



IATA, Operations, SO&I

Fuel Conservation Projects

Commercial Presentation

May 2007



to represent, lead and serve the airline industry

Agenda

1. General introduction and background information
2. Project approach and phases
 - 2.1 FEGA/FEC
 - 2.2 Implementation
3. Project documentation and organisation

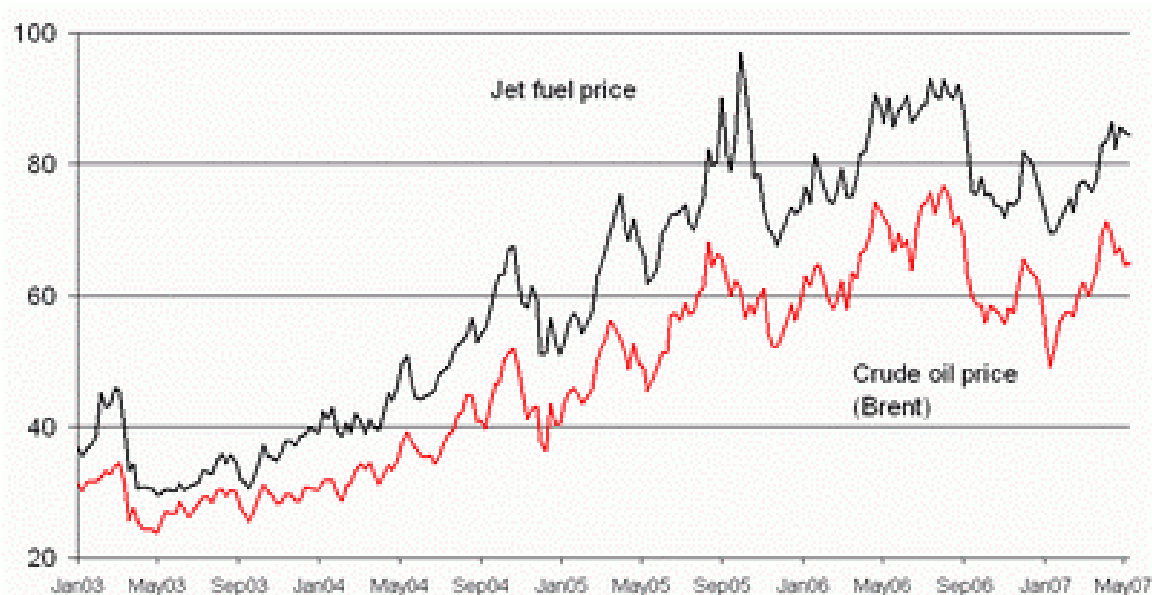
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The price of jet fuel has doubled over the last years, stabilizing recently at around 80USD/barrel

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Jet Fuel and Crude Oil Price development (\$/barrel), 2003-2007

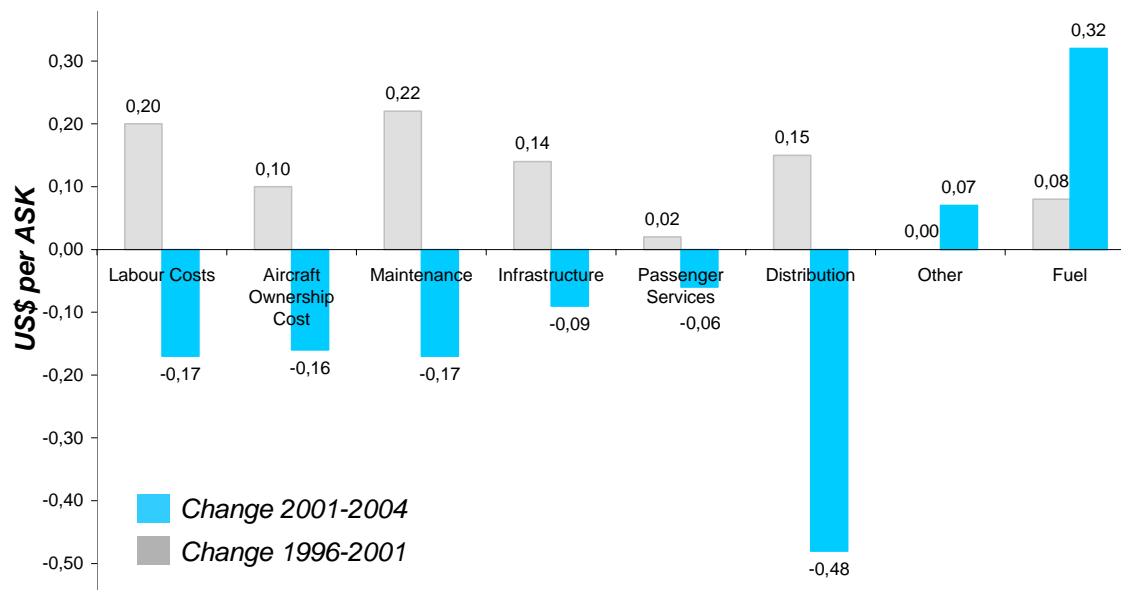


Source: IATA, Platts

Fuel is therefore the only operating area where airlines have not yet managed to fully control cost reductions

