

## EU-South Asia Aviation Partnership Project (EU-SA APP)

*Strengthening the partnership in aviation between the  
European Union and South Asia*

*This project is funded by the European Union and  
implemented by the European Union Aviation Safety Agency*

# EU-SOUTH ASIA AVIATION PARTNERSHIP PROJECT

## Environment *Matters* for Aeroplane Operators

## CORSIA Implementation in SPICEJET LTD.

**MERWIN SUARES**  
General Manager, SpiceJet Ltd.  
Katunayake (Sri Lanka), 25-28 February 2020



**EU-SOUTH ASIA APP**

**Your safety is our mission.**

# Merwin Soares – SpiceJet

- Merwin Soares is the General Manager – Performance Engineering of Spicejet Ltd.
- He has over 13 years of aviation experience and he is an experienced Flight Operations Engineer.
- He is responsible of the implementation of CORSIA.
- Team member in the setting up of Airbus – FlySmart in Oman Air.
- Performance and Technical Instructor Experience on B737NG / Airbus 330/ ATR 72-500/ Dash 8 Q400.
- Team member in preparing the compliance and obtaining the Special Operations Approval. (PBN/ETOPS).
- Merwin holds an B.E. MECHANICAL DEGREE (First Class) - Mumbai University (2002 – 2005)
- Diploma in Mechanical Engineering - MSBTE (1998 – 2002)



# LOOMING REALITY

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- Carbon emissions by civil aviation contributing significantly to increase in greenhouse gases that exacerbate climate change
- **By 2050, carbon emissions from aeroplane likely to grow seven fold**
- IATA committed to improving fuel efficiency by 1.5% per year from 2009 to 2020, and stabilizing carbon dioxide for 50% reduction by 2050
- **Need for deliberate and sustainable steps**



- Adopted at the 39th session of the ICAO assembly in 2016
- **To address any annual increase in total CO2 emissions above 2020 levels**
- All operators, who are engaged in international operations, have to capture their fuel consumption and carbon emissions data annually, starting from 1st January, 2019 every year
- **Airlines operating international flights mandated to monitor fuel consumption emissions and report them to their national authorities**
- Baseline for CORSIA will be using the average annual emissions for the period 2019 and 2020

# ENGAGEMENT WITH CIVIL AVIATION

DGCA Guidelines

Salient Aspects

Methods for calculation

# DGCA Guidelines



- To prepare for MRV of CO2 emissions, operators need to develop EMPs.
- EMPs help in understanding the methods chosen, its consistency and if they have been applied properly.
- The operators were to submit their EMPs by 30th September 2018 to DGCA for approval.

# SALIENT ASPECTS (CORSA MRV Obligations)



- Focal point and Alternate Focal Point for CORSIA
- **Determination of All International Flights.**
- Determination of International Flights with Offsetting Requirements.
- **Determination of Flights with no Monitoring Requirements.**



# Training for CORSIA

# TRAININGS for CORSIA



- **CORSIA training were conducted by the various bodies.**
  - IATA: the initial training regarding the concept and formularization of CORSIA.
  - DGCA: The training related to the involvement of Indian Airlines in CORSIA and how CORSIA will be implemented.
  - ICAO verifier Course for CORSIA
  - Workshop conducted by IATA
- **Regular update on CORSIA via DGCA CAR**

# EMISSION MONITORING PLAN

# Emission Monitoring Plan



- **DGCA**, India provided the guidelines for preparation of Emission Monitoring Plan vide **Document No. 01/2018/CORSIA**.
- The document covers how to prepare the monitoring plan, the methods that can be applicable for the calculation of Carbon Emission, the criteria for the selection of flights. It contains description about aeroplane operators, its fleet, its operations, fuel monitoring procedure and data management and record keeping.
- Subsequently the Emission Monitoring Plan was prepared and submitted to DGCA before 30<sup>th</sup> September 2018.

