

The Future?

Ben Shermer

General Manager – Flight Control

Delta Air Lines

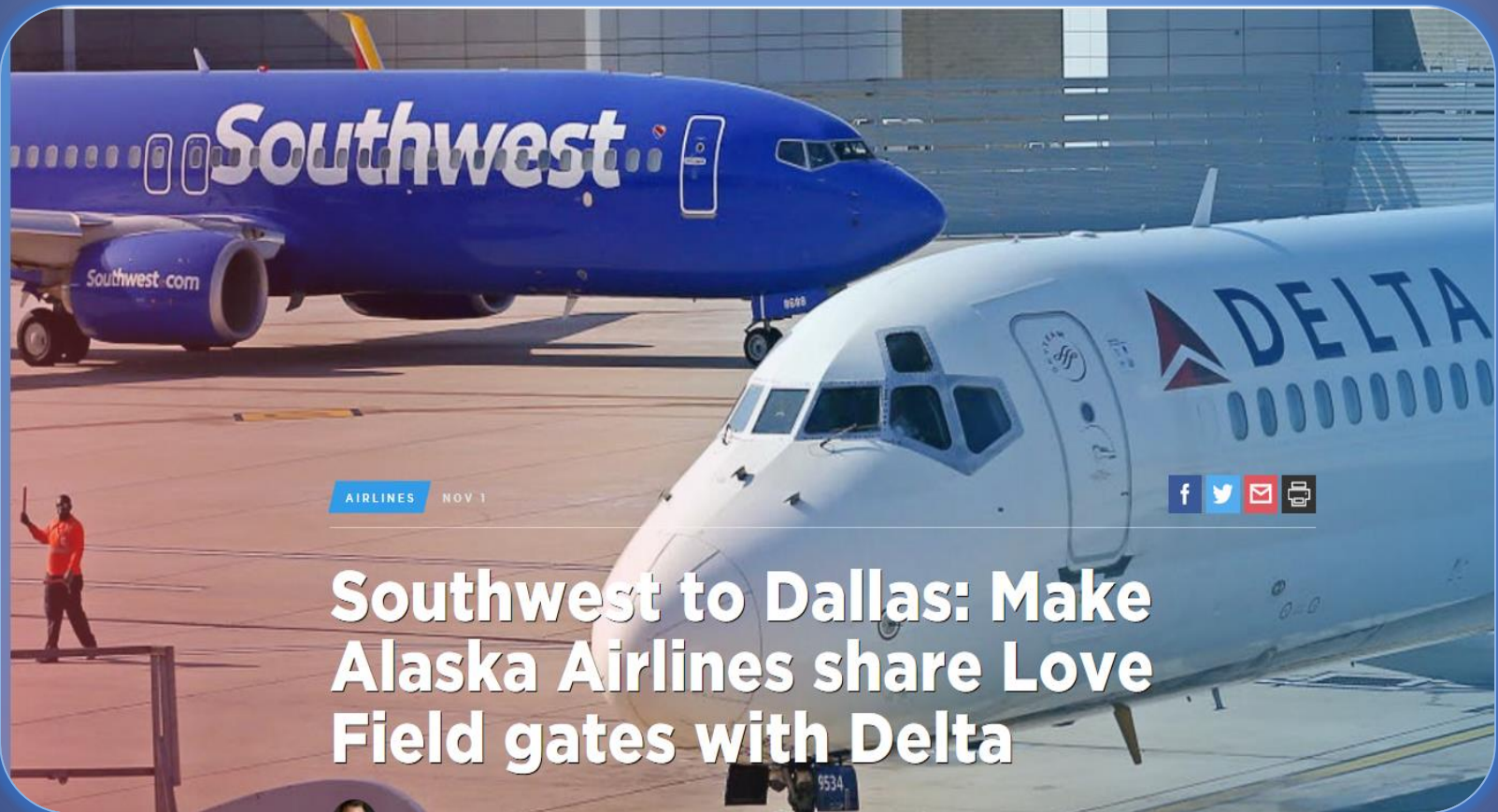
At Risk?



THE ENEMY !



Haters!



AIRLINES NOV 1



**Southwest to Dallas: Make
Alaska Airlines share Love
Field gates with Delta**

Industry Boat Anchor

United said late Tuesday that it expects to add flights and larger aircraft to its network, increasing the amount passenger traffic it can carry between 4% to 6% this year, up from 3.5% growth in 2017.

Playing Fair?



Really?

