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## Oliver Wyman 2018 Flight Operations Survey

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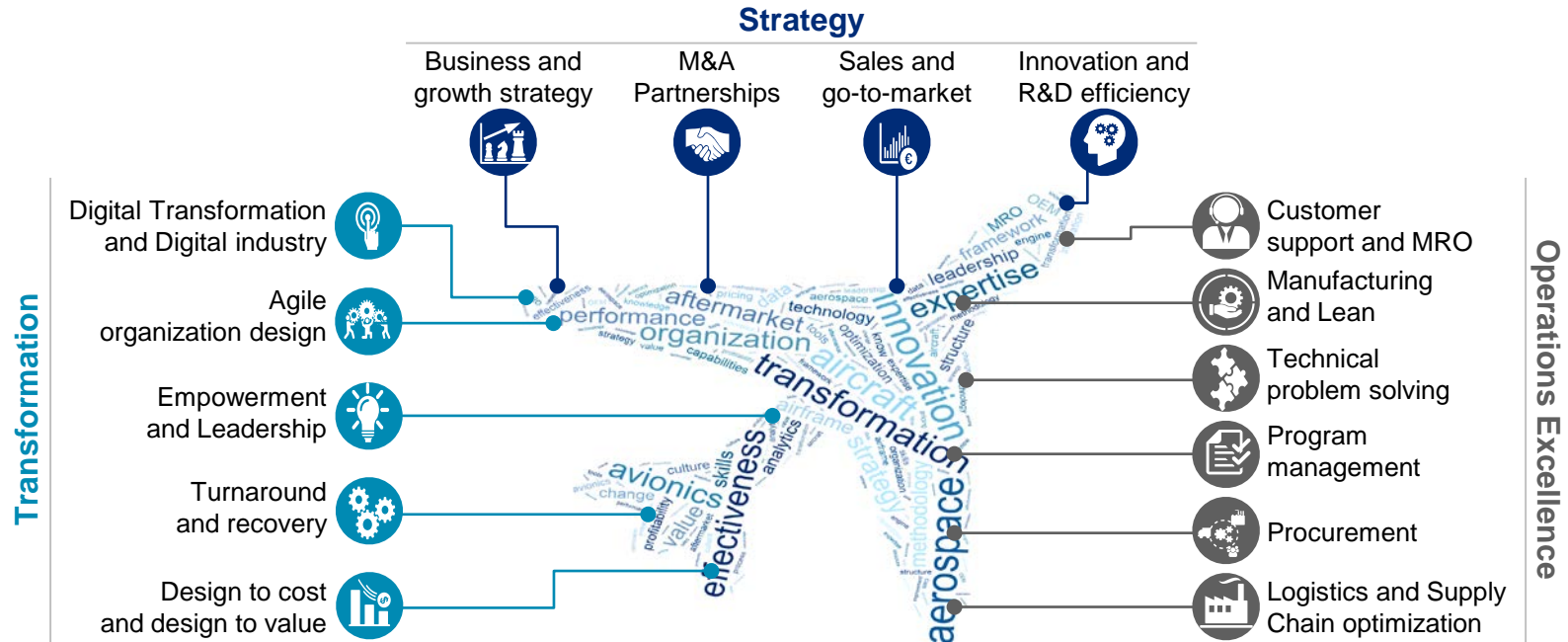
# PERSPECTIVES ON PILOT ENGAGEMENT, LEARNING STYLES, AND TECHNOLOGICAL CHANGE

AUGUST 14, 2018

Jeff Green

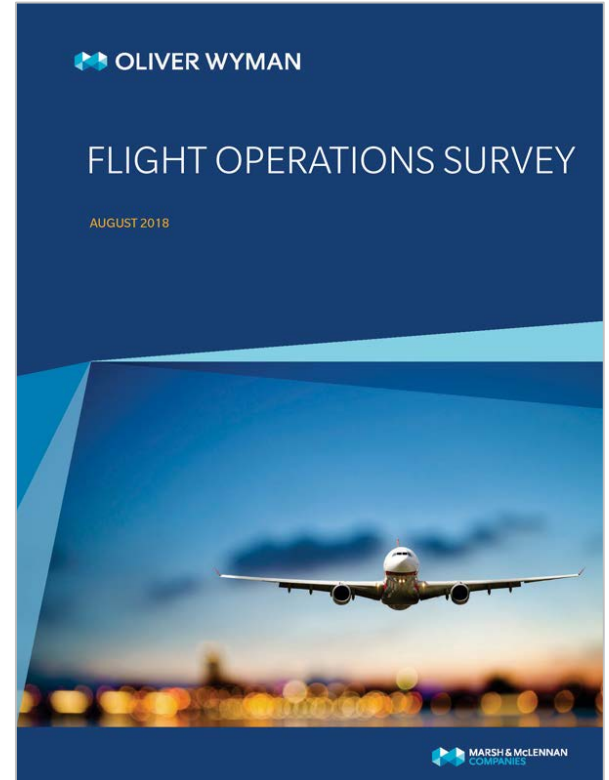
# What is Oliver Wyman?

