

# GE Aviation

## 2011 Paris Air Show

June 2011



imagination at work

This document contains "forward-looking statements" – that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance and financial condition, and often contain words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "see," or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. For us, particular uncertainties that could cause our actual results to be materially different than those expressed in our forward-looking statements include: current economic and financial conditions, including volatility in interest and exchange rates, commodity and equity prices and the value of financial assets; the impact of conditions in the financial and credit markets on the availability and cost of General Electric Capital Corporation's (GECC) funding and on our ability to reduce GECC's asset levels as planned; the impact of conditions in the housing market and unemployment rates on the level of commercial and consumer credit defaults; our ability to maintain our current credit rating and the impact on our funding costs and competitive position if we do not do so; the adequacy of our cash flow and earnings and other conditions which may affect our ability to pay our quarterly dividend at the planned level; the level of demand and financial performance of the major industries we serve, including, without limitation, air and rail transportation, energy generation, network television, real estate and healthcare; the impact of regulation and regulatory, investigative and legal proceedings and legal compliance risks, including the impact of financial services regulation; strategic actions, including acquisitions and dispositions and our success in integrating acquired businesses; and numerous other matters of national, regional and global scale, including those of a political, economic, business and competitive nature. These uncertainties may cause our actual future results to be materially different than those expressed in our forward-looking statements. We do not undertake to update our forward-looking statements.



imagination at work

# What's new since Farnborough

- GE and JVs crossed 50,000 installed engines worldwide (Military and Commercial) \*
- GENx and GE Systems entering service with 787 and 747
- CFM LEAP selected on A320
- TechX launched on Bombardier Global 7000/8000
- Selected to power India Light Combat Aircraft
- First flight of GE/Honda powered HondaJet
- Service backlog grew to \$59B in 2010



\* GE 31,932  
CFM 18,120  
EA 84

CFM is a 50/50 JV between GE and Snecma  
EA is a 50/50 JV between GE and Pratt & Whitney  
GE Honda is a 50/50 JV between GE and Honda Aero, Inc

## GE Aviation portfolio

**Commercial engines**  
\$4.4<sup>-a)</sup>



**Commercial engine services** \$6.3<sup>-a)</sup>



**Military engines and services** \$4.1<sup>-a)</sup>



**Systems** \$2.4



**Business and general aviation** \$0.4



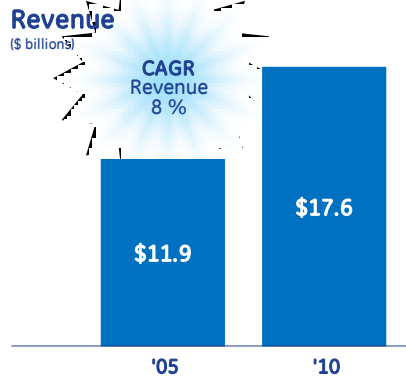
**\$17.6B**  
2010 revenues



a) Includes GE's share of revenue from CFM and EA engines  
CFM is a 50/50 JV between GE and Snecma  
EA is a 50/50 JV between GE and Pratt & Whitney