Boeing v. Bombardier: Tariff is now 300%

**U.S. upholds nearly 300 percent
tariffs on Bombardier's C-Series**

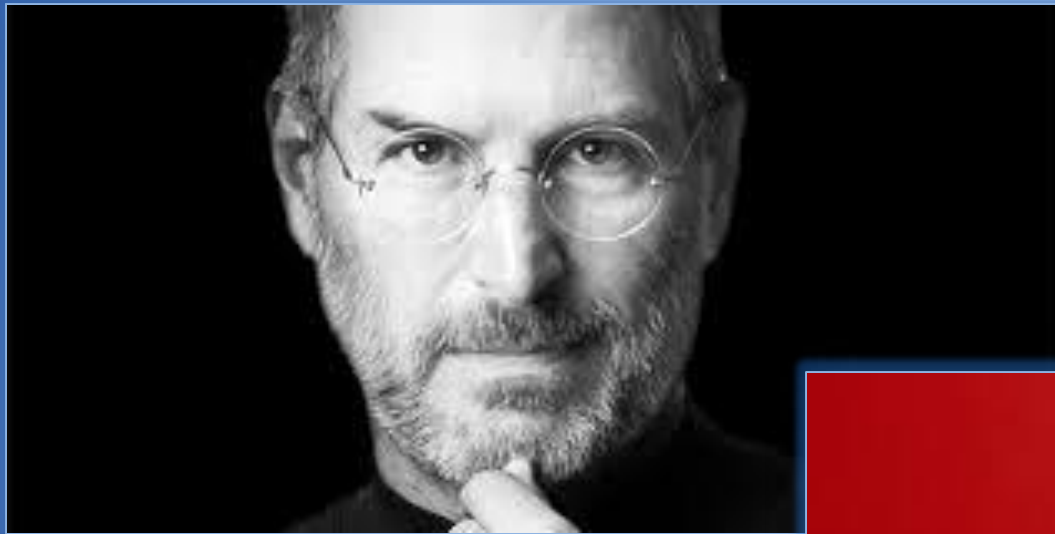
Camera companies, like traditional phone manufacturers, dismissed the iPhone as a toy when it launched, in 2007.

The iPhone didn't really start to cannibalize the camera business until the iPhone 4 came out, in 2010. That year, Instagram was born and a hundred and twenty-two million digital cameras were sold—a record, according to the

This is terrible news for companies making compact cameras—Olympus and Nikon's compact-camera sales in the most recent quarter had already nosedived by twenty-five per cent and forty-five per cent, respectively. The new iPhone 7

Nikon shuts down camera factory in China, blames 'the rise of smartphones'

Extremely Rare



Typical Catalyst

Southwest Airlines computer outage costs could reach \$82M

Computer glitch leaves thousands of American Airlines flights without pilots during Christmas week

TECH INDUSTRY

United Airlines computer failure causes widespread flight delays

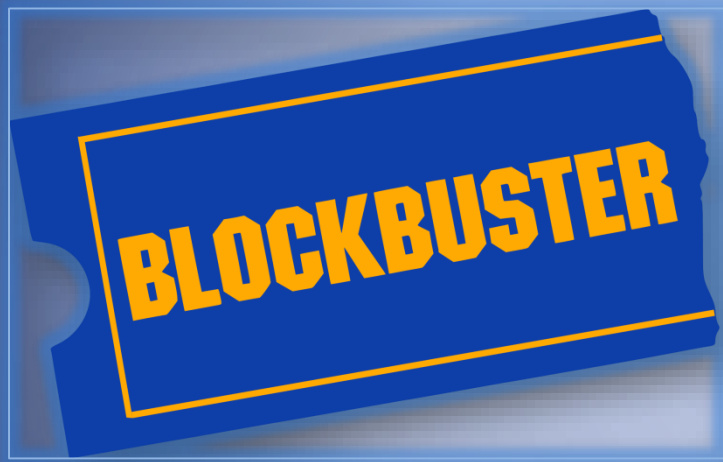
Forbes photo shop goes here.

Almost Gone

Steve Jobs: Apple Was 90 Days From Going Bankrupt

“Microsoft invested in Apple in 1997:
‘It might have bene the craziest
thing we ever did’ – Steve Ballmer”

Blindsided? Or just blind?



Remember these guys?



Infinite Resources!

<u>Company</u>	<u>Market Cap</u>
Apple	\$900B
Alphabet/Google	\$800B
Microsoft	\$750B
Amazon	\$750B
Facebook	\$550B

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Risks

1. Approaching business the same way we always have. Not expecting the unexpected. Two pilots. One dispatcher. ATC controllers.

Pilots?

