowing, and leveled-off accounted for the remaining 94.1% of votes. Much more fragmented votes have been expressed by the audience when answering to the question “What are the biggest global challenges for the air transport industry?”, with answer distributed across unstable financial markets, risk of rebound of the oil price, uncertainties about the global stability, security and conflict. The fourth has been a sensitive question, which referred to the security of going ahead and invest heavily in infrastructure in order to meet the demand, given the forecasted passenger figures expected to double by 2030. Half of the audience seemed to be very optimistic (48.7%), indicating that airports should invest to avoid the risk of losing market share. 29.6% indicated the need to delay investment by one or two years; the remaining 21.7% has been more cautious showing skepticism and suggesting that the growth will not be as forecasted. The last question aimed to capture the public’s opinion in regards to the impacts of the recent COP21 (Climate Change) meeting held in Paris. 20.1% indicated that as an outcome ICAO will introduce measures that will raise the air transport industry’s reputation as the “first global industry measures”; approximately one third of the audience feared that this may result in additional fees targeting an industry already overwhelmed by several different fees; 29.1% shared that the COP21 will not result in any relevant measures, and only the 3% indicated that this may result in more carbon-conscious air-travelers.

After the conclusion of the interactive polling, Dr. Schlumberger proceeded sharing with the audience an interesting study presenting a diagnosis of the global financial status, global debt, and considerations around the oil price. Have been summarized major facts around the current performance: in Brussels, on 4 March 2016 the European airport trade association, ACI EUROPE, releases its traffic report for January 2016. This is the only air transport report which includes all types of civil aviation passenger flights to and from Europe: full service, low cost, charter and others. Passenger traffic across the European airport network in January 2016 grew by an average +6.3%. In the EU, the average increase in passenger traffic was +6.9%, with airports in 16 EU Member States achieving double-digit growth. This was the strongest monthly rate in almost 2 years. Meanwhile, non-EU airports reported slower growth of +4.3%. Freight traffic across the European airport network grew by +3.5%, above last year’s average of +2.2%. However, this improvement is mainly due to comparison with a weak January 2015 (-1%). The dynamic growth in passenger traffic was not matched by a corresponding increase in aircraft movements – which remained aligned with previous
months at +2.2%, pointing to continued airline capacity discipline.

Dr. Schlumberger further shared concerns regarding the global economy on short-term, medium-term and long-term approaches.

The short-term concern focused on the importance of well-working financial systems. Without a well-working financial system, the global economy would stall and collapse. Debt can help the financial system, if it supports economic growth. However, if debt servicing exceeds economic performance (profit), debt is not sustainable and may be damaging. In the worst case, the monetary base needs to be renewed (monetary reform). In this context, the debt versus GDP ratio has been increasing in past years, and the trend is towards an even bigger spread for the upcoming years: How much debt is too much? In 1928, total debt was 250% of GDP. Today, we exceeded 350% of GDP in the US, and the global debt increased 42% in seven years since the financial crisis of 2008 (from $142 trillion to $199 trillion). When moving to considering the medium-term concerns, Dr. Schlumberger highlighted the importance of understanding how oil prices will evolve. He introduced the Surplus Energy Equation, and presented some interesting figures regarding the energy value of non-renewable fossil fuels. 1 gallon of gasoline equals 500 hours of human work, and 1 barrel of oil equals 23,200 hours of human work.

The market value of 1 USG gasoline is in the range of $2.00-$4.00 / 500h work, that equals $3,625, while 1 barrel of crude oil is in the range of $30.00-$80.00 / 23,200h work, that equals $168,200 (per comparison, the US federal minimum wage is $7.25 per hour). These considerations are much relevant, given that the world economy started to grow once humans used primarily non-renewable energy. In this scenario, the IEA confirms that global conventional oil production has peaked in 2006, and in order to foster the world’s economy and energy growth, new technologies have been explored for oil extraction, such as the Hydraulic Fracturing or Thigh Oil: thigh oil is typically found in so called “sweet spots”, but many exploratory wells are disappointing. It is still uncertain whether the tight oil and fracking technology will be able to solve the peak oil problem.

The long-term concern looks closely to the climate change and global warming. Climate change is a change in the statistical distribution of weather patterns when that change lasts for an extended
period of time; how is this impacting aviation?

The global warming can change the weather patterns and impact aviation. The impacts of Climate Change on the UK Air Traffic Patterns can be several. Changes of the North Atlantic jet streams, severe convection and thunderstorm activity, frequency and track of mid latitude cyclones, modifications of prevailing wind patterns at airports, winter and summer temperatures, incidence of frost and snow, fog frequency, precipitation events leading to flooding and the sea level at vulnerable airports.

Dr. Schlumberger concluded his presentation sharing recommendations for the short, medium and long terms. In regards to the short-term, there is the need to be concerned about the sustainability of the financial systems, since too much debt will have an impact on future growth. On the medium term, it should be considered that oil will be the energy source for aviation for a long time. It is important to be prepared for a rise, maybe even a sharp surge if other sectors will not switch to other sources such as renewable energy. For the long-term, the effects of climate change might impact the industry earlier than expected, and it is imperative to act now.

(PANEL DISCUSSION)

What is the nature of, and the degree of competition among international hub airports? As hubs compete for greater throughput and beyond traffic, are they creating the seeds of destruction for other parts of the global aviation system? How are low-cost carrier (LCC) business strategies evolving in their attempts to seize a larger share of traffic?

Chair: David Feldman, Chief Executive Officer, Exambela
Panellists: Tan Sri Bashir Ahmad Abdul Majid, Immediate Past President, ACI Asia-Pacific and Advisor, Malaysia Airports Holdings Berhad
Arnaud Feist, Immediate Past President of ACI EUROPE and Chief Executive Officer, Brussels Airport Company
Michael McGhee, Partner, Global Infrastructure Partners
Emma Gilthorpe, Strategy Director, Heathrow Airport

David Feldman from Exambela Consulting opened the first session on airport competition introducing major issues and presenting the panel.

Tan Sri Bashir Ahmad Abdul Majid from Malaysia Airports Holdings Berhad shared how the aviation business is interesting and unpredictable. In regards to fuel expenses, nobody could forecast today’s US$30 per barrel. This complexity makes the business so difficult. The aviation industry needs always to be optimistic but at the same time very cautious; optimism is needed in order to build capacity in the airports or to buy new aircraft to expand fleets, but there is no certainty that the new investments will meet an actual demand.

