



**Seamless Operational Efficiency at Icelandair**  
**Jens Bjarnason | SVP Operations Icelandair**



# Operations is an integral part of Icelandair with **1300 employees** and responsible for around **80%** of total cost within Icelandair

Total annual cost of  
Icelandair operations

**> USD 500 million**

Number of employees on  
an annual basis

**1323 employees**

Percentage of total operating  
cost of Icelandair

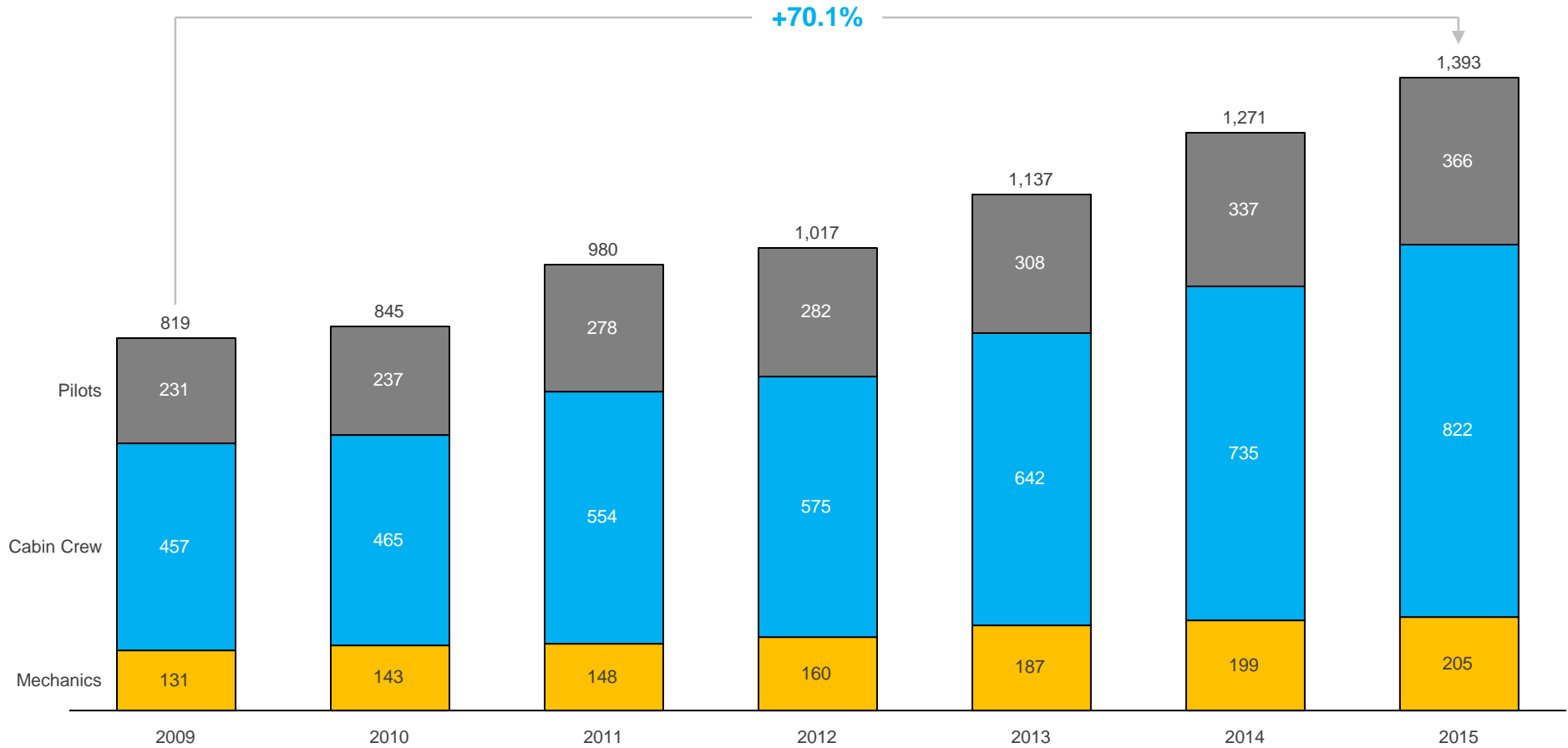
**80%**

- | **Our mission is to operate Icelandair's scheduled network of B757 aircraft**
  - | Flight Operations
  - | Maintenance and Engineering
  - | Ground Handling in KEF and at all outstations
  - | Crew training in new flight simulator
- | Provide technical support to other airlines and Operate aircraft for Icelandair Cargo and Loftleiðir
- | Continuous evaluation of new technologies, aircraft and engine types for Icelandair's future development

