Resolving the challenges of aviation growth through technical cooperation and assistance. Focused around the theme of Building Cooperation for the Future of Civil Aviation: Innovation, Growth, and Technical Co-operation, ICAO's first-ever Global Aviation Cooperation Symposium will provide a central platform for discussions of key issues, the exchange of information and views on latest trends and innovations, and the sharing of best practices supporting a safe and efficient future for global air transport.

This event will provide governments, airport operators, air navigation service providers and other industry stakeholders with a unique opportunity to obtain in-depth knowledge of ICAO guidance, as well as the role and resources of its Technical Co-operation Programme.

For more information, please contact GACS@icao.int or visit: www.icao.int/GACS

Indonesia
Civil Aviation Growth and Technical Cooperation

Muzaffar Ismail
On behalf of
Santoso Eddy Wibowo
Acting Director General of Civil Aviation
Ministry of Transportation of Indonesia
Outline

- INTRODUCTION
- ICAO PROJECTS (PAST & PRESENT) IN INDONESIA
- INTERNATIONAL COOPERATION PROJECTS
- INDONESIA’ S CIVIL AVIATION GROWTH
- ENVIRONMENTAL POLICY AND STRATEGY
- FUTURE COOPERATION BETWEEN ICAO AND INDONESIA
- SUMMARY
Introduction

- ICAO has provided technical assistance to DGCA Indonesia for some 40 years under UNDP and Government of Indonesia cooperation
- Significant ICAO Technical Assistance support was given for the development of civil aviation in major areas:

<table>
<thead>
<tr>
<th>Airworthiness</th>
<th>Airport and Aerodromes</th>
</tr>
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<tbody>
<tr>
<td>Navigation and Air Traffic Management</td>
<td>Safety and Security</td>
</tr>
<tr>
<td>Training Center, Human Resources Development and Capacity Building</td>
<td>Industry Development: Airlines, Aircraft Manufacturers, Airports Aircraft Maintenance</td>
</tr>
<tr>
<td>Regulatory Matters</td>
<td>Inspection, Surveillance and Audit</td>
</tr>
</tbody>
</table>
Introduction (Con’t)

ICAO Technical Cooperation Project Objectives:

- To develop the DGCA capabilities, role, functions and responsibilities (incl. regulations and procedures) in line with the relevant ICAO Annexes, recognized best practices and procedures.

- To develop the DGCA human resources (management, inspectorate and administrative personnel) to ensure that the DGCA’s staff are fully trained and capable to fulfil the functions and responsibilities related to airworthiness, safety, security and the environment.
## ICAO Technical Cooperation Projects in Indonesia (past & present)

<table>
<thead>
<tr>
<th>No</th>
<th>Subject/Project Name</th>
<th>Project</th>
<th>Year/Period</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strengthening of Aviation Maintenance Safety Standards</td>
<td>UNDP/ICAO Project INS/96/003</td>
<td>1996</td>
<td>Airworthiness/Maintenance</td>
</tr>
<tr>
<td>3</td>
<td>Strengthening of Aviation Certification</td>
<td>UNDP/ICAO Project INS/95/027</td>
<td>1995</td>
<td>Airworthiness</td>
</tr>
<tr>
<td>4</td>
<td>Flight Safety Enhancement Through Technical Competency Training and Certification of Airport and Airways Facilities Maintenance Technicians</td>
<td>UNDP/ICAO Project INS/95/017</td>
<td>1995</td>
<td>Airworthiness/Maintenance</td>
</tr>
<tr>
<td>5</td>
<td>Enhancing Aviation Safety in Indonesia</td>
<td>MSA between ICAO and DGCA</td>
<td>2007-present</td>
<td>Aviation Safety and Security</td>
</tr>
</tbody>
</table>
### ICAO Technical Cooperation Projects in Indonesia (past & present)

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<tr>
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<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Assistance to The Representation of Indonesia to the International Civil Organization</td>
<td>ICAO Project INS/08/802</td>
<td>2011-present</td>
<td>Aviation Policy and Management Advisory</td>
</tr>
<tr>
<td>7</td>
<td>Enhancement of Safety Oversight Capability of DGCA</td>
<td>ICAO Project INS/07/802</td>
<td>2009-present</td>
<td>Safety Oversight</td>
</tr>
<tr>
<td>8</td>
<td>Assistance to the Educational and Training Agency in Development of Aircraft Maintenance Training at ACAI Curug</td>
<td>ICAO Project INS/08/803</td>
<td>2010</td>
<td>Education and Training Agency of MOT</td>
</tr>
<tr>
<td>9</td>
<td>Assistance to the Educational and Training Agency in Development of Aircraft Maintenance Training at ACAI Curug</td>
<td>ICAO Project INS/08/804</td>
<td>2009-2012</td>
<td>Education and Training Agency of MOT</td>
</tr>
<tr>
<td>10</td>
<td>Institutional Strengthening of the Indonesian Civil Aviation Institute (ICAI)</td>
<td>ICAO Project INS/11/801</td>
<td>2012-2013</td>
<td>Human Resources Development of MOT</td>
</tr>
</tbody>
</table>
## ICAO Technical Cooperation Projects in Indonesia (past & present)

