

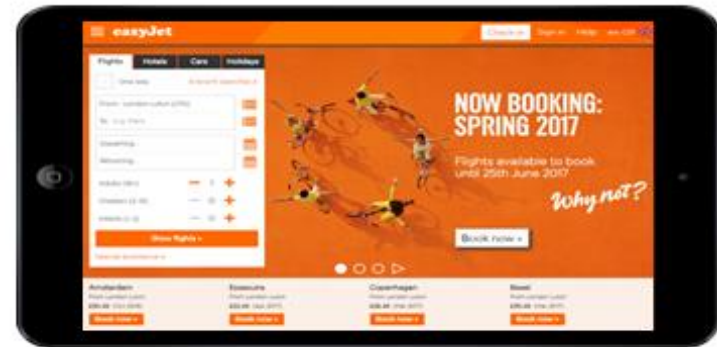
GROWING A DATA DRIVEN EASYJET

23th May 2017

Alberto Rey-Villaverde
Head of Data Science & Yield

WHY WE ARE A DATA COMPANY

- > European airline with presence in more than 30 countries and +130 airports
- > We employ over 10,000 people and fly more than 75 million passengers a year.
- > +280 planes covering more than +860 routes and +500,000 flights
- > Today 1540 flights
- > 350m visits to easyJet.com a year with 60% from outside UK
- > 6 seconds to fill up a plane at our busiest peak
- > 20m app downloads and 20% of bookings done on mobile
- > 200k pax used mobile boarding pass last week



OUR LEARNINGS SO FAR ...

GROWING A DATA DRIVEN
EASYJET
23th May'17

generation
easyJet



... ALWAYS WORK IN PROGRESS

A NOVEL APPROACH TO PRICING



From zero...

- > Back in 2006 easyJet created a team dedicated to improve its pricing engine in-house ...
- > A rules base system supported in Access & Excel!

To heroes...

- > By 2009 new algorithms mostly developed on SQL
- > First machine learning models live in 2010

The secret formula ...

- > Allow experimentation
- > Fail fast approach
- > Close to business users



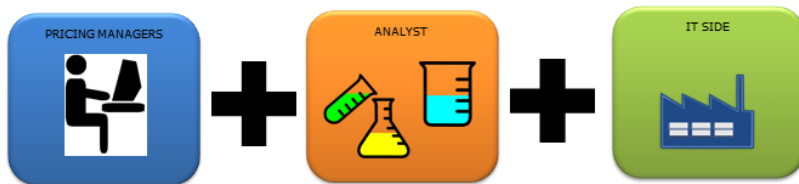
Outbound journey London Gatwick to Amsterdam			Return journey Amsterdam to London Gatwick		
Last booked 2 minutes ago			Last booked 2 minutes ago		
Mon 04 Aug	Tue 05 Aug	Wed 06 Aug	Tue 12 Aug	Wed 13 Aug	Thu 14 Aug
£41 ⁴⁹ Dep 08:05 Arr 08:25	£32 ⁴⁹ Dep 08:10 Arr 08:25	£33 ⁴⁹ Dep 08:10 Arr 08:25	£27 ⁴⁹ Dep 07:05 Arr 07:20	£27 ⁴⁹ Dep 07:05 Arr 07:20	£30 ⁴⁹ Dep 07:05 Arr 07:20
£44 ⁴⁹ Dep 08:05 Arr 08:25	£36 ⁴⁹ Dep 08:10 Arr 08:25	£39 ⁴⁹ Dep 08:10 Arr 08:25	£31 ⁴⁹ Dep 08:05 Arr 08:05	£31 ⁴⁹ Dep 08:05 Arr 08:05	£30 ⁴⁹ Dep 08:05 Arr 08:05
£41 ⁴⁹ Dep 10:25 Arr 12:40	£40 ⁴⁹ Dep 14:25 Arr 16:40	£32 ⁴⁹ Dep 14:30 Arr 16:40	£31 ⁴⁹ Dep 10:05 Arr 11:10	£31 ⁴⁹ Dep 10:05 Arr 11:10	£35 ⁴⁹ Dep 10:05 Arr 11:10
£40 ⁴⁹ Dep 14:10 Arr 16:10	£35 ⁴⁹ Dep 16:10 Arr 16:10	£32 ⁴⁹ Dep 16:10 Arr 16:10	£30 ⁴⁹ Dep 17:05 Arr 17:05	£47 ⁴⁹ Dep 17:05 Arr 17:05	£40 ⁴⁹ Dep 17:05 Arr 17:05