- **Oliver Wyman** is a consulting firm – we help companies anticipate and solve complex challenges
  - Very strong focus on aviation and aerospace
  - Experience working with most major airlines, OEMs, suppliers and sponsors, including many here



# Why are we here?

- We help shape the industry discourse – wide range of cutting edge publications, surveys, and reports
- We recently conducted our inaugural **Flight Operations Survey**, targeting leaders from across the industry – OEMs, airlines, and training companies
- We asked about trends in the Flight Operations profession in the following areas:
  - Disruptors
  - Working environment of the future
  - Culture and organization
  - Standards and Training
  - Flight Operations' influence on the airline
- Our focus today is on our findings on pilot engagement, learning styles, and industry disruptors



Engagement (how much pilots desire to share in the company's mission and connect with their colleagues) is a key issue at many airlines.

70%

of Flight Operations leaders believe **Pilot Behavior and Engagement** will warrant **significant attention and challenge** their company over the next 5 years

### Why does pilot engagement matter?



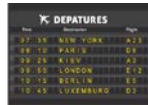
#### Passenger satisfaction

On-time performance, completion rate, timely communications



#### Operational integrity

Attitude towards resolving operational issues, sick call-outs



#### Schedule complexity

Willingness to operate certain routes and pairings



#### Talent pool

Hiring and retaining enough pilots to fly the operation

# No silver bullet seems to exist as airlines are employing a variety of measures to improve pilot engagement.



## Industry leaders identified key issues impacting pilot engagement:

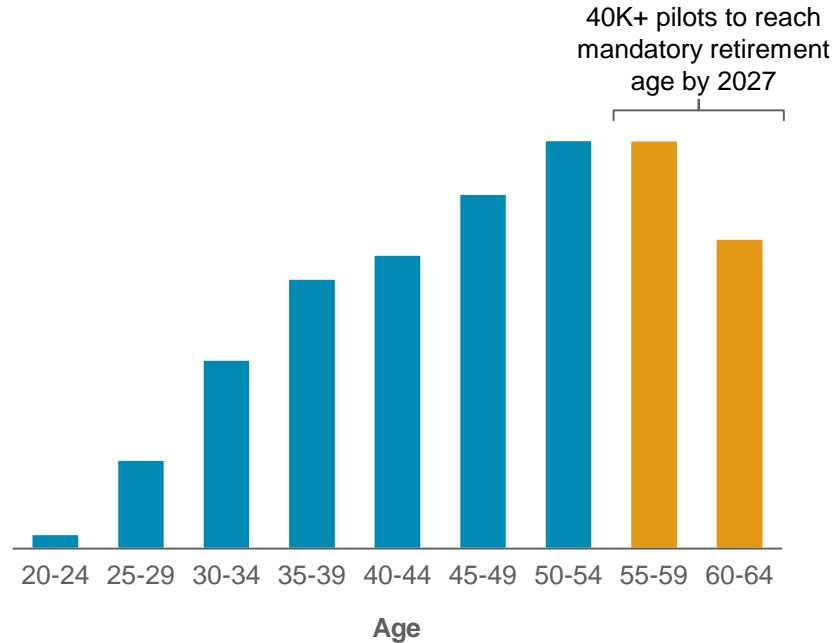
- Autonomous nature of pilot workforce
- Past history of relations with pilots
- Lack of cooperation from labor groups



The existing **pilot shortage and high turnover** translates into opportunities for airlines to recreate their culture and innovate, as a significant portion of their workforce will be **recently hired**

# These newly hired pilots will reduce the average age of air transport pilots.

## Air Transport Pilot Age Profile 2017



Source: FAA

### Pilot Shortage Threatens To Slow U.S. Airline Growth

Kids, get your pilots licenses, because this could be the career of the 2020s and 30s.

*Brian Prentice and Phillippe Gouel, Oliver Wyman  
Forbes.com*

### More Jobs Will Be Cleared for Takeoff. Aspiring Pilots Are Ready.

As big airlines face a wave of retirements, a fresh batch of fliers gets a chance, and the training, to seize the opportunity  
*NY Times*

Some airlines recognize a difference in learning styles across generations, and are actively updating their training programs.



