



# 2019 Paris Air Show

## June 18, 2019



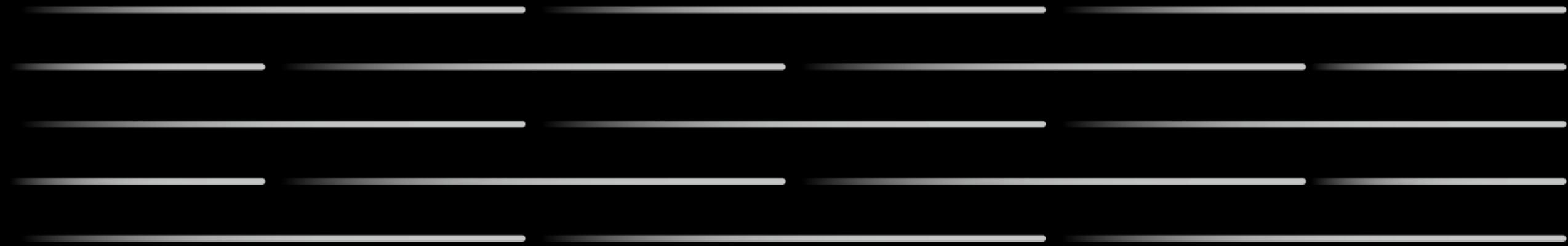
YEARS  
— OF —  
REIMAGINING  
FLIGHT

GE AVIATION

**CAUTION CONCERNING FORWARD-LOOKING STATEMENTS:** This document contains "forward-looking statements" – that is, statements related to future events that by their nature address matters that are, to different degrees, uncertain. For details on the uncertainties that may cause our actual future results to be materially different than those expressed in our forward-looking statements, see <http://www.ge.com/investor-relations/disclaimer-caution-concerning-forward-looking-statements> as well as our annual reports on Form 10-K and quarterly reports on Form 10-Q. We do not undertake to update our forward-looking statements. This document also includes certain forward-looking projected financial information that is based on current estimates and forecasts. Actual results could differ materially.

**NON-GAAP FINANCIAL MEASURES:** In this document, we sometimes use information derived from consolidated financial data but not presented in our financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP). Certain of these data are considered "non-GAAP financial measures" under the U.S. Securities and Exchange Commission rules. These non-GAAP financial measures supplement our GAAP disclosures and should not be considered an alternative to the GAAP measure.

**ADDITIONAL INFORMATION ABOUT GE:** GE's Investor Relations website at [www.ge.com/investor](http://www.ge.com/investor) and our corporate blog at [www.gereports.com](http://www.gereports.com), as well as GE's Facebook page and Twitter accounts, contain a significant amount of information about GE, including financial and other information for investors. GE encourages investors to visit these websites from time to time, as information is updated and new information is posted.



# '18 GE Aviation **\$30.6B Revenue**<sup>-a)</sup>

Commercial Engines & Services **\$22.7B**



Avio Aero **\$1B**



Military Engines & Services **\$4.1B**



Avionics & Digital Systems **\$0.8B**



BGA & Integrated Systems **\$1.6B**



Additive & Other **\$0.4B**



(a)-Includes CFM and EA revenue  
CFM is a 50/50 Joint Venture between GE and Safran Aircraft Engines  
EA is a 50/50 Joint Venture between GE and Pratt & Whitney

# Since the Farnborough Airshow ...

- Commercial engines and services backlog surpasses \$209B
- LEAP production rate grows another 60%+ in 2019
- CFM family surpasses 1 billion flight hours in service
- GE9X readies for Boeing flight test
- Key military wins on USAF Trainer and US Army ITEP programs
- Passport in service ... enabling record-breaking performance



# Aviation commercial environment



## Demand

% change,  
(IATA), RPKs

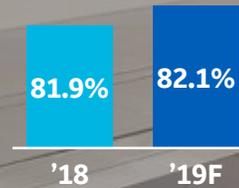


Memo: Freight (FTK) 3.4% 0%



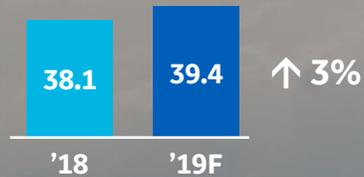
## Load factors

% PLF (IATA)



## Departures

Millions of (IATA)

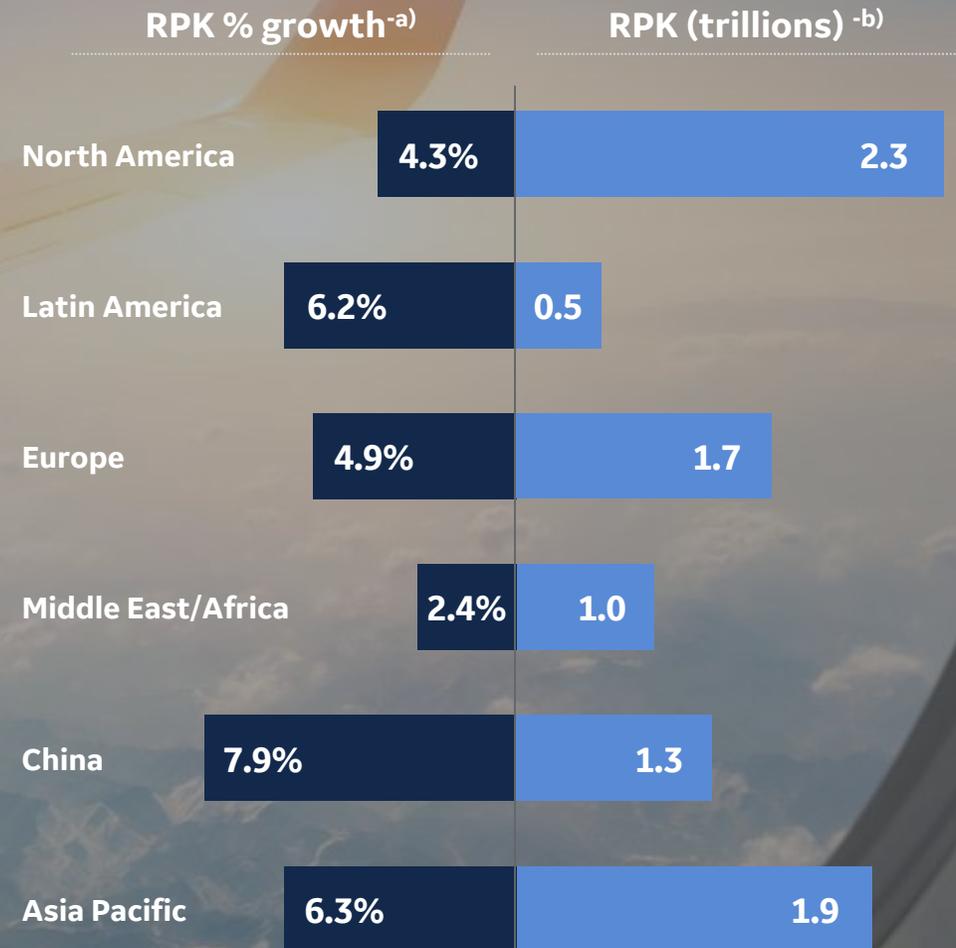


## Fuel

WTI, \$/barrel  
Source: EIA



## 2019 forecast

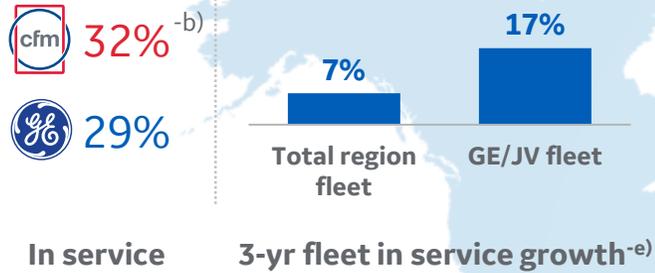


### Notes:

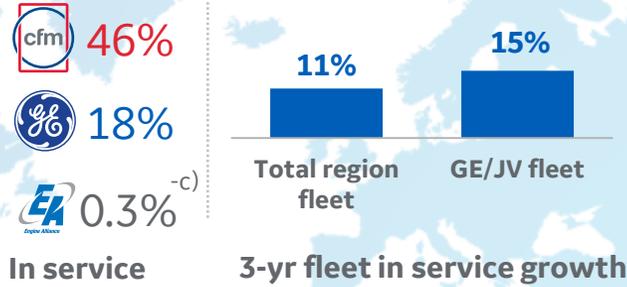
- '18 and '19F – IATA Airline Industry Economic Performance June 2019
- Fuel analysis – Energy Information Administration, '18 and '19F values as of 6/6/2019