4  
Paris Airshow  
6/24/2011

# A great GE business



Installed base leadership ... and growing

Best product portfolio in service

Investing for the next generation ... centered on technology leadership

Deep domain knowledge ... reliable execution

## GE and JVs

Deliveries	2,044	2,783
Installed Base	43,500	50,100

**Winning products on winning applications**



5  
Paris Airshow  
6/24/2011

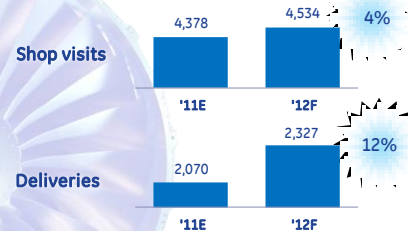
# Commercial environment



## Monthly engine production rates

	2011	2013
CF34	34	38
CFM56	107	119
GE9x	12	21
GE90	14	17

## GE and JV commercial engines

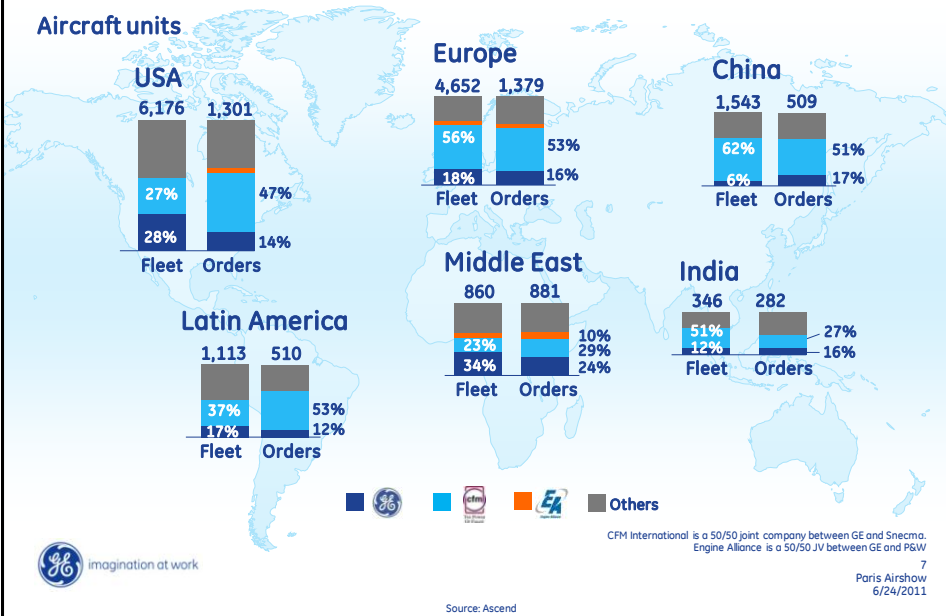


6  
Paris Airshow  
6/24/2011

CFM is a 50/50 JV between GE and Snecma

# Growing in all regions

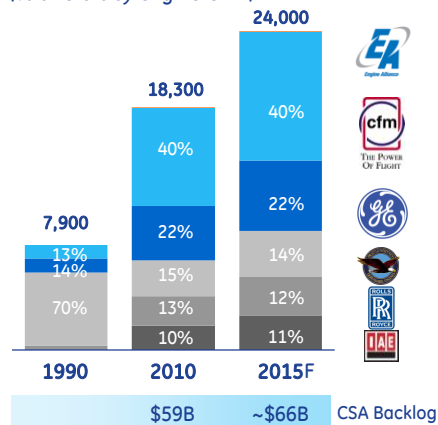
## Aircraft units



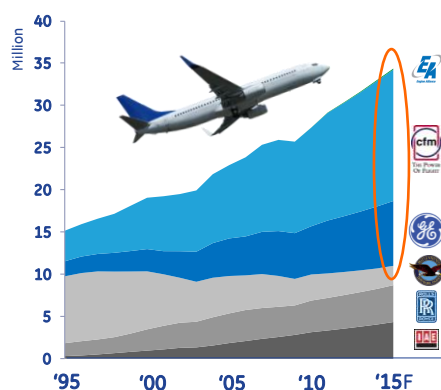
# Installed base trajectory

## In-service fleet

(% aircraft by engine OEM)



## Departures



GE, CFM, and EA ... powering 23 million departures by 2015



CFM is a 50/50 JV between GE and Snecma  
EA is a 50/50 JV between GE and Pratt & Whitney.

