UK Civil Aviation Authority

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The CAA International Group

www.caa.co.uk/international

UK Civil Aviation Authority International

Scaled Ambition

Business Cases Grounded in Reality

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TOPICS

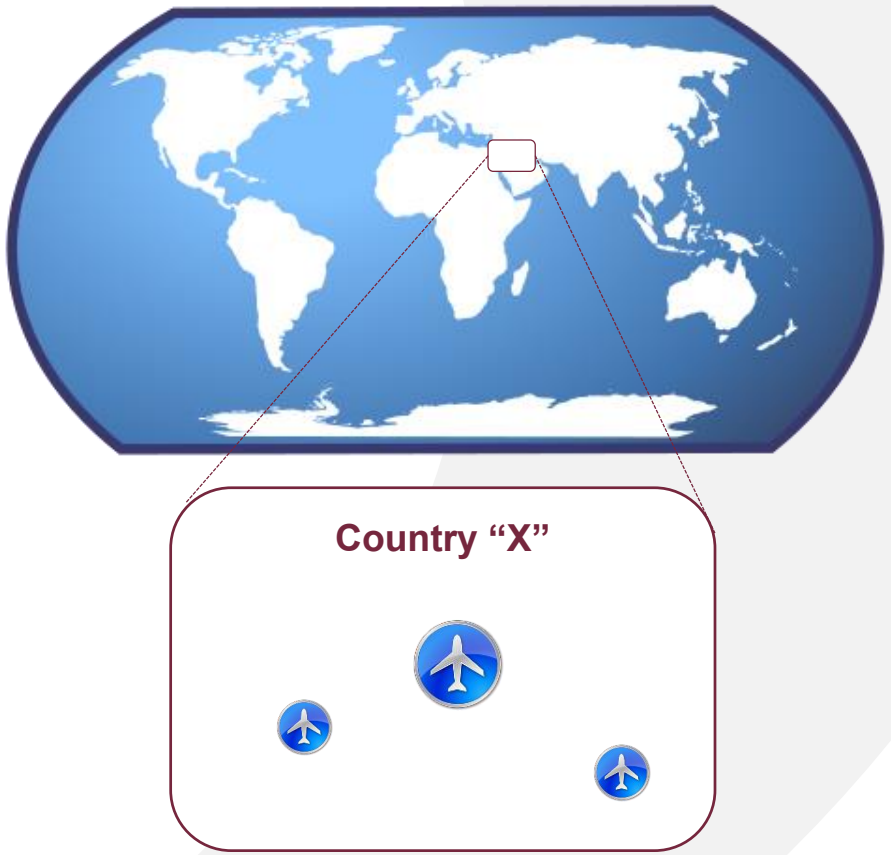
- Aerodrome Development – Different Levels of Strategy
- Airport Business Drivers
- The Concentric Model
- Customer Demand
- Summary of Basic Principles
- CapEx Profile Features
- IATA Levels of Service
- Project Examples

Aerodrome Development - Different Levels of Strategy

- International Aviation Strategy
- National Aviation Strategy: Airport system/s
- Corporate Strategy: Airport
- Business Strategy: Commercial Strategy (example)