<table>
<thead>
<tr>
<th>No</th>
<th>Subject/Project Name</th>
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<th>Year/Period</th>
<th>Remarks</th>
</tr>
</thead>
</table>
ICAO Technical Cooperation Projects

INS/08/802 “Assistance to the Representation of Indonesia to the International Civil Aviation Organization” (2011- present)

- Objective: Effective support in the re-establishment and management of the Representative Office of Indonesia at the Headquarters of ICAO, in line with DGCAs Civil Aviation Strategic Action Plan (CASAP) for enhancing Indonesia’s capabilities in the field of aviation safety and security.
- ICAO Technical Assistance to the Representation Office of Indonesia and advice in Civil Aviation Policy and Management.
ICAO Technical Cooperation Projects

- **INS/07/804 “Civil Aviation Transformation Team (CATT) for Implementation of Civil Aviation Strategic Action Plan” (2009 - 2012)**

  - **Objective:** Effective management and implementation of the DGCA Civil Aviation Strategic Action Plan (CASAP) providing a roadmap for enhancing Indonesia’s capabilities in the fields of aviation safety and security to a level consistent with international standards.

  - **ICAO Technical Assistance in Program Management for provision of support to the CATT.**
ICAO Technical Cooperation Projects

- INS/07/802 “Enhancement of Safety Oversight Capability of DGCA Indonesia” (2009 - present)

- Objective: To improve aviation safety by enhancing the capabilities of DGCA Indonesia in safety oversight through:
  - Enhanced organization
  - Properly trained and well qualified oversight personnel, including inspectors
  - Updated legislation, regulations and procedures,
  - Effective approval and certification processes, safety oversight inspection and surveillance
  - Full implementation and compliance with ICAO SARPs, procedures and GASP
ICAO Technical Cooperation Projects

- INS/07/802 provides technical assistance in the areas of:
  - Flight Safety
  - Flight Operations
  - Airworthiness
  - Aerodrome Safety, and
  - Air Traffic Management and PBN
International Cooperation Projects

DGCA Indonesia has established international cooperation with several countries, as follows:

- for technical assistance regarding aviation safety, security, navigation and airports, in cooperation with:
  - Federal Aviation Administration (FAA), USA: Assistance in Runway Safety and Organizational Structure Study (2009-2010),
International Cooperation Projects

DGCA Indonesia has established international cooperation with several countries, as follows:

- for technical assistance regarding aviation safety, security, navigation and airports, in cooperation with:
  - DGAC France: Assistance to strengthen the safety of air carriers (2014-present).

- for technical assistance regarding the environment:
  - Swedish International Development Agency (SIDA): Eco airports and green flight
## Indonesian Aviation Numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of airlines</td>
<td></td>
</tr>
<tr>
<td>• AOC 121</td>
<td></td>
</tr>
<tr>
<td>• AOC 135</td>
<td></td>
</tr>
<tr>
<td>Number of Operators</td>
<td>26 operators</td>
</tr>
<tr>
<td></td>
<td>37 operators</td>
</tr>
<tr>
<td>Number of Aircraft</td>
<td>1,469</td>
</tr>
<tr>
<td>Number of Pilots</td>
<td>8,687</td>
</tr>
<tr>
<td>Number of Flight Operation Officer (FOO)</td>
<td>3,948</td>
</tr>
<tr>
<td>Number of Flight Attendants</td>
<td>12,648</td>
</tr>
<tr>
<td>Number of Aircraft Technicians (AMEL)</td>
<td>7,217</td>
</tr>
</tbody>
</table>
## Aircraft Fleet

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Aircrafts</td>
<td>962</td>
<td>1,009</td>
<td>1,122</td>
<td>1,209</td>
<td>1,324</td>
<td>1,469</td>
</tr>
<tr>
<td>Operated Aircrafts</td>
<td>702</td>
<td>766</td>
<td>839</td>
<td>850</td>
<td>950</td>
<td>1,091</td>
</tr>
<tr>
<td>AOC 121 aircrafts</td>
<td>351</td>
<td>381</td>
<td>432</td>
<td>426</td>
<td>478</td>
<td>531</td>
</tr>
<tr>
<td>AOC 135 aircrafts</td>
<td>209</td>
<td>192</td>
<td>225</td>
<td>253</td>
<td>276</td>
<td>315</td>
</tr>
<tr>
<td>Fixed Wing Aircrafts</td>
<td>582</td>
<td>649</td>
<td>716</td>
<td>732</td>
<td>818</td>
<td>930</td>
</tr>
<tr>
<td>Rotary Wing Aircrafts</td>
<td>119</td>
<td>117</td>
<td>123</td>
<td>118</td>
<td>132</td>
<td>146</td>
</tr>
<tr>
<td>Number of aircraft registered per year</td>
<td>111</td>
<td>137</td>
<td>140</td>
<td>165</td>
<td>205</td>
<td>179</td>
</tr>
<tr>
<td>Number of aircraft de-registered per year</td>
<td>58</td>
<td>93</td>
<td>34</td>
<td>83</td>
<td>84</td>
<td>53</td>
</tr>
</tbody>
</table>