### Safety Training

- Increased cockpit and threat training to mitigate safety concerns



### “Soft” Skills

- Increased focus on soft skills training (e.g., professionalism and customer skills)



### Training Delivery

- Multiple training delivery systems to reach the highest percentage of pilots



### Internal Research

- Internal study of current training effectiveness for each age group
- Partnering with scientific or academic institutions to learn best practices



We asked industry leaders for their input on a number of potential technological changes in the working environment.



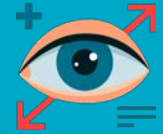
**Voice-activated cockpit**



**Multi-touchscreen capabilities for all aircraft systems**



**3D audio**



**Synthetic vision**



**Wearable avionics**



**Augmented reality**



**Brainwave monitoring technology**



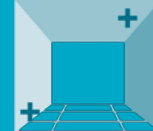
**Open-world communication**



**Single-pilot cockpit**



**Fully automated flight deck**



**Cockpit relocation**



**Hypersonic flying**

# Leaders believe only a few of these options could be in place by 2030.



Voice-activated cockpit



Multi-touchscreen capabilities for all aircraft systems



3D audio



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Brainwave monitoring technology



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Hypersonic flying

Potential technological changes share common aspects making them relatively attractive—or unattractive—to airlines in the near-term.

### Enabling factors for new aircraft technology

- 1 Common-use technology
- 2 Capital-light investment/retrofit costs
- 3 Limited aircraft downtime
- 4 Ability to quickly train pilots

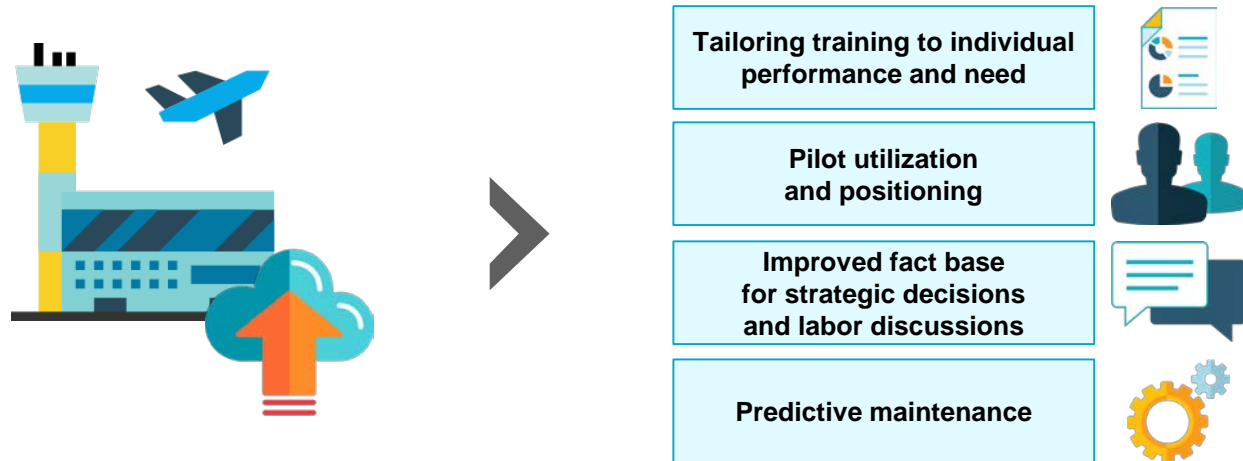
### Limiting factors for new aircraft technology

- 1 Readiness of technologies
- 2 Airline preferences / passenger fears
- 3 Regulatory
- 4 Labor
- 5 Value proposition

# A commonly cited area of near-term potential change and opportunity: better utilizing the increasing treasure trove of data at airlines' disposal.

- **Airplanes currently generate a lot of data each flight** (e.g. a 787 flight creates 0.5 TB!)
  - In addition to the mountains of data airlines maintain on pilots, aircraft, performance, etc.
- Industry leaders expect this data transmission and collection to increase in volume, sophistication, and become more real-time

While their usage of data has increased, airlines have a lot of exciting potential to better use data. Flight Ops leaders have repeatedly highlighted Big Data use as an exciting area.



Source: Gogo Inc.

# Key takeaways

- Pilot engagement is a key concern among Flight Operations leadership
  - Airlines are working to resolve this through a number of mechanisms, but no silver bullet exists
- The age composition of pilots is becoming younger. Airlines have noticed differences in generational learning styles. Some have started to take a targeted approach to increase training effectiveness.
- While many potential technological advances are very exciting, Flight Operations leadership believes the most likely changes by 2030 will be common-use technologies and require relatively light investment in aircraft and crew
- Increasing connectivity and Big Data remain largely untapped and exciting opportunities for Flight Operations departments – and airlines in general