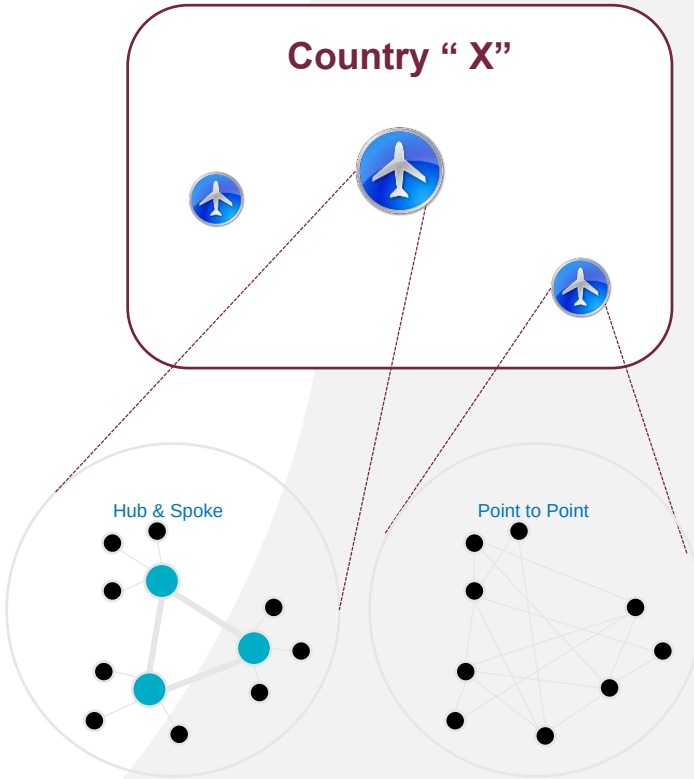
International Level

- International Context
- Geographical Positioning
- Economic Situation
- Demographics
- Cultural Aspects



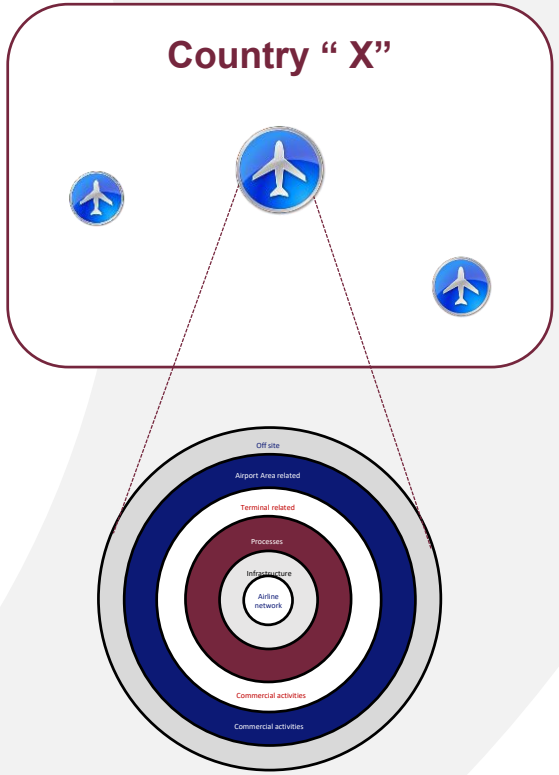
National Level - Airport System/s

- National aviation strategy
- Create strongest system to support growth of total aviation industry and national economic development
- Airport system within countries
  - Inter(national) airports
  - National carriers
- Different strategies for different airports
  - Based on internal & external factors



Corporate Airport Strategy

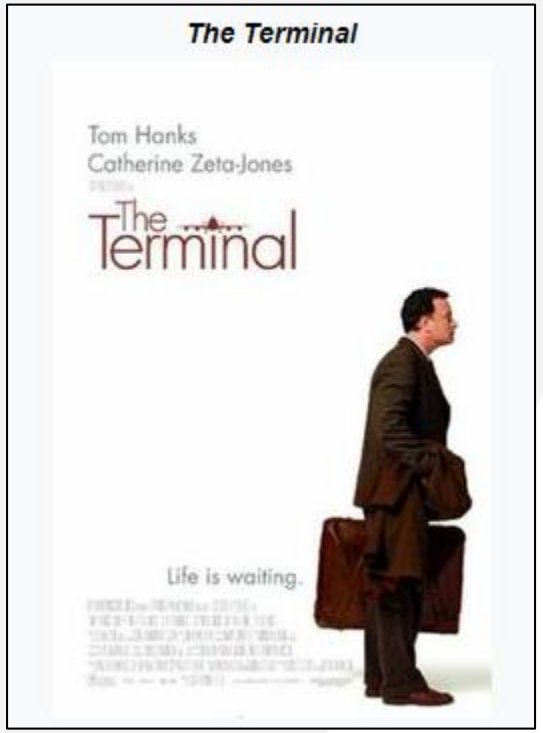
- Within national aviation landscape the airport has a specific role
  - International/Regional/Domestic
- Market demand is the driver of the airport
  - Network
  - Infrastructure
  - Processes
  - Commercial business
  - Wider airport area