*Status December 2013 | Source: DAAO
Indonesian Aviation Growth

**Domestic Passengers**

- **2010**: 51,775,656 passengers with 23.67% growth
- **2011**: 64,030,193 passengers with 11.54% growth
- **2012**: 71,421,464 passengers with 6.09% growth
- **2013**: 75,770,222 passengers

**Total Average Growth**: 13.77%
Indonesian Aviation Growth

![Bar chart showing domestic cargo tonnage growth from 2010 to 2013.](chart.png)

- **2010**: 417,717 tons, 20.78% growth
- **2011**: 504,519 tons, 13.31% growth
- **2012**: 571,668 tons, -5.67% growth
- **2013**: 539,257 tons

**Total Average Growth**: 9.47%
Indonesian Aviation Growth

International Passengers

<table>
<thead>
<tr>
<th>Year</th>
<th>Passengers</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>6,614,937</td>
<td>20.94%</td>
</tr>
<tr>
<td>2011</td>
<td>8,000,000</td>
<td>24.23%</td>
</tr>
<tr>
<td>2012</td>
<td>9,938,291</td>
<td>10.33%</td>
</tr>
<tr>
<td>2013</td>
<td>10,964,559</td>
<td></td>
</tr>
</tbody>
</table>

Total Average Growth 18.5%
Indonesian Aviation Growth

Total Average Growth 30.1 %
Indonesian Aviation Growth

International and Domestic Aircraft Movements

<table>
<thead>
<tr>
<th>Year</th>
<th>Movements</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>495,110</td>
<td>12.28%</td>
</tr>
<tr>
<td>2011</td>
<td>555,899</td>
<td>23.16%</td>
</tr>
<tr>
<td>2012</td>
<td>684,658</td>
<td>5.30%</td>
</tr>
<tr>
<td>2013</td>
<td>720,977</td>
<td></td>
</tr>
</tbody>
</table>

Total Average Growth 13.58%
Indonesia’s Environmental Policy and Strategy - Mitigation of GHG Emissions

- Indonesia’s Environmental Policy and Strategy
- Mitigation of GHG Emissions
- CO₂
- Market Based Measures
- Enhanced Eco Airport Implementation
- ATM Improvement and PBN Implementation in Air Navigation Services
- Aircraft and Infrastructure Modernization
- Aircraft and Airport Facilities Operational Efficiency
- Policy, Strategy, Procedure and Capacity Building
Environment Policy - Basket of Measures

1. Measures regarding Policy, Rule Making & Capacity Building of Human Resources of Stake Holders

2. Airline Operator Carbon Emission Reduction Measures

3. Air Navigation Services and Air Traffic Management Measures

4. Airport Operator (Eco-airport) Carbon Emission Reduction Measures


6. Market-based Measures
Gap Analysis and Technical Assistance Needs Assessment

General Considerations

1. Indonesia’s commitment to reduce carbon emissions by 26%, based on the 2005 level.

2. Development program in line with the ICAO and UNFCCC principles and guidelines.
Gap Analysis and Technical Assistance Needs Assessment (Con’t)

1. The provision of a legal framework, regulations, guidelines and procedures for environmentally sustainable development of air transportation

2. The provision of organization and system, role, functions and responsibilities reflecting the obligations and mandate of DGCA Indonesia for GHG emission reduction

3. Adequate capacity and capability of human resources

4. Financial access and financing mechanism

5. Appropriate technology, experience, legal and patent rights, warranty and liability arrangements

6. Risk management
Future Cooperation on Environment
ICAO – DGCA Indonesia 2014-2017

- ICAO Technical Cooperation Project on Environmental Measures for Civil Aviation in Indonesia, focusing on:
  - Aviation Biofuel and Renewable Energy of Airports during Planning and Implementation
  - Operational Efficiency of Airlines, Airports, Air Navigation Service Provider, Airport Ground Handling Services
  - Enhancing the ATM and PBN Implementation
  - Enhancing the Eco-airport Implementation
  - Developing an Inventory System and Data Base on GHG in Air Transportation
  - Developing the Market-based Measures System
Future Cooperation on Environment
ICAO – DGCA Indonesia 2014-2017 (Con’t)

- Technical Cooperation Project on Environmental Measures for Civil Aviation in Indonesia:
  - financial access and assistance,
  - research and development,
  - technology transfer,
  - capacity building and exchange program,
  - legal and regulatory framework,
  - seminar and conference support.
Summary

1. Need to continuously enhance DGCA’s organization and system, to provide a clear role, function and responsibility.

2. Further Technical Cooperation support by ICAO will provide highly valuable assistance to achieve these goals.
Terima kasih

Thank You