# Strong global position ... with a commercial backlog of \$209B<sup>-a)</sup>

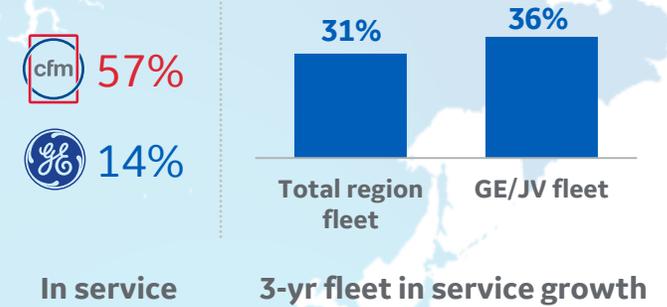
## North America ... \$47B backlog



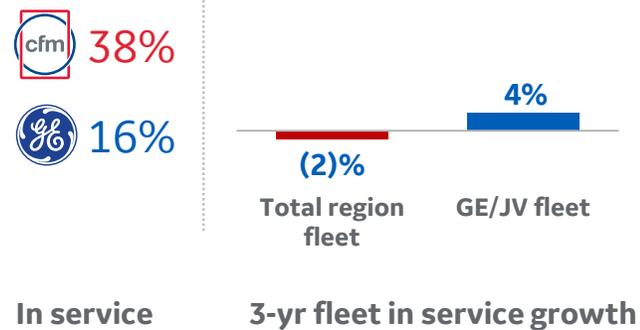
## Europe ... \$26B backlog



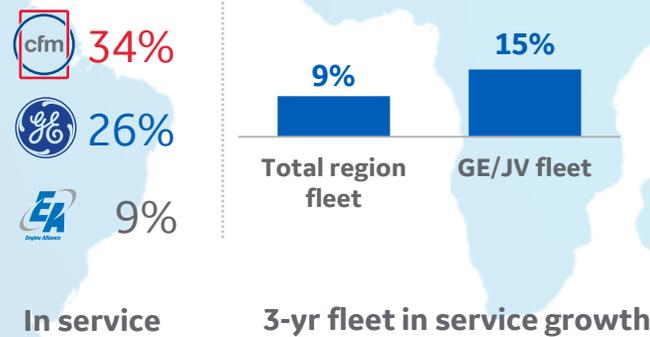
## China ... \$19B backlog



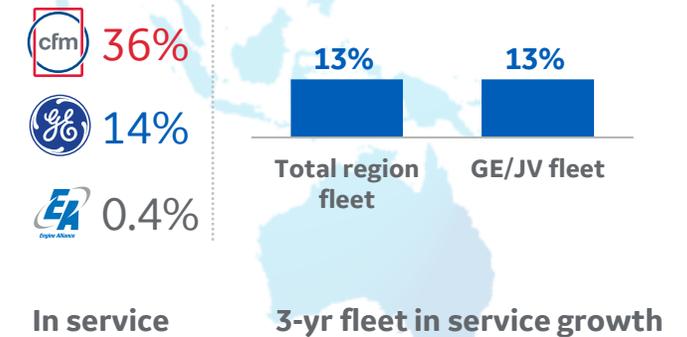
## Latin America ... \$13B backlog



## Middle East/Africa<sup>-d)</sup> ... \$57B backlog



## Asia Pacific ... \$47B backlog

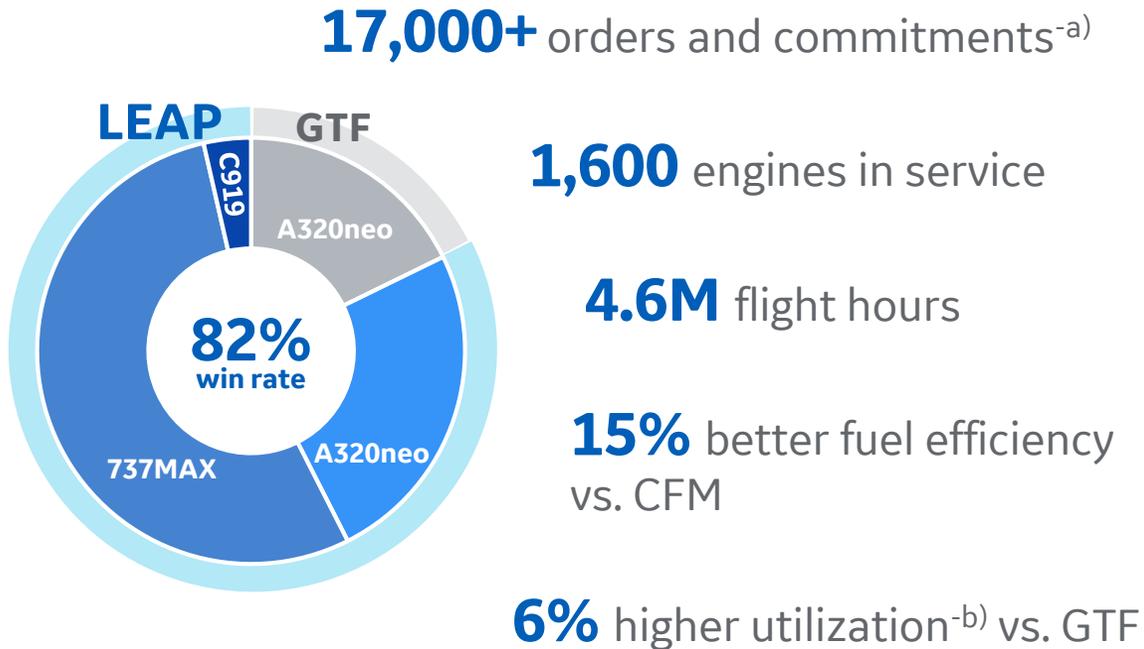


(a)-GE Aviation commercial equipment and services backlog as of 1Q'19  
 (b)-CFM is a 50/50 Joint Venture between GE and Safran Aircraft Engines  
 (c)-EA is a 50/50 Joint Venture between GE & Pratt & Whitney  
 (d)-Middle East includes North Africa and Turkey  
 (e)-3-yr growth is based on number of aircraft from 1Q'16 to 1Q'19