# Status of Implementation

## METHODS AND MEANS FOR CALCULATING EMISSIONS

Process flow diagram

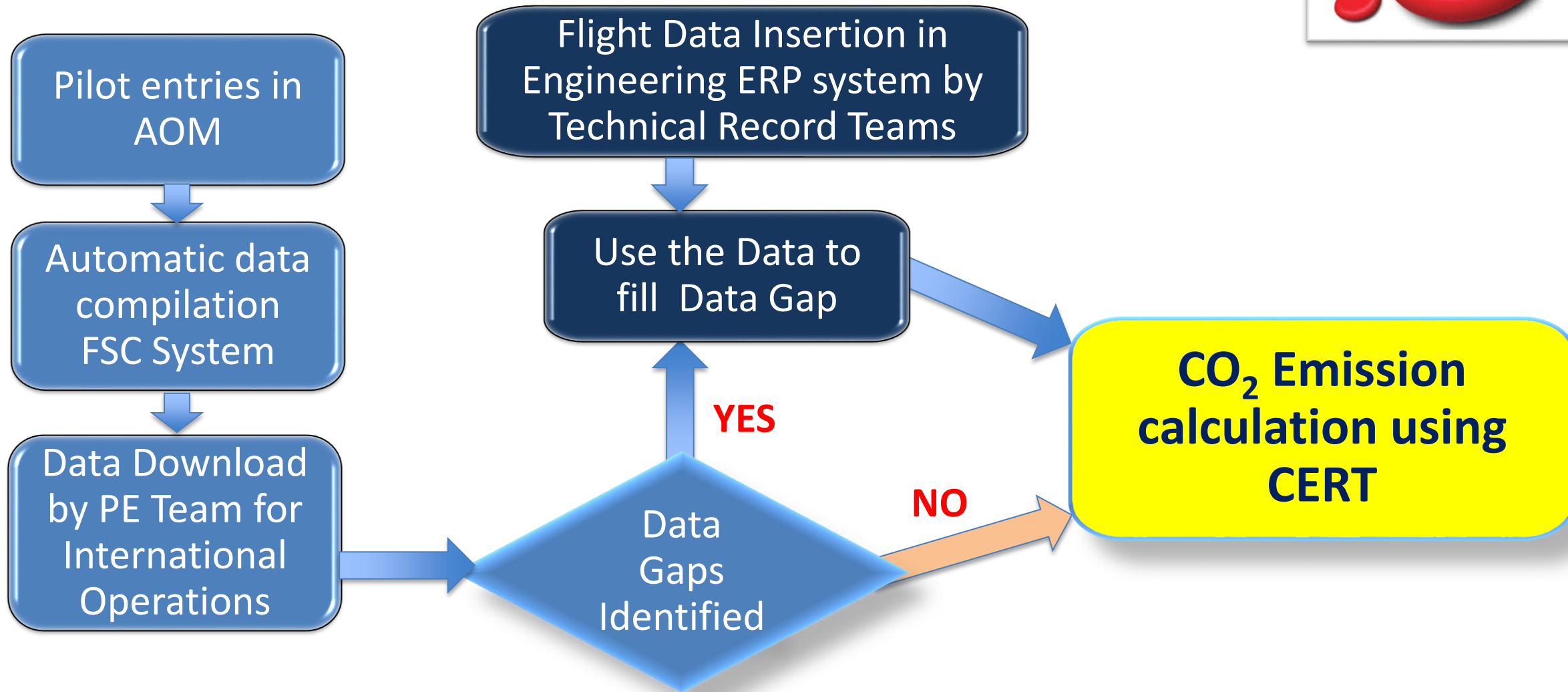
Emission Report & engagement with Verification  
body

