The experience of Republic of Kazakhstan with the TCB ICAO for modernization of the civil aviation
Geography of the Republic of Kazakhstan

$S = 2.75 \text{ mln km}^2$
Indicators of the civil aviation industry

The market for international air transportation

Opening the new 39 international routes until 2017

CIS – 49 routes
EU – 8 routes
Asia & SE – 21 routes

Airlines
Transfer passengers, mln. people

Airports
served passengers, mln.

2011

4,1
8,1

10%

4,6
8,9

10%

5
9,7

10%

5,5
10,7

2012
2013
прогноз на 2014
The Government of the Republic of Kazakhstan

Prime Minister

Ministry of investment and development

Civil Aviation Committee

"Kazaeronavigatsia"
4 - reg. center
15 - branches

Airlines
(AOC 23 + AW 22)

Airports
(18)

Training centers
(12)

MRO
(32)

Personal -> 20000
## Airlines

### Aircraft Fleet

<table>
<thead>
<tr>
<th>Nomination</th>
<th>Aircraft</th>
<th>Western Type</th>
<th>Soviet Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Commercial service</td>
<td>104</td>
<td>71</td>
<td>33</td>
</tr>
<tr>
<td>Schedule</td>
<td>67</td>
<td>52</td>
<td>15</td>
</tr>
<tr>
<td>Un-Schedule</td>
<td>37</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>2) Helicopters</td>
<td>101</td>
<td>45</td>
<td>56</td>
</tr>
<tr>
<td>3) Operators performing aircraft of the small aircraft</td>
<td>211</td>
<td>22</td>
<td>189</td>
</tr>
<tr>
<td>4) Aircraft ultralight aviation</td>
<td>90</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>506</td>
<td>228</td>
<td>278</td>
</tr>
</tbody>
</table>

The average age of aircraft operating by schedule - 10 years
The total length of the airways - 80,000 km

Number of air corridors – 70

Number of the automatical regional centers – 4

Number of secondary radars - 37,

including function ADS-B - 9

Number of serviced flights

<table>
<thead>
<tr>
<th>Year</th>
<th>Flights</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>202,000</td>
</tr>
<tr>
<td>2012</td>
<td>216,000</td>
</tr>
<tr>
<td>2013</td>
<td>230,000</td>
</tr>
<tr>
<td>Forecast</td>
<td>245,000</td>
</tr>
</tbody>
</table>
Modernization of the AIRPORT

### Reconstruction of airport runways

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In the <strong>13</strong> airports reconstructed runway: (Almaty, Astana, Aktobe, Shymkent, Aktau, Atyrau, Kyzylorda, Pavlodar, Zheskazgan, Kokshetau, Karaganda, Taraz, Shymkent)</td>
<td><strong>Uralsk</strong></td>
<td><strong>Petropavlovsk</strong></td>
<td><strong>Semey</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Kostanay</strong></td>
<td><strong>Oskemen</strong></td>
</tr>
</tbody>
</table>

### Reconstruction of the terminal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>At <strong>9</strong> airports reconstructed terminals: (Almaty, Astana, Aktau, Aktobe, Pavlodar, Karaganda, Zhezkazgan, Kokshetau, Shymkent)</td>
<td><strong>Taraz</strong></td>
<td><strong>Astana</strong></td>
<td><strong>Petropavlovsk</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Uralsk</strong></td>
<td><strong>Atyrau</strong></td>
<td><strong>Semey</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Shymkent</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Oskemen</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Kyzylorda</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Kostanay</strong></td>
<td></td>
</tr>
</tbody>
</table>
Flight safety

<table>
<thead>
<tr>
<th>Audit 2009</th>
<th>The total number of findings</th>
<th>SSC*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82</td>
<td>2</td>
</tr>
</tbody>
</table>

* The certification process for the issuance:
  - Operator certificate
  - Certificate of Airworthiness of aircraft

The results of the audit by ICAO in 2009

<table>
<thead>
<tr>
<th>CE-1</th>
<th>CE-2</th>
<th>CE-3</th>
<th>CE-4</th>
<th>CE-5</th>
<th>CE-6</th>
<th>CE-7</th>
<th>CE-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>25%</td>
<td>44%</td>
<td>63%</td>
<td>89%</td>
<td>53%</td>
<td>28%</td>
<td>69%</td>
<td>71%</td>
</tr>
</tbody>
</table>

The corrective action plan

- The Law "On the use of airspace and of aviation operations" from 2010
- RSE “Flight safety assessment Centre” 2011
Order of the Prime Minister approved an action plan to address the comments audit by ICAO and the lifting of restrictions on flights in the European Union countries.

Concluded an agreement with the TCB ICAO to provide technical and consulting assistance.

The main objectives of the TCB ICAO:

- Gap analyze current rules and regulations for compliance with the ICAO requirements
- Compliance of the organizational structure, Staff and procedures of the Committee with ICAO requirements
- Conduct training, OJT
- Participate in recertification of aircraft and all commercial operators
- Training of inspectors CAC for SAFA and SANA

Since the beginning of 2013 started to work 8 TCB ICAO experts
Safety of the Republic of Kazakhstan is based on the 8 critical elements (CE) of a control system for safety oversight:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Events</th>
</tr>
</thead>
</table>
| CE 1     | Analysis of aviation legislation of Kazakhstan.  
           | 80 amendments to the primary aviation legislation |
| CE 2     | Amended more than 30 regulations. |
| CE 3     | CAC restructured and the total number of personnel increased up to 65 of them 40 state inspectors. |
| CE 4     | Changed the qualifications and training of inspectors |
| CE 5     | 27 developed procedures approved checklists,  
           | Prepared reports on the audited organizations. |
| CE 6     | Recertification of 60 airlines |
| CE 7     | Checked 228 aircraft |
| CE 8     | The mechanism and procedures for responding |
Comparative analysis of the application of ICAO standards

Effective Implementation (%)

- **Legislation**: Kazakhstan 2009 (54.55%) - Kazakhstan 2014 (66.67%)
- **Organization**: Kazakhstan 2009 (33.33%) - Kazakhstan 2014 (36.36%)
- **Licensing**: Kazakhstan 2009 (66.67%) - Kazakhstan 2014 (74.36%)
- **Operations**: Kazakhstan 2009 (63.20%) - Kazakhstan 2014 (74.80%)
- **Airworthiness**: Kazakhstan 2009 (66.67%) - Kazakhstan 2014 (47.03%) - Kazakhstan 2014 (47.03%)
- **Accident Investigation**: Kazakhstan 2009 (41.38%) - Kazakhstan 2014 (30.77%)
- **Air Navigation Services**: Kazakhstan 2009 (36.36%) - Kazakhstan 2014 (70.83%)
- **Aerodromes**: Kazakhstan 2009 (50.68%) - Kazakhstan 2014 (55.78%)

**Legend**:
- Kazakhstan 2009
- Kazakhstan 2014
Plans for development of the civil aviation industry

2014 - 2015
- Implementation of the corrective action plan to address the comments ICAO audit.
- Conducted in the 1st half of 2014 validation mission of ICAO;
- Participation in the meeting of the European Commission on the safety.
- Implementation of compulsory turning point IOSA audit for all commercial operators.

2016 - 2017
- The Building a system of continuous the safety oversight
- Amendments to the legislation in the field of civil aviation and the integration of the European Code in the Republic of Kazakhstan;

2017 - 2018
- Creating a system of control and supervision of safety oversight through the development and implementation based on the international experience of the national safety program.
- Planned to ensure effective implementation and enforcement of European standards in the field of civil aviation.
THANK YOU FOR YOUR ATTENTION !