# LEAP ... fulfilling our commitment to customers and investors



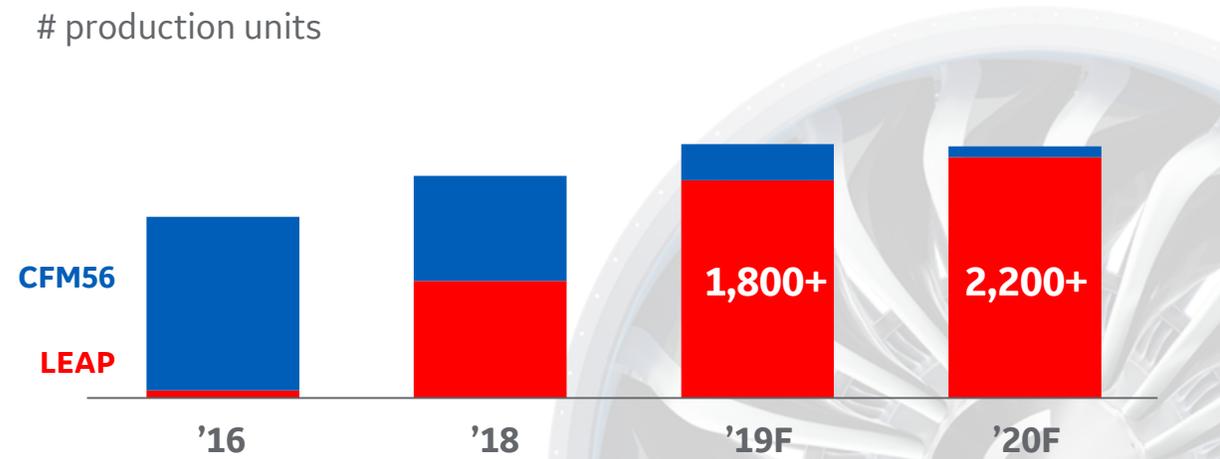
## Successfully secured our next great franchise



**Ranked #1** by investors<sup>-c)</sup> ... **\$1.4M** residual value advantage<sup>-d)</sup>

## Production transition in full swing

# production units



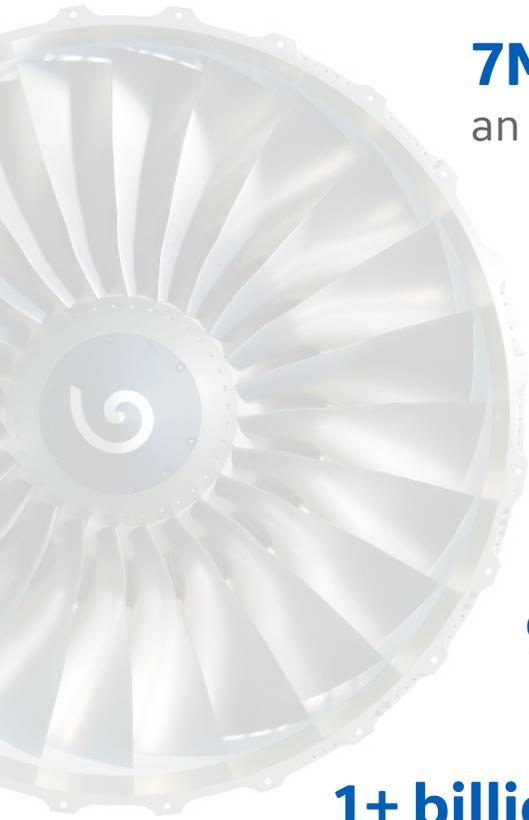
- On PO at Boeing and Airbus
- LEAP-1B aligned with MAX plans ... working with customers on smooth reentry into service
- Allocated existing supply chain capacity across GE Aviation demand



# CFM56 ... enduring value for customers and investors



## Essential to commercial aviation



**7M** passengers fly every day on an airplane powered by CFM

**~23K** engines in service

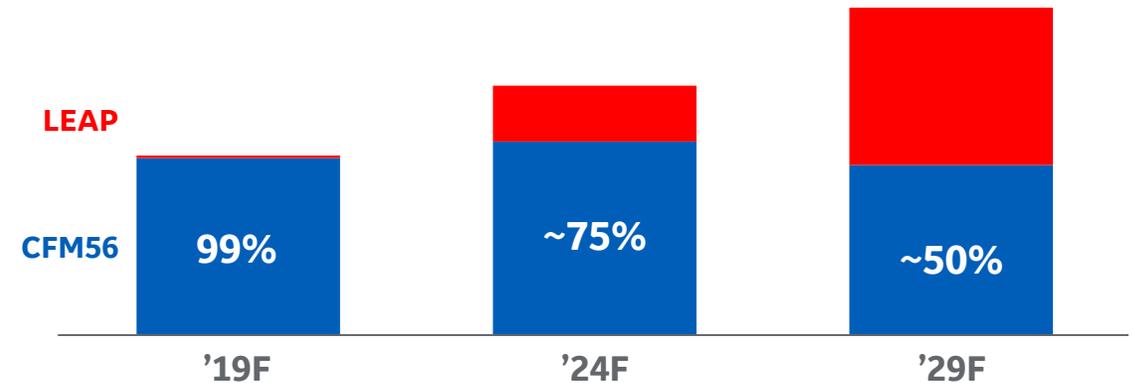
**30+** years in service

**99.97%** departure reliability

**1+ billion** flight hours of experience

## Underpinning strong services growth

# worldwide shop visits



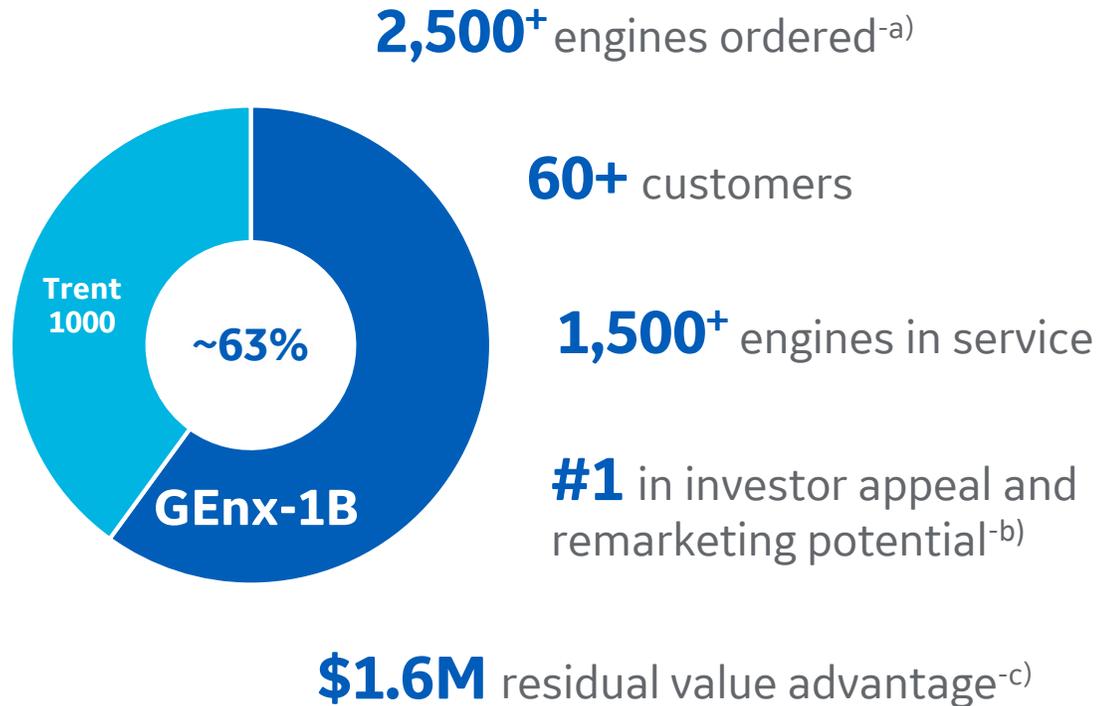
- **57%** of fleet<sup>-a)</sup> has not seen its first shop visit ...  
**21%** has only had one shop visit<sup>-a)</sup>
- Focused on supply chain capacity and developing new sources