8 Paris Airshow 6/24/2011

# Technology leadership

## Today's installed base

### Regional/Business



Bombardier Embraer

### Single-aisle



Boeing Airbus

### Widebody



Boeing Airbus

## Today's investment

### HondaJet



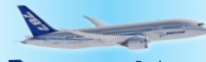
Bombardier



COMAC



Airbus



Boeing



Boeing

Enabled by eCore



Leading efficiency

Lowest emissions

Proven technologies



CFM is a 50/50 JV between GE and Snecma  
EA is a 50/50 JV between GE and Pratt & Whitney  
GE Honda is a 50/50 JV between GE and Honda Aero, Inc.

9  
Paris Airshow  
6/24/2011

# Powering the world's regional fleet



Bombardier CRJ200/700/900/1000



Embraer 170/175/190/195

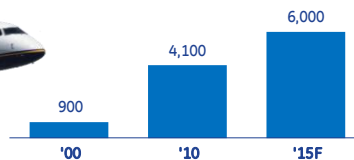


COMAC ARJ21

156 operators  
in 67 countries

73 MILLION flight hours

## CF34 engines in service



## Next generation CF34 in development

- Leveraging eCore technology
- Passport 20 ... won Global 7000/8000
- NG34 regional ... 5,000 aircraft potential



10  
Paris Airshow  
6/24/2011

# CFM ... powering the world's single-aisle fleet

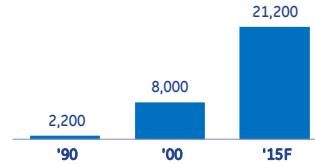


Source: Ascend (6/11)  
A320 includes A318



**500**  
MILLION  
flight hours

## CFM56 engines in service



52% haven't reached first shop visit

## CFM56-7BE upgrade

- Introduced on all new production ... beginning July 2011
- 2% fuel burn improvement at aircraft level
- More than 3,000 aircraft retrofit opportunity

\*CFM has 58% share on 4,433 A320 aircraft  
\*CFM is sole source on 5,077 737 aircraft

CFM International is a 50/50 joint company between GE and Snecma

11  
Paris Airshow  
6/24/2011

# CFM56 ... innovation customers depend on

## Day in the life of a 737



- Logs 5,000 hours/2,900 departures per year
- Carries 430,000 passengers per year
- Burns 3.8 million gallons of fuel

Carrier	Dispatch TAT
Network	40 mins
LCC	20 mins

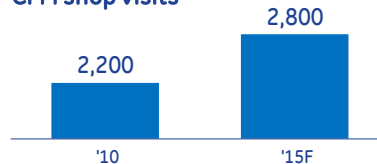
**Best dispatch reliability**



## CFM track record

- 21,000 engines delivered
- 25+ years in service
- 34,000 departures per day
- 500 million engine flight hours
- 7 years to first shop visit

## CFM shop visits



**Lowest cost of ownership**

CFM International is a 50/50 joint company between GE and Snecma

12  
Paris Airshow  
6/24/2011

# CFM selected for COMAC and Airbus next-generation single-aisle

## LEAP engine technology

- 99.98% reliability
- Best in maint. cost
- 20% lower NOx emissions\*

**15%**  
LOWER  
fuel consumption\*



### COMAC C919

- 3,000 aircraft opportunity
- CFM sole western engine



### Airbus A320neo

- 4,000 aircraft opportunity



THE POWER  
OF FLIGHT



\*Compared to today's generation  
CFM, CFM56, LEAP and the CFM logo are trademarks of CFM International, a 50/50 joint company between GE and Snecma

13  
Paris Airshow  
6/24/2011

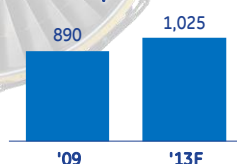
# Today's winning widebody engines

## CF6 ...

**40**  
YEARS  
in service

- Best selling widebody engine ever ... 7,000 delivered
- 362 million hours flown
- Sweet spot for service revenue