# We run **multiple initiatives** across our operations focused on efficiency gains and bridging technology gaps

e-Enablement	<ul style="list-style-type: none"><li>  e-learning</li><li>  Electronic charts</li><li>  Air-to-ground satellite communication</li></ul>
Lean Ops	<ul style="list-style-type: none"><li>  Lean maintenance</li><li>  Emphasis on highly specialized tasks</li><li>  Lean cabin initiative</li></ul>
Fuel Efficiency	<ul style="list-style-type: none"><li>  Single-engine taxi procedure</li><li>  Continuous climb and descent</li><li>  Fuel burn information shared with flight crew</li><li>  Lighter aircraft</li></ul>

# Number of employees within Icelandair Operations has increased by 70% over the last 7 years – while ASK has grown by ~140%



# High level break-down of our operations reveals a structure built on decades worth of **upholding operating excellence**

<b>Flight Operations</b>	Operations Control Center – 24 hrs <b>Crew Scheduling</b> Aircraft Performance Engineering	<b>Operations Control Center</b> Assign aircraft to every flight Flight planning, fuel and load calculations Aircraft defect monitoring and analysis Daily crew operation, assure proper assignments
<b>Maintenance &amp; Engineering</b>	Heavy Maintenance Checks <b>Line Maintenance</b> Design Engineering	
<b>Ground Handling</b>	Responsible for KEF operations <b>Ground handling by IGS</b> Airport supervision staff	
<b>Crew Training</b>	Flight simulator in Hafnafjordur <b>Daily utilization is 16.5 hrs</b> Utilization will reach 22 hrs. in 2016	<b>Flight simulator</b> With our own simulator we have increased efficiency in our training operations.

The typical heavy maintenance checks requires up to **15000 man hours** to perform – planning and cost minimization is key

# **13**  
per year

### | Heavy Maintenance Checks

- | Every 18 – 24 months, takes up to 15,000 man-hours
- | About 60% of all heavy maintenance is performed in KEF
- | Reverse seasonality – all work carried out during winter to maximize seat capacity during peak season

# **19,511**  
per year

### | Line Maintenance

- | Carried out after every landing in KEF and out all outstations
- | Use mechanics freed up when no heavy maintenance is taking place

**~220,000**

man hours per year

| This shows the magnitude of annual investment in man power at Icelandair's operations.

## Engineering design department spearheads innovation and is focused on increasing efficiency and enhancing customer experience

### Design engineering is an important source of technical innovation at Icelandair

Over 30 engineers work on design of repairs and modification of our aircraft to increase passenger comfort, enhance the flying experience and maximizing operational efficiencies.