# GEnx ... industry leader on the 787

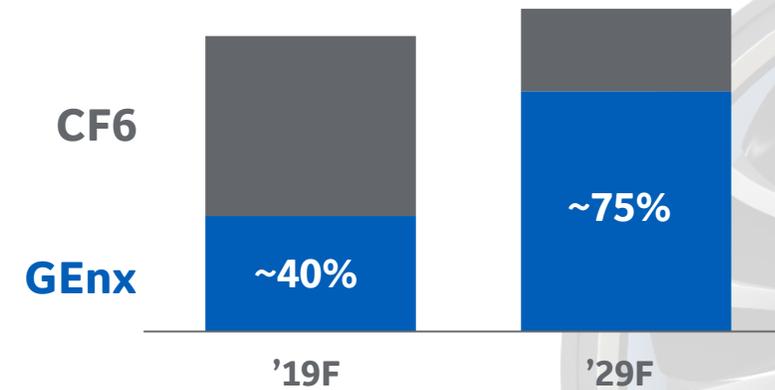
## Performing in the market

**787 win rate**  
Total program



## Admired by investors and customers

# worldwide shop visits



- **24M** flight hours ... **99.93%+** dispatch reliability
- **5X** fewer engine removals<sup>-d)</sup>
- **13%** better utilization<sup>-e)</sup> ... **\$10M** revenue per aircraft per year



(a)-Life of program

(b)-Airfinance Journal as of April '19

(c)-Ascend

(d)-vs. Trent 1000 per Airframer Reliability Report as of 4Q'18

(e)- 6 month rolling avg per UBS as of mid-April '19

Paris Air Show Analyst Briefing | 18 June 2019

# GE9X ... the world's next great engine

## Preparing for entry into service



**Sole source** on 777X

**700** engines on order

**5%** better fuel efficiency vs. any engine in class

Certification in **2019**

Entry into service in **2020**

## Replacing an iconic airplane and engine

GE90 by the numbers

**89M** flight hours

**2,200+** engines in service

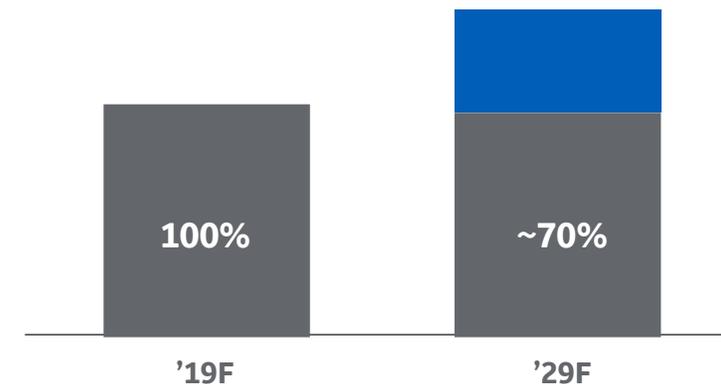
**75+** customers

**~300** deliveries through 2024

**Future growth in aftermarket**  
# worldwide shop visits

**GE9X**

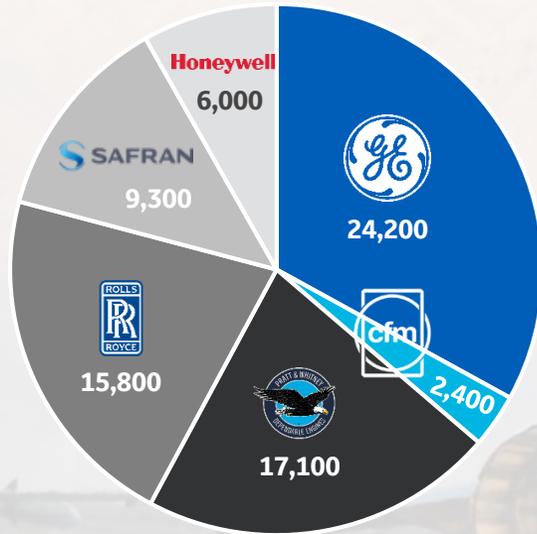
**GE90**



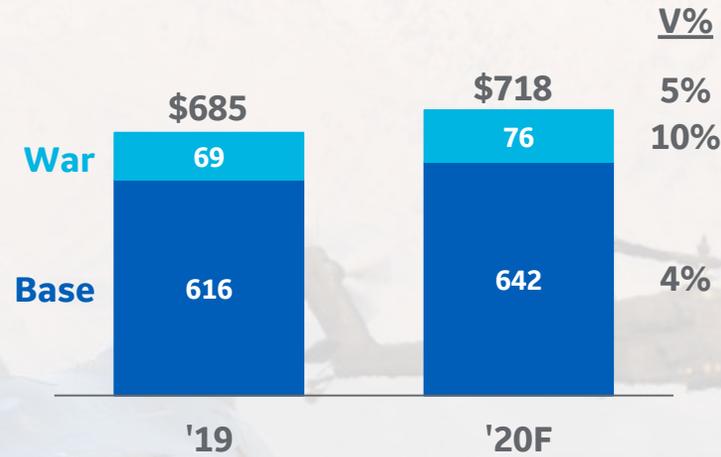
# Military ... strong portfolio with growth

(\$ in billions)

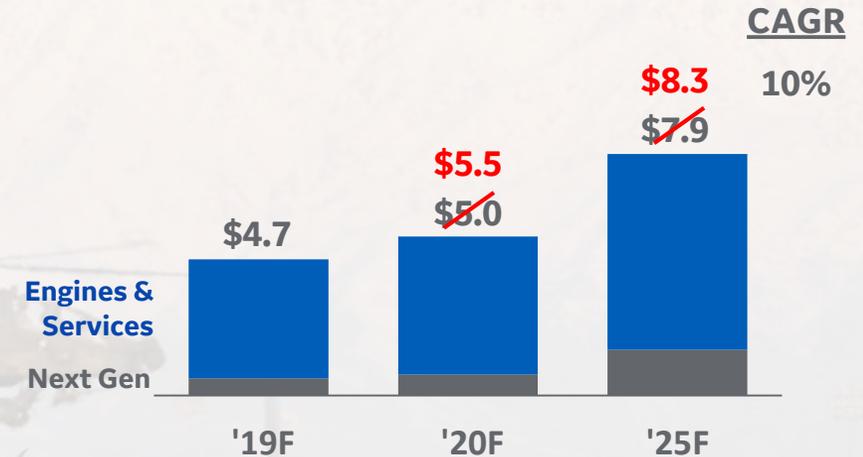
## Global installed fleet<sup>-a)</sup>



## US DoD budget<sup>-b)</sup>



## GE revenue growth



GE and CFM power:

- 56% DoD fleets
- 2/3+ DoD helos and fighters
- 18 international indigenous platforms
- 9% growth in research and technology (RDT&E)
- 5% growth in operations and maintenance
- International defense budgets also increasing ~3%<sup>-c)</sup>
- 9% CAGR in Engines & Services
- 18% CAGR in next gen programs
- Transitioning 1,000 engineers from Commercial to Military



CFM is a 50/50 Joint Venture between GE and Safran Aircraft Engines  
 (a) Includes only primary Western aircraft engine manufacturers of fleets >5,000;  
 Excludes marine gas turbines and commercial helicopter engines  
 (b) DoD Comptroller, FY20 budget request  
 (c) Forecast International

# Expanding the core ... 9% CAGR in engines and services

## US DoD



F404 ... T-X



F110 ... F-15EX



T700 ... CSAR



CF34/Passport ... B-52



CFM56 ... P-8A



F414 ... F/A-18

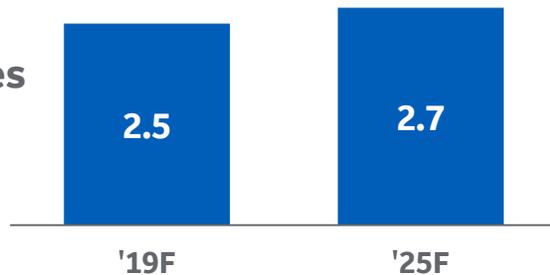


LM2500 ... DDG51



T64 ERIP ... CH-53E

Revenues  
(\$ in billions)