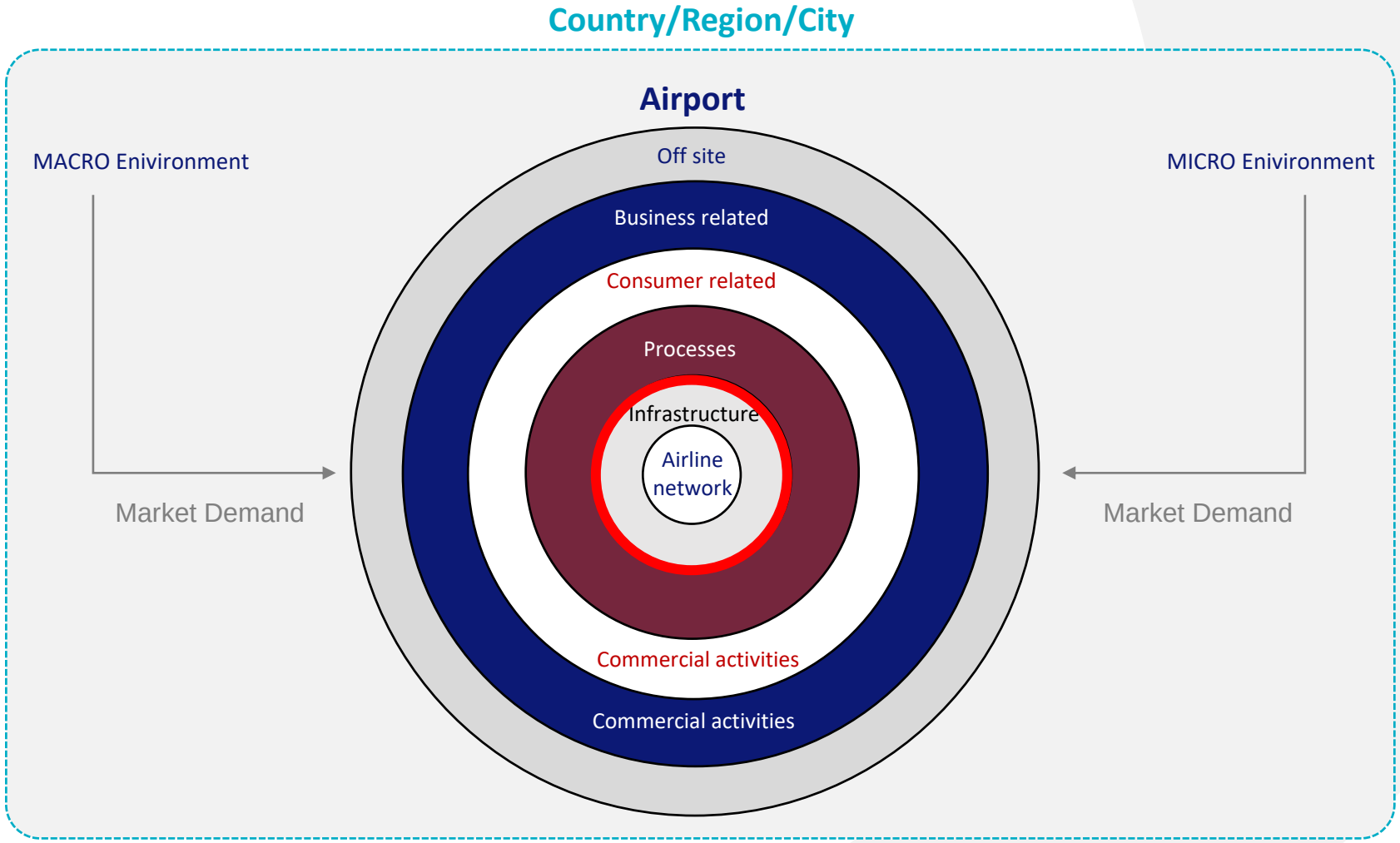
Airport Business Drivers

- Airport demand is determined by economic activity
  - Local – Regional – Global
  - Leisure – Business – Industry
- National demographics: GDP, age etc
- And geographical or cultural attractiveness

- An airport is not a destination
  - Entry, exit, transfer point to go somewhere else