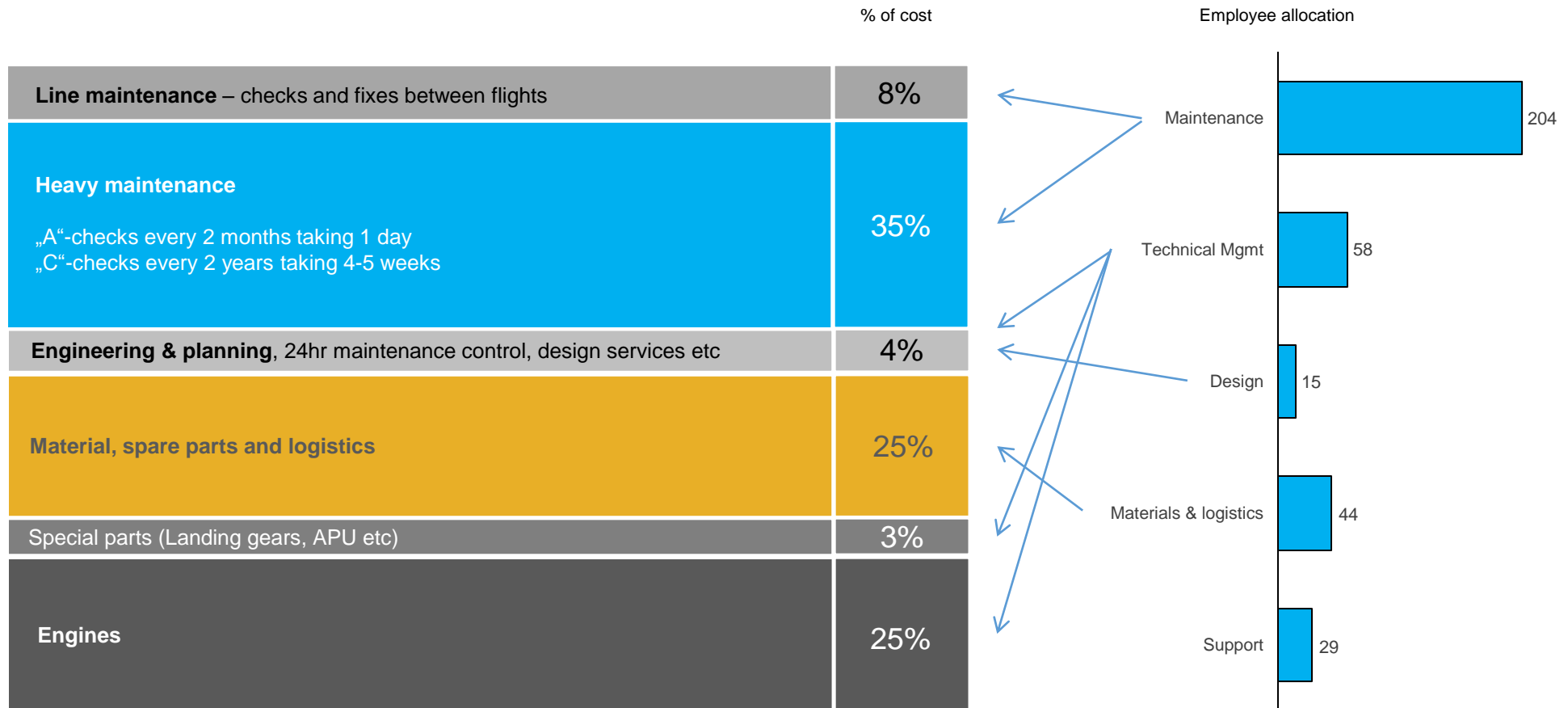


Northern lights LED cabin lighting system



Icelandair cockpit upgrades

# Every year Icelandair invests heavily in E&M operations and it is vital to maximize returns on that investment

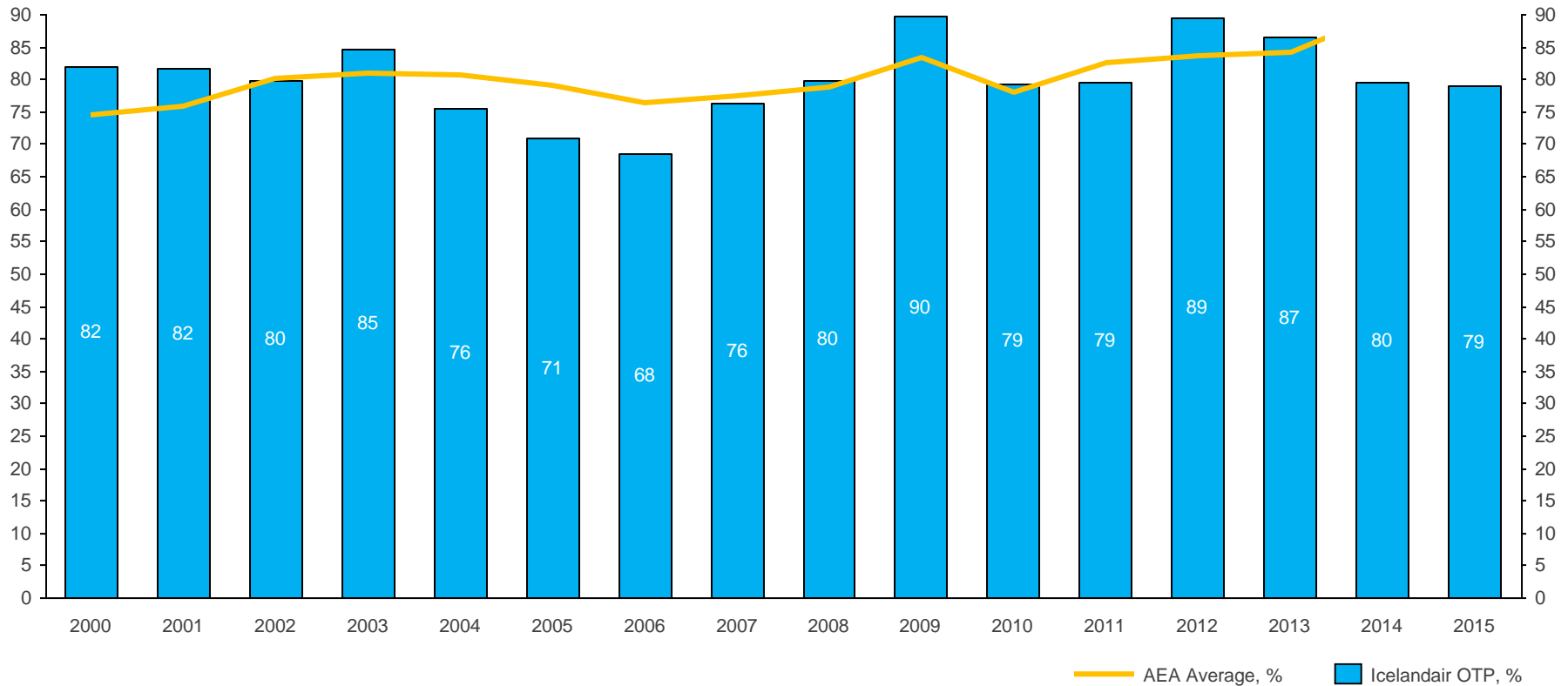