It has been then recalled the Airbus’ forecast anticipating that air traffic will double in 15 years. Is the airport competition going to be creative destruction in these smaller airports? In this
scenario, regional airports are big winners and big losers. In the case of Shannon Airport, for example, the facility delivers 19K jobs and US$5M to the economy in Ireland.

Today it is possible to see Dubai becoming a major hub, while before London and Singapore were more prominent. Basically every airport wants to be a hub and compete fiercely to win airlines offering to them the best prices, statistics, incentives and well-crafted packages. Big changes have been experienced. Singapore, due to its good location was the main hub; now there is Dubai, and this is because of technology. There is the need for a good location, truly good network area, the right capacity and a facility good for connections, adaptive to the changing flows.

Differently from hubs, in the case of regional airports it is unknown what the competition is. Often the competition comes from other airports, mostly the closest hub, which creates interesting dynamics. Mega-hubs have 24/7 operations that explains their dramatic growth. The general understanding is that mega-hubs are winning against the smaller airports as in the Middle East region, but mega-hubs do have their issues. Indeed, looking at long haul routes, approximately 70% of all new created routes are not coming from the mega hubs, but mostly from several regional airports in Europe. This has been achieved through a strong restructuring of the small regional airports.

There is a number of small and remote subsidized airports form the EU Governments, but other airports want to be a business of their own, free to be attractive to airlines and generate a self-sustainable business. Even in the present context of strong hub growth there are probably no losers: for example Brussels has 220 small routes while Heathrow has less than half of that number, demonstrating the very different natures of offered services.

Nevertheless, European small airports may experience a certain threat created by the major LCCs that are progressively switching to major airports. In the case of Malaysia Airports, the facility hosted only full service carriers. When LCCs came, the management started to look closely, seeing them not as a villain, but as an opportunity. Ultimately the airport had to adapt and change the business model. Even the Government had to adapt in order to allow them to propose their new fares. The airport-airline is a hate and love relationship, and it is understandable that there will be moments of disagreements, but fortunately the directions seems to be towards the same goal. Globally the system adapted moved on, successfully. In conclusion, the real challenge consists in adapting and mixing business models, the innovative and traditional of low cost and full service. In Europe actors such as Ryanair or the Middle East carriers may be a threat for the regional airports, and this is due to the main benefit that they bring to passengers that can travel cheaper or, simply, can just travel. These are disruptive players, but they also helped strongly the some European airports: Dubai’s hub is actually beneficial because through Dubai our passengers can connect in a much cheaper way to the Asia-Pacific region.

Also the bureaucrats should be considered as a major threat. Different airlines want different things, and ultimately what passengers want is a choice. Regulators have to create a context where the offer of different services is possible and a true choice for passengers is generated: as an example, the liberalization in Europe has created more than one thousand intra-EU routes (even though there is a degree of uncertainty for UK-EU routes due to the potential exit of the UK from the European Union). Many successful partnerships were based on the principles of flexibility of regulation: Emirates and Ryanair want completely different things, and the regulation has to allow all the possibilities.
Mr. Feldman concluded the first session moving towards the understanding the degree of innovation in the industry, exploring possible parallelisms with startup businesses such as Airbnb, Uber or Blade (a concept similar to Uber, but implemented with helicopters). In Shannon Airport, for example, have been implemented great innovations, including the first duty free and the first free zone. Strong innovative technologies have been remarkably implemented with the Global Distribution Systems (GDSs) that allowed the possibility to compare fares, a vital point for LCCs that could not exist without this technology.

**SESSION TWO: AIRPORT ECONOMIC REGULATION – ARE TODAY’S MODELS OF REGULATION APPROPRIATE FOR AIRPORTS, THEIR REGULATORS AND THEIR BUSINESS PARTNERS?**

What are the appropriate models of airport regulation that achieve greater allocative efficiency, and enable sustainable returns on investment? Conversely, what models of economic oversight stifle investment and disrupt the air transport value chain? Do ICAO’s policies of non-discrimination, cost relatedness, transparency, and user consultation with respect to airport charges both contribute to the financial sustainability of airports and address stakeholder concerns?

*Chair: Dr. Richard Sharp*, Technical Director, ICF International

*Yuanzheng Wang*, Chief, Economic Regulatory Framework Section Air Transport Bureau, ICAO

*Stephen Gifford*, Head of Economic Regulation, UK Civil Aviation Authority (CAA)

*Donagh Cagney*, Manager Economics, ACI EUROPE

*Bhaskar Bodapati*, Senior Director-Finance & Support Services, Bangalore International Airport

The second session has been chaired by Dr. Richard Sharp from ICF International that opened introducing the traditional regulation approach. The standard model has the following major characteristics:

- Cost related – probably clean standard models such as single or dual till;
- Price controlled;
- Using a price formula CPI-X;
- Over a standard period (for example 5 years);
- Imposed by a designated regulatory organization; and
- Following a major and highly resource consuming review by that organization.

**Privatization in most places is set to generate better pricing and competition, and if regulation is removed there is somehow a threat to the investor**

In a changing industry also the regulation needs to change its model. Referring to PPPs, the classic approach is basically simple, either not cost related or calculated formula, constrained by contract/law with pre-specified service and CAPEX with a certain scope for adjustment in terms of major changes in circumstances or economic, with the regulator checking that rules are observed. In a facilitation based approach, the agreement reached between airport and airlines is based on normal commercial
give and take: the airport makes proposals and leads discussions and in some cases the regulator may specify the timetable for information provision and rules to be followed in the process, and may provide fall back in case of failure to agree. In this context it is very important to reach a certain balance, because privatization in most places is set to generate better pricing and competition, and if regulation is removed there is somehow a threat to the investor because it has more uncertainty.

Yuanzheng Wang, from the ICAO’s Economic Regulatory Framework Section Air Transport Bureau, outlined a global agency perspective, focusing on ICAO’s policy on user charges, economic oversight and implementation. Regarding policies on charges, from the basic definitions from the Chicago Convention, have been captured the principles of uniform condition, no discrimination and the freedoms of the air. ICAO’s policies for Airport and Air Navigation charges are captured in the Doc. 9082. The general assembly (that gathers every three years) will work on the expansion of these policies in this year’s assembly.