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Change in Unit Costs 1996-2004 (\$ per ASK) – average of major US network carriers

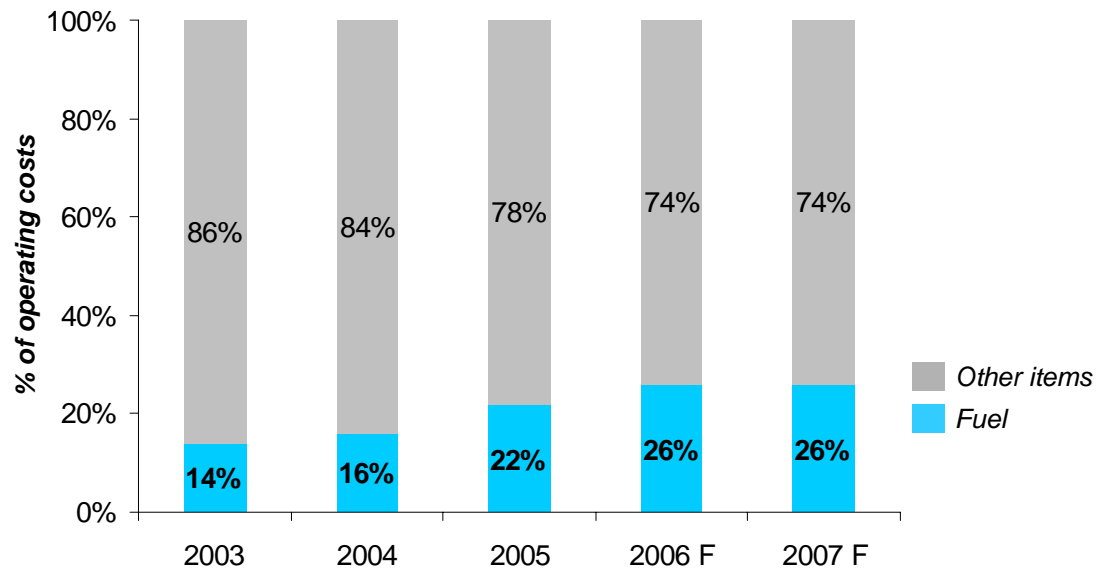


Source: IATA, Platts

Estimations show that the total US\$117bn cost of fuel represents in average 26% of the total operating costs

1

Fuel as % of total operating costs 2003-2007



Source: IATA, Platts

As true global industry association, IATA is enabled to guide the industry in improving its performance

1

- Clear mission to represent, serve and lead the airline industry, speaking on behalf of airline community to other airlines, industry stakeholders and general public;
- Pro-active in launching broad industry initiatives, bringing measurable advantages not only for airline members but also to non-member airlines;
- Powerful lobby entity at highest levels, with visible impact beyond airline community
- Engaged in giving independent and neutral advice with no hidden interests
- Access to industry data covering 250+ airlines and 94% of scheduled air traffic for benchmarking and best practice identification;
- Access to internal resources and broad network of industry experts from airlines, airports and adjacent industries.

IATA has been supporting airlines by launching industry wide initiatives as the Fuel Action Campaign

1

Components of the Fuel Action Campaign

“Save One Minute” initiative

Airlines spend approximately US\$100 per minute/flight in total operating costs. Saving 1 minute per flight through better airspace design, procedures and management could save over US\$1 billion per year, beyond the environmental impact.

Route Optimisation

Opening new more direct flight routes and re-aligning others to reduce fuel requirements can save the industry US\$1 billion per year and reduce harmful environmental emissions. Work to date has already produced over US\$500 million in savings.

Improved Air Traffic Flows

Improvements to ground, departure & arrival traffic flows and rationalization of existing Noise Abatement Departure Procedures (NADPs) can further reduce fuel consumption, lowering industry costs by US\$530 million per year.

Fuel Conservation (Efficient Operating Procedures)

A 1% industry-wide improvement in fuel efficiency can lower fuel costs by yearly US\$700 million. Refinements to existing operating procedures can help achieve this. Industry best practices, guidance material and training programs are being launched.

