Challenges and Opportunities for Aviation Training

First Meeting of Directors of Civil Aviation Training Centres in the NAM/CAR Regions (NAM/CAR/CATC/1)

ICAO NACC Regional Office, Mexico City, Mexico, 27 to 30 August 2013

Eduardo Chacin
ICAO
International Civil Aviation Organization Role

• Specialized agency of the United Nations
• Created in 1944 to promote the safe and orderly development of international civil aviation throughout the world
• Sets standards and regulations necessary for aviation safety, security, efficiency and regularity, and aviation environmental protection
• Serves as the forum for cooperation in all fields of civil aviation among its 191 Member States
Data-driven Organization
Data-driven Organization cont.
Air Transport Facts & Figures (ICAO)

Traffic Statistics for Revenue Schedule Services

3.0 billion passengers carried in 2012*

+4.7% growth rate vs. 2011

6.4 billion forecasted passengers carried in 2030

+4.4% average annual growth rate

31 million aircraft departures in 2012*

+0.7% vs. 2011

59 million forecasted aircraft departures in 2030

+3.6% average annual growth rate

*Preliminary figures
Air Transport Facts & Figures (ICAO) cont.

5.4 trillion
Revenue Passenger-Kilometres in 2012*

+4.9%
growth rate vs. 2011

182 billion
Freight Tonne-Kilometres in 2012*

-1.1%
growth rate vs. 2011

Traffic Statistics for Revenue Schedule Services
Economic & Social Benefits

Air Transport Facts

SOCIAL BENEFITS
60 million jobs → Worldwide
Directly and supporting sectors

ECONOMIC BENEFIT
2 trillion USD = 3.5% GDP
global

Aviation annually carries more than half of the 1 billion international tourists
World economic growth vs. air traffic growth (passenger and cargo)

Source: IHS Global Insight, ICAO
Facts & Figures (ICAO) cont.

World passenger traffic - Regional distribution in 2012*

- Europe: 1,467, 3.9%
- Africa: 126, 4.2%
- Middle East: 443, 13.7%
- Asia and Pacific: 1,633, 6.4%
- North America: 1,453, 1.3%
- Latin America and the Caribbean: 281, 8.6%

*Preliminary figures
Regional share of passenger traffic by airline of registration: 2030 vs. 2010

<table>
<thead>
<tr>
<th>Region</th>
<th>2010 Regional Share</th>
<th>2030 Regional Share</th>
<th>Change (pp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia/Pacific</td>
<td>29%</td>
<td>38%</td>
<td>+8.6 pp</td>
</tr>
<tr>
<td>Europe</td>
<td>27%</td>
<td>22%</td>
<td>-4.9 pp</td>
</tr>
<tr>
<td>North America</td>
<td>29%</td>
<td>19%</td>
<td>-10.5 pp</td>
</tr>
<tr>
<td>Middle East</td>
<td>7%</td>
<td>13%</td>
<td>+5.6 pp</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>5%</td>
<td>6%</td>
<td>+1.5 pp</td>
</tr>
<tr>
<td>Africa</td>
<td>2%</td>
<td>2%</td>
<td>-0.3 pp</td>
</tr>
</tbody>
</table>

*pp: percentage point
Note: Scheduled services
Status of Global Aviation Safety
Based on scheduled commercial operations involving aircraft having a maximum take-off weight (MTOW) above 2250 kg.