Includes Icelandair ehf., Loftleidir and Cargo aircraft along with contribution from 3rd party services



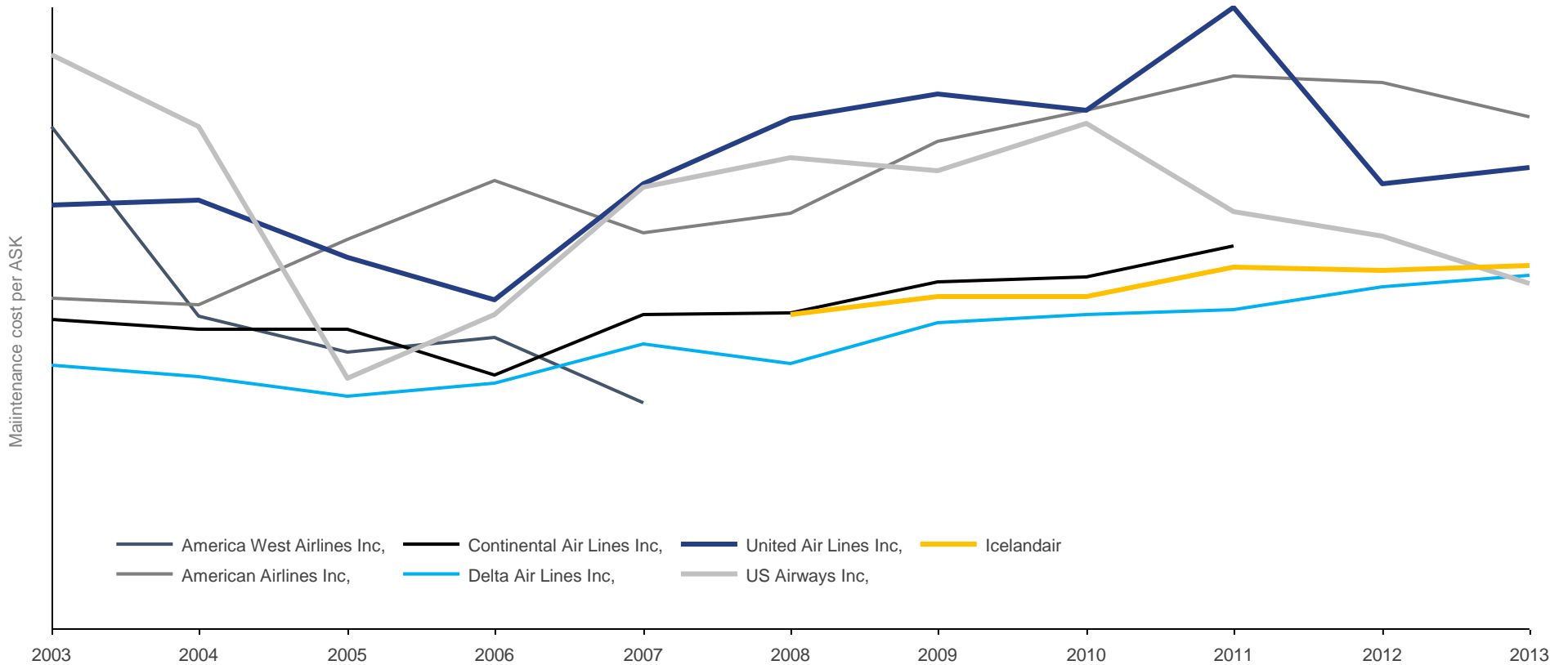
# On time performance is key to our operations of the hub and spoke Network – benchmarking with international AEA measures