## US equipment with allies



F110 ... F-16 and F-15s ... active campaigns in 16 countries



F414 ... F/A-18 and Growlers ... active campaigns in 8 countries



T700/CT7 ... Apache/Black Hawks ... active campaigns in 31 countries



## Indigenous growth platforms



F404 ... T-50



F414 ... KF-X



F414 ... Gripen



F404 ... Tejas



LM2500 ... multiple ships



F110 ... TF-X



# Next gen development programs ... ~\$2B in 2025<sup>-a)</sup>

## Advanced Combat Engines



Adaptive cycle ... a disruptive engineering technology for the future

## Rotorcraft



Ensures the continuity of the T700 helicopter franchise

## Heavy Lift



Defining the next generation of heavy lift propulsion



# Aviation outlook

	<b><u>2018</u></b>	<b><u>2019F</u></b>	<b><u>2020F</u></b>
Revenues:	\$30.6B	HSD <sup>-b)</sup>	Growing <sup>-b)</sup>
Segment margin:	21.2%	~20%	~Flat
Free cash flows: <sup>-a)</sup>	\$4.2B	~Flat	Flat to growing

## 2019 drivers

- Services ... shop visit & spares parts growth
- Military ... engine and services growth
- Transitioning engineering resources to military
- Positive value gap ... price & material deflation/cost out
- Commercial engines (CFM/LEAP) mix ~(180) bps

## 2020 dynamics

- Market strength continues for commercial & military
- LEAP volume at rate ~2,200+ per year
- GE9X entry into service in 2020 ~(150) bps offset by services & military growth
- Continued investment to build out adjacencies

Continued strength on the back of a strong commercial & military market



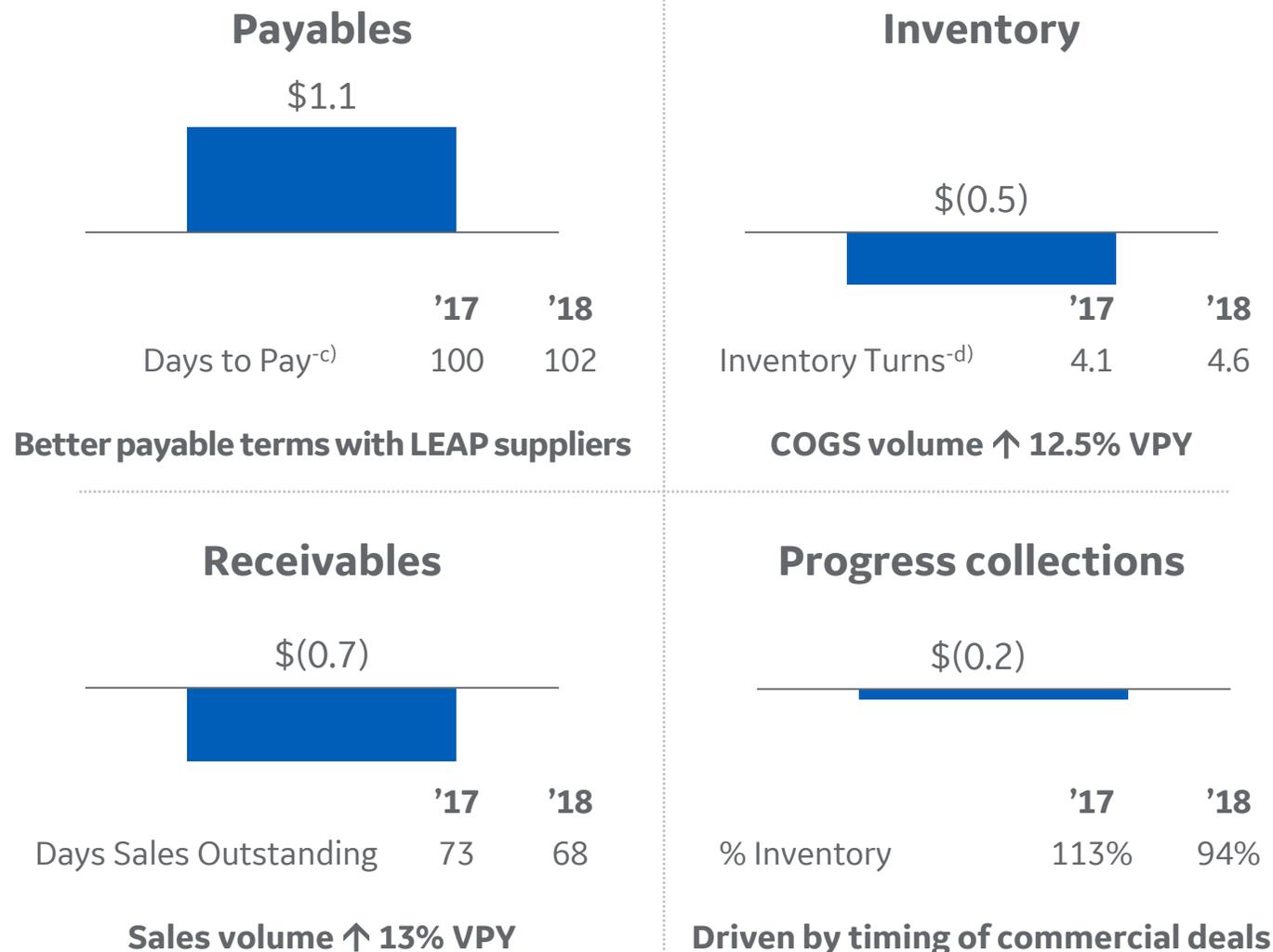
# Free cash flows<sup>-a)</sup>

(\$ in billions)

	2018
<b>Net Earnings ex depreciation &amp; amortization</b>	\$5.8
Working capital	(0.3)
Contract assets	(0.1)
Taxes/Other operating	(0.1)
<b>CFOA</b>	5.4
PP&E & gross software	(1.1)
Reinvestment ratio	1.4
<b>Total free cash flow<sup>-a)</sup></b>	4.2
FCF Conversion % <sup>-b)</sup>	88%

## 2018 Working capital cash flows

■ '18 Cash Flow



(a) Non-GAAP measure

(b) Industrial FCF divided by net earnings

(c) 12 months purchases / 5 quarter average A/P balance

(d) 12 months COGS / 5 quarter average inventory balance



# A great GE business

- Enduring value created through portfolio renewal & after market strength
- Unprecedented growth ... equipment and services backlog
- Technology investments in all segments securing product positions
- Successfully navigating commercial product transitions
- Resilient business model performing through industry cycles

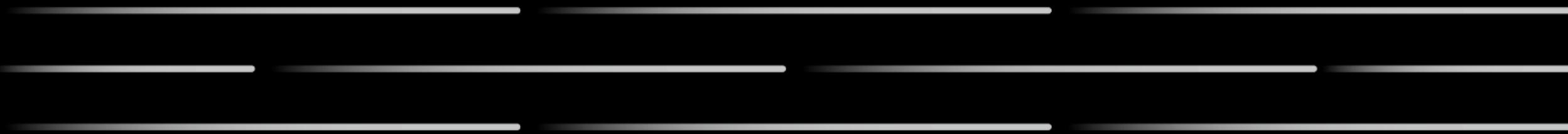




# GE Capital Aviation Services

**Alec Burger, President & CEO**

June 18, 2019



# Proven business model

## A Leader in Aviation



- ✓ Deep domain with 50+ years in aviation finance
- ✓ Risk management discipline/conservative policies
- ✓ Attractive earnings & returns despite industry ups/downs



