

IATA
WINGS OF CHANGE
EUROPE

AGENDA

Host Airline

LUFTHANSA GROUP



Drones / RPAS - Commercial opportunities for airlines

Tobias Wentzler

Enterprise Business Development
Manager EMEA

DJI Enterprises







TOBIAS WENTZLER

Enterprise Business Development Manager





CONSTRUCTION



PUBLIC SAFETY



INFRASTRUCTURE



ENERGY



AGRICULTURE

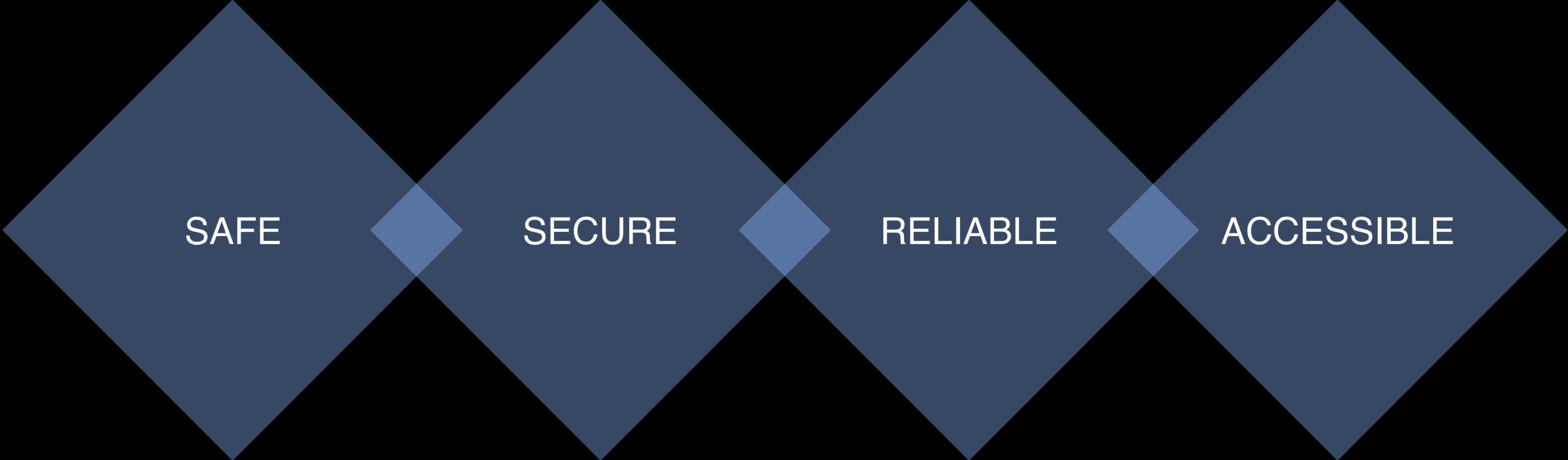


MEDIA



RECREATION

OUR FOCUS



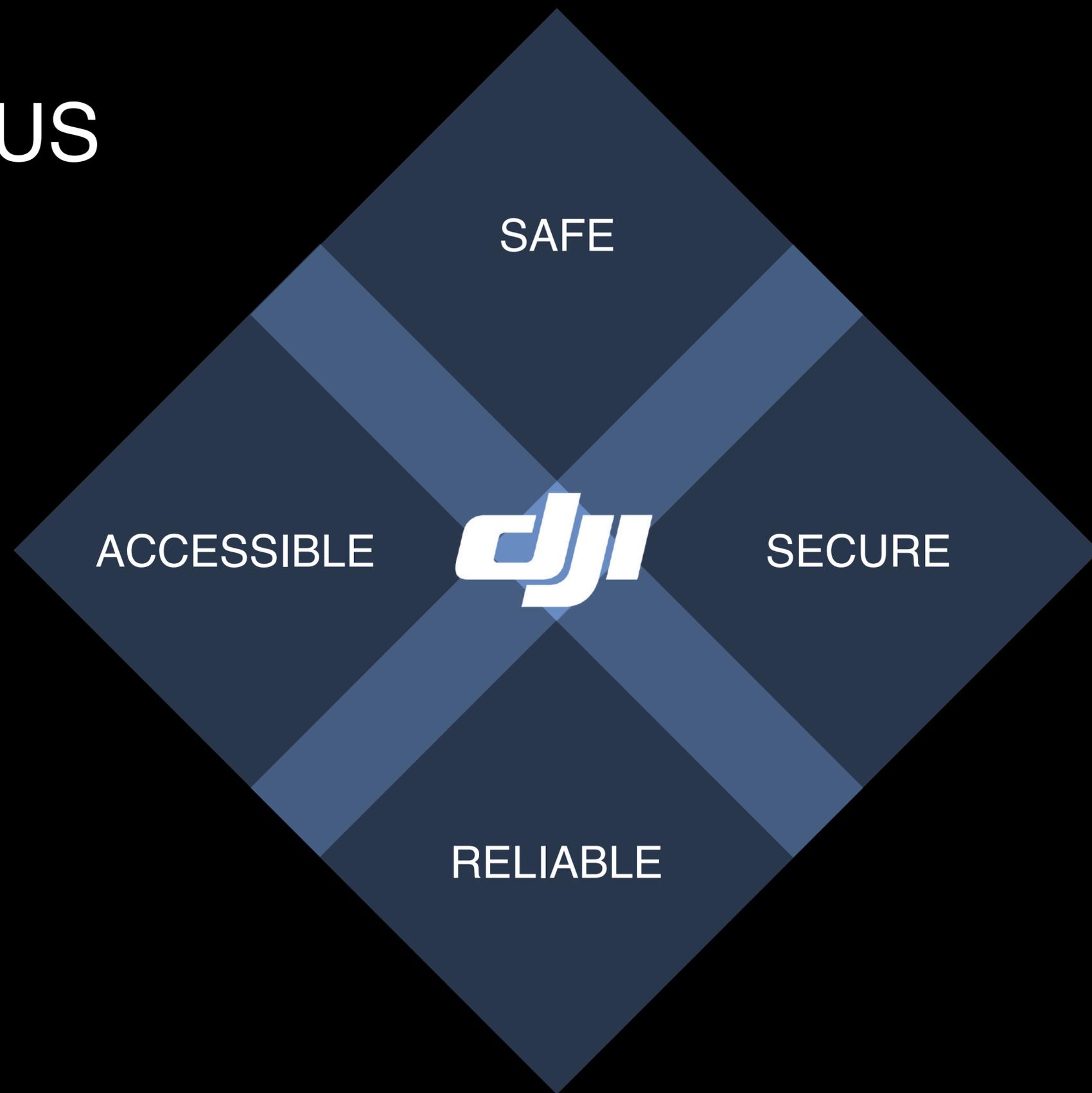
SAFE

SECURE

RELIABLE

ACCESSIBLE

OUR FOCUS







ARTELIA
ARTEDRONES
artedrones@arteliagroup.com

TÉLÉPILOTE DRONE

Telex

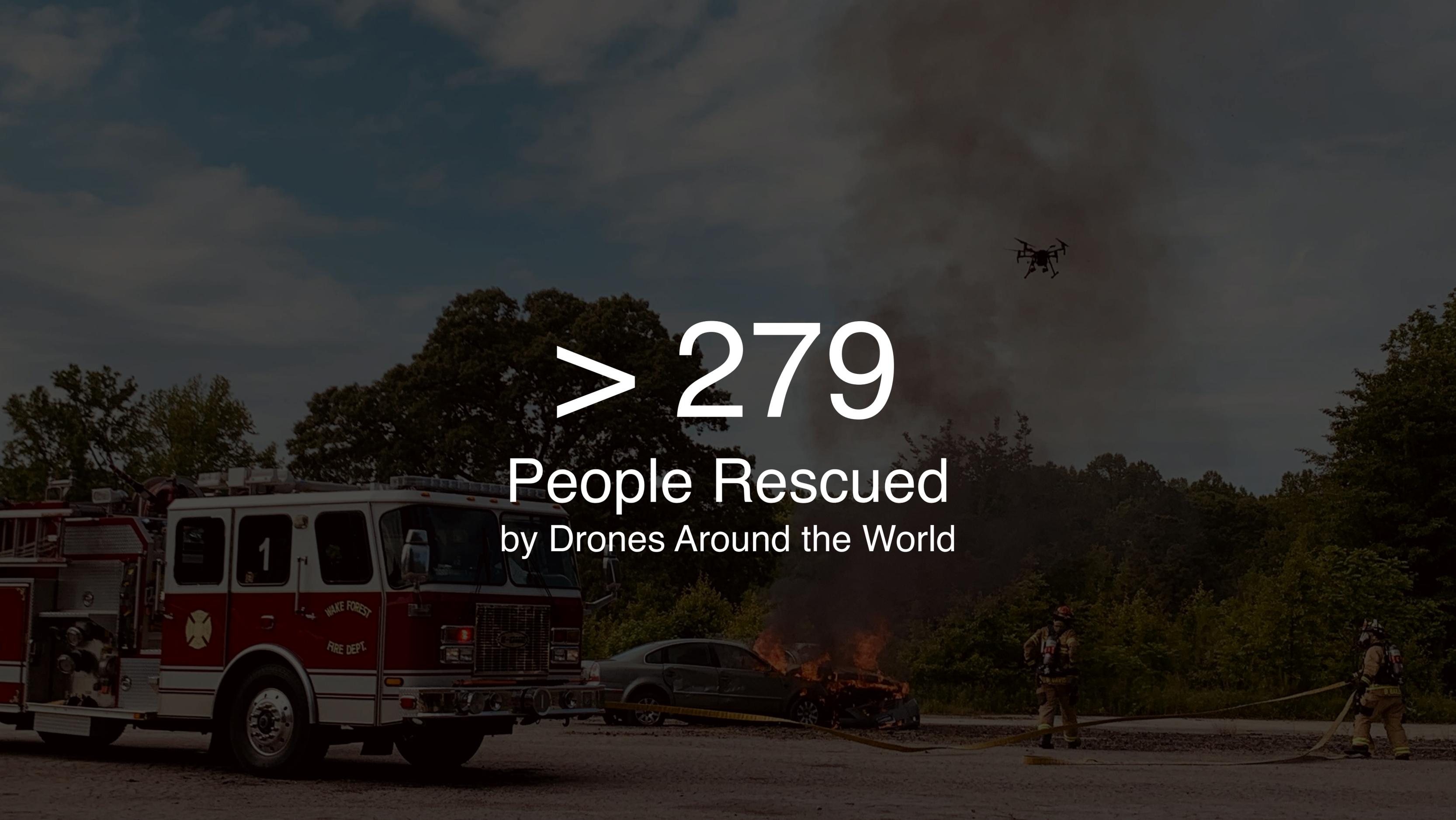


ARTELIA

Passion & Solutions

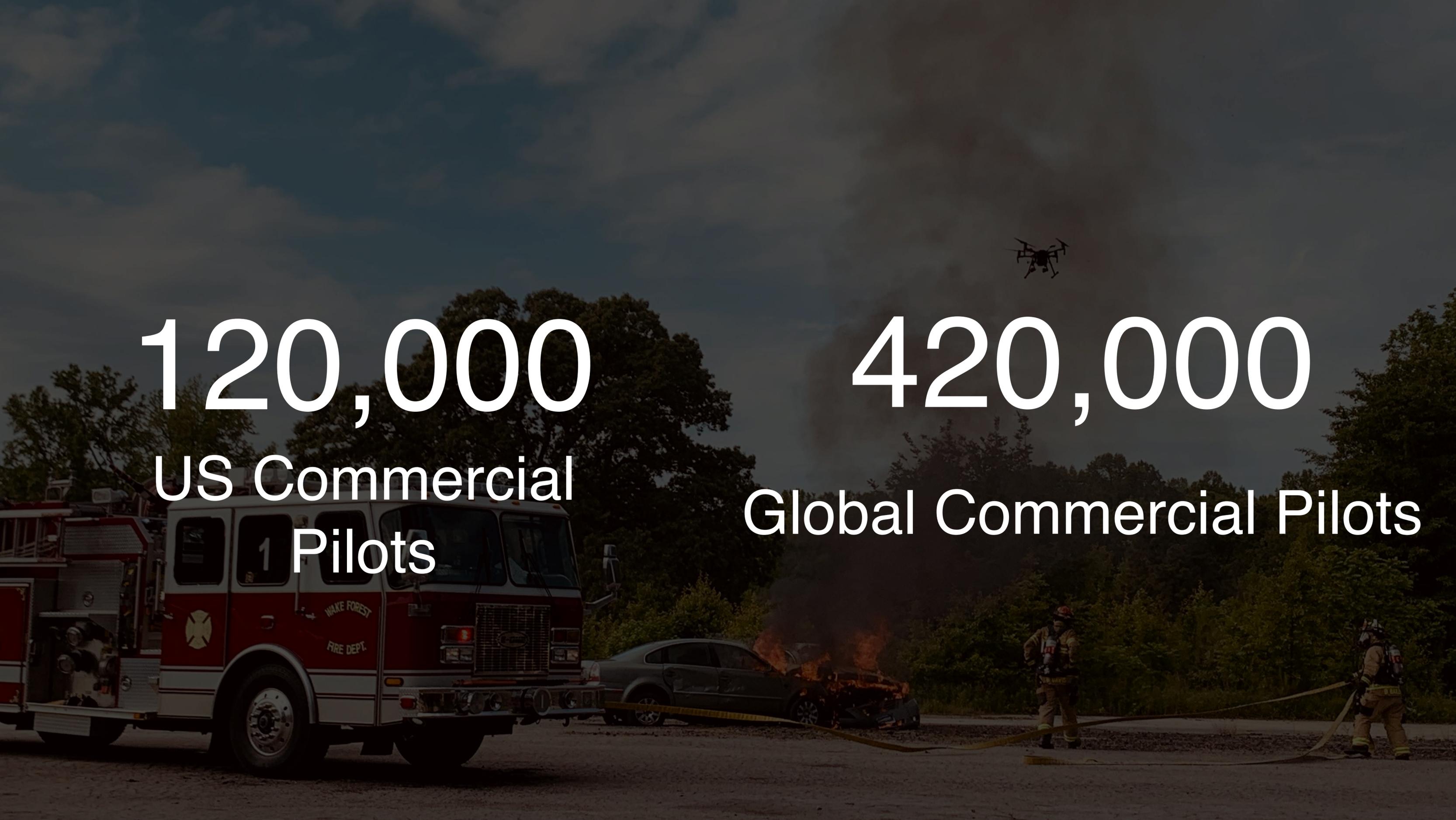
ARTELIA
ARTEDRONES
artedrones@arteliagroup.com

TÉLÉPILOTE DRONE

A photograph of a fire scene at dusk. A red and white fire truck is on the left, with 'WAKE FOREST FIRE DEPT.' and the number '1' visible. A car is on fire in the center, with firefighters in full gear working on the right. A drone is flying in the dark sky above the scene.

> 279

People Rescued
by Drones Around the World

A dark, atmospheric photograph of a fire scene. In the foreground, a red and white fire truck is parked on the left. The side of the truck has the text 'WAKE FOREST FIRE DEPT.' and a Maltese cross. A silver car is on fire in the middle ground, with firefighters in full gear working around it. A drone is flying in the dark sky above. The background consists of trees.