Mr. Wang summarized the four key charging principles of non-discrimination, cost relatedness, transparency and consultation (airport should consult customers before setting prices). In order to achieve a balance between airports and users would be necessary the following:

- States to adopt an oversight approach that meets their specificities;
- Exercise of oversight be clearly separated from the operation of airports;
- Regulatory intervention be used only when required and kept to a minimum; and
- Important to consider potential effects on users.

On the implementation of ICAO policies, the Organization received a mandate to collect a feedback of how these policies are seen from the member states, and identify the potential need for a change. The result: 83 respondent states covering 84% of all total air traffic – it is a very good foundation. Being also the geographical coverage well distributed it creates a solid ground for the survey’s purposes.

Among major findings has been identified that most of the ICAO member states were aware of the ICAO’s policies for airport economic oversight (72); also, 73 of respondents reported that they have incorporated ICAO principles in the national legislation. The states answered that they evaluated an implementation aligned with the four principles (70 non-discrimination, 66 cost relatedness, 68 transparency and 64 consultation). The states also called for a greater ICAO’s engagement in establishing clearer and more comprehensive policies on charges and assisting developing countries in implementing ICAO principles. Mr. Wang concluded recalling that ICAO policy and guidance is available and valid for use to the State for an economic oversight suitable to its situation and desired goals.

Shri Machenderanathan, From Airports Regulatory Authority of India (AERA), brought an interesting point of view from the perspective of a regulatory body, underlining the importance of regulation. It is understood that this rule of one for all do not apply because every country has its own specificities. Things changed consistently in 1990 the state of Karela when there was the first airport privatization
in the country; followed also others, including Bangalore. Things have changed and there have been more and more PPPs in India, even though without uniformities in charges, so has been feared that airport charges would sharply increase without intervention, so somebody thought that there was the need to protect customers. There was a certain level of monopoly in the privatization project – so the need for regulation. AERA in India has been given a lot of independence. The concession contract states how the charges should be defined, and each airport operator has to provide a tariff reports to show how they charge.

When there is growth it is important to design a regulator approach and provide to the investors help – such as for example a seed funding to start the works. In India there is a flexible approach to tariff determination, with the simple and straightforward objectives of only equity and growth. Additionally, a good degree of flexibility lets the market decide the airport’s charges, making the role of the regulator closer to a facilitator during an interim phase.

International Airport Ltd. Bangalore International Airport experienced a phenomenal growth that in 8 years reached 15M passengers per year, the fastest growing airport in the country with the fastest aviation growth in the world. A huge amount of experiences have been collected in the implementation and approach in of the regulations. The foundation of any regulation and of any airport charge is recovery of cost, but the question is, how relevant is this in the current context? Mr. Bodapati recalled the principles of charges and the key element of airport charges. Among the four principles he insisted how the focus should be on cost relatedness principles, underlining the need to move from cost towards cash flow.

Bhaskar Bodapati continued sharing with the audience a reminder of the single and dual till mechanisms, recalling that it has been defined from a regulator’s standpoint that with the single till approach it is impossible to recover cost, and that the portion of non-aeronautical revenue is actually recovering costs plus generating profit.

Additional insights on the specificities of the Indian airport industry have been provided by the following presentation of Bhaskar Bodapati from Bangalore
A pragmatic solution to find the best till configuration has been reached discussing with the regulator and agreeing on a specific, tailored till mechanism that is today working perfectly. AERA effectively gives single till order with cash support through a 40% SRT to fund expansion (it is not hybrid, but a single till).

In support of this innovative structure, it is also interesting to evaluate other sources of cash. Impactful new ways of digital economy vs real economy, for example, created the possibility for a customer to buy a gift during a flight from Frankfurt with a pick up at the destination airport in Bangalore. Mr. Bodapati concluded his presentation highlighting once again how everything has been centered on cash generation in order to plan and run the airport. He also added that in case of growing airports, there is the requirement of cash for operations, expansion, compliance and return to shareholders.

Stephen Gifford from the UK Civil Aviation Authority (CAA) offered additional insights from a regulator’s perspective. Starting with the very basics of the regulation in the UK, he presented the CAA’s method of regulating only if there is a market monopoly that generates issues around prices and quality. Currently there is the economic regulation of three airports. In order to introduce regulation are necessary three different tests:

1. The airport has Substantial Market Power (SMP);
2. Competition law does not provide sufficient protection against potential abuse of SMP;
3. The benefits of regulation > adverse effects.

The 2012 civil aviation act states: “Further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services”.

Mr. Gifford continued providing the example of Gatwick airport that passed all the three tests. In this case the reasons for finding SMP include Gatwick’s unique characteristics of density of leisure routes, wealth of catchment area and facilities; inherent attractiveness of the London market; lack of credible alternatives for airlines switching from Gatwick. Gatwick is now regulated via ‘license backed commitments’, which consist in:

- 7-year commitment from Gatwick to airlines on prices, service quality and investment;
- Embedded in Gatwick’s license, so enforceable by CAA;
- Should encourage bilateral contracts – service quality, investment, operations;
- Volume commitment and prices tailored to needs of individual airlines;
- Should facilitate innovation and service diversity, and 7 year duration provides;
- Stronger incentives; and
- CAA to review performance of commitments during second half of 2016.
The reasons for accepting GAL's commitments rather than a RAB-based price cap are multiple. It creates a better framework to diversify the service offering and incentivizing volume growth, encouraging bilateral contracts that could be better tailored to the needs of individual airlines and their passengers, promoting competition by facilitating innovation and diversification of the offer. The benefits for the long term are locked lower future charges, greater certainty to airlines and their passengers and incentive to reduce operating expenditure ultimately facilitating efficient and more flexible investments.

Also London Heathrow passed the three tests, due to the main reasons of being suitable for markets with high level of market power, UK’s only hub airport, strong demand (including premium passengers) and importance of the London market, among others. Heathrow continues to be regulated through a traditional RAB-based price cap, single till, five years between reviews, constructive engagement between airport and airlines and charges that will not rise by more than RPI-1.5%.

Regarding the runway capacity Mr. Gifford listed major principles around costs, which impose that costs should be borne by the proposer, equality of treatment for short-listed schemes, and users not burdened with costs shareholders have incurred for commercial reasons. In the planning process has been imposed a £10M threshold at Gatwick and Heathrow, with a government-approved spending. The construction-related costs have to be focused on principles; the risk has to be allocated to those who can manage it best, fixing elements of the WACC for longer durations.