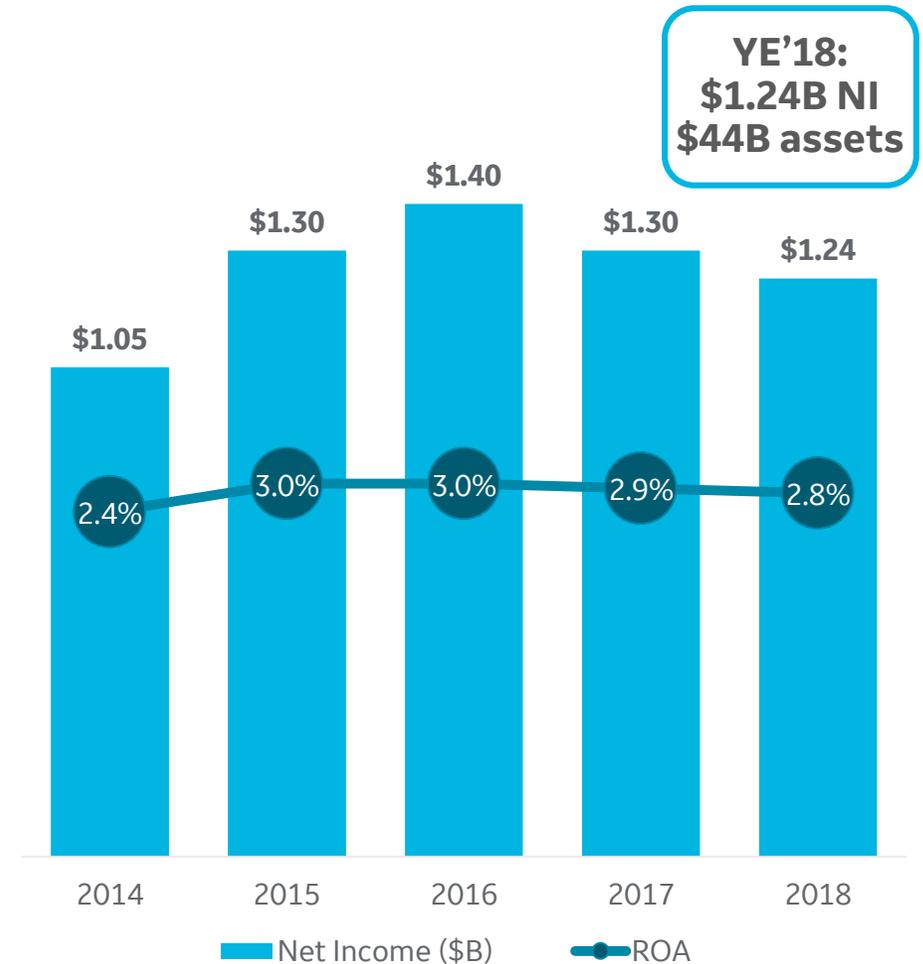
- ✓ Large & diverse asset base ~1200 largely core commodity commercial jets



- ✓ Broad product offerings with leases and debt
- ✓ 21 offices around the world – strong deployment capabilities
- ✓ Maintained average aircraft on ground (AOG) <2 for 15+ years



- ✓ Proven business model with innovative products
- ✓ Synergies with GE Aviation



Notes:

2017 NI excludes impact of 2017 US tax reform adjustment

Assets exclude the impact of deferred taxes

# Global reach and local expertise

## Unparalleled redeployment capabilities

2008/**2018**

Percentages reflect GECAS originations by dollar value

54%/**3%**  
N. America

11%/**4%**  
Europe

Going where  
the growth is ...

17%/**27%**  
Middle East,  
Africa &  
Russia/CIS

17%/**49%**  
Asia

1%/**17%**  
LAC

**225+**

**75+**

**21**

**440**

**25+**

**~30**

Customers  
globally

Countries  
Served

Offices around  
the world

Employees to  
serve our  
customers\*

\*ex GECAS Materials

Years in industry for  
majority of Senior  
Leadership Team

Nationalities  
represented by  
our employees



# Full array of customer solutions



## Aircraft Leasing

Largest fleet with multiple types

- Narrowbody
- Widebody
- RJ/Turbo
- Cargo

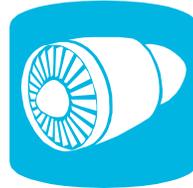
**~1,200 Leased Aircraft**



## PK AirFinance

Leading aviation finance company

**Ability to cross debt to lease book**



## GECAS Engines

World's leading engine financing company

**Can offer customers a complete solution**



## Trading & Servicing

Strong capital market capabilities

**Integral to robust portfolio strategy**



## GECAS Materials

Among largest distributors of aircraft & engine parts

**Complementary to GECAS end of life strategy**



## Milestone Aviation

World's leading helicopter lessor

**Apply GECAS expertise to a new market**

Ability to serve customers with multi-product solutions that maximize GECAS' investments



# **GECAS outlook on the environment**



# The environment ... concerns and uncertainties



## OEM

- Uncertainty around impact of MAX grounding
- Record high narrowbody production rates



## Lessors

- Intense competition
- Numerous new entrants
- Managing pockets of credit issues (some FX driven)
- Slowing passenger growth



## Geo-political

- Ongoing geopolitical uncertainty
- Trade talks (US-China, US-EU)
- Russia, Venezuela, North Korea, India-Pakistan, and Iran among others
- BREXIT

Experience positions GECAS to manage through industry turbulence



# However, still positive on long term industry outlook



## ✓ Long term growth outlook

- Continued huge demand driven by large emerging middle class especially in Asia-Pacific
- Commercial fleet forecasted by Airbus and Boeing to double over next ~20 years
- Portable long lived assets



## ✓ Leasing channel supply will normalize over time

## ✓ Rationalization of leasing companies likely to occur

## ✓ Fall out/equipment from airline credit issues has quickly been absorbed into the market

## ✓ Airlines forecasted to deliver 10<sup>th</sup> year of profitability





# **GECAS game plan, response, and strategy**

# GECAS Strategic imperatives

1

## REFRESHING PORTFOLIO AGE



- New technology skyline
- By 2024, average op lease aircraft age expected to be ~5.5 years

2

## LEADING AND EXPANDING IN ATTRACTIVE GROWTH MARKETS



- #1 in Cargo
- #1 in Engines as owner & servicer

3

## CONTINUED PUSH AND FOCUS ON EMERGING MARKETS (EM)



- EM portfolio percent up 1.65x since '09
- Continue to place 80%+ skyline into EM's

4

## CONTINUE TO GROW SERVICED ASSETS WITH WORLD CLASS PARTNERS



- Portfolio management
- Preserve customer relationships

5

## RIGOROUS RISK & PORTFOLIO MANAGEMENT



- Solid operating rhythm and sophisticated models to manage portfolio
- Credit, country and asset expertise



# GECAS Cargo and Helicopters

## Air cargo still well positioned for long term growth

- GECAS is the world's leading cargo lessor
- Poised to meet future demand with up to 65x 737 Boeing Converted Freighter (BCF) slots
- Cargo also attractive for portfolio management providing fleet flexibility



## Milestone team is most experienced in industry to navigate cycle



- Ongoing tough cycle... oil prices remain volatile & major deep sea exploration has yet to return
- Actively diversifying end-use markets into SAR/EMS & government
- Apply GECAS's rigor and expertise to manage the business
- Milestone has remained profitable throughout downturn