120,000

US Commercial
Pilots

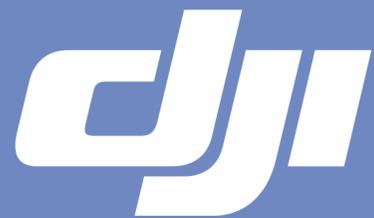
420,000

Global Commercial Pilots



A PLATFORM TO SUPPORT THE INDUSTRY

Platform



Ecosystem

System Integrators

Policy Makers

Drone Service Providers

Software Developers

Industry

Turnkey Solutions

Airspace Infrastructure

Scalable Services

Data Integration



AIRCRAFT INSPECTION WITH DRONES



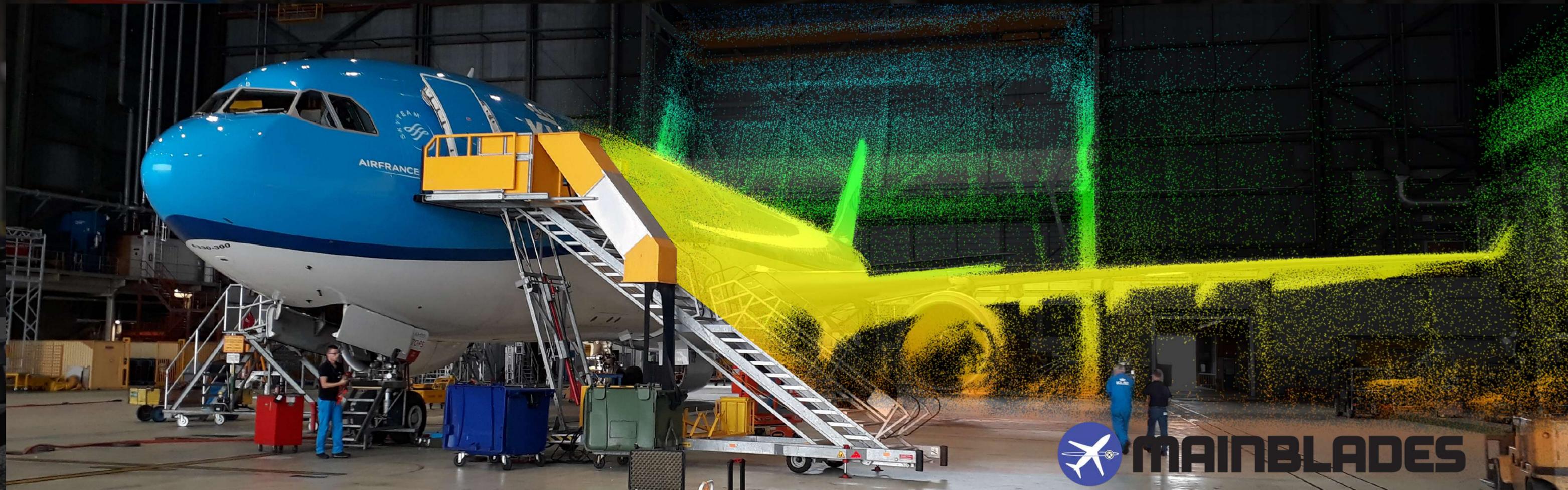


SET FUEL PRESSURE
50 PSI
MAXIMUM PRESSURE
55 PSI
MAXIMUM TEMPERATURE
1000 DEG F

merican

11

NEXT GENERATION



MAINBLADES

WORKFLOW - SETUP

IMPORT
AIRCRAFT
MODELS

DEFINE
INSPECTION
ZONES

SPECIFY
TAKEOFF
POINTS

ADD INDIVIDUAL
AIRCRAFT

WORKFLOW - INSPECT

CHOOSE
INSPECTION
ZONES

INITIALIZE
UAV

POSITION
UAV

FLY MISSION

WORKFLOW - SETUP



CHOOSE
INSPECTION
ZONES

INITIALIZE
UAV

POSITION
UAV

FLY MISSION



AutoModality

WORKFLOW - ANALYZE

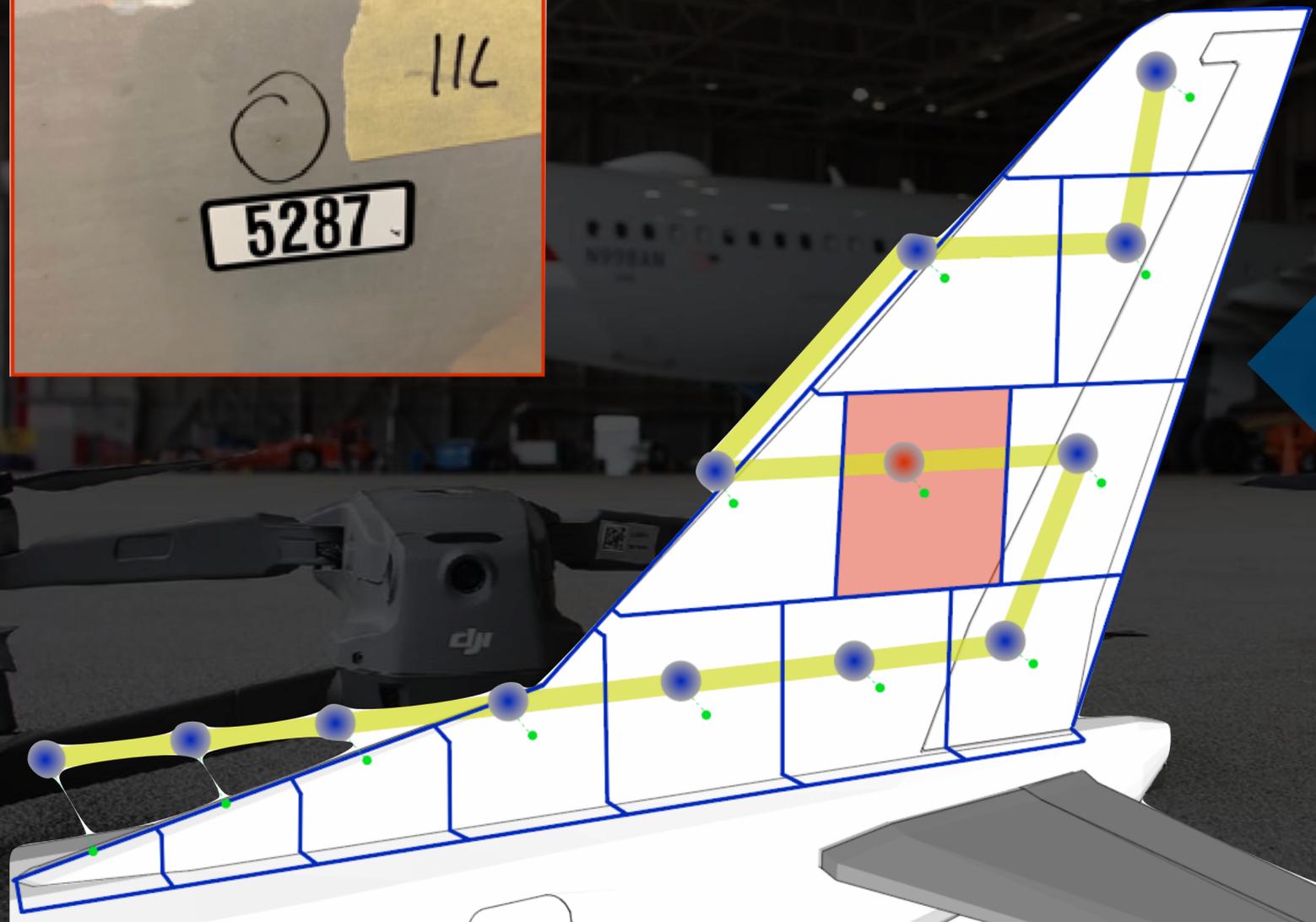
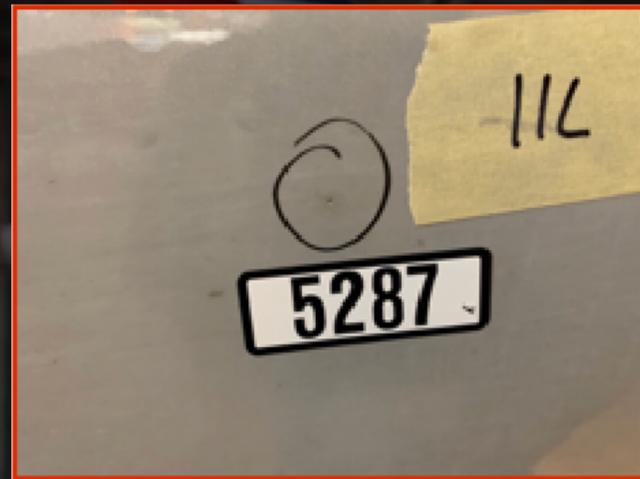
UPLOAD DATA

AUTOMATIC
DEFECT
PROCESSING

VISUALIZE AND
ANNOTATE

UPLOAD TO MRO
SYSTEM

WORKFLOW - ANALYZE



UPLOAD DATA

AUTOMATIC
DEFECT
PROCESSING

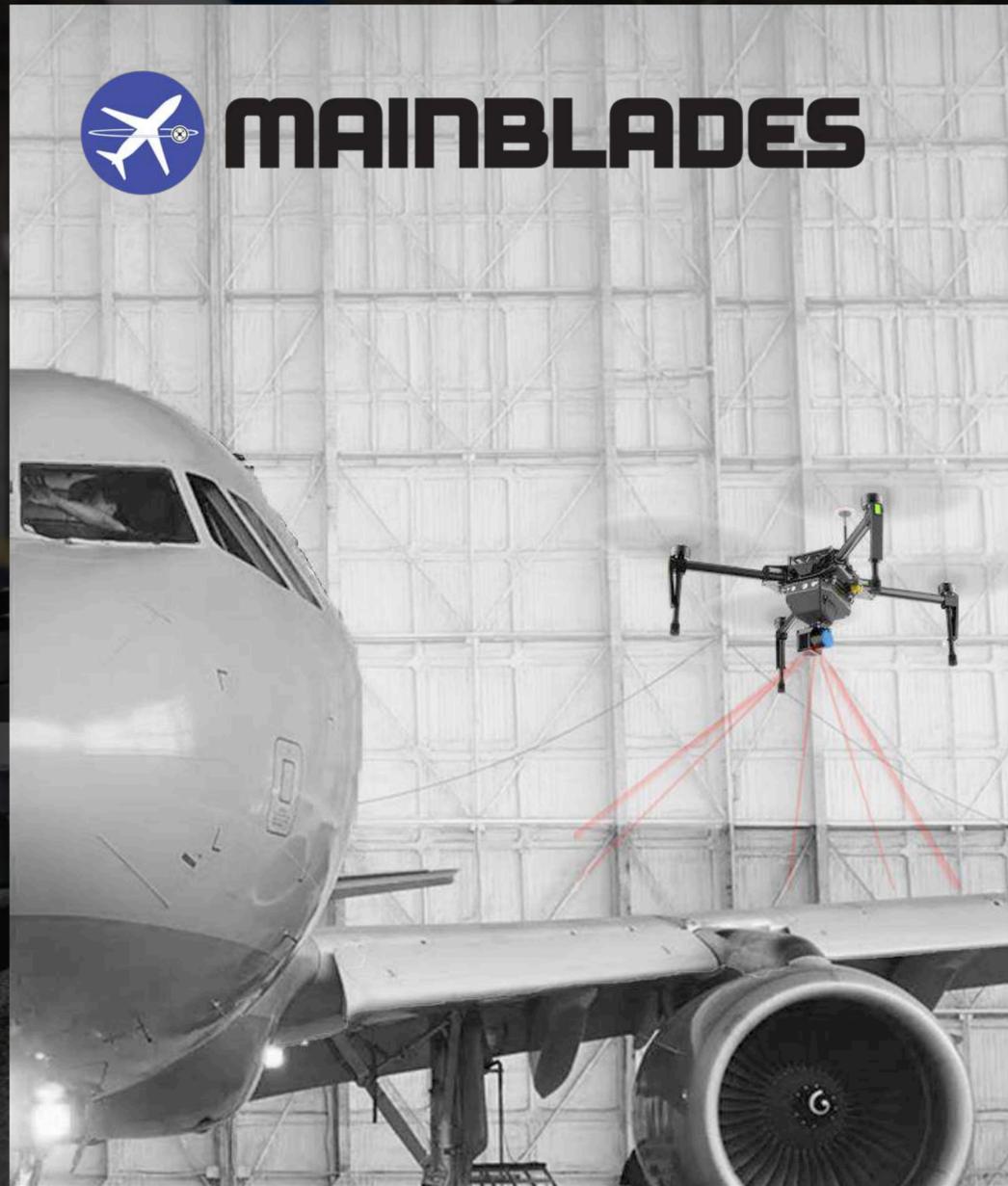
VISUALIZE AND
ANNOTATE

UPLOAD TO MRO
SYSTEM

NEXT GENERATION AUTONOMY



NEXT GENERATION AUTONOMY





THANK YOU

Tobias.Wentzler@dji.com
+49 1624405683

Airline CEOs on the spot – interviews



Anton Grove

VP People Performance
& Development

IATA



Bogi Nils Bogason

CEO

Icelandair



Christina Foerster

CEO

Brussels Airlines



Martin Gauss

CEO

airBaltic

Cargo – Maximizing airline profit through digitalization and innovation



Ludwig Hausman

Partner

McKinsey



Peter Gerber

CEO

Lufthansa Cargo AG



Miguel Gomes

Global Chief Cargo
Officer

TAP Air Portugal

What's happening NEXTT – When innovation facilitates growth



Harald Sieke

Head of Aviation
Logistics

Fraunhofer IML



Christiaan Hen

Chief Customer Officer
Assaia International AG



Marieke Smit

Manager Group
Strategy

Royal Schiphol Group



Michael Urbaner

VP Sales Europe
SITA

NETWORKING COFFEE BREAK



A.I. - buzzword or critical for survival?



Houman Goudarzi

Head of BI Projects &
Industry Engagement

IATA



Christian Langer

Vice President Digital Strategy,
Innovation & Transformation

Lufthansa Group AG and
Managing Director

Lufthansa Innovation Hub

AI buzzword or critical for survival?