Fuel Conservation is the most accepted initiative for airlines producing visible results

- IATA offers Fuel Efficiency Gap Assessments (FEGA, for IATA member airlines) or Fuel Efficiency Consulting (FEC for non-members), both optionally projects followed by implementation projects supported by IATA experts;
- There are currently 5 different “Go-teams”, each composed of 3 experts: one flight operations expert, one maintenance & engineering expert and one flight dispatcher;
- Over 50 airlines have been visited since Sept. 2005, with more than 30 additional visits scheduled for 2007;
- Total savings achieve far more than a billion USD already, representing in average between 2% and 12% of total fuel budgets

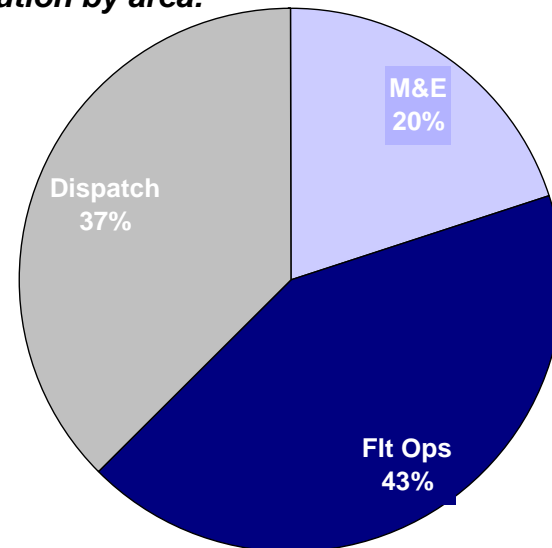
IATA Fuel visits performed to 57 airlines uncovered saving potentials of 1.5bn USD

2

Major findings:

- 57 airlines visited, with more than 2800 aircraft at their service
- Total fuel budget of 31.6bn USD
- 1.54bn USD uncovered fuel savings, representing in average 5,8% of their fuel budget
- 43% of the total potential savings arise in Flight Operations, 37% in the Dispatch area and 20% in Maintenance and Engineering

Distribution by area:

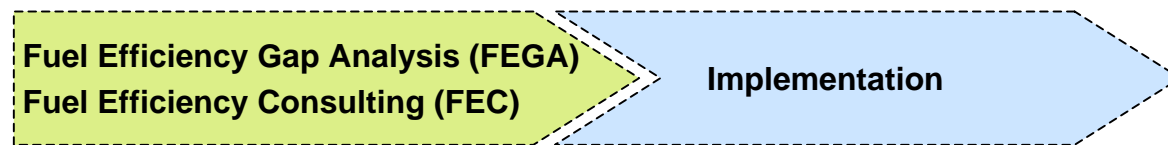


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The typical IATA approach to Fuel Conservation projects is structured in two separate phases

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Objective

➤ Detailed assessment of the airlines' fuel management processes and procedures

➤ Support airline in establishing priorities and launching implementation

Content

➤ 3 experts visiting airline over a 3-4 day period, interviewing senior airline management and operational staff

➤ 3 experts onsite for either 2 periods within 3 months or 3 periods over approx. 6 months, assisting airline management