FROM A DATA DRIVEN PRICING TEAM ...



Today's team ...

- > 8 Pricing Managers + 9 Advanced analyst and Data Scientist
- > +90% pricing interventions are automated for flights
- > 100% automation on bag pricing and allocated seating
- > Algorithms : From rules based to machine learning
- > Cross functional collaboration



The screenshot displays the easyJet website interface. At the top, there are tabs for '3 day view', '3 week view', and 'Year view', along with a 'Compare fares' button. The main content area is divided into 'Outbound journey' (London Gatwick to Amsterdam) and 'Return journey' (Amsterdam to London Gatwick). Below these, there are tables showing flight prices for various dates. For example, the outbound journey shows prices starting from £41.49. The return journey shows prices starting from £27.49. At the bottom of the screenshot, there are sections for 'Flights', 'Hotels', 'Car rental', and 'Airport parking', each with a brief description and a 'Book now' button. The easyJet logo is prominently displayed at the top of the website.

... TO A DATA DRIVEN AIRLINE ...

EasyJet embraces AI as data strategy takes flight

AUGUST 10, 2016 9:39 AM

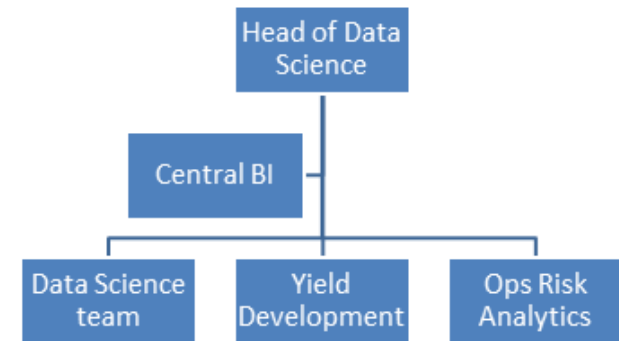


EasyJet is hailing its use of artificial intelligence across the business, managing its flights schedule to

WHAT WE HAVE LEARNED - PEOPLE

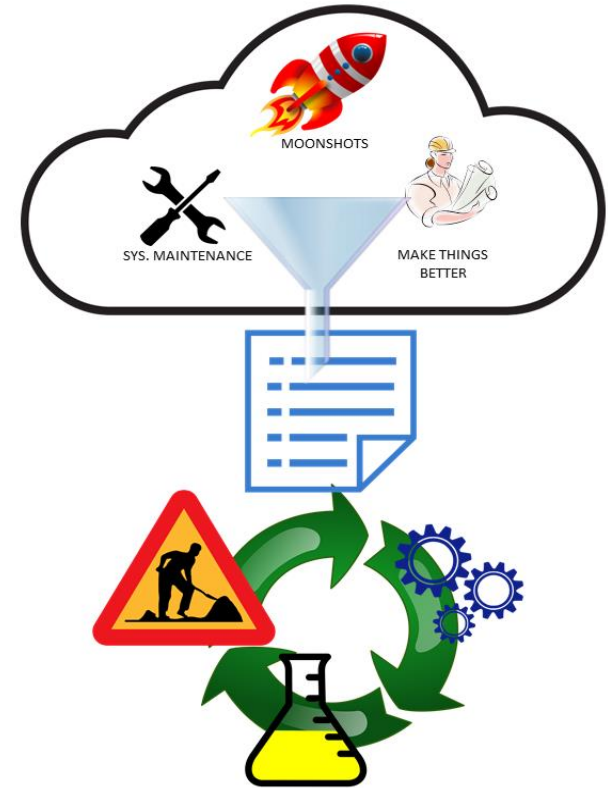
- > Supporting semi-centralisation
 - Being an analyst can be a pretty lonely job – get them together and encourage team work
 - Full centralisation can prevent you from solving real world problems
 - Promoting analyst teams aligned with specific core functions
- > Invest in people
 - Your organisation has hidden talents - provide development paths
 - In-house training adapted to specific functional needs – python is not for everyone
 - Adopt a “learning by doing”, learning is a 24/7 process
- > Fail Safe & Fail Fast mentality