# METHODS AND MEANS FOR CALCULATING EMISSIONS

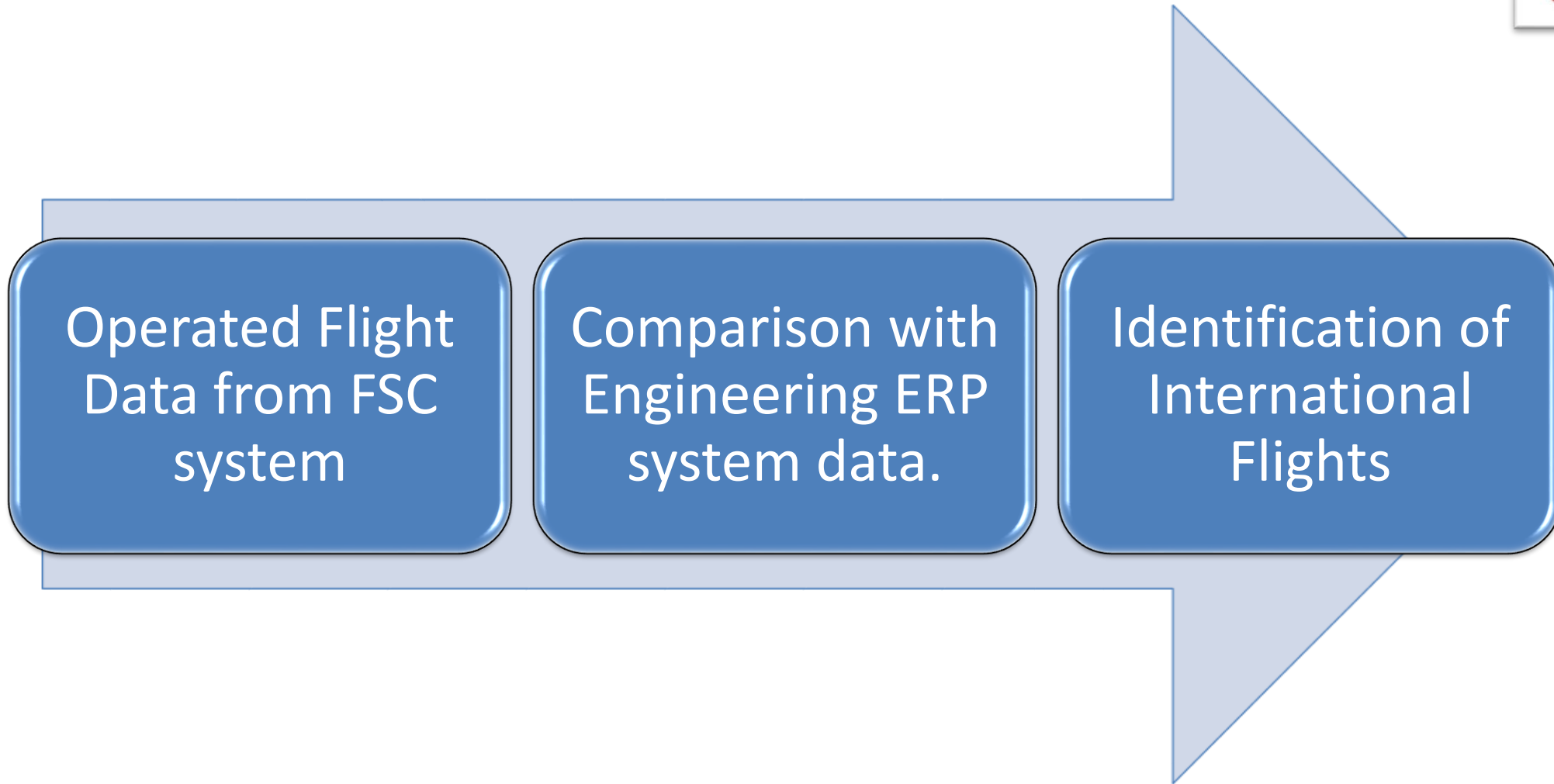


- Fuel Used Monitoring Method
- ICAO CORSIA CO2 Estimation and Reporting Tool (CERT)