Fireside Chat

Dr. Christian Langer

Vice President Digital Strategy, Innovation & Transformation

Lufthansa Group AG and

Managing Director Lufthansa Innovation Hub

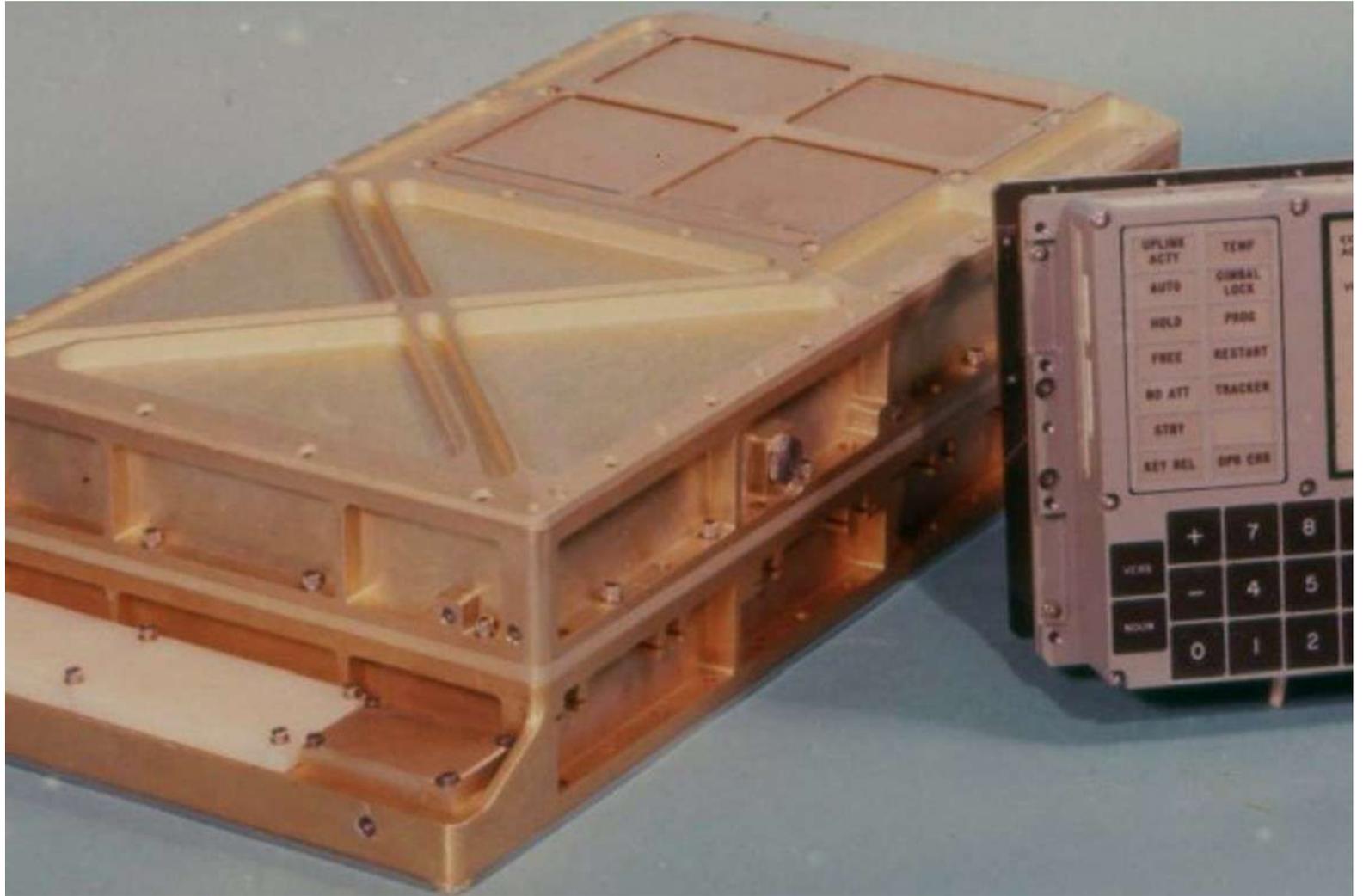
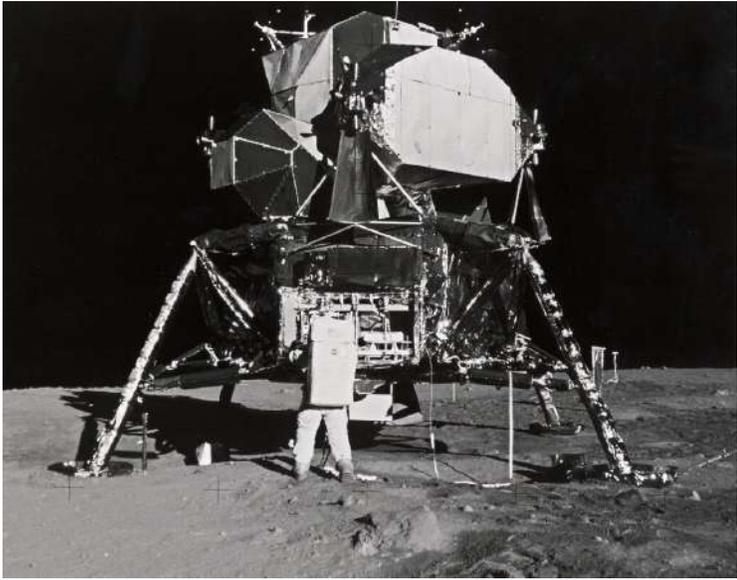
Moderator: Houman Goudarzi

Head of BI Projects & Industry Engagement, IATA

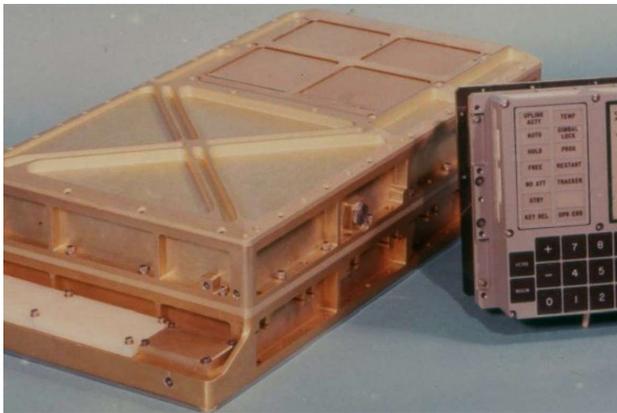
20 November 2019











Processing Power Comparison

iPhone 6 vs. Apollo 11 AGC

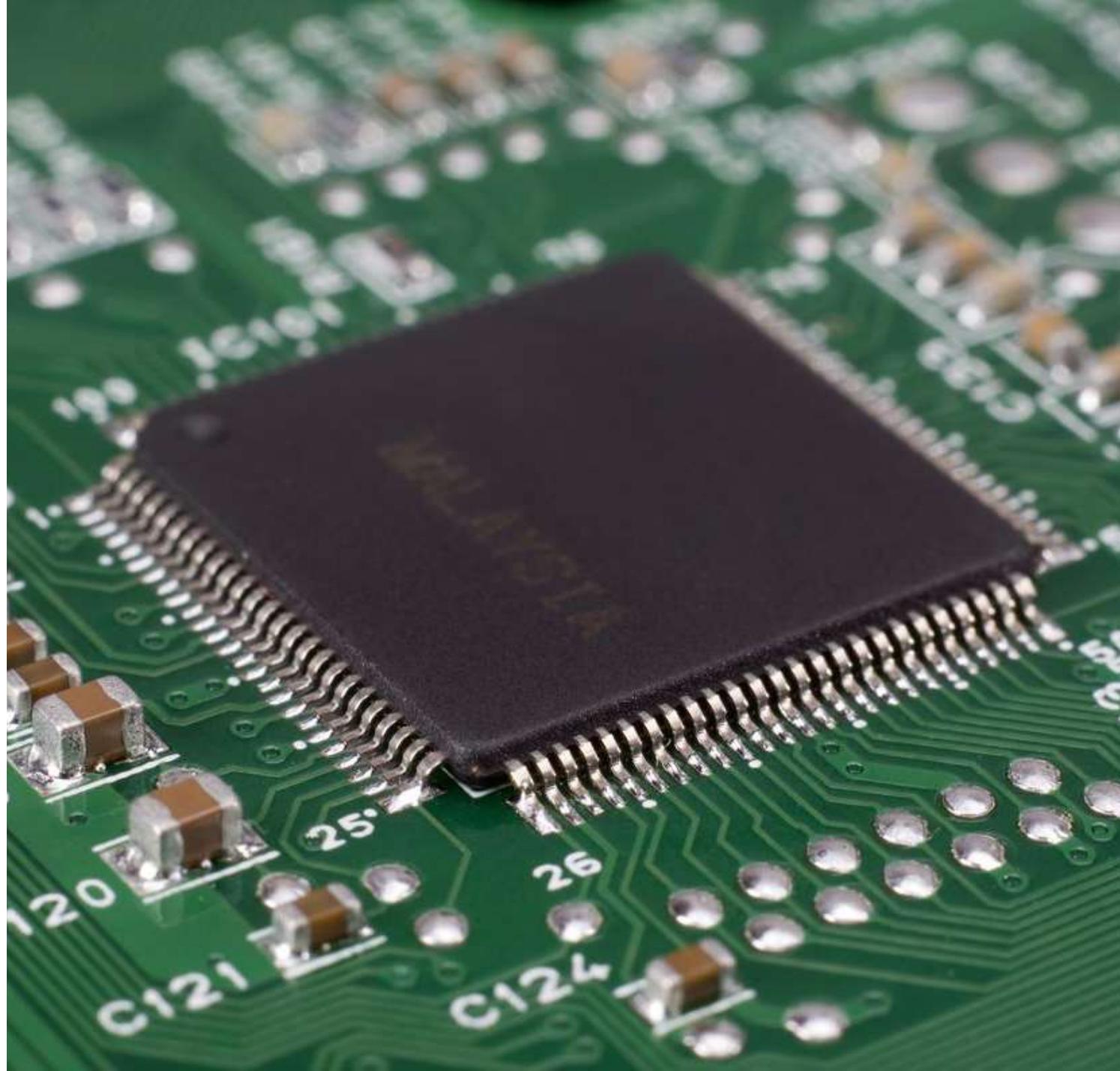
- **130,000** times more transistors
- **32,600** times faster clock frequency
- **81 Million** times faster instructions/sec
- **120 Million** times faster overall performance

Exponential Growth

Moore's Law
Every 12-18

months,

processing power
of microprocessors
doubles



Digital Technology Spectrum

**MACHINE
LEARNING AI**



**BLOCKCHAIN
TECHNOLOGY DLT**



**DRONE & UAV
TECHNOLOGY**



**IMMERSIVE & MIXED
REALITY**



**CRYPTO
CURRENCIES**



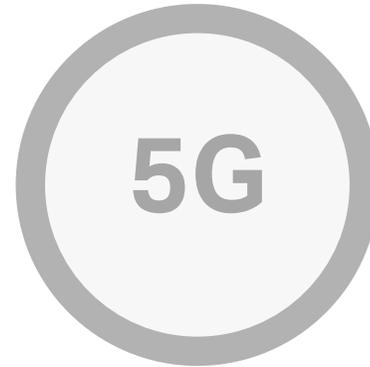
**BIOMETRICS &
DIGITAL IDENTITY**



**AUTONOMOUS
ROBOTICS & VEHICLES**



**5G & EDGE
COMPUTING**



SOCIETY



TECHNOLOGY



ENVIRONMENT



ECONOMY



POLITICS



AI impact on Airline Capabilities

CUSTOMER TOUCH-POINT CAPABILITIES



- INTELLIGENT BOTS
- DYNAMIC RESOURCE ALLOCATION
- PERSONALIZED FULFILLMENT
- DISRUPTION DAMAGE CONTROL
- COMPLAINTS & CLAIMS MANAGEMENT

OPERATIONAL CAPABILITIES



- OUTCOME & IMPACT PREDICTION (OCC)
- DATA CORRELATIONS (WEATHER, EVENTS)
- AGILE AND ADAPTABLE OPERATIONS
- TURNAROUND MANAGEMENT

SUPPORT & MANAGEMENT CAPABILITIES



- VALUE CHAIN RISK MGMT (SELLERS)
- MAINTENANCE & SAFETY CHECKS
- SUPPLY CHAIN RISK MANAGEMENT

Fireside Chat

AI buzzword or critical for survival?