The following presentation from Tim Hawkins’ (MAG – Manchester Airport Group) introduced the Group’s four airports of Manchester, London Stansted, East Midlands and Bournemouth, showing figures relative to yearly passenger traffic, with Manchester and London Stansted airports having more than 23 and 22 million passengers. He progressed with a brief history of the UK deregulation, starting from the year 2008, when DfT’s decided to de-designate Manchester and to continue regulating Stansted; the 2009’s Competition Commission order of break-up of BAA; the major impact of the Civil Aviation Act that established a new legal framework in 2012; and CAA decision in 2014 to de-designate Stansted.
Before 2012 the Government decided which airport to regulate, the competition authority how to regulate each airport and the CAA had an administrative role, while after 2012 the competition authority had an appeal role only and the CAA had the responsibility to identify which airport needed regulation and how this regulation should be defined. CAA’s perspective on economic regulation is the following:

“Where firms hold a high degree of market power, which cannot be constrained by competition, economic regulation can be necessary to protect consumers.”

Nicolas Painvin from Fitch Ratings opened showing what the rating agency focuses on when looking into airport deregulation. He then introduced the rating criteria that the firm has been using to analyze over 100 airports around the world.

The price risk is both not discriminating and highly discriminating. It creates a big discrimination between US airports versus the rest of the world because in the US there is the tendency to be not regulated, a detail that drives quite consistently the rating. Airports with this characteristic have the ability to charge what is necessary to meet all the costs including in the service, thus ensuring profitability. It is much different from, for example, the EU. As a consequence, in the US an airport can have weaker financial profile but can still be better rated, and this is due to the fact that in the US it is possible to do things that are not impossible in other places, notoriously in market power. The rating, good points bring the rate slightly up and bad points bring the rating consistently down. The impact of the regulation on ratings can be heavy: in the case of South Africa, for example, an airport was downgraded due to adverse regulation.

Beyond its tariff mechanism, Fitch focuses consistently on flexibility, such as the ability to compensate the investors for unexpected losses. Due to the lack of flexibility, investors from the London airports had to suffered losses due to the lack of flexibility, while in the case of Cleveland and Memphis the investors benefited from the airport’s ability to raise charges to compensate revenue losses. On the other hand bond investors can be also very happy to have regulation in place: for example airports can’t be engaged in other businesses, so the risk can be lowered for certain aspects, but this has a negative impact of the flexibility and thus it is ultimately risky.

Mr. Painvin concluded his presentation discussing the differences between price caps versus price monitoring, followed by considerations around single and dual till, explaining to the audience that these do not create any relevant difference in regards to the credit rating.

SESSION THREE: AIRPORT INFRASTRUCTURE, CAPITAL EXPENDITURE AND FINANCE

What is the current outlook in the market for financing infrastructure projects through public-private partnerships? In times of austerity, when government support and bank lending is diminished, what other financing alternatives do airport
operators have at their disposal to expand capacity? Is airport pre-financing by users a viable option to finance capital projects? What are the best practices (and jurisdictions) which induce stakeholders and investors to find creative ways to finance airport infrastructure?

Chair: J. Doramas Jorge-Calderon, Senior Economist, Projects Directorate, European Investment Bank
Xiaoning Chen, Secretary General, China Civil Airports Association (CCAA)
Nazareno Ventola, Member of the Board of ACI EUROPE and Chief Executive Officer, Aeroporto G. Marconi di Bologna S.p.A.
Benito de Leon, Deputy Associate Administrator for Airports, FAA
Chris Chalk, Divisional Director, Aviation Practice Leader, Mott MacDonald Ltd
Michael Schütt, Vice President Finance, Fraport

The third session has been chaired by J. Doramas Jorge-Calderon from the European Investment Bank who opened reasoning around the forecasted doubling of the air traffic in the next fifteen years, underlining how this growth will not be linear and warning about the fact that we don’t know yet which airport will benefit from this strong growth. The global context is complicated and the industry is experiencing a certain amount of new, unorthodox phenomena, such as for example negative interest rates (that were considered impossible before, but that are actually happening) that investment banks are applying in order to avoid deflation.

Xiaoning Chen, Secretary General of the China Civil Airports Association (CCAA), presented the current methods used in China to finance projects, and expressed how airports are essential to the Chinese economy. In China there are 206 existing airports, 64 green field airports, and 66 other greenfield expected to be realized through the next 12 years.

Mr. Chen continued presenting the four characteristics that makes unique the airport development process in China:

1. The Construction has to be analyzed and validated by the Government;
2. The Government has to be the major investment source;
3. The capital base rests with the airport function orientations; and
4. The method of capital base + load is the most adopted.

In the examination of airports, greenfield and relocation need approval from the authority of the People’s Republic of China (PRC). General aviation airports have been regionally decentralized but the major commercial airports are under the China Civil Aviation Authority. The lending comes from the central Government’s funds, in order to balance the economic development for the different regions of the country, and in addition to the central Governments lending, a portion comes from bank loans.

Mr. Chen concluded that in the perspective of a more modern future, it is planned also the use of diverse funding methods, such as ABSs (Asset Backed Securities) and the opening for foreign capital. The cooperation with private enterprises and the engagement of non-governmental entities has been also considered, such that airports would only need to provide the land and collect the returns.

Nazareno Ventola, CEO of Bologna Aeroporto Marconi, shared with the public Bologna Airport’s IPO (Initial Public Offering). He presented the importance of Bologna’s area, which is very relevant to the Italian economy, with the presence of prestigious companies such as Ferrari, Gucci, Ducati and Maserati, among others. It is one of Italy’s major hubs for the high-speed train network that connects all the main cities. The airport records a traffic of 6.9
million passengers per year that makes it the number four in terms of connectivity and the number seven in terms of size in the country. 70% of its traffic is towards international destinations, and it possesses globally a good growth.

In this framework, the management has been also able to address the cost recovery issue (energy consumption).

Mr. Ventola presented then the main IPO’s objective, consisting in finding a modality to finance the capacity from 7-8 million passengers up to 10 in a five years timeframe, through a progressive approach. In terms of traffic, the Bologna’s airport has 75% international traffic, with balanced presence of major airlines and LCCs, with Ryanair being 47% of the total traffic, in a context where the 47% is full service carriers and 55% is LCCs. A big issue is the regulation that raised the main concerns among investors, since in this specific case the airport was in the process of implementing the new directives.