Airbus verifying single-pilot, autonomous plane as an option

**Airbus Looking Forward to a
Pilotless Future**

Boeing raises prospect of only one pilot
in the cockpit of planes

AT200 Cargo

Drone ... Claimed

3000lb Cargo

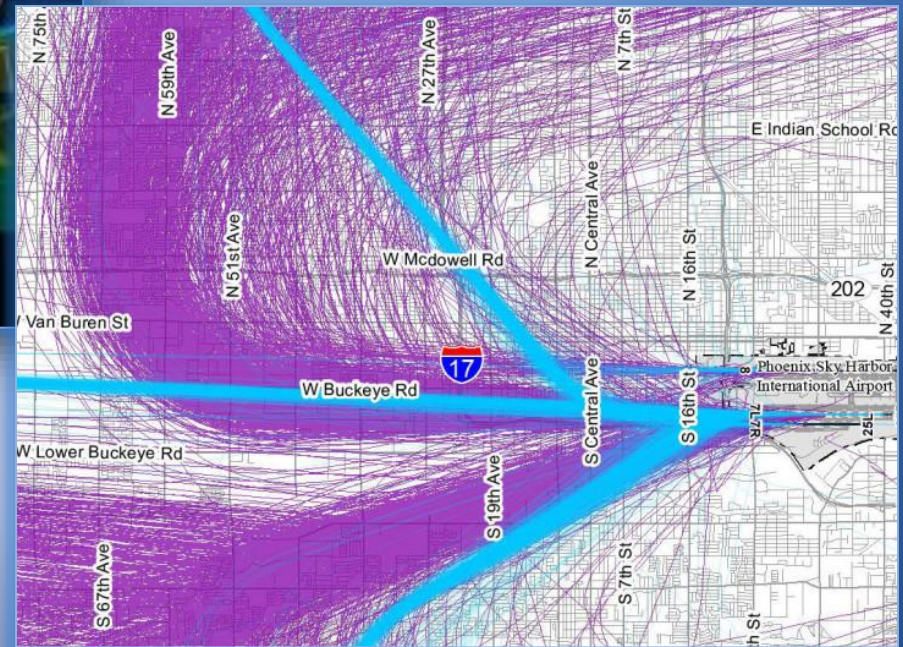
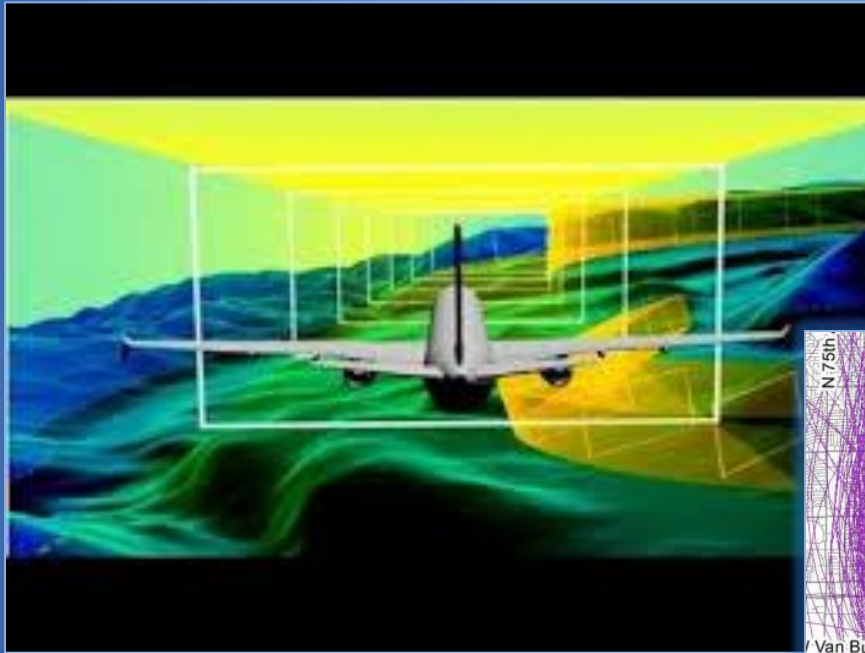
Capacity



Single Pilot Jets



Highly Defined Flight Path



1965 - First Full Autoland Hawker Siddeley Trident



1968 – First CAT3 Certified Aircraft

Sud Aviation
Caravelle




Risks

2. Thinking we will get a voice in “fixing the problem.”

Intel Drone



A large formation of blue drones in the night sky, with a city skyline and water in the background. The drones are arranged in a pattern that resembles a stylized 'D' or a similar shape. The city lights are visible in the background, and the water in the foreground reflects the lights.

Disney Drone Show



Separation and Obstacle Avoidance

Drones Are Getting Their Own Air Traffic Control With No Need For Humans

Google's Project Wing has successfully tested its air traffic control system for drones

“Amazon will open a new research facility for its drone delivery operations near Paris, France, where a team of developers will build the company's own **air traffic control system** for its drones, Bloomberg reports.”

**Just the
Beginning...**



Risks

3. Money!

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One of the more than one dozen different drone models Amazon is developing to facilitate half-hour delivery by Prime Air made an appearance at EAA AirVenture, the company's first official visit to the show and a first effort to win the support of general aviation face to face, one pilot at a time.

Trump's plan to privatize air traffic control could expedite drone delivery in the U.S.

Drone deliveries are 'going to happen' despite regulatory hurdles, says drone mapping startup CEO

How Big Tech Has Upped the Lobbying Ante in DC

EHANG 184



Final Thoughts





Icehole