Dr. Christian Langer

Vice President Digital Strategy, Innovation &
Transformation, Lufthansa Group AG and Managing
Director Lufthansa Innovation Hub



Houman Goudarzi

Head of BI Projects & Industry
Engagement, IATA

(Moderator)

A Traveler-Centric Approach to Improving Network Planning and Schedule Optimization

Bayram Annakov

Chief Executive Officer & Founder

App in the Air



approach to
network
planning &
scheduling

Bayram Annakov,
App in the Air

 Andrew Chen Retweeted



Mat Velloso @matvelloso · Nov 22



Difference between machine learning and **AI**:

If it is written in Python, it's probably machine learning

If it is written in **PowerPoint**, it's probably **AI**



166



6.6K



19K



Show this thread

1. AI makes
prediction cheap

more predictions



Increases value of
"complements"

data → prediction → judgement → action

2. Route planning predictions

Cross-airline booking behavior

"not the average Joe"

id# 6623825155588096

Total Flights: 97

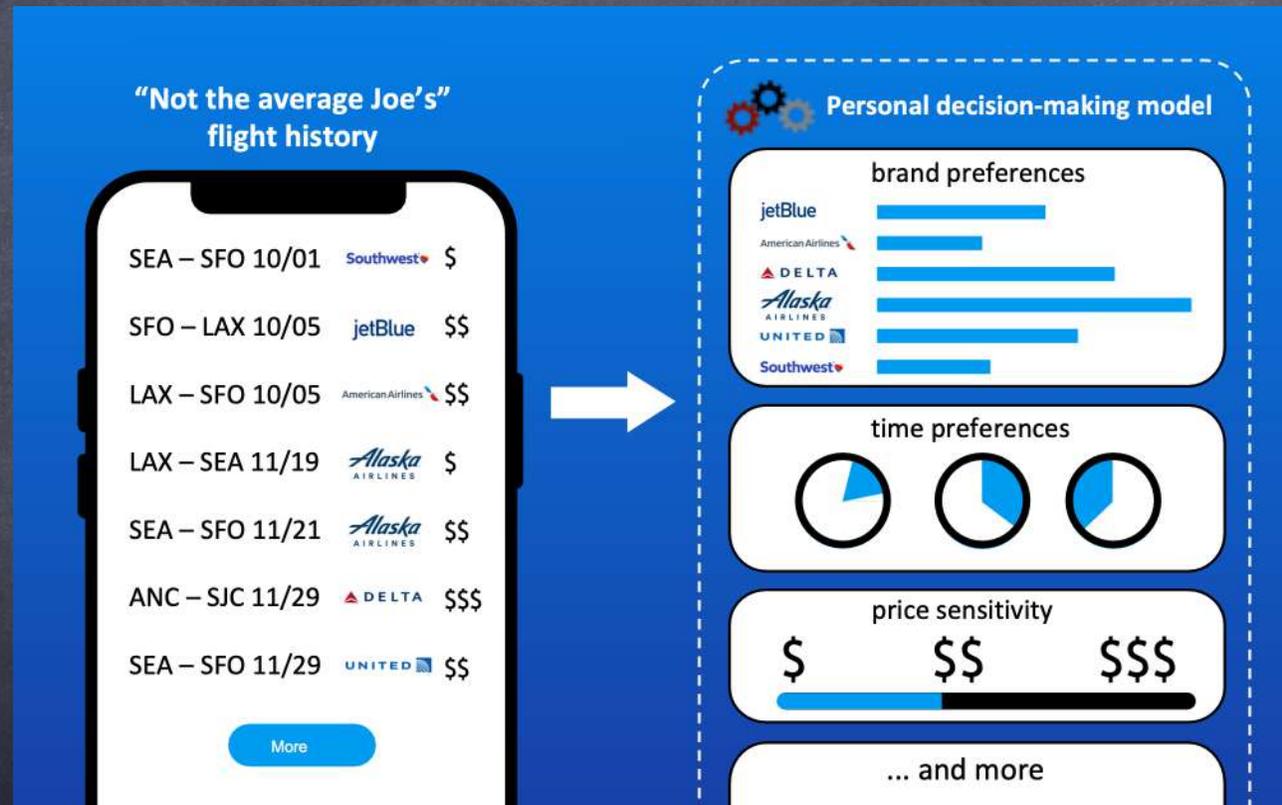
Loyalty programs: "AS" , "DL" , "AA" , "LH"



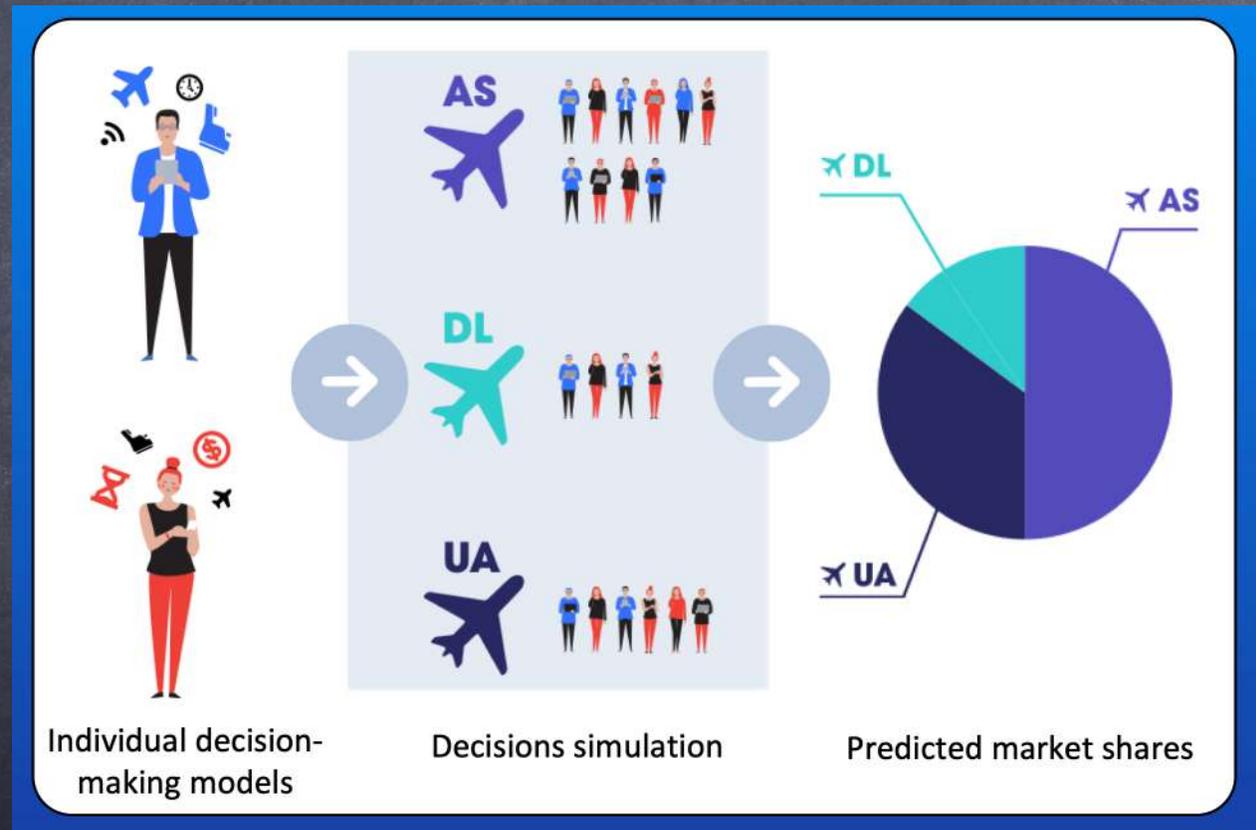
Others intl.