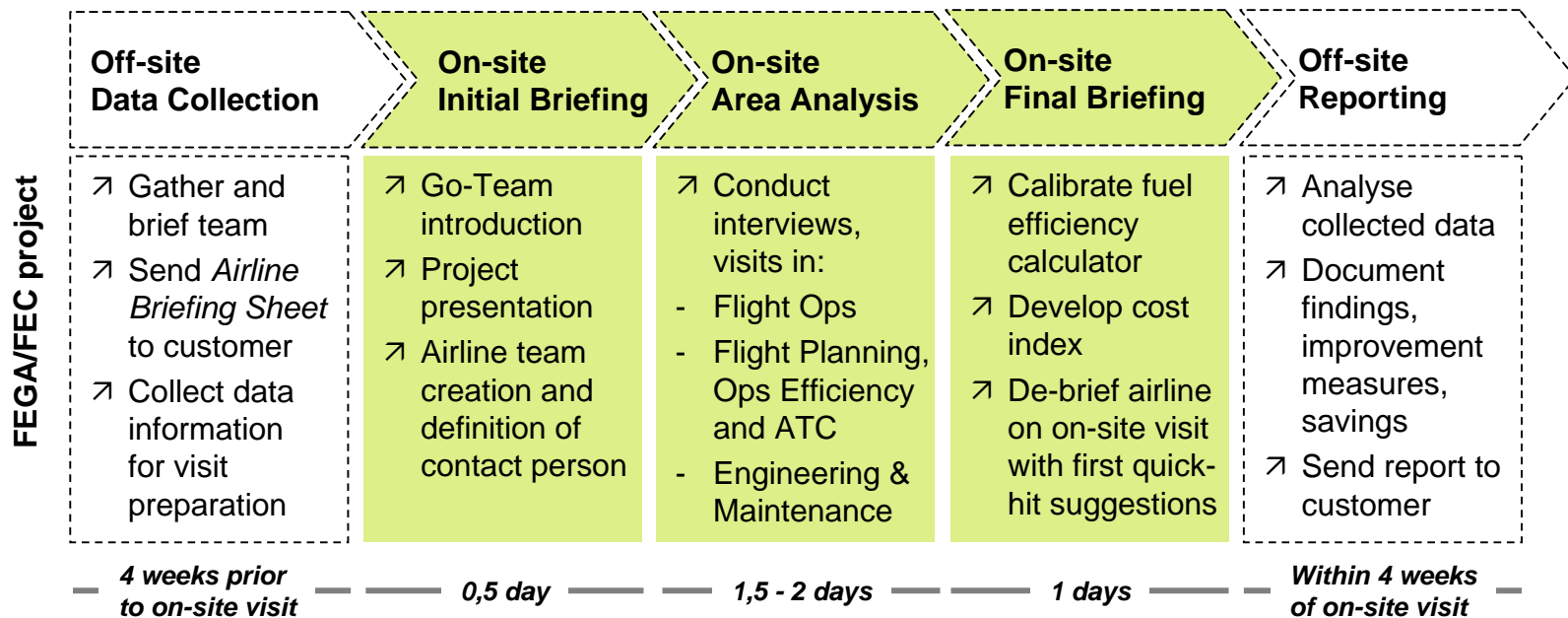
Deliverable

➤ Comprehensive report (delivered within 4 weeks) with potential cost saving measures and estimated savings

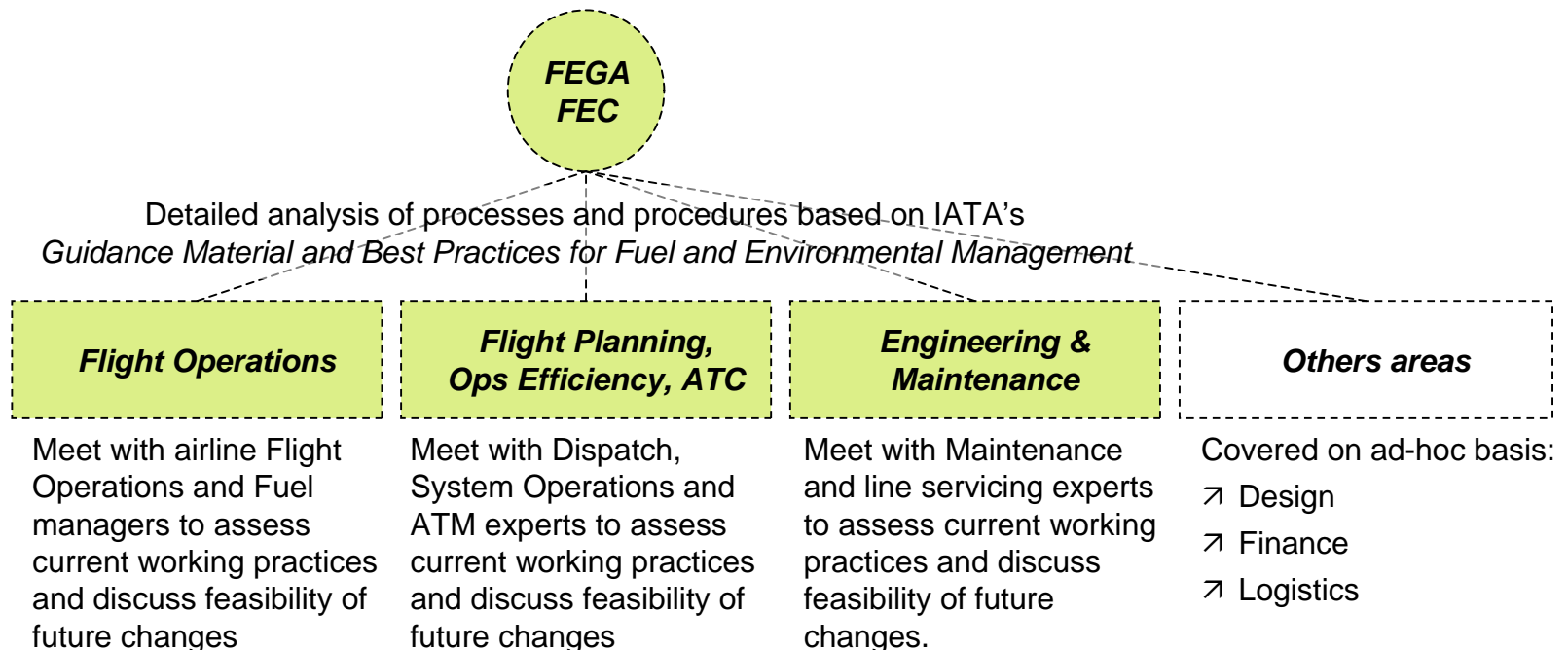
➤ Meeting notes, regular status reports and white papers