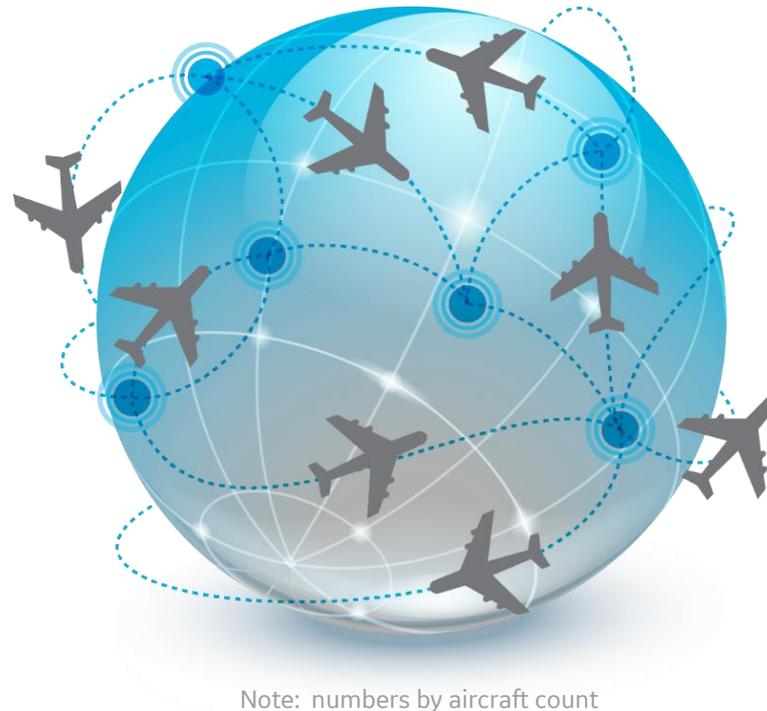
# Asset trading integral to proven business model

## Sales elevated in recent years primarily for portfolio management

- ✓ Reduces concentrations to facilitate growth
- ✓ Portfolio management enables fleet rejuvenation

## 2/3 of all sales for portfolio management

- Technology shifts
- Customer concentrations
- Geographic concentrations
- Age

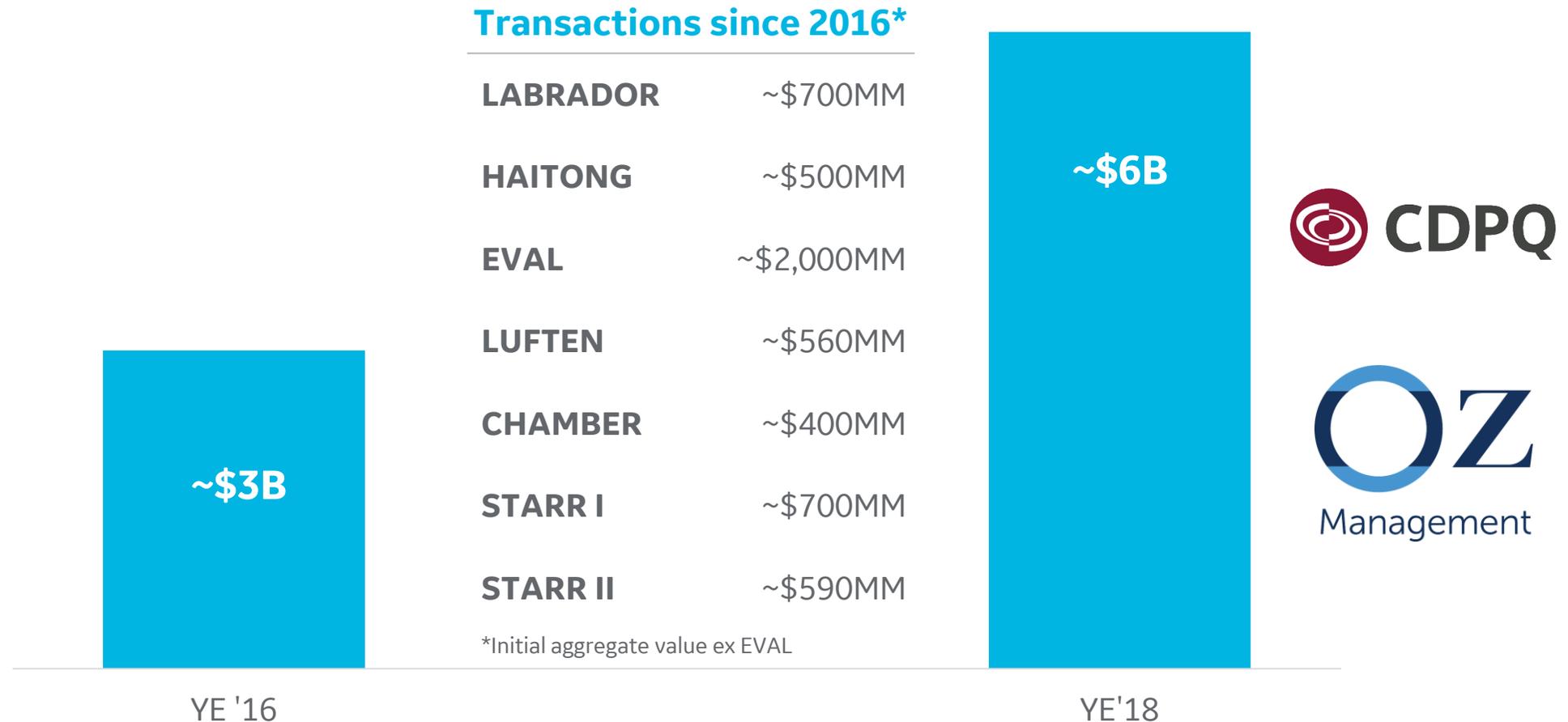


## 1/3 of all sales for gain & serviced asset sales platforms

- Strong investor demand
- Low interest rates
- Opportunistic



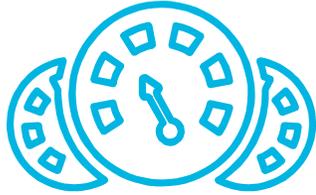
# Growing serviced assets with world class partners



Facilitates growth with maximum balance sheet efficiency plus preserves customer relationships



# Strong, data driven operating rhythm



## Rigorous portfolio analytics

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- Robust asset valuation & airline credit models
- Diligent impairment testing and disciplined underwriting guidelines
- Strong risk management, compliance and controls



## Relentless focus on fleet management

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- Bi-weekly portfolio quality review to identify issues early
- Weekly QMI cadence focused on commercial activity
- Advanced placement of roll-off and skyline