The Concentric Model



Customer Demand Is The Core

Network/traffic	Economic activity and demographics determine traffic to/from the airport (type of PAX/Cargo, type of airlines, aircraft types, frequency etc)
Infrastructure	Traffic determines type/capacity of infrastructure needed to attract and facilitate customer demand of specific segments
Processes	Attractiveness (airlines & passengers) of the airport product (incl. price) is strongly determined by efficient processes following customer demand
Consumers Com. services	Once the core aviation business is in place we can add commercial value and deliver commercial services to PAX
Business Com. services	Additionally B2B commercial activities can be implemented (Commercial Real Estate, Hotels, Logistic Parks, Distribution Centres etc)
Wider airport area	In cooperation with the local government and business community the wider airport area can be developed into a strong economic area

Hierarchy of Needs

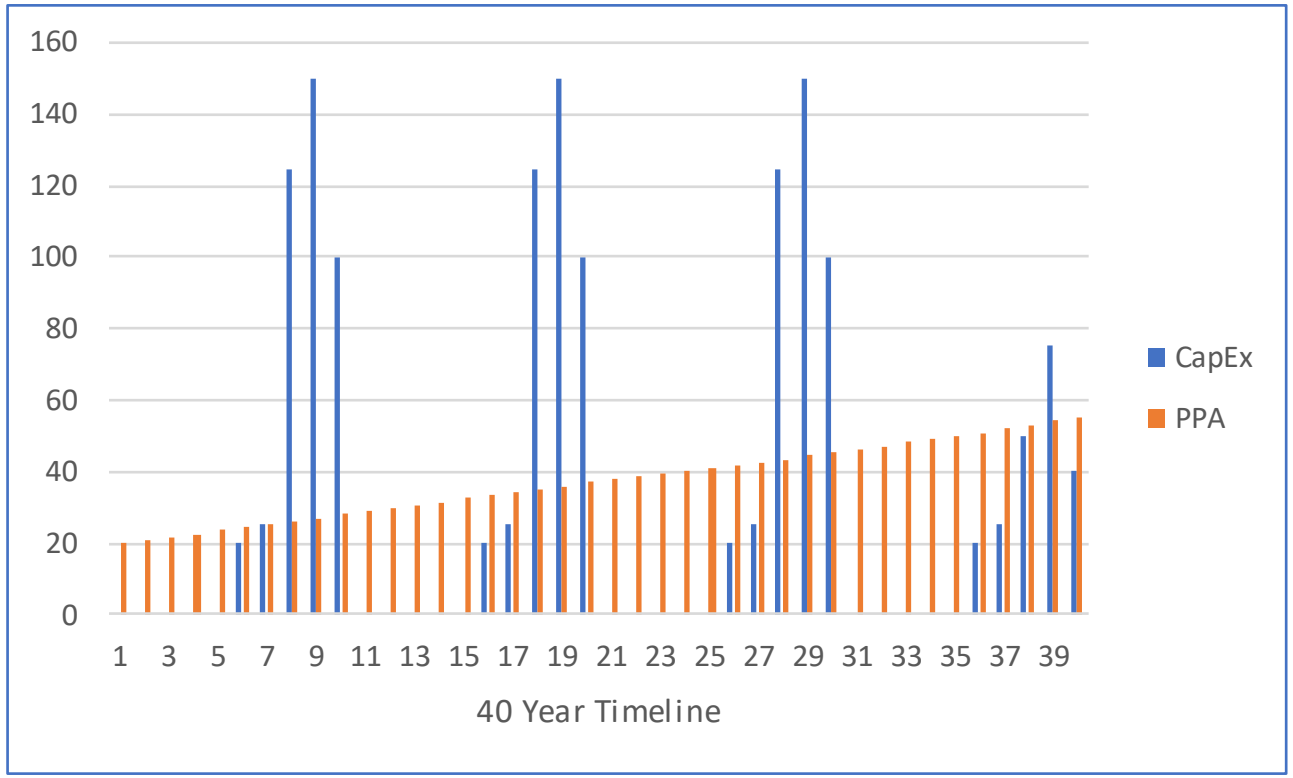
Market demand: type and volume of traffic potential