One of the main points towards investors was the ability to show and deliver a simple, credible storyline based on achievements did in the previous years. Four were the pillars for the business expansion:

1. Network extension and consolidation;
2. Infrastructure development;
3. Non-aviation business expansion; and
4. Efficiency and process optimization.

Going public through the IPO has been basically the final step of a number of actions belonging to a road map aiming to the IPO. It started with public shareholders, which evolved towards a more mixed shareholdership with shares from the municipality, province and the region in order to increase the capital; followed the PPP and, ultimately the successful listing on the Milan stock exchange. Nazareno Ventola concluded explaining how today Bologna Airport’s majority shares are private, and the change towards a higher level of transparency in the management and financial decisions due to the public financing.

Benito De Leon from FAA outlined alternative financing solutions during adverse economic conditions. He opened with a description of the US airport system, adding how in general the management of airports in US has big participation of communities and providing a number of key figures:

- 19,491 airports overall;
- 14,355 airports designated as private-use;
- 5,136 airports open to the public;
- 3,332 existing airports in the National Plan of Integrated Airport Systems ("NPIAS");
• 535 airports certificated under Part 139 (commercial service by aircraft with 9 or more seats); and
• 382 primary airports (scheduled commercial service with at least 10,000 annual enplanements).

Mr. De Leon presented the US airport’s ownership model, structured on ownership and control (States, Counties, City departments and Independent government authorities); operation and management (direct employment of management and staff, contract services and management services), the Federal influence on safety and environmental sustainability (as well as significant capacity and efficiency projects), the airline’s influence on investment and capacity and the financial market’s influence on availability of capital funds.

He continued presenting a breakdown of the airfares, and continued explaining to the audience the Airport Improvement Plan (AIP). The AIP provides grants to public agencies — and, in limited cases, to private owners and entities. It is for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS), and its funding has exceeded US$3B annually since 2001. This is only a fraction of US$33.5B in overall airport development needs as shown in the FAA’s NPIAS Report to Congress, which itself only represents a portion of airports’ development and operating costs. Other funding sources for commercial service airports include Passenger Facility Charges (PFC), bonds, aeronautical fees, & airport operating revenue.

Detailing PFCs, Benito De Leon showed that PFCs are a local, per ticketed passenger fee, charged by public agencies controlling commercial service airports, collected and remitted by air carriers and regulated by the FAA. PFC levels are set by statute to be US$1, 2, 3, 4, or 4.50 per ticketed passenger and are limited to no more than 4 PFCs on a round trip. Eligible public agencies apply to the FAA for the authority to collect PFCs, and the collection is limited to the total dollar amount and time needed to fund approved projects in a PFC application. Airlines get to keep $0.11 per PFC collected (airport gets $4.39 if collecting at $4.50).

In regards to Airport Revenue Bond Funding, Mr. De Leon outlined that this constitutes about 50 percent of all airport capital funding, primarily backed by the two revenue sources of airport revenue (rates and charges imposed on airlines and other users of the airport) and Passenger Facility Charges. Approximately one third of PFC revenue is used to pay off airport bonds (over US$900M annually), and in many cases bonds supported by airport revenue are subject to majority-in-interest clauses that require a certain “majority” of airlines to approve the project. Airport revenue bonds are subject to extensive review by municipal bond experts and usually are highly rated, providing relatively inexpensive financing for airports. The presentation was concluded referring to PPPs. In the US, airports can fund needed improvements with private sector participation Public Private Partnerships involving airports and private developers, have been used to fund airport development projects without increasing the debt already incurred by airports.

The AIP provides grants to public agencies — and, in limited cases, to private owners and entities

Chris Chalk from Mott Macdonald Ltd. opened looking into concessions models and examining what actually works and what not: recalled are the basic needs of secured revenue, clear obligations, a stable legal framework and certain boundary conditions. Three are the involved parties: the grantor, the inventor and the lender. Everybody has to win, but events will happen, changes will occur and the
project will ultimately look very different in the future. What is necessary to obtain is a Balance of the parties. To summarize:

- **Grantor wants:**
  - Investment
  - Employment (opex)
  - Share of revenues

- **Investor wants:**
  - Control
  - Agreed completion
  - EBITDA

- **Lenders need**
  - Stability
  - EBITDA

Mr. Chalk recalled also how it is required a balance of obligations and risk. The business indeed must be able to afford the obligations (understand IRR, DSCR), understand what risks are being transferred to whom. In this context, a number of things can disrupt revenues due to factors such as traffic risk, regulatory risk, macro-economic risk and political risk, or disrupt the OPEX due to employment obligations, lack of design efficiency and unexpected utilities costs. The same reasoning applies to the CAPEX disruption potentially due to issues related to scope, cash flow (e.g. avoid secondary borrowing), approvals, expansions, repex and timing (e.g. the imperative to invest when is time and not just to develop).

Michael Shutt, Head Of Finance at Fraport (IATA: FRA), opened his presentation introducing Fraport’s philosophy around the corporate finance. He presented some key figures to provide an economic snapshot that showed traffic figures up, FRA with 3.6% upside in passenger traffic, revenue increased by 9.5% (IFRIC12 adjusted +9.4%), group-EBITDA rose to 689M euro, an upside of 11% with all segments contributing (mostly retail and external performance), and a group result increased by 19% mostly due to operating performance.

Mr. Shutt continued explaining Fraport’s strategy in the shareholdership’s structure, which is relying mostly on public shareholders (public 51%) and with an important contribution from Lufthansa (IATA: LH), which is the major user (LH 8.5%), creating an overall good credit quality.

The CAPEX plan (7B euro) has the objectives of financing a new runway, modernize facilities and perform major maintenance works. This is definitively a huge amount to finance, for which it is necessary both internal and external joint funding. The internal is made of equity, cash flows and retained earnings, while the external is made of different forms of debt and instruments with a certain degree of diversification. Four billion of debt is based on Fraport’s solid credit history that shows a sound ability of repayment the funds: bank loans are generated with a diversification that is key: in the unfortunate case of a closed bond market, there is the capability for Fraport to switch to other sources for financing.
Group finance is different. Fraport has several airports – e.g. Hanover, Malta, Lima and Xian. Mr. Shutt concluded presenting to the public a summary of the different group’s financing methods, including the “Juncker Plan” (EFSI).