Summary ... be close to domain knowledge, centralised operation is risky... you can lose trust from functions



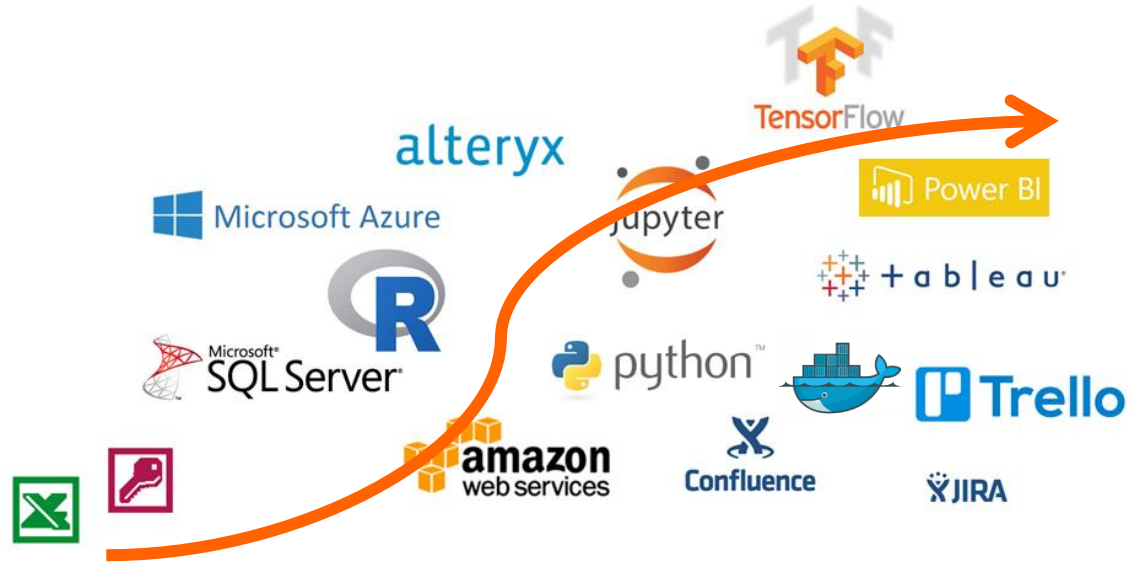
WHAT WE HAVE LEARNED - PROCESSES

- > Establish clear service levels with IT which gives business side flexibility and responsibility – Fail Safe & Fail Fast processes
- > With greater power greater responsibility:
 - Create clear paths for innovative products to reach production level support
 - Reserve time for tidy up
 - Learn the good practices from IT
- > Simplify your access to data
- > If required change your ways of working – Iterate until you find comfortable practices
- > Something better than nothing – Small incremental gains approach rather than big bang projects
- > Flexible approach to prioritising pipeline with weekly/bi-weekly pipeline review – business needs are continuously changing



WHAT WE HAVE LEARNED— TECH/TOOLS

- > Try to have senior management buy in for appropriate infrastructure – but if not is not the end of the world
- > Think about what your company needs rather than needs for your company
- > If possible choose tools aligned to your IT team – your life will be easier
- > You don't need the most expensive kit to prove your business case ...
- > ... but you may need to spend to enable a highly effective Data Ops team



WHERE WE ARE TODAY

Airlines

Home UK World Companies Markets Global Economy Lex Commerce
Energy Financials Health Industrials Luxury 360 Media Retail & Consumer Tech

November 16, 2015 4:02 pm

EasyJet looks to AI to cut delays and deliver its bacon butties

Tanya Powley, Transport Correspondent



MIX & MATCH MEAL DEAL

TASTY & FRESH

Choose a main + a drink + a snack for just €6.50



* Save up to €2.50 based on the usual selling price of a sandwich, snack and a hot drink. Subject to availability.