**Fatality Trends: 2005 - 2012**

- **Number of Fatalities Continue to Decline**
- **Global Accident Rate is Significantly Lower**

**UN Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
<th>Rate</th>
<th>Fatal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>5</td>
<td>4.8</td>
<td>3</td>
</tr>
<tr>
<td>Asia</td>
<td>23</td>
<td>2.7</td>
<td>3</td>
</tr>
<tr>
<td>Europe</td>
<td>30</td>
<td>4.2</td>
<td>3</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>12</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>North America</td>
<td>29</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td>Oceania</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>99</td>
<td>3.2</td>
<td>9</td>
</tr>
</tbody>
</table>

No regional accident rate exceeding twice the global average.
Civil Aviation Activities

- **Commercial air transport services**
  - Scheduled
  - Non-scheduled
  - On demand
    - Charter
    - Other non scheduled
- **Commercial business aviation**
- **Air Taxi**
- **Other**

- **Non-commercial business aviation**
  - Aerial work
  - Instructional flying
  - Pleasure flying
  - Other flying

- **General aviation**
  - Agriculture
  - Photography
  - Observation and patrol
  - Aerial advertisement
  - Construction
  - Surveying
  - Search and rescue
  - Other aerial work

- **Airport services**
- **Air Navigation Services**
  - Civil aviation manufacturing
  - Aviation Training
  - Maintenance, repair and overhaul
  - Regulatory functions
  - Other activities

*Source: ICAO*
Training of Aviation Personnel

- National Strategy
- Regional Strategy
- Global Strategy
- Short, Medium and Long Term
Challenges for Air Transport

• Commercial air transport has shown a strong traffic growth pattern
• Many new commercial air transport operators
• Highest number of aircraft orders ever registered
• Over the next twenty years, the demand for qualified aviation personnel pilots will need to be correlated to aircraft delivery plans
Global Challenges:

- Demand for skilled aviation personnel
- Training capacity
- Attractiveness of aviation
- Improvement of aviation safety
- Attrition related impact
- Others
Shortage of skilled aviation personnel

Future pilot needs vs. air training capacities
Source: ICAO Doc 9956

<table>
<thead>
<tr>
<th>Region</th>
<th>Needs</th>
<th>Capacity</th>
</tr>
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<tbody>
<tr>
<td>Number of Pilots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World</td>
<td>52506</td>
<td>44360</td>
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<tr>
<td>North America</td>
<td>10449</td>
<td>27665</td>
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<tr>
<td>Europe</td>
<td>15552</td>
<td>7955</td>
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<tr>
<td>Middle East</td>
<td>2458</td>
<td>860</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>6250</td>
<td>1945</td>
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<tr>
<td>Africa</td>
<td>3814</td>
<td>1010</td>
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<tr>
<td>Asia / Pacific</td>
<td>13983</td>
<td>4935</td>
</tr>
</tbody>
</table>

* Estimate of average annual needs for the 2010–2030 period based on various world fleet categories: Regional and business jets, turboprops, single-aisle, twin-aisle and all-cargo aircraft.
Most likely scenario
Pilot comparison: 2010–2030

- Africa
- Asia/Pacific
- Europe
- Latin America
- Middle East
- North America

- Training capacities
- Training needs
- Surplus
- Shortage
Air Traffic Controllers

ATCO comparison: 2010–2030

- Africa
- Asia/Pacific
- Europe
- Latin America
- Middle East
- North America

- Orange: Training capacities
- Blue: Training needs
- Green: Surplus
- Red: Shortage
Maintenance Personnel

Maintenance personnel comparison: 2010–2030

- Africa
- Asia/Pacific
- Europe
- Latin America
- Middle East
- North America

- Orange: Training capacities
- Blue: Training needs
- Green: Surplus
- Red: Shortage
Opportunities

• Business
• Positioning
• Partnering
• Visibility
• Development
• Jobs
• Alignment
• Standardization
Summary

• Need for reliable statistics
• Attraction and retention of personnel
• Access to affordable quality aviation education and training
• Facilitating the use of competency-based approaches
• Removing regulatory obstacles
• Need for a coordinating mechanism
Conclusion

• Orderly and safe development of the air transportation system depends on the availability of the required human resources

• International aviation community should recognize this as a strategic issue

• Mission of ICAO is to lead efforts to ensure that enough competent personnel are available to manage, operate and maintain the global air transportation system of the future
Thank you!

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Visit: www.icao.int/NACC/Pages/default.aspx