Using traveler's decision-



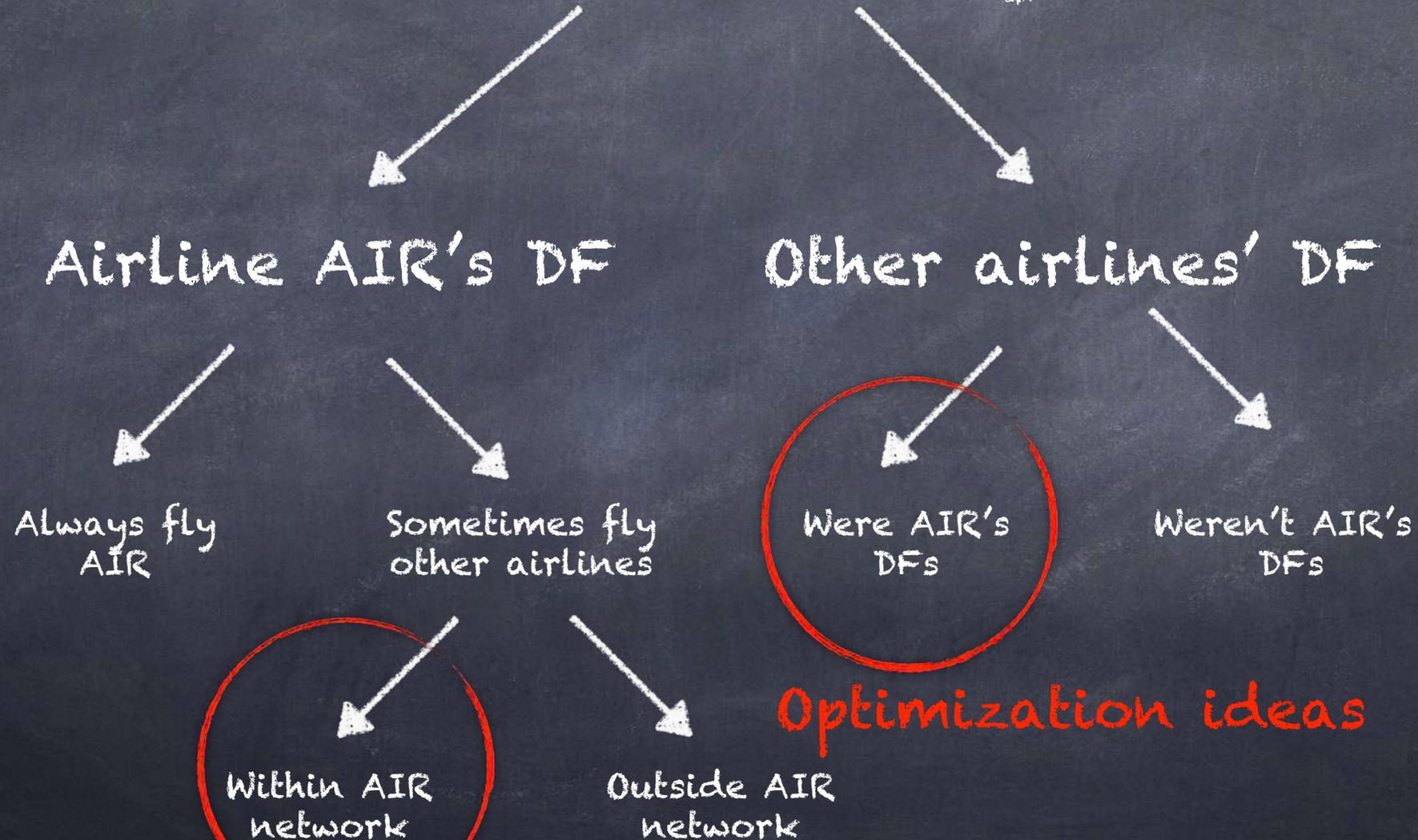
Market Simulation



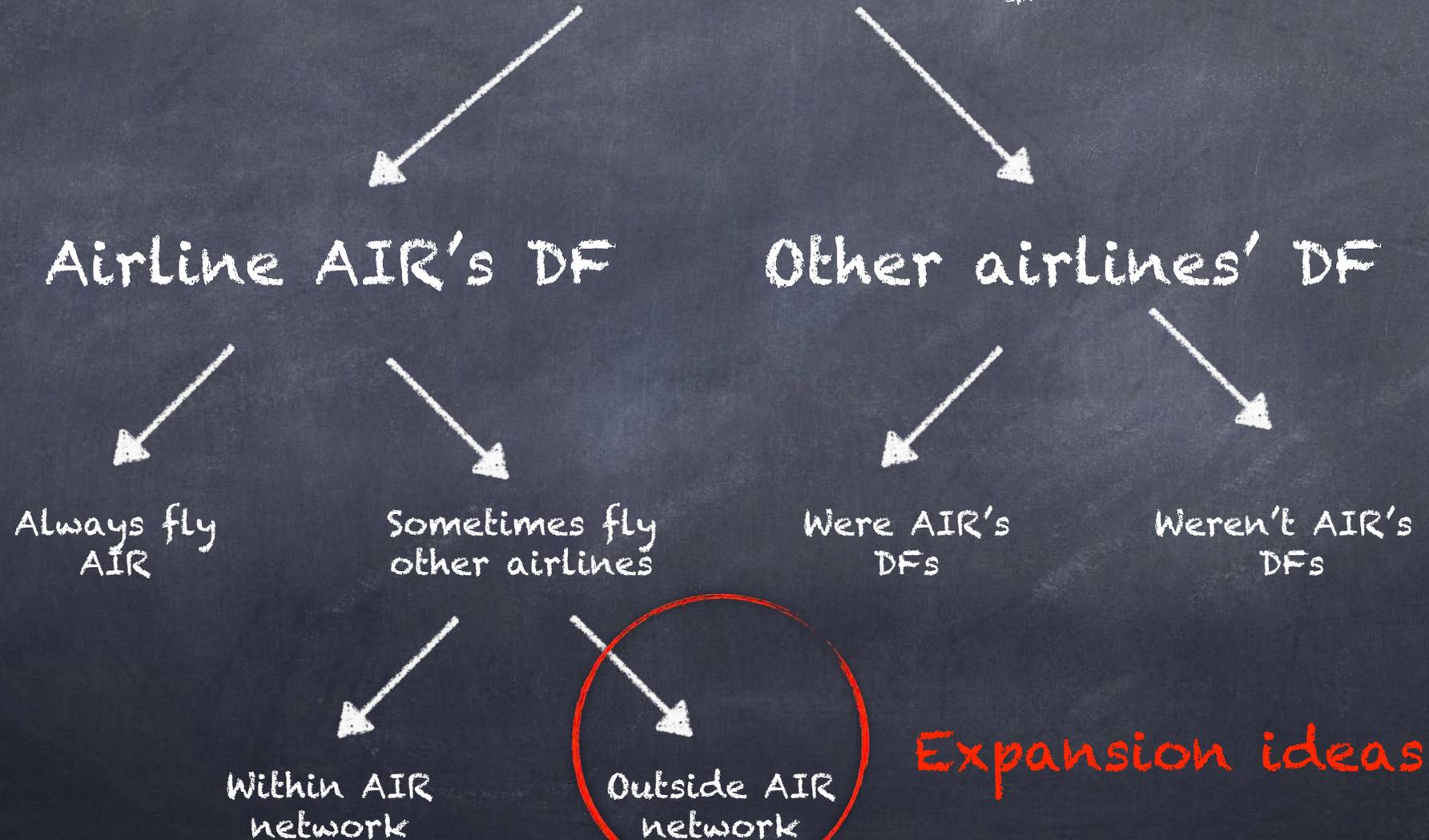
booking data enables to improve

- Network expansion
- Network optimization

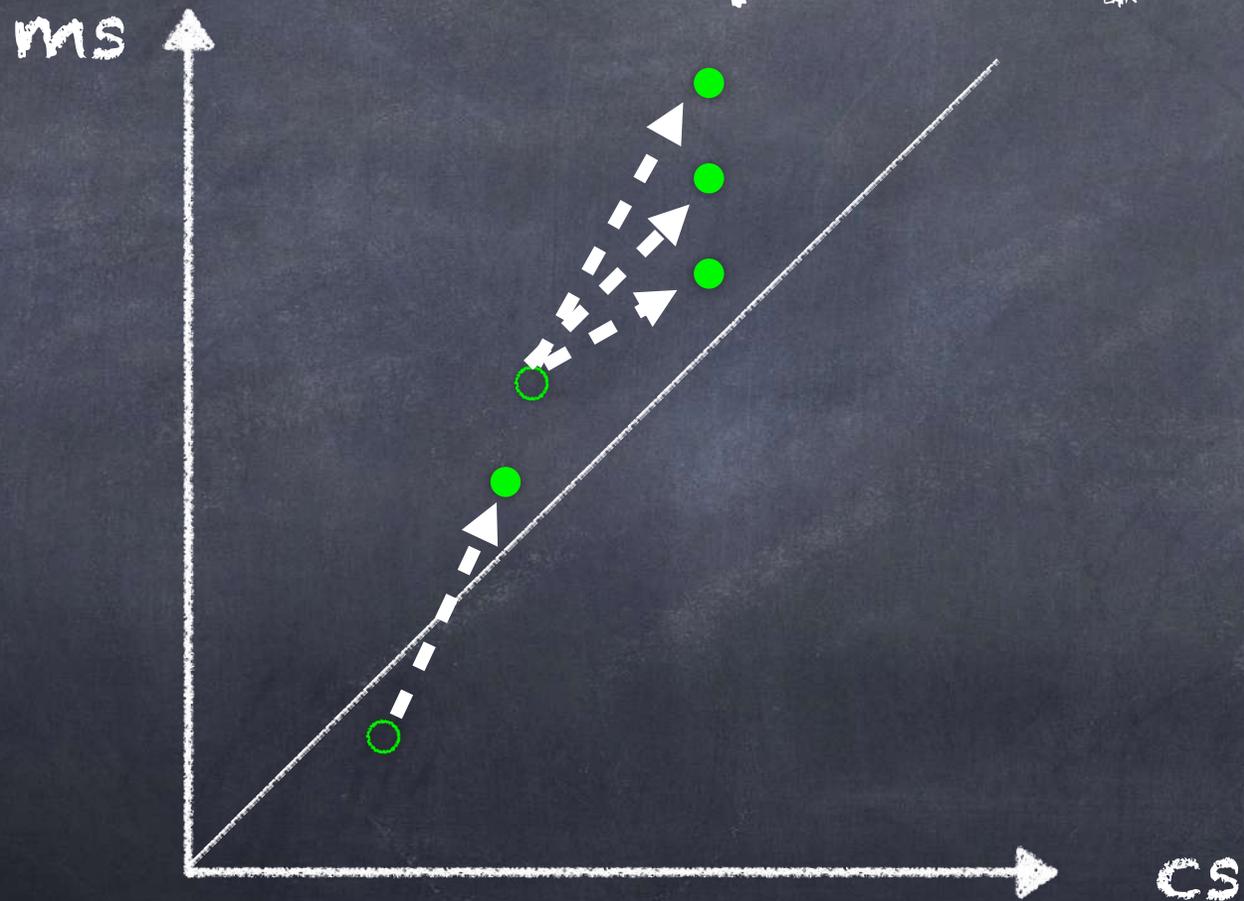
Dedicated Flyers



Dedicated Flyers



Increase/Add Capacity



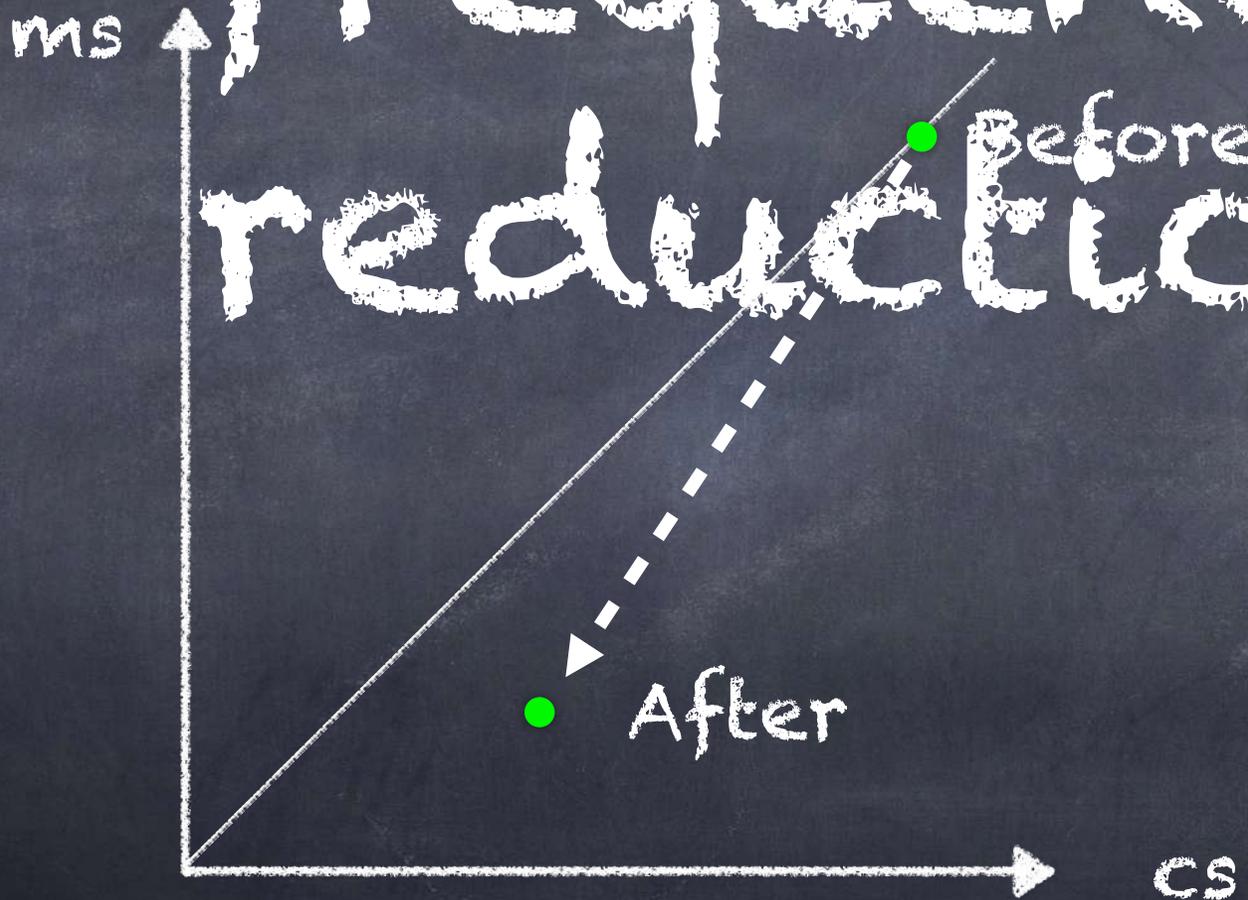
Increase/Ad

d Capacity

Route to departure time	Confidence	Median Price	Add Revenue
City 1 - City 2, 11-16	High	524	2.62M
			

City 2

frequency reduction



Share of Wallet

		AIR1 Share of Wallet
Traveler 1	LAX-JFK AIR1 SFO-SEA AIR1 SFO-JFK AIR1 SFO-LAX AIR1	1
Traveler 2	LAX-JFK AIR2 SFO-JFK AIR2 SFO-SEA AIR1 SFO-LAX AIR3	0.25

Intuitive Example

AIR
reduces
frequency



Share of