FEGA/FEC collect information on the airlines' fuel management procedures to uncover saving potentials

2.1



Three main operational areas are covered by FEGA/FEC 2.1 in order to identify shortcomings and savings potentials



Typical fuel savings can be identified in all operational activities of the areas under analysis

2.1

<i>Flight Operations</i>	<ul style="list-style-type: none">➤ Flight Operations: APU usage, flap usage, climb and descent speed, wind management, engine out taxi procedures, Cost Index, idle reverse operation, pilot technique etc
<i>Flight Planning, Operational Efficiency and ATC</i>	<ul style="list-style-type: none">➤ Flight duration, route planning, alternate airport selection, zero fuel weight accuracy, reserve fuel policy, Flight Planning System, Fuel Information Management Database etc
<i>Engineering & Maintenance</i>	<ul style="list-style-type: none">➤ Aircraft performance measuring, maintenance programmes, engine overhaul planning, structural alignments, training on fuel conservation, etc.➤ Cabin Operations: Weight reduction, IFE etc

Two documents shall be produced during FEGA/FEC, common to all projects, consistent and targeted

2.1

➤ **Airline pre-questionnaires incl. an Airline Briefing Sheet for FEGA/FEC team visit** , containing:

- Introduction to FEGA/FEC project with general administrative and procedural requirements for on-site visit,
- Pre-visit questionnaires with initial requirements for each area
- Tentative schedule for FEGA/FEC on-site visit
- Fuel Data, Aircraft hours/cycles E&M procedures for the preparation of the Fuel Efficiency Tool

Delivered 4 weeks before scheduled FEGA/FEC visit

➤ **FEGA/FEC Report**, containing:

- Description of approach, methodology and overall project targets
- General considerations on project, achievable savings, etc.
- Findings and improvement measures with quantified saving potentials
- Environmental impact
- Change management

Delivered 4 weeks after FEGA/FEC visit

Briefing presentations are held at the beginning and at the end of each implementation visit

