Crosspolar/Transeast Route ATM Providers Group Meeting
(CPWG/27)
State ATM Corporation Overview

ALEXEY BUEVICH
HEAD OF STRATEGIC PLANNING, MAIN ATM CENTER OF RUSSIA
State ATM Corporation

1 - Main ATM Centre
7 - Zonal ATM centers
20 - ACCs
227 - TWRs
19 - Branches

26 million km² - Area of Responsibility
21 - Neighboring States
Traffic Density

Traffic Statistics Jan-Aug 2018 vs. 2019

<table>
<thead>
<tr>
<th>Route</th>
<th>2018</th>
<th>2019</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,109,048</td>
<td>1,214,769</td>
<td>+9.53%</td>
</tr>
<tr>
<td>International</td>
<td>579,921</td>
<td>589,889</td>
<td>+1.72%</td>
</tr>
<tr>
<td>Domestic</td>
<td>529,127</td>
<td>624,880</td>
<td>+18.10%</td>
</tr>
<tr>
<td>Transit</td>
<td>199,717</td>
<td>200,314</td>
<td>+0.30%</td>
</tr>
</tbody>
</table>

Increase in Traffic Volumes:
≈ three times between 2000 and 2018

Traffic Breakdown by Major ATS Routes in 2019:

- Cross-Polar: 15%
- Trans-Polar: 8%
- Trans-Siberian: 6%
- Asian: 4%
- Trans-Asian: 9%
- Trans-Eastern: 44%
- Trans-Siberian: 14%

Traffic Breakdown:

- Kaliningrad +17.24%
- Trans-Asian +4.61%
- Trans-Polar
- Cross-Polar
- Trans-Eastern
- Asian
- Trans-Siberian
The new transit ATS routes are being implemented in a close coordination with Russian carriers, international airlines and IATA as well as neighboring States at various intentional forums such as RDGE, Eurasia Coordination Council and CPWG.

Brand new international RNAV routes were implemented above FL265 in the upper airspace of the Russian Federation.

Work is in progress to establish conditional routes in the Russian Federation.

As of August 2019 the total numbers of ATS routes increased to 1,058 (867,737 km), including:

- International airways – 623 (489,140 km)
- Domestic routes – 272 (141,219 km)
- RNAV routes – 163 (237,378 km)
Development of Regional Airdrome Network
NAVAIDS

VORDME, DVORDME, DME:
As of 2019 – 106:
✓ VORDME – 50
✓ DVORDME – 24
✓ DME – 32

GBAS:
As of 2019 – 109

Planned expansion

<table>
<thead>
<tr>
<th>Year</th>
<th>GBAS Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>119</td>
</tr>
<tr>
<td>2025</td>
<td>136</td>
</tr>
<tr>
<td>2030</td>
<td>182</td>
</tr>
</tbody>
</table>
ATM Development Strategy

- **Efficient flight trajectories**
  Approximate real-time and optimal trajectories (desired by users)

- **Optimal capacity and flexibility**
  Provide necessary capacity and optimal real-time flight trajectories

- **Efficient airport operations**
  Optimize taxiing, improve airdrome capacity and safety

- **Functionally compatible systems and data**
  Use digital communication circuits & satellite technology for air traffic services

- **Internal ANS efficiency**
  Ensure that the levels of investment and operating costs meet the adequate volumes and quality of service
Development Program

ANS Developments

ATM
- AMAN/DMAN
- A-CDM
- RATS
- TBS
- A-SMGCS
- UAV Integration
- SWIM

Navigation & PBN
- Implementation of performance-based navigation, optimization of airspace structure, development of navaids

Surveillance
- Development of surveillance aids based on the application of state-of-the-art technologies

AIS
- Digitation of AIS data, promulgation of e-AIP.
Free Route Airspace

**Performance-based navigation (PBN)**
- **En-route:** 2019 – 2022
- **Terminal:** 2019 – 2025

**Flexible Use of Airspace (FUA)**
- **Stage 1:** 2019 – 2021
- **Stage 2:** 2021 – 2023

**Free Route Airspace (FRA)**
- **Pilot Projects:** 2019 – 2022
New Airport Structure

Operational efficiency of the new airspace structure:

- Reduce number of radio communications with aircraft crews.
- Mitigate flight safety risks related to excessive controller workload.
- Reduce arrival delays due to excessive maneuvering at the approach area.
- Provide redundant ATM capacity when sequencing arrivals.
- Provide opportunities for implementation of brand-new smart technologies to manage arrival and departure traffic flows.

Under implementation at 7 airdromes

Transition to QNH and feet

Implemented at 5 terminal areas

After introduction of the new airspace structure QNH will be implemented at 50 airdromes
Remote Air Traffic Services

Develop concept for remote ATS at Russian airdromes.

Experimental implementation at a candidate airdrome.

Develop a roadmap for transition to remote ATS at selected airdromes.

- Implementation criteria
- Safety risk assessment
- Business model
UAV Integration

Develop UAV management system and create digital services.

Develop UAV flight procedures in the single airspace.

Develop new methodology and training programs for ATM personnel.