Geographical and macro & micro economic environment

Summary of Basic Principles

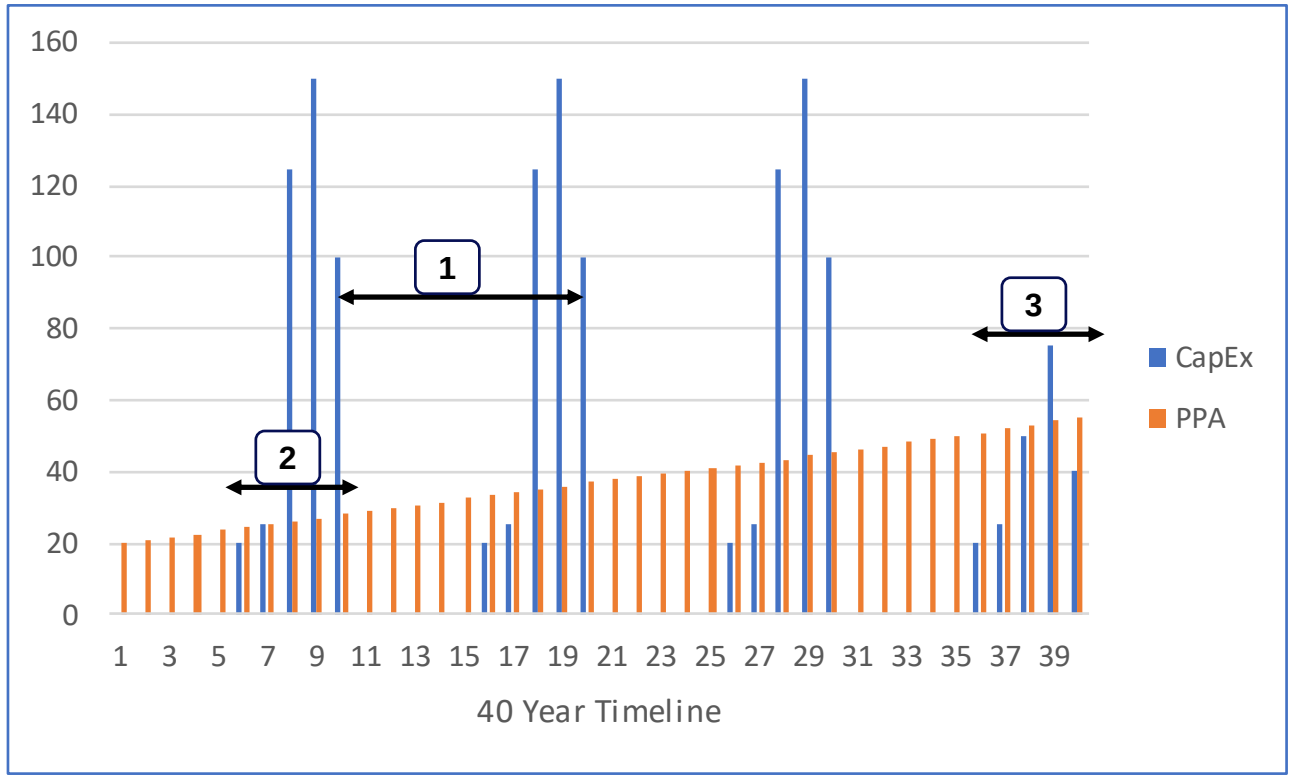
- Infrastructure delivery must be **demand** driven
- Master Plan must cater for the **long term** and **ultimate capacity**
- Initial phase of delivery should have capacity **proportionate** to demand
- Future developments should be capable of being delivered in a **phased manner** with clearly defined triggers
- Developments should adhere to the principles of **sustainability**
- It is important to retain **flexibility**
- Capital Investment Programme (CIP) should be underpinned by a solid **business case**

A Typical CapEx Profile



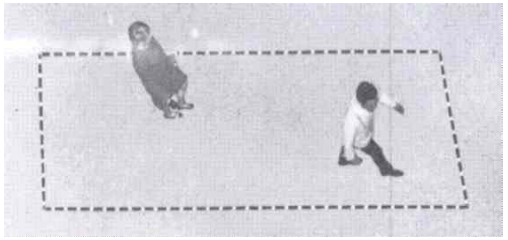
- CapEx and PPA in millions.
- CAGR over 40 years 2.63%.
- No allowance for inflation.
- Excludes revenue funded projects e.g. airline lounges.
- Excludes commercial developments.
- Excludes RepEx.
- CapEx spend and timing depends primarily on traffic growth and construction outturn costs.
- No allowance for spend forced by regulatory or legislative changes.