Icelandair prides itself on its OTP track-record and we consistently strive to do better.



# Benchmarking of technical operations cost reveals that Icelandair is well placed in comparison to international peer group

Maintenance cost per available seat kilometre (MASK) at Icelandair is at a competitive level

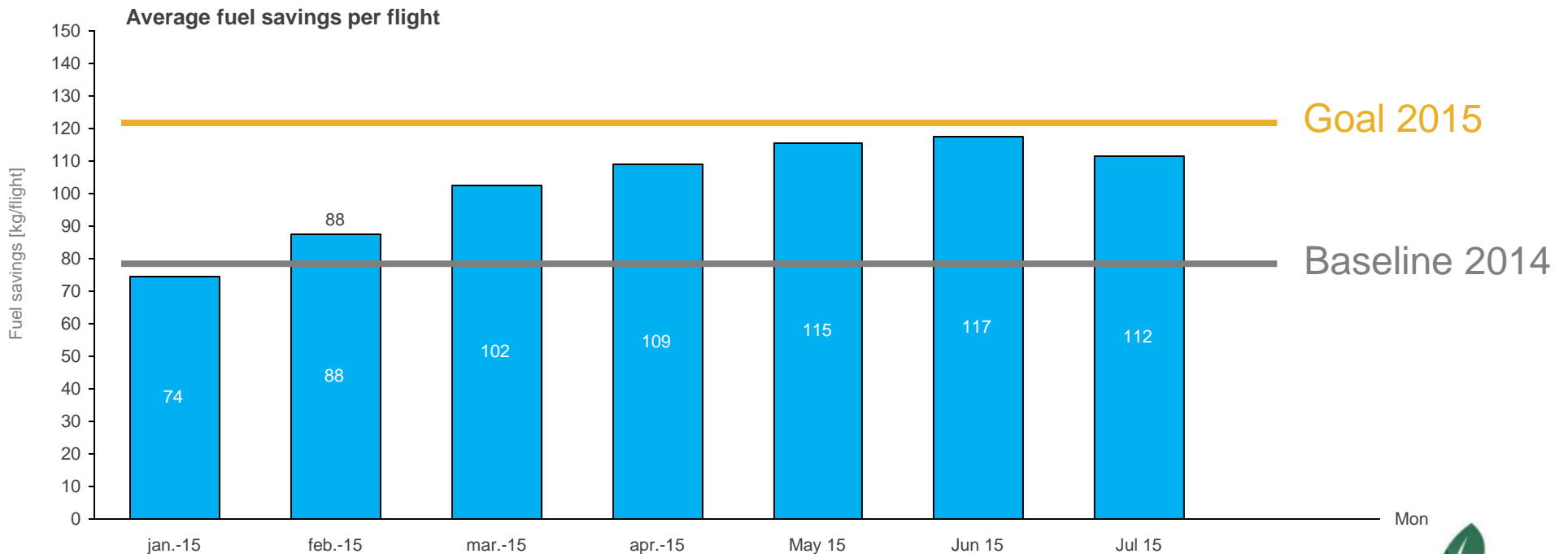


\*\* Based on data filed to the DOT by US airlines for these airlines' B757 fleets. Other regional data not available in this detail.