From IATA airlines, the total market growth is 7.1% (January), while for the year 2015 was 6.5%. These figures actually should be even bigger due to the fact that Low cost carriers are not members of IATA and do not have weight in this analysis.

Mr. Anker continued bringing the audience’s attention on LCCs and on their disruptive effect in the market. Followed the presentation of several examples of competition involving LCCs: easyJet taking on KLM and Transavia in Amsterdam, Norwegian taking on easyJet at London Gatwick and Vueling in the Canary Islands, Ryanair and Vueling competing in Brussels and Rome, Ryanair taking on airberlin and easyJet in Berlin, SAS and Norwegian at Copenhagen, Vueling taking on easyJet at London Luton, Frontier Airlines taking on all US major carriers but on a route-by-route basis, and Spirit Airlines taking on Delta in Atlanta and United in Houston. EasyJet reported a growth in terms of departing seats in the Netherlands and Austria, while Ryanair’s main markets are Spain, UK and Italy, with a consistent growth in Denmark, Germany and a decrease in France. It is interesting to notice that Ryanair is actually growing in EU’s capital cities. The global France’s outlook is quite negative given also a decreased growth of Airfrance. IAG’s showed an innovative strategy where is going to use Vueling growing where IAG already has bases.

Eurowing (the German re-branded Germanwings) is opening in Vienna where also Airberlin and Austrian are
operating. Also outside the US and the EU LCCs demonstrated a major role. In India domestic competition is intense between LCCs and Air India & Jet Airways with up to 8 carriers on some trunk routes. In Japan competition is intense between LCCs and legacy carriers with up to 9 carriers on some international routes (e.g. Taiwan). Malindo Airways is taking on AirAsia and Malaysia Airlines, and VietJetAir is taking on Vietnam Airlines.

Ralph Anker concluded explaining how global seat capacity continues to grow in Q2 with a few significant country exceptions. Additionally, China is adding more seat capacity than any other country, and outside of China growth is being driven by LCCs, which are not only targeting legacy carriers but now also competing increasingly with each other.

John Strickland from JLS Consulting Ltd is an expert of route development. He chaired and opened the Session Four on emerging markets and non-aeronautical revenue. Mr. Strickland highlighted how route development is fundamental from the airport side and how this is actually not a science but more an art for its changing nature and constant risk. The challenge is twofold: the difficulty of developing a new route is coupled with the difficulty of maintaining it through the time.

The CEO of Montego Bay Airport Dr. Rafael Echevarne introduced the complexities of Jamaica’s context and the very good point consisting in Jamaica’s brand, a discriminator that translates into a true catalyst to attract tourists; nevertheless, it is a very competitive market. He shared the fact that the major US airlines experienced an absence of growth in the Caribbean, and underlined the importance of bilateral air service agreements bringing on the table the Norwegian case: Norwegian is flying directly to Porto Rico, and this is achieved through the absence of issues with these agreements. In Jamaica this is very different, because the country is protected and is not possible to have, for example, direct Norwegian flights.

For a small airport it is not possible to convince an airline to fly there unless an attractive package is offered (differently from airports of the caliber of Heathrow or Dubai, where huge markets and geographical position are sufficient). It is also very fortunate that there is not a Jamaican carrier, because the in that scenario the Government would have the tendency to protect it instead of letting outside airlines coming in.

Good results should come from a sound business plan and strategy rather than several disconnected incentives: very attractive incentives are much less powerful than what could be expected. For example, an incentive to push an airline to fly at 5pm when the airline actually planned 12pm, will not be able to achieve the expected result. It is important to keep
in mind how airlines operate: in this example the airline may have the aircraft scheduled to fly at 12pm and the incentive to fly at 5pm will not convince them to change their operations. In the case of Montego Bay Airport, which is a destination airport, the competition is definitively large. Most of the passengers are tourists and not domestic, and the proximity of Mexico constitutes a major threat since is attracting most of the attention. A probably even bigger threat is the opening of Cuba for the US airlines.

**Most of the passengers are tourists, and the proximity of Mexico constitutes a major threat**

For the Jamaica’s destination market a key driver for the growth is the expansion of hotel rooms that can be filled and built – air traffic has a linear relation. Moreover a pragmatic management is required in order to develop the air transport industry: instead of planning to develop new and unrealistic routes (e.g. from the overestimated Chinese market), is much more important to work hard to maintain the current flights coming from Miami and the connecting flights coming from Europe. Even though incentives cannot constitute the main pillar of a business strategy, they can be helpful in certain circumstances: for example passengers have chosen the Barbados (which has a much smaller brand) instead of Jamaica due to incentives to the airlines.

Dr. Rafael Echevarne concluded his presentation highlighting the need to be aligned among the different actors involved in the tourism industry, including the Government. It is also fundamental to be practical and look at the real market.

George Karamanos, Managing Director in KPI Aviation Marketing Solutions, explained how change constitutes today a central strategic activity of an airport’s route development. Interesting is for example the virtual hubbing that offers connectivity and that can bring a typical passenger to stay long time in the airport (can be more than 5 hours). He continued sharing how important is to forget the old way of doing route development: given the fact that today marketing is measurable, it is possible to determine the effectiveness of the various marketing choices and steer and modify them when necessary.

Also incentives are very important, but should be kept in mind the mechanics behind them. Incentives can work, but sometimes are provided to an airline for a period (e.g. one year). When the period of incentive expires, the airline leaves the airport, so it is very important the way an incentive is provided. The problem in dealing with airlines is not only to negotiate an incentive, which may consist in a discount for one or two years, but more to look for a durable solution that will avoid the scenario of the airline leaving the airport at the end of the incentive period. Integration is key: there are for example the hotel associations that can support with incentives the airlines, along with the help of tourism authorities that, in certain areas, understood the importance of integration in the tourism sector.

A very different approach to airlines and route development has been presented by Dr. Chris Smith, Senior Advisor at Seabury, who introduced South Africa’s developing air transport industry, with the promising development of the regional services.