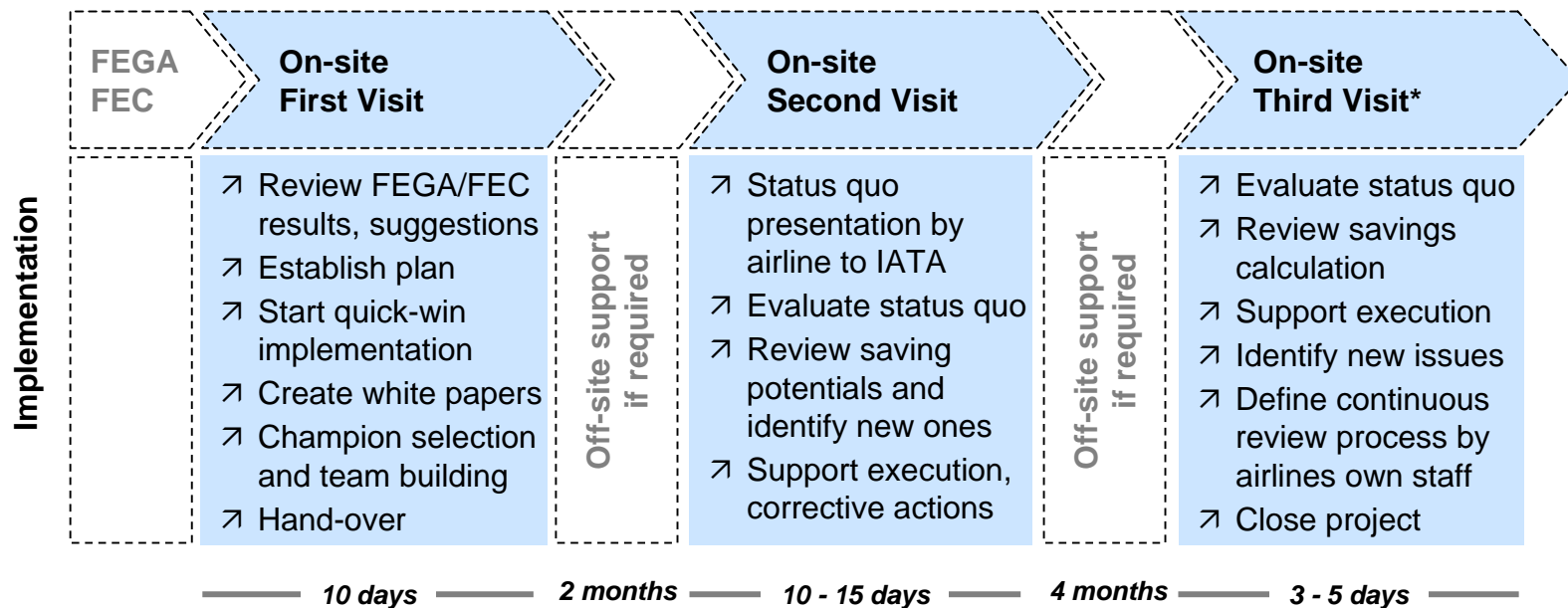
2.1

- **Briefing presentation at beginning of FEGA/FEC visit,** containing:
 - Presentation of the IATA team
 - Background information
 - Project structure, goal and expected results
- **De-Briefing presentation at end of FEGA/FEC visit,** containing:
 - General comments on airlines' operation
 - Review of scope, goal and approach of FEGA/FEC visit
 - Summary of findings and potential savings, by area
 - Recommendations and suggestions for next steps



During the implementation IATA supports the airline in executing and creating its own improvement processes

2.2



*Note: depending on contract negotiation, additional to implementation project as peer periodic review

Briefing presentations are held at the beginning and at the end of each implementation visit

2.2

- **Briefing presentation at beginning of each implementation visit**, containing:
 - Presentation of the IATA team
 - Background information
 - Project structure, goal and expected results
- **De-Briefing presentation at end of each implementation visit**, with:
 - General comments on airlines' operation
 - Review of scope, goal and approach of FEGA/FEC visit
 - Summary of findings and potential savings, by area
 - Recommendations and suggestions for next steps

*First day of
each visit*

*Last day of
each visit*

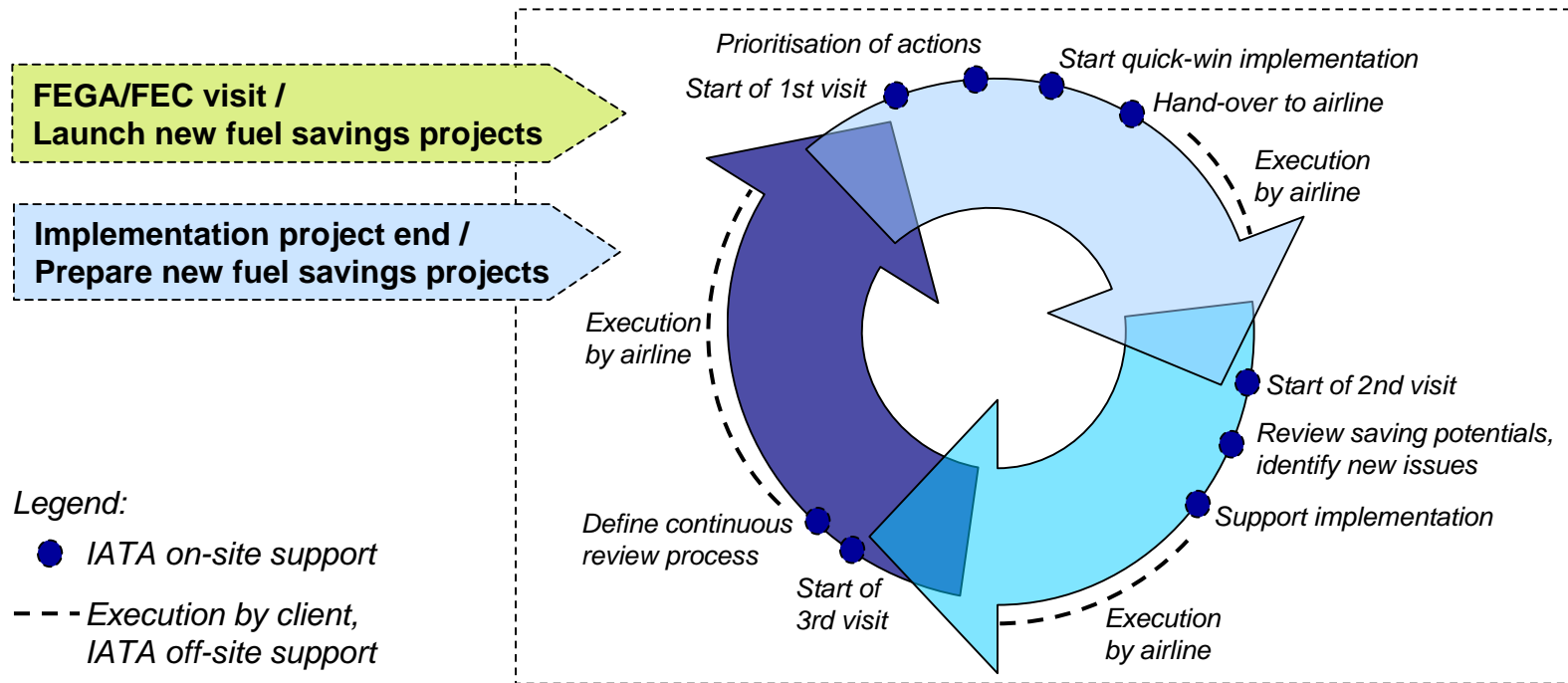
Throughout the implementation visits, additional documents shall be delivered as supporting material