Delta the only airline showing consistently better results.  
According to investor presentations this is primarily due to 3rd party support contribution of Delta TechOps

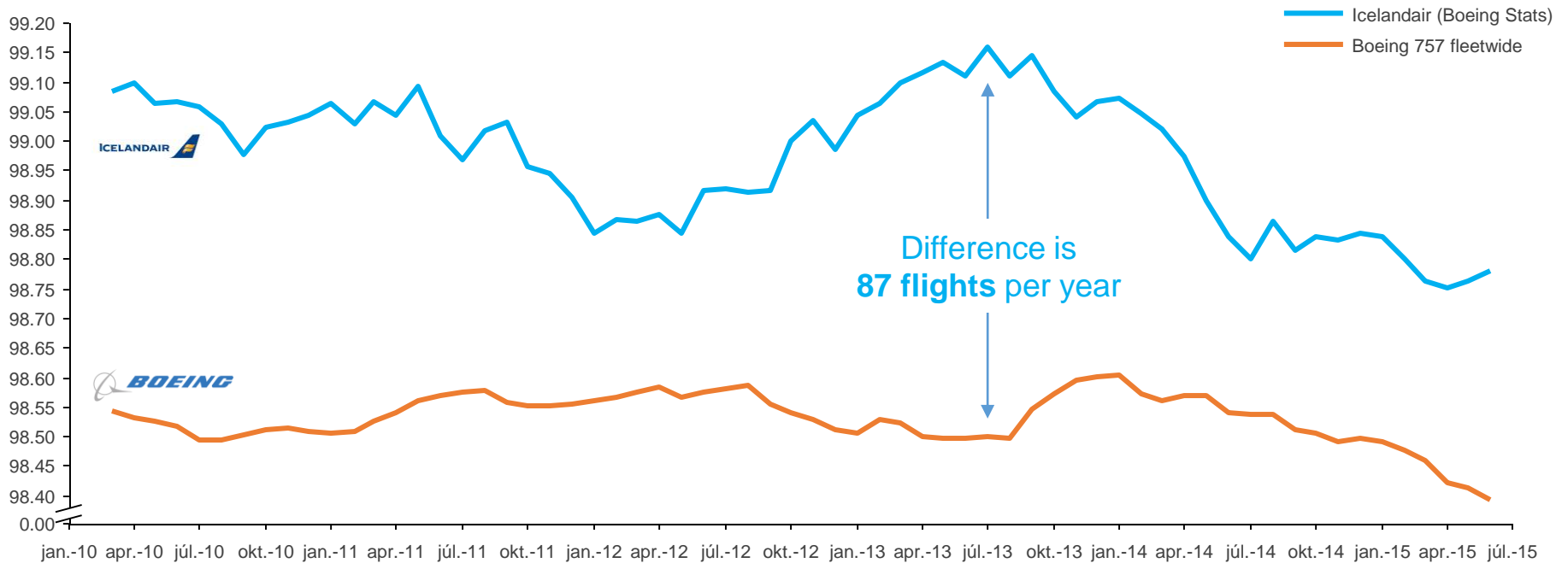
# With rigorous programming, monitoring and implementation of best practice approaches **we have set new marks in fuel efficiency**

| Last month we saved **247 tonnes** of fuel – reducing our carbon footprint by **778 t CO<sub>2</sub>**



# Technical dispatch reliability show that **Icelandair's TDR is significantly higher** than the industry average

- | The difference between 99% TDR and 98% TDR is that the aforementioned has 50% fewer delays than the latter one.
- | Drop since 2013 mainly explained by harsh winters and industrial action but several initiatives to improve showing results in summer 2015.



\* Percentage of flights not affected by technical issues (Technical issues not causing >15 minutes delay)

# Icelandair Operations operates a **simulator in Iceland** that will be operated on utilization level of 22hrs per day from 2016

- | New USD 10 million flight simulator in Iceland has proved its value for the growing operations of Icelandair and demand from other airlines is higher than the company can facilitate.



- | Other airlines, including FedEx, come to Iceland for training and the simulator is operated on a near full utilization levels.

## **In a nutshell:** We follow lean methodologies and focus on continuous improvements with stringent goals in our technical operations



| At the same time we focus on continuous evaluation of new technologies, aircraft and engine types for Icelandair's future development to safeguard our prominent position going forward.