# PROCESS FLOW DIAGRAM



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# ANNUAL EMISSION REPORTS



- **Compilation of Data as per AER (DGCA template)**
- **Pre-verification of the Emissions data by an Internal CORSIA verifier.**
- **Verification of the AER by an External DGCA empanelled Verification Body**
- **Submission of Emissions Verification Report to DGCA by 31st March, for onward submission to ICAO**

# COMPLIANCE by SpiceJet Ltd.

# COMPLIANCE BY SPICEJET



- Primary and Secondary Focal Points and SpiceJet Internal Verifier identified.
- Emission Monitoring Plan approved by DGCA.
- Engagement of external CORSIA verification body completed.
- CORSA manual prepared.
- Pre-verification of Internal CORSIA verification completed.
- **Verification of Emissions data by the DGCA empaneled Verification body planned in March'2020.**

# COMPLIANCE BY SPICEJET



- EMP re-evaluation and DGCA approval every year, as well as when required.
- **Focal Point(s) responsible for changes in EMP and to inform environment cell.**
- QA/QC process to identify the source of error and arrange the correct data

# COMPILATION AND REPORT GENERATION



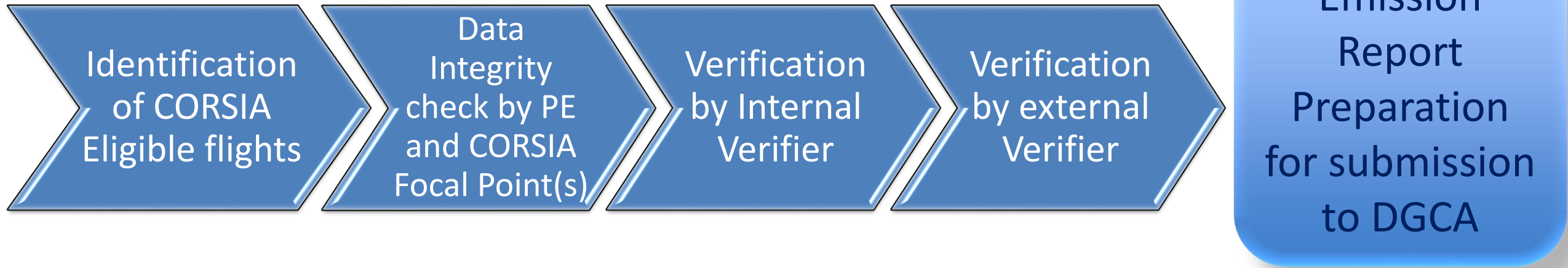
- Operated flight data is updated, based on crew input.
- **Focal point responsible for determining International flights.**
- Fuel consumption validation done by Focal point and internal verifier and checked by external verifier.

# QUALITY ASSURANCE



- Performance Engineer responsible for extraction of Tech Log required data.
- Internal process to ascertain completeness of data and applicable records.
- Details of discrepancy identified by CORSIA team corrected with the help of responsible team forwarded to Technical records team .
- Data archive as per DGCA requirement

# ANNUAL EMISSION REPORT SUBMISSION



# CHALLENGES AHEAD!



# Challenges.



- With growth in International Operation, CO2 Emission will Increase, and need to shift from ICAO CERT tool to one of Fuel Use Monitoring Method.
- Requires more efforts, time and resources to collect required data and retention of applicable records.
- Identification of Carbon Credit Offsetting vendor or Method to Offset.
- Assessment of actual impact of CORSIA requirement on Airline.

# BIO - JET

# FIRST BIO FUEL FLIGHT



- Flown by SpiceJet
- **Bombardier Q400 flew on the Dehradun-Delhi route**
- Carried a blend of air turbine fuel (75%) and biofuel (25%)
- **Flight was successful**
- Planning to conduct test flight on Boeing aeroplane with Bio Jet

# QUESTIONS ?

# Thank you for your attention!

<https://www.eu-southasia-app.org/>



[easa.europa.eu/connect](https://easa.europa.eu/connect)



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An Agency of the European Union