MEAL DEAL
Save up to
€2.50*

3 day view

3 week view

Year view

Outbound journey

Madrid to Paris Charles de Gaulle

Return journey

Paris Charles de Gaulle to Madrid

Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Mon 25 May	Tue 26 May
€5949 Dep 09:30 Arr 11:40	€8349 Dep 09:30 Arr 11:40	€7149 Dep 09:30 Arr 11:40	€7773 Dep 07:15 Arr 09:25	€5073 Dep 06:45 Arr 08:55	€4473 Dep 06:45 Arr 08:55
LOWEST FARE €4449 Dep 16:15 Arr 18:25	€8149 Dep 16:15 Arr 18:25	€6949 Dep 19:55 Arr 22:05	€9973 Dep 17:55 Arr 20:05	€8473 Dep 13:30 Arr 15:40	€5773 Dep 13:30 Arr 15:40
€4849 Dep 20:40 Arr 22:50	€5949 Dep 20:40 Arr 22:50		€6573 Dep 17:55 Arr 20:05	€5773 Dep 17:55 Arr 20:05	



AIRLINES

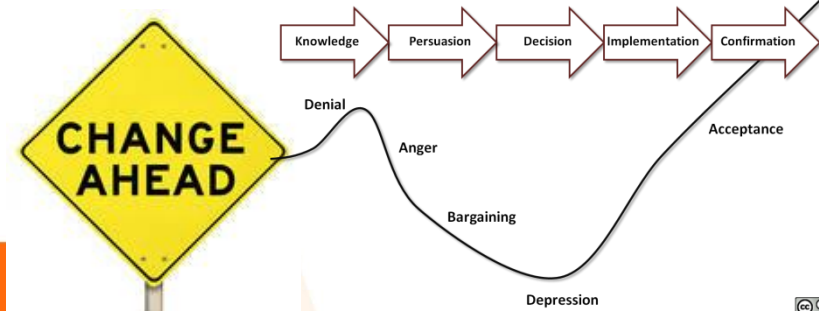
Airbus And EasyJet To Improve Predictive Maintenance

EasyJet and Airbus have partnered up to improve predictive maintenance programmes.

Hollie Luxford | Jun 04, 2015

DATA OPS - REAL WORLD CHALLENGES

- > Data products are changing the world – some people will resist
- > Too busy to improve?
- > Data silos → organisational kingdoms
- > Information security risk
- > Your IT team may not be ready for your Data Science team



WHERE WE WANT TO GO...

- > Let's not forget that we are just creating tools
 - A Data Driven organisation is one in which data products augment its people
- > In the short term “Data products” will allow organisations to develop competitive advantages across functions
- > The real acid test → AI + People >> AI

23 May - 27 May, Wuzhen, China

The Future of Go Summit

Legendary players and DeepMind's AlphaGo explore the mysteries of Go together

AI Is More Than Machine Automation: It's About Human Augmentation



By Amit Kothari | Dec 7, 2016

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CHANNEL: Digital Workplace

Don't get stuck with a WCM solution that ca

Man versus Machine or Man + Machine?

Mary (Missy) Cummings, Duke University and MIT

TAKE AWAY

REVOLUTION STARTS FROM
THE BOTTOM ...
EMPOWER YOUR FRONT LINE
ANALYST

CULTIVATE A FAIL
FAST MENTALITY

YOU NEED EXPERTS ...
BUT BEWARE THE "IVORY
TOWER"



THANKS