Features of A Typical CapEx Profile



1. Period between major capacity enhancements tries to balance airport spend, user charges and acceptable service levels.
   - Too long - service levels fall.
   - Too short - unnecessary overprovision.
2. 5 year CIP typically with 2 years of enabling works followed by 3 years of major works. Highest spend usually in year 4.
3. As an airport nears its ultimate capacity the final CIP generally has the lowest spend.

IATA Levels of Service



Level of Service A - Excellent

Level of Service F - Unacceptable

- Previous ADRM best practise was to provide a minimum LoS of C.
- ADRM 10th Edition introduced the concept of an Optimum LoS.
- Overdesigned sub-systems = overprovision of resources and unnecessary costs.
- Some flexibility in best practice for high peak flows.

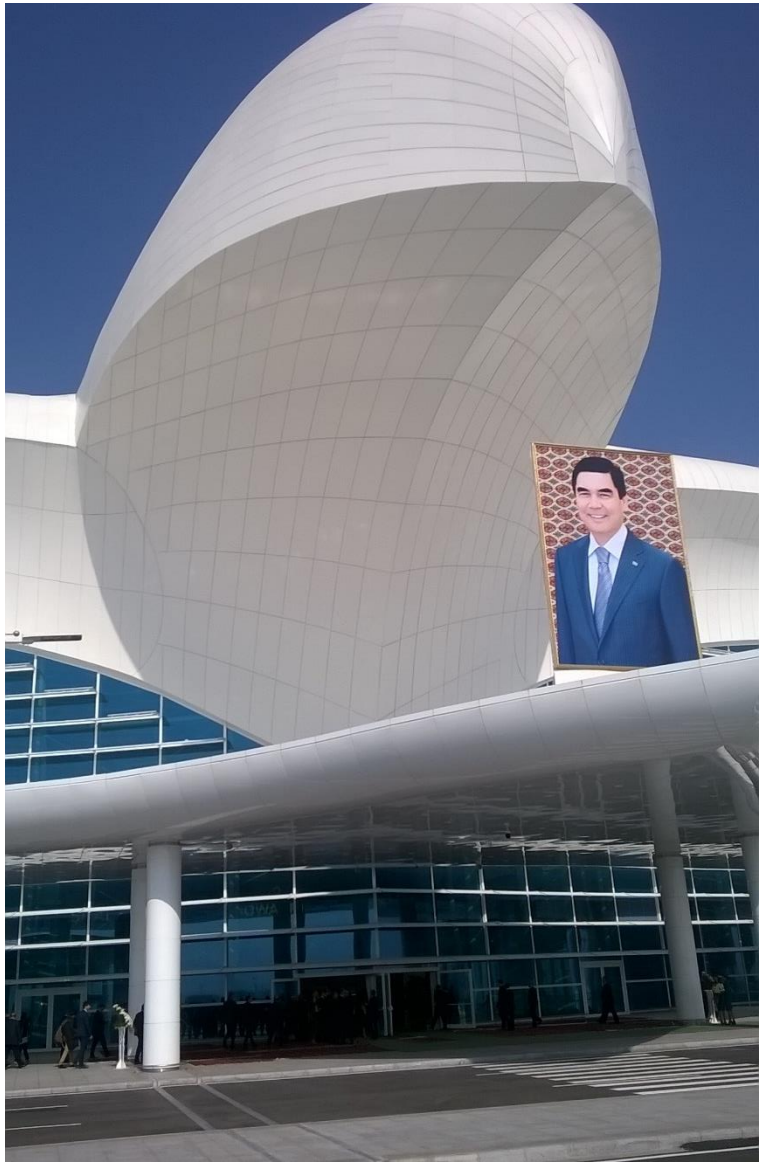
Scaled Ambition

- Business cases grounded in reality
- Achieving sustainable development
- Some of my project experience

Ashgabat Airport - Turkmenistan

- Opened in September 2016 replacing the existing airport.