2.2

- **White Papers**, one for each thematic area, containing:
 - Indication of champion from airline for thematic area
 - Description of proposed measure and respective outcome
 - Suggestions for implementation and timeline
- **Meeting Notes**, containing:
 - List of participants, subjects under discussion
 - Decisions taken during meetings and allocation of task responsibilities
- **Status Reports**, containing:
 - Description of status and achievement rate of implementation project
 - Description of tasks for the upcoming implementation period and/or visit (if applicable)



Ideally, this project phase will enable the airline to launch a revolving process for continuous improvement 2.2

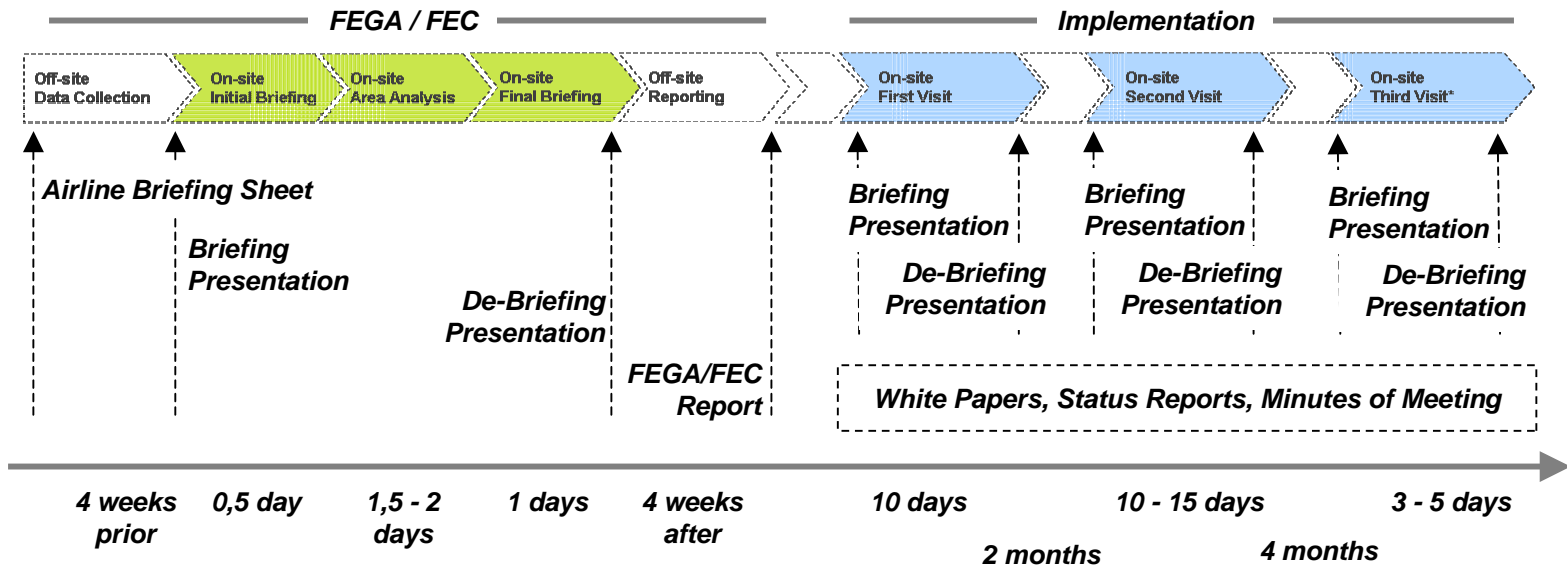


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Continuous and consistent information is essential for the success of the entire project