### CF6 shop visits

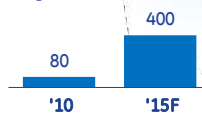


## GP7000 ...

Leading in orders on A380



### Engines in service



**10**  
YEARS  
backlog



EA is a 50/50 JV between GE and Pratt & Whitney

14  
Paris Airshow  
6/24/2011



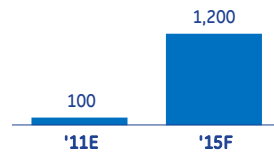
# GENx ... fastest selling widebody engine



**62%**  
787 win rate  
(900 orders)

**15%**  
LOWER  
fuel consumption

GENx engines in service



Most advanced technology engine ...  
over **1,300** on order

Ready to enter service

- 747 – third quarter
- 787 – fourth quarter



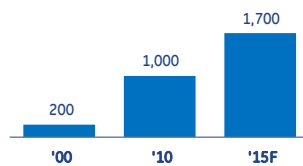
15  
Paris Airshow  
6/24/2011

# GE90 ... record-breaking success



**23**  
MILLION  
flight hours

GE90 engines in service



Most successful large twin in aviation history

Over **800** aircraft on order with **61** customers

Delivering the best  
technology ... **and**  
investing in the  
next generation



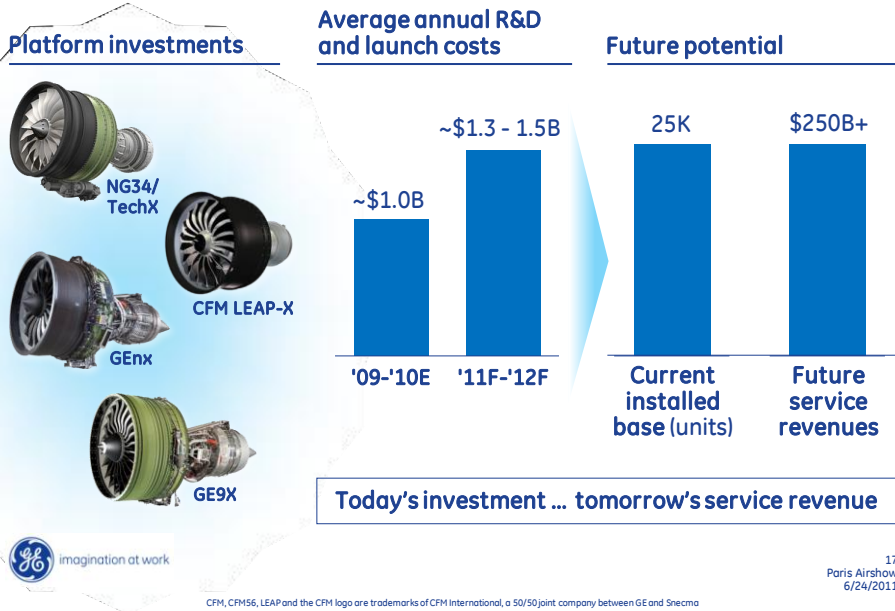
eCore Gen2 for GE9X



16  
Paris Airshow  
6/24/2011



# Commercial business playbook



17  
Paris Airshow  
6/24/2011

# Business and General Aviation

## Large business jet



Integrated engine, nacelle and reverser system

- 8% better fuel consumption than competition due to propulsion
- Opportunity size of 6,000 a/c\*

\*For same cabin size and speed  
\*\*Opportunity estimate over next 20 years



## Light business jet

GE Honda Aero Engines



- 30-35% better fuel burn in class\*
- Opportunity size of 5,400 aircraft\*\*

## Turboprop



Opportunity size (\$ billion)



18  
Paris Airshow  
6/24/2011

# Positioning Systems to deliver

## Simplify

### Supply chain integration

- Strong domain expertise
- Operational execution

### Non-core divestitures

- Four businesses exited since '08

### Productivity benefits

- Indirect cost ↓ 17% since '08
- Working capital turns ↑ 32% since '08
- Consolidated sites ↓ 15% since '08