The Opening Ceremony



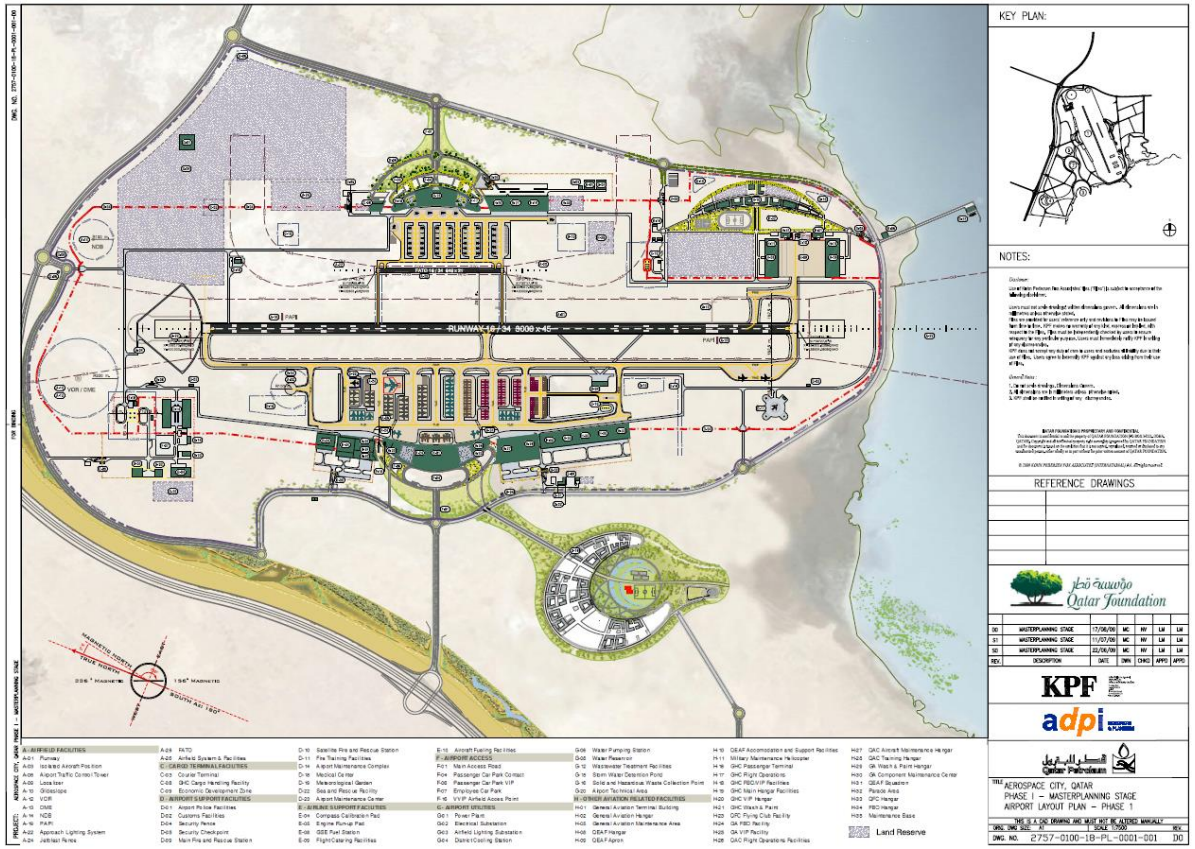
Some of the Features

- High specification fit out and finishes.
- Striking architecture.
- Generous space provision.

Soft Opening

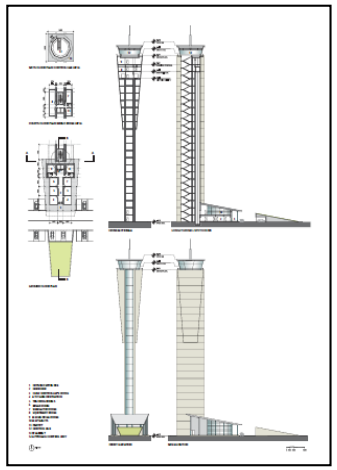
- To facilitate proper Operational Readiness trials

Aerospace City - Qatar



- Opening day Master Plan layout.
- Clustering of GA, Gulf Helicopters, Aviation Academy, maintenance facilities - etc.
- Project did not proceed.

New Lisbon Airport Masterplan



- Proposed new airport at Alcochete.
- Delivery under PPP/PFI SPV.
- Traffic demand couldn’t justify the scale of investment.
- Project did not proceed.