wallet = 0.7



Share of
wallet = 0.1

stay

switch

Predicted

stay

switch

Actual

stay

34%

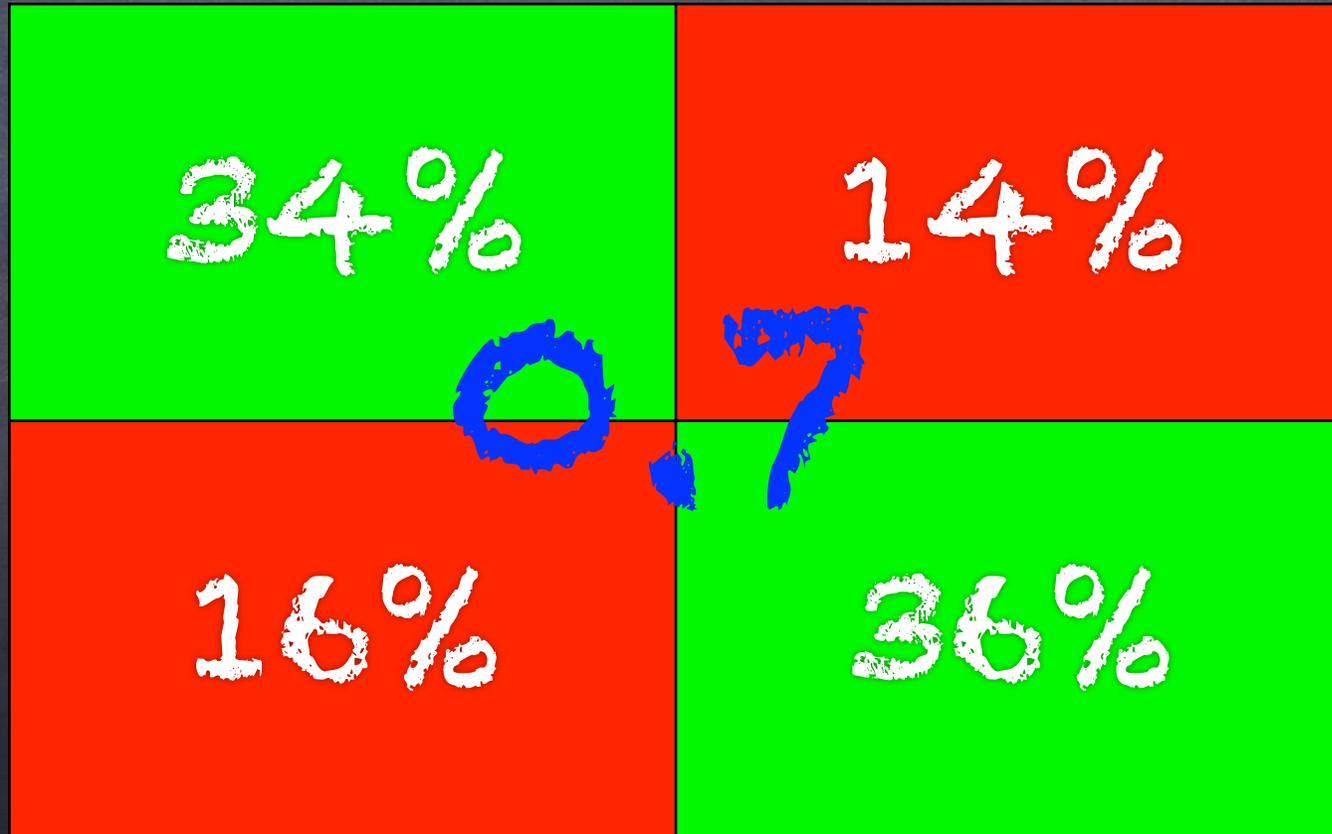
14%

switch

16%

36%

0.7



Improving
route
planning
predictions

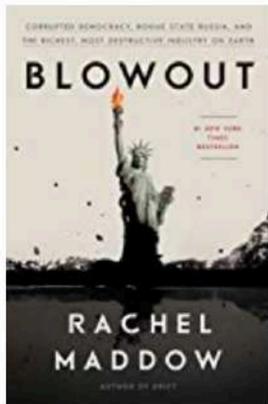
3. Changes
strategy?

purchase prediction

Kindle eBooks View All & Manage

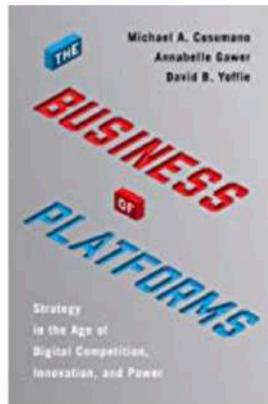


Page 1 of 10



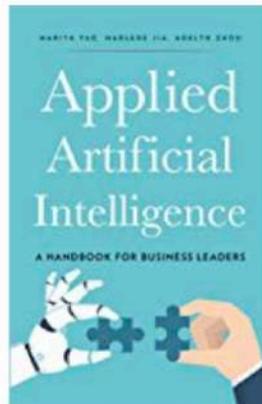
Blowout: Corrupted Democracy, Rogue State...
Rachel Maddow

★★★★★ 471
\$17.99



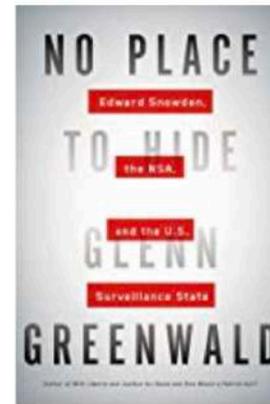
The Business of Platforms: Strategy in the Age of...
Michael A. Cusumano

★★★★★ 11
\$15.59



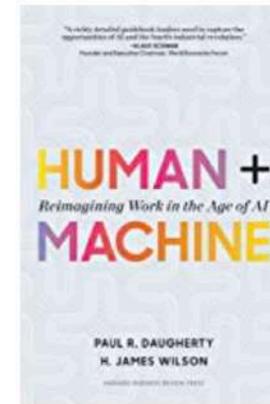
Applied Artificial Intelligence: A Handbook...
Mariya Yao