## Deliver



19  
Paris Airshow  
6/24/2011

# Investing in Systems growth

## Invest

## Grow

Invest	Grow	Life of program revenue
<b>Avionics</b> <ul style="list-style-type: none"> <li>• Integrated vehicle health mgmt.</li> <li>• Air Traffic Management</li> </ul>	Undisclosed Business Jet DFW AgustaWestland	\$2B
<b>Mechanical</b> <ul style="list-style-type: none"> <li>• Integrated propulsion systems</li> <li>• Propellers, landing gear, actuation</li> </ul>	BOMBARDIER AIRBUS	\$13B
<b>Power</b> <ul style="list-style-type: none"> <li>• Distribution and generation</li> </ul>	Undisclosed Business Jet BOEING Defense	\$1B
<b>Unison</b> <ul style="list-style-type: none"> <li>• Ignition systems</li> <li>• Advanced component technology</li> </ul>	Energy AAR BOEING	\$1B

2X investment since 2008



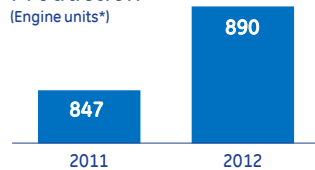
20  
Paris Airshow  
6/24/2011

# Military environment

## Global defense budgets



## Production (Engine units\*)



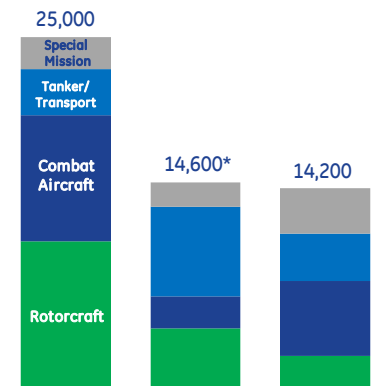
Source: Stockholm International Peace Research Institute  
\*GE and JV engines

- Less investment in new programs ... more affordable technology upgrades for existing fleets
- Service opportunities to lower cost and share risk
- More contribution on new programs



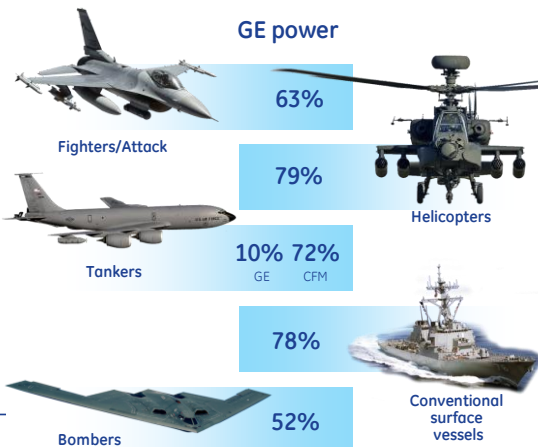
# Our military position

## 2010 installed fleet (engines)



Source: Flight Global, GE Analysis

## Preferred power in theater ...



CFM ~2,300 installed base  
 CFM is a 50-50 JV between GE and Snecma  
 \*Includes RR JVs Turbo-Union (-1,000) and Eurojet (-450)

22  
 Paris Airshow  
 6/24/2011

# Combat aircraft

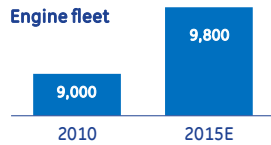
## Today

### F110/F404/F414



- ✓ Super Hornet & Growler-US Navy
- ✓ Saudi F-15 notification
- ✓ India light combat aircraft

### Engine fleet



imagination at work

## Upgrades

### F110

Service Life Extension Program



### TF34 upgrade



- 800+ engine potential

## Future

### ADVENT

(Adaptive Versatile Engine Technology)



- 6<sup>th</sup> generation jet propulsion
- USAF full program award – GE and RR selected