Ciudad Real Airport - Spain

- Opened in 2008.
- Closed in 2012.

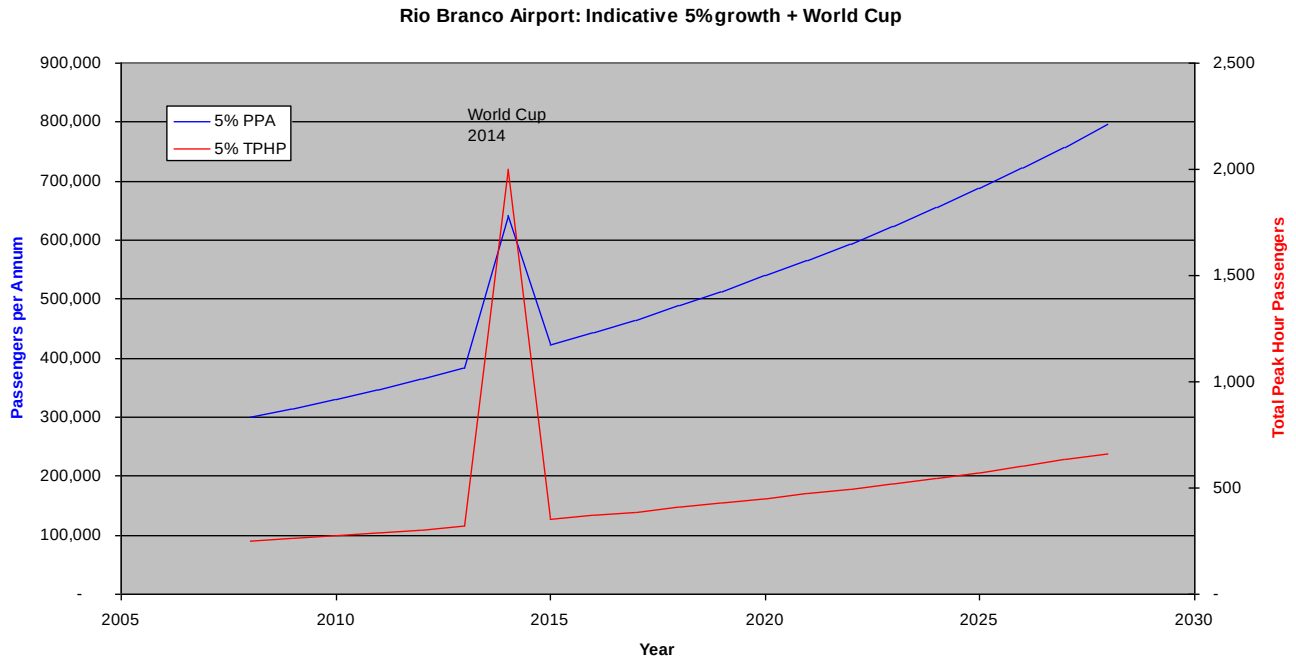
Spain's Ciudad Real airport sold at auction for €10,000.

BBC News 2015

New Delhi – ATC & Area Control Centre – Lean Delivery

Case Study		
Original Project Cost		100
Deferred Investment		5
Modify Spatial Requirements		8
Reduce Architectural and Engineering Complexity		10
Design -to-Cost		5
Final Cost as a Share of Original Cost		72
	Saving	28%

Rio Branco Airport - Demand Forecasting



- The world cup has a greater influence on the immediate requirements of the airport than future growth particularly for the terminal hourly throughput.
- Airfield and land-side systems would also need to be upgraded to suit the size and frequency of aircraft.

LONG TERM GROWTH

- Multiple, complex and varied.
- Economic growth and tourism.
- Business development.
- Industry.
- Steady growth.
- **FIFA WC 2014**

- Surge of people.
- Fan movements.
- Press profile.
- Sequencing of matches important.

Rio Branco Airport - Masterplan for WC 2014 & Longer Term

Fast Track Low Cost Capacity Solutions

UK Civil Aviation Authority International

Conclusions

- Sustainable development is achievable
- Master Planning needs a fully considered approach
- Benefits can be realised provided the fundamentals are adhered to
- Overambition should be discouraged
- Business cases should be grounded in reality

Questions ?

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