★★★★★ 104
\$11.94



No Place to Hide: Edward Snowden, the NSA, and the...
Glenn Greenwald

★★★★★ 926
\$11.99



Human + Machine: Reimagining Work in the Age of AI
Paul R. Daugherty

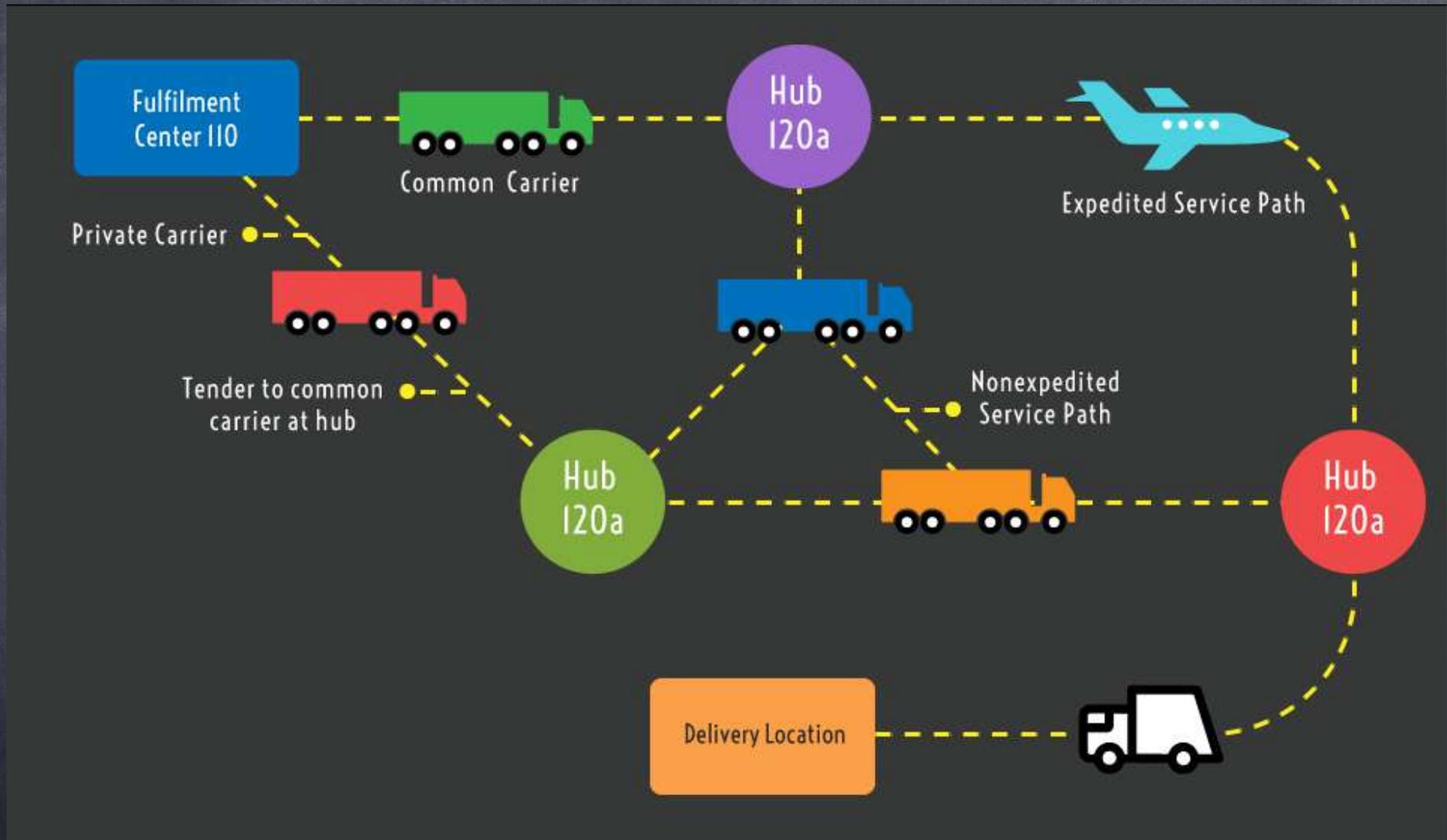
★★★★★ 60
\$18.65



Big Data: A Revolution Will Transform How We Live, Work, and Think
Viktor Mayer-Schönberger

★★★★★ 420
\$11.99





What fixes in
aviation are
consequences of
poor prediction?

Thank you!

Airline retail journey – what are we not seeing?



Stephan Copart

Head Projects &
Innovation

IATA



David Doctor

Executive VP
Strategy

Amadeus



Peter Glade

Chief Commercial
Officer

SunExpress



Jürgen Krümtünger

Executive Director

Prologis



Jörg Troester

Head of Corporate
Strategy, Industry
and Government
Affairs

Hahn Air



Sustainability Through Innovation

Stephan Copart

Head Projects & Innovation, IATA

A low-angle, upward-looking photograph of several modern skyscrapers with glass and perforated metal facades. The buildings are set against a blue sky with light clouds. A small airplane is visible in the upper center of the frame. The overall color palette is dominated by blues and greys.

WHAT A HACKATHON IS?



AIR
Airline Industry Retailing
HACKATHON



HOSTED BY



FRANKFURT

11 -13 OCTOBER 2019



DEVELOP

CARBON OFFSET HACKATHON

Scope of the challenges:

1. #1. CONTENT & UI | how to implement (plug and play) the carbon offset functionalities - including a carbon calculator- to the booking process in a seamless way to an airline's website or via a travel agent. The objective is to increase passenger awareness on CO2 compensation and consequently increase today's low offset uptake of 1%
2. #2. TRANSPARENCY| how to better inform travelers on the different schemes currently available (e.g. offset standard, location, benefits), price of offset and where the money goes
3. #3. PAYMENT| how to make the payment of carbon offset simple and flexible (i.e. cash or part cash/part miles or miles)



Place holder for the video



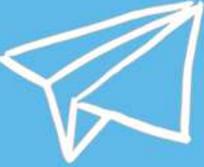
When innovation meets sustainability – developing solutions for a widespread benefit

Kit Brennan

Hackathon Winner

Team Thrust



thrust 



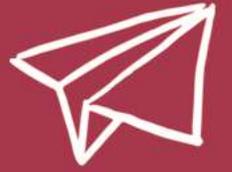
**80% of people want to go green
when purchasing their next flight**

survey of passengers at Frankfurt Airport, 2019



**... yet your customers do not fly
green...**

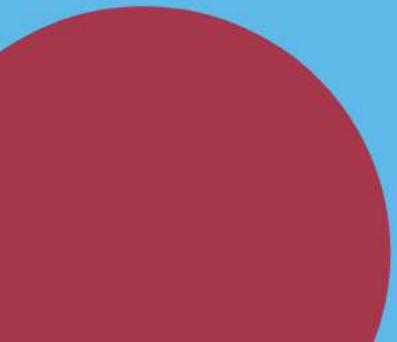
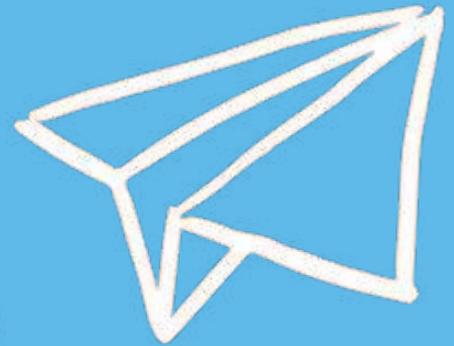
... why?

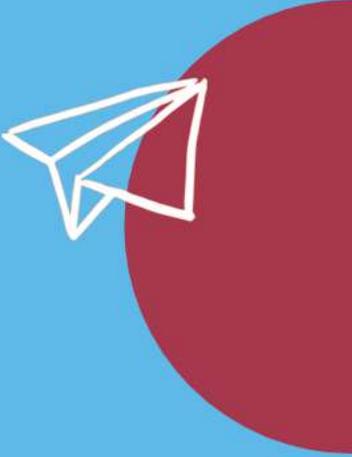


customer problem: don't want to pay too much & feel unincentivised

business problem: integrating carbon offsetting initiatives is costly & complex

introducing
thrust





key benefits

integrate in as few as 3 lines of code

local & relevant offset options

uses nudge theory to drive commitment



Your flight

	11:10 - 18:15 British Airways	7 h 5 m FRA-AMS	€113.32 total
---	----------------------------------	--------------------	------------------

Germany Fraport Solar Construction



Fraport Solar is an initiative by Frankfurt Airport to place solar panels on all of its roofs. 2/3rds of all airport CO2 is emitted by heating and cooling, and Frankfurt aims to be the first airport to go 100% carbon neutral.

€1 or 150 Avios

Netherlands Netherlands Methane Recovery



Methane recovery is the act of capturing agricultural biogas, one of the world's top ten pollutants. Each time biogas is used, the world has to take less gas out the ground through environmentally damaging methods such as drilling or fracking.

€1 or 150 Avios

United States Bethel Wind Farm

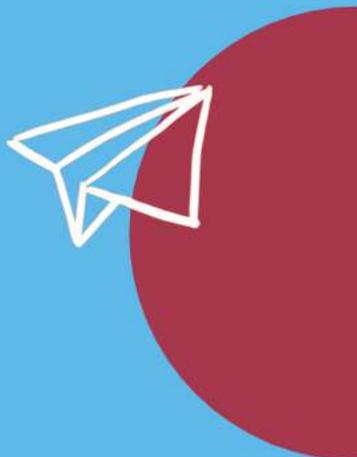


Bethel consists of 120 wind turbines manufactured by General Electric Renewable Energy. Each turbine is mounted on top of an 80-meter-tall tower and has a 116-meter, three-blade rotor connected to a generator.

€1 or 150 Avios

Basket

Flights:	€113.32
Total:	€113.32



our widget

Widget border added for demo clarity

Departure Airport

Destination Airport

Departure Date

One Way

Begin



Hi Greta,

A year ago you purchased a carbon offset with SunExpress. Today, we want to tell you a little more about where your money went.

You supported the Netherlands Biogas project. Your support enabled the ongoing capture of 1.83 tonnes of CO2 or - to think of it another way - your seat on your flight, and the seat of the person next to you.

You Champion,
The SunExpress Green Team

SunExpress via Thrust Carbon Ltd
[Unsubscribe](#) - [Unsubscribe Preferences](#)



product demo
branded touch-points

rachel



“my purchasing practices (despite morals & values) are driven by convenience, so this is brilliant!”

umesh



“I always think about offsetting at checkout... this is so simple & straightforward, I love it!”

daisy



“I have always wanted to offset, but never found the time to do my research. This would be perfect!”

product demo

user reviews

projections

let's launch a pilot together



1. we believe we can achieve a 5x increase in carbon offset purchases, compare to current solutions
2. first mover advantage will enable providers to convert environmentally minded millennials into loyal customers

progress so far



we presented in Frankfurt 6 weeks ago

1. completed our first integration with AwesomeTrip
2. in discussions with 4 major airlines, 1 GDS, and a top 10 travel agency

working with us

let's shape the growth of green travel



1. industry leading advisors
2. select airline partners
3. strategic investors



kit brennan

CEO AwesomeTrip
system architect & adventurer



mark corbett

CIO AwesomeTrip
innovator, designer, explorer

who we are



join us, and let's thrust carbon
offsetting into the future



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+44 (0)282 003 2078



Closing remarks

Rafael Schvartzman

Regional Vice President Europe

IATA



NETWORKING DRINKS

IATA Wings of Change Europe, Berlin, 19-20 November 2019



THANK YOU