- Next-gen Air Dominance
- Next-gen Tac Air

23  
Paris Airshow  
6/24/2011

# Rotorcraft

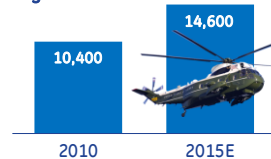
## Today

### T700/T64/T58



- ✓ Turkey ... 220 engines
- ✓ Japan ... 96 engines
- ✓ Australia ... 58 engines
- ✓ Korea ... 51 engines

### Engine fleet



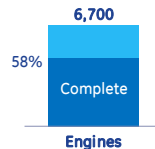
imagination at work

## Upgrades

### T700-701D common fleet



- US Army upgrade program for Apache and Blackhawks
- 2X hot section time-on-wing



## Future

### Improved Turbine Engine Program (ITEP)



- 6,000 engine potential
- 25% better fuel consumption

### GE38



- 600 engine program of record

24  
Paris Airshow  
6/24/2011

# Tanker/Transport/Special Mission

## Today

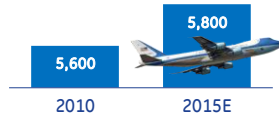
### CFM56-7B



P-8A

- ✓ US Navy - 234 engines
- ✓ Indian Navy - 24 engines
- Australia, Italy ... opp'ty

### Engine fleet



imagination at work

## Upgrades

### F138 retrofit



- 13% ↓ fuel consumption
- Lower life cycle costs

### CFM56-2 upgrade



- Increased fuel savings
- Lower cost of ownership

CFM is a 50/50 JV between GE and Snecma

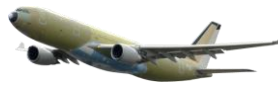
## Future

### KC-46A



- Mission control systems
- Hydraulic actuation
- Power panels

### CF6-80



- Int'l potential - ~30 a/c

25  
Paris Airshow  
6/24/2011

# Marine

## Today

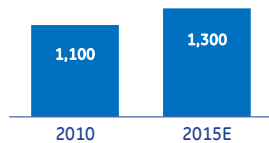
### LM2500/LM6000



Littoral combat ship

- Serving 32 Navies

### Engine fleet



imagination at work

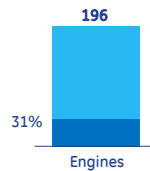
## Upgrades

### LM2500 upgrades



DDG-51

- Electric controls and starting



## Future

### Ship-to-shore connector



SSC

- Powered by GE38
- 300+ engine potential

### Next-generation marine propulsion

- Powered by eCore



26  
Paris Airshow  
6/24/2011

# The global research advantage



**Global Research Center**  
Niskayuna, NY



**India Technology Center**  
Bangalore, India



**China Technology Center**  
Shanghai, China



**Global Research Europe**  
Munich, Germany



**Brazil Technology Center**  
Rio de Janeiro, Brazil

**3,000**  
research  
employees

**40,000**  
GE technologists  
worldwide

**~\$4 billion**  
technology  
spend



27  
Paris Airshow  
6/24/2011

# Global reach and connectivity

**Aero-Thermal and  
Mechanical Systems**

**Chemistry and Chemical  
Engineering**

**Diagnostics and  
Biomedical Technologies**

**Electrical Technologies  
and Systems**

**Manufacturing and  
Materials Technologies**

**Software Sciences  
and Analytics**



Healthcare



Aviation



Transportation



Energy



28  
Paris Airshow  
6/24/2011

# Aviation Summary

Winning products on winning airplanes

Unprecedented installed base ... and growing

Production rates securing long term service revenue

Investment in all segments securing product positions

GE commitment to technology leadership

**\$10B+ wins at Paris**



# Aviation financials

(\$ millions)



\*Includes GE share of CFM, EA, and GE Honda Aero engines  
 CFM is a 50/50 JV between GE and Snecma  
 EA is a 50/50 JV between GE and Pratt & Whitney  
 GE Honda is a 50/50 JV between GE and Honda Aero, Inc.