## Continuous industry monitoring

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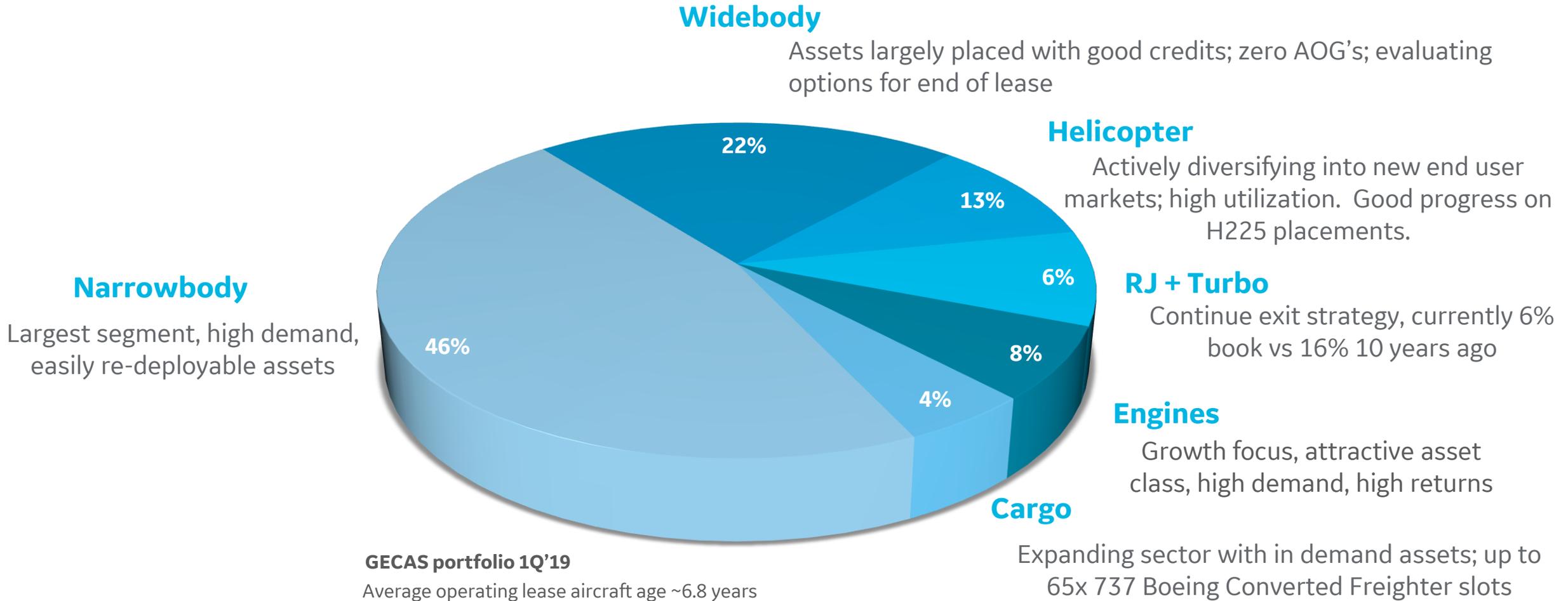
- Direct and strong connections with OEMS/airlines
- Steering committee of aviation experts establishes/reviews values, while leveraging market intelligence

# GECAS portfolio

A blue-tinted photograph of an airport tarmac. In the foreground, several large commercial aircraft are parked, their tails and wings visible. In the background, a large passenger jet is flying in the sky, leaving a white contrail. The overall scene is hazy and bright, suggesting a clear day.

# Portfolio composition

## Diversified and attractive assets (\$)



# GECAS orderbook ~350 units



ORDERBOOK	GECAS	INDUSTRY AVG.
% New tech	100%	93%
% Existing fleet	30%	55%
% Narrowbody	97%	84%

- Returns to date on GECAS new technology narrowbody orderbook have been on plan with good terms
- Rigorous skyline management with deep domain
  - Global reach ... unmatched placement capabilities
  - Experience.. next 5 years of placements will be within historical averages
  - Strengths: fleet rollovers, forward commits and multi-product offerings
- Global demand remains strong
- Closely monitoring MAX situation

GECAS orderbook is manageable and consistent with historical averages



# GECAS at the Paris Air Show

## Colorful Guizhou



- 4x A320neo to Colorful Guizhou Airlines
- New GECAS & CFM LEAP Customer

## 738 Conversions



- 737-800 BCF ceremony commemorating program's success
- GECAS firm orders and options reach 65 (45/20)

## “Project code named Moxy” A220s



- PLB for nine A220-300's to Moxy
- New airline, new GECAS customer & new aircraft type

## More to Come!



# GECAS ... a great business

- ✓ Most global lessor
- ✓ Deepest domain with 50+ years in the industry
- ✓ Refreshing portfolio with new technology aircraft
- ✓ Broadest product offerings
- ✓ Driving growth in attractive markets ... Cargo, Engines and Emerging Markets
- ✓ Attractive earnings and returns
- ✓ GE Aviation and GECAS ... unparalleled industry expertise

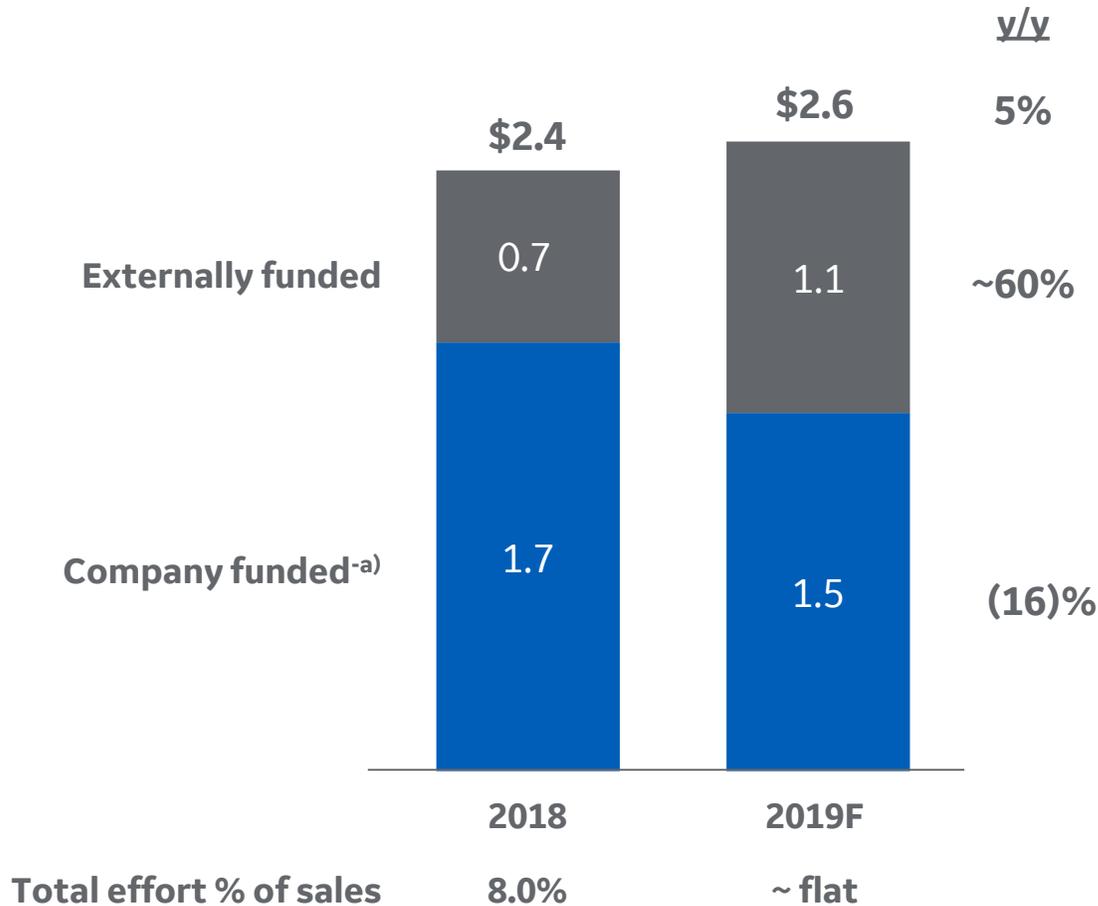




# Aviation engineering

(\$ in billions)

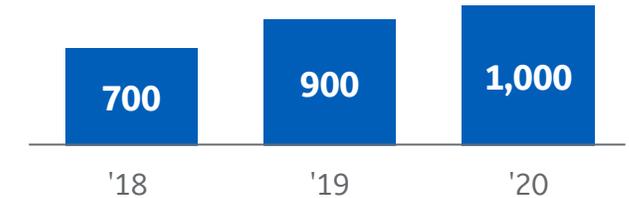
## Spend profile



## Key dynamics

- Successful renewal of commercial product family and transition to military opportunities

Engineering headcount moved to military



- Technical continuity paying dividends in military wins ... our first product proof point in T901
- Technical differentiation through global research partnership ... leveraging common technologies across multiple businesses
- Diversified external funding ... U.S. Department of Defense, NASA, EU, international governments