The market of interest has been the long haul, which is challenging: it means wide body aircraft, with a frequency of at least three days per week (adversely, with a frequency of one flight per week the crew-related costs could be tremendous), along with the major issue of connectivity. The capacity of connecting passengers can be the main point for developing an airport, especially given the geographical location of South Africa. Moreover long haul routes raise a consistent cost issue: US$250K to US$300K are literally gone when an airliner takes off for a long haul route. The specificity of long haul routes regards also the issue of landing charges. Indeed, while for short haul routes landing charges account for around the 25% of the costs, in the case...
of long hauls this value falls as low as 5%; as a consequence, nearly everything will be accepted by an airline given the marginal impact on costs, so negotiations would be trivial in most cases.

Dr. Smith proceeded to explain the endeavor of bringing Emirates to operate a long haul route from the region. Given South Africa’s unusual position and the local regulation that do not allows to provide any discount to airlines (so there is no leverage possible through incentives), the solution has been found in an approach based on implementing a guarantee mechanism supported by a very strong business case.

Christina Cassotis, CEO of Allegheny County Airport Authority, described the approach undertaken to develop Pittsburg airport (IATA: AGC). This has been very challenging given the consolidated US airline context where five airlines (three majors and two low cost carriers) possess more than 90% of the total traffic. AGC airport experienced a strong change, considering that before it was a hub. Being a hub airport has very good points of strong traffic and excellent connectivity; nevertheless, there is a downside: when a hub carrier decides to leave, the airport disappears. In the specific case of Pittsburg, US Airways (now consolidated in American Airlines) was a hub owner. After the merger with American Airlines, US Airways disappeared from Pittsburg, and everybody was wondering: when the airline would be coming back? Unfortunately, the answer was never, being the airport an O&D (Origin & Destination) market. Moreover, to worsen the situation, there is the “usual” airlines’ behavior in these circumstances, which is the tendency to follow each other.

In this context, Christina Cassotis noted that the airport has the right potential for growth, but airlines will come only if there is a market, and the airport’s most important job is to understand and read correctly the market. From the airport’s side there is the need to explain how AGC airport should be a good bet for them, and why the airport fits the airlines’ networks. The AGC team has ultimately identified this as the main objective, and this is what the team is doing all the time.

Very differently from the previous presentation about the Mr. Smith’s South Africa new long haul route development, Mrs. Cassotis shared with the audience that she is not believing in a revenue guarantee mechanism; instead, the team opted for incentives based on very concrete cases. For example, due to the movie industry, the team looked to incentivize Los Angeles – Pittsburg routes, so has been established an office to help airlines to get corporate contracts, trying to build the standard marketing package. With these premises, it is still possible to be innovative and find niches in a post-consolidation environment: the 70-seats flights fill the gap generated by the consolidation. This explains the central importance of marketing, the importance of the passenger and the passenger’s intentions, something even more important when trying to develop secondary airports. In doing this, it is important also to be realistic and specific. Everybody know what they want, so a more effective marketing approach would be asking questions such as “How much are you willing to pay?” or “At what time of the day?” in a market behaving more like experience-specific rather than route-specific.

Jagoda Egeland, Economist from the International Transport Forum, Organization for Economic Co-operation and Development (OECD), concluded the fourth session in the second day of the conference and introduced to the public the major facts around the OECD.

OECD was established in 1961, has 34 member countries and is headquartered in Paris, France. The mission of the OECD is to promote policies that will improve the economic and social well-being of people around the world. The OECD provides a forum in which governments can work together to
share experiences and seek solutions to common problems. It works with governments to understand what drives economic, social and environmental change. It measures productivity and global flows of trade and investment. Analyses and compares data to predict future trends, and sets international standards on a wide range of things, from agriculture and tax to the safety of chemicals. It also looks at issues that directly affect everyone’s daily life, like how much people pay in taxes and social security, and how much leisure time they can take. It is comparing how different countries’ school systems are readying their young people for modern life, and how different countries’ pension systems will look after their citizens in old age.

Mrs. Egeland shared her optimism in regards to how the theory is actually matching the real-world results. At the OECD, together with her colleagues, Mrs. Egeland produced consistent amounts of forecasting. This led to understand that the forecasted (from multiple, reliable sources including ICAO or AIRBUS) doubling of air traffic can happen only if the aviation liberalization will happen on a larger scale: most of the travelers indeed will be coming from Asia, with India and China the major two markets where the liberalization will constitute the main opening.

Aena is the world’s number one airport operator in terms of passenger traffic. Over 590 million passengers passed through Spanish airports in the last three years. The Company manages 46 airports and 2 heliports in Spain and participates directly and indirectly in the management of a further 16 airports in Europe and America, including London's Luton airport, with a 51% stake.

Mr. Vargas Gomez then explained to the public how the dual till mechanism can be more interesting for investors and how the regulation should be involved in order to change to a dual till structure and engage airlines to increase the efficiency and the level of integration. Aena’s change of till is aimed to increase efficiency. Costs have been reduced by 20% over the past four years and the staff has been reduced by 1000 people, in an airport that runs the biggest duty free in the world. The main focus has been on the CAPEX, since the CAPEX was directly producing traffic growth, possible to achieve because Spain’s networks have enough capacity.

In 2015 the IPO changed basically Aena’s way of running the business, through a new approach to public relations. Even a bigger change has been the preparation of the company to go for the IPO, going through several interactions with the regulator in order to negotiate the fees. To achieve this objective, Aena has created a clear and simple model in a way that the investor had only to input in the traffic. This has been evaluated as the most pragmatic and realistic approach, since it was not possible to forecast the traffic and imprecise values could cause too much risk for investors.
At Aena, 75% of charges are non-aeronautical charges. Two are the groups of airports: the large, like Malaga, and others that are small but serve real needs. In particular for the small airports, it is very important the collaboration between Aena and the local, regional actors. The real objective for Aena is not to the biggest airport network, but to the most efficient. The aim is to develop and improve the network as a whole, avoiding to move traffic from one airport to the other. Due to the global regulation, the airport is a scalable business: airports in East Asia are the same if compared to the ones in South America, with a common need of big requirements in terms of capital.

Mr. Vargas Gomez concluded the interview explaining that even though governments have traditionally the tendency to be involved, has been progressively observed an evolution from public to private sources of capital. Aena, being the largest operator in the world, has business, touristic and regional airports.