3



Reasons* why airlines usually fail with the internal implementation

➤ **Fuel Conservation is “Change Management” and requires a “top down approach”. Many airlines fail because:**

- 1) Not Establishing A Great Enough Sense of Urgency
- 2) Not Creating a Powerful Enough Guiding Coalition
- 3) Lacking vision
- 4) Undercommunicating the Vision by a Factor of Ten
- 5) Not Removing Obstacles to the new Vision
- 6) Not Systematically Planning For and Creating Short-Term Wins
- 7) Declaring Victory Too Soon
- 8) Not Anchoring Changes in the Corporation’s Culture

* John P. Kotter, Konosuke Matsushita Professor of Leadership at Harvard Business School

Fuel Efficiency is “Lean Six Sigma”

- IATA’s applied methodology –

➤ Lean/ LSS key Concepts

- Identify attributes most important to quality (Critical to Quality Elements)
- Defect Reduction
- Process Variation
- Stable Operations
- Design for 6 σ



➤ IATA Fuel Efficiency Key Benefits

- Leaner Operations
- Reduced Cost
- Less Waste
- Improved oversight
- More efficient processes
- A better understanding of fuel use for strategic planning

Methodology to Support Fuel Efficiency

➤ The Lean 6 σ → Define → Measure → Analyze → Control → Assessment

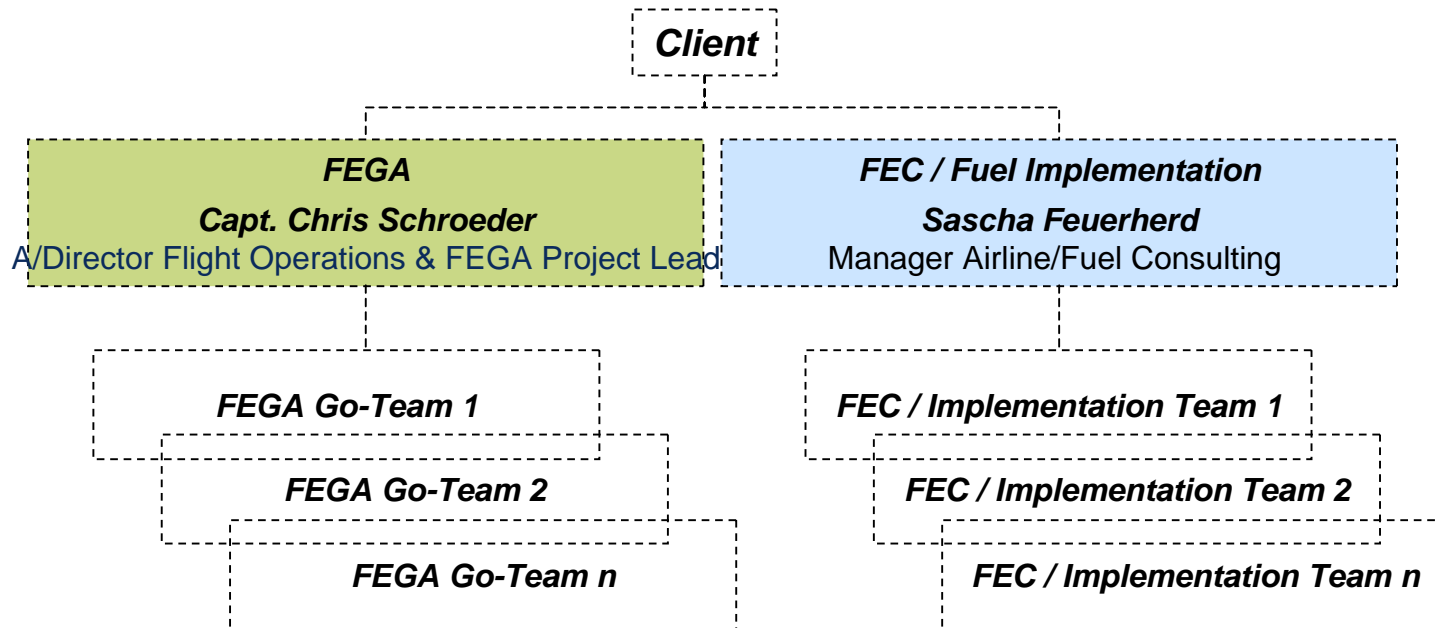


→ CONTINUOUS IMPROVEMENT ←

Safety
Sort
Set
Shine
Standardize
Sustain

Both FEGA and FEC / Fuel Implementation follow a similar project organisation

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Thank you!

For further information please contact:

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