**SESSION FIVE: THE DIGITAL PASSENGER: WHAT DOES THE FUTURE HOLD FOR NON-AERONAUTICAL REVENUE?**

Technological innovations continue to change how passengers access, move through and shop at airports. How are these innovations disrupting traditional airport retail? What opportunities do they present? What effects are the now ubiquitous smart phones having on airports and how should they respond?

Chair: Jérôme Lepage, Marketing and Business Development Director, JCDecaux
Rosemarie Andolino, Chief Executive Officer and President, MAG USA
Daniel Burkard, Member of ACI, ACI EUROPE and

![Figure 28: The digital passenger travel experience](image-url)
Deputy Airport Director, Non-Aviation Business Development, Domodedovo International Airport

Jon Keefe, Chief Executive Officer, AeroParker

Nicola Wells, Director Strategy and Marketing, Aer Rianta International

Jerome Lepage from JCDecaux, who shared with the public some interesting facts on the digital world, opened the fifth and last session of the Conference. There are 17K apps (with 4 minutes of average life) of which 26 are in average installed on a smartphone. It is identifiable a speed for adaptation, where passengers want to have travel updates and have the expectation to access every minute to travel information. Additionally, when traveling, they want to have access to the content from their own tablet when onboard. It has been also observed the increasing presence of new partners such as Amazon, which is doing e-commerce in airports.

This creates numerous opportunities to monetize, since it empowers passengers with all the necessary information at the fingertips, the technology cuts queues and fastens the process flow offering the opportunity to upsell ancillary services and retail products. On the other hand it is a totally fragmented system. There are too many sources of information to visit, too many apps to download, too many different technologies (Wi-Fi, Bluetooth/Beacons, NFC, QR code), and several parties involved (airlines, airports and concessionaires, among others). Mr. Lepage concluded his presentation referring to the future of non-aeronautical revenue and how it will move toward a seamless (based on deep-linking), integrated (connecting data), forward thinking (embracing digital technologies) and open to change (collaborative approach) approaches.

Patrick Heck, VP Commercial from Manchester Airports Group USA, continued introducing Manchester Airports Group (MAG). The group is the largest UK owned airport operator, which is currently serving 48.5 million passengers per annum from mutually compatible catchment areas. The group registered FY14 Revenue of £671M and FY14 EBITDA of £242m with strong YTD performance in FY15. The group operates four airports: Manchester Airport (IATA: MAN, 22.3M passengers), East Midlands Airport (IATA: EMA, 4.6M passengers), Bournemouth Airport (IATA: BOH, 0.7M passengers) and the recently acquired London Stansted Airport (IATA: STN, 20.9M passengers). MAG started a US based business through terminal development, car parking and retailing. In regards to terminal works, MAG is also actively looking at opportunities to design, finance, build and operate terminals in the US, leveraging our experience from our UK airports. MAG has created innovative retail environments that have improved the customer experience and driven higher spending. Lastly, premium common-use lounges provide passengers with a luxury space to relax, unwind or work, providing an export concept new to the US but familiar and successful in EU. MAG has also built a strong pre-book market for car parking and has driven yields up to more than US$7 per passenger across all of our airports. MAG has leveraged technology to change the distribution model for parking and grow the market for the innovative pre-booking approach.

Daniel Burkard from Domodedovo International Airport, Russia, (IATA: DME) and member of ACI, ACI EUROPE, is Deputy Airport Director in charge of non-aviation Business Development. He shared the very different Russian perspective to the non-
aeronautical revenue, not existing prior to the dissolution of the Soviet Union.

To evolve the airport infrastructure towards a more modern approach, a consistent amount of construction has been necessary, highlighting how restricted DME was in terms of space to use for retail and non-aeronautical revenue and understanding that non-aeronautical revenue was for the airport the future. As of today, only 20% of the revenue is non-aeronautical: comparing DME with other airports, it is needed hard work in order to increase this value. In Domodedovo there is a huge abundance of land. To provide a comparison, DME’s area is nearly twice the Paris CDG area. Prior to the planned expansion, the management decided to use the land for farming. The ultimate goal for Domodedovo is to become an aerotropolis – a new concept of business city built around the airport.

Jon Keefe from Aeroparker presented how, in Aeroparker’s view, ecommerce drives new revenues and enhances passenger’s experience.

Aeroparker is an online platform that eases the passengers’ process of purchasing goods and services connected to the airport business. It is advantageous given the fact that airports do not really engage with customers through the purchase process, differently from actors like Amazon that create a real trip cycle experience.

Today’s airports know only the 6% of the total customer’s behavior (the so called personas – the digital version of a customer). In order to increase non-aeronautical revenue it is imperative to increase the knowledge about customers. What is interesting to notice, underlined Mr. Keefe, is that passengers are actually stressed and running when approaching airports (security, controls, pressure for the flight’s departure), a fact that modifies the customer’s behavior. Aeroparker is able to perform this transition and create the right customer engagement, implementing the on-line retailing mentality (steps of possible wants) able to upsell services once a customer has been captured.

John Hurley, Head of Marketing at Dublin Airport, shared the last presentation, concluding the 8th ACI Airport Economics & Finance Conference. Mr. Hurley reported the Dublin Airport last year’s record of 25M passengers, representing the fastest growing economy in the European Union and being part of the busiest route in Europe (Dublin-London). The airport is the 14th most connected airport in Europe and it has over 180 destinations with 33 scheduled airlines.

Several points contributed to the success of Dublin’s Airport, and most of them are about innovation: first airport in the world to receive the ISO55001 quality
mark, Fastest WiFi of any other European airport, most checked Facebook location in Ireland and award winning app and twitter account, among others.

Mr. Hurley continued highlighting how everything is about knowing the customer and how it is possible to extract data from him in order to increase the volume of transactions. In this sense the key is: don’t think digital, think mobile. Dublin airport is very advanced in analyzing data, and everything is based on push notification from an app installed on the smartphone, which provides continuous tips for traveling. Through this approach the airport is able to obtain consistent amounts of information (that will be subsequently analyzed) related to the passenger’s journey.

For this reason, the app development should constitute the core of the business development strategy. It is possible to improve the transaction’s experience, and in the app is included everything useful to the customer, such as the security processing time. The potential is also in the possibility of embedding external services. Today 86% of car park management is booked online: there is no staff, no cash and no costs. This generates consistent profits, something possible due to the fact that Dublin’s Airport has the right product.

**Figure 31: The concept of Aerotropolis**