Pratt & Whitney Military Engines
2014 Overview

This presentation includes "forward looking statements" concerning expected revenue and other matters that are subject to risks and uncertainties. Important factors that could cause actual results to differ materially from those anticipated or implied in forward looking statements include the health of the global economy; strength of end market demand in the commercial aerospace industry; fluctuation in commodity prices, interest rates, and foreign currency exchange rates.

For information identifying other important economic, political, regulatory, legal, technological, competitive and other uncertainties, see UTC's SEC filings as submitted from time to time, including but not limited to, the information included in UTC's 10-K and 10-Q Reports under the headings "Business," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Cautionary Note Concerning Factors that May Affect Future Results," as well as the information included in UTC's Current Reports on Form 8-K.

UNITED TECHNOLOGIES CORPORATION

Overview

2013 Revenue: $62.6 billion

United Technologies — Climate | Controls | Security

OTIS

Sikorsky

Pratt & Whitney — Dependable Engines

UTC Aerospace Systems





BUILDING & INDUSTRIAL

AEROSPACE

Photos credit: UTC

Updated: 4/1/2014

PRATT & WHITNEY

Markets

Commercial Engines

Military Engines

Pratt & Whitney Canada

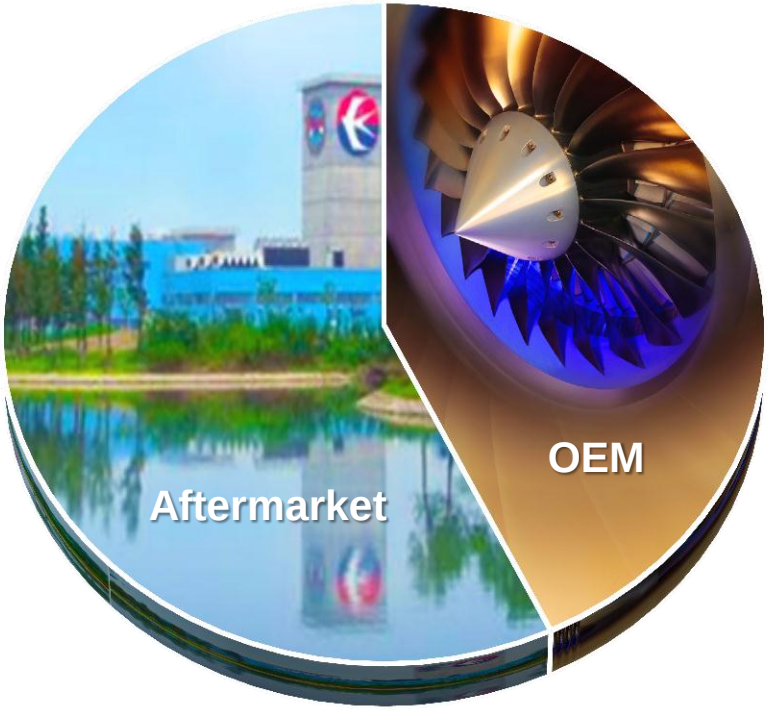
Pratt & Whitney AeroPower

Photos credit: Pratt & Whitney

PRATT & WHITNEY

2013 sales

P&W
AeroPower



2013 reported sales
$14.5B

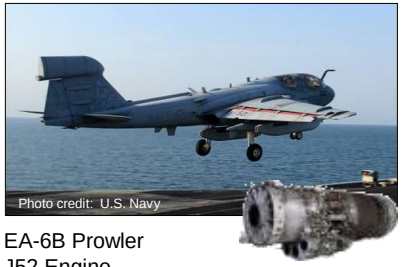
Photos credit: Pratt & Whitney

Updated: 4/1/2014

MILITARY ENGINES PRODUCTS

Operational Military Engines

F-15 / F-16
F100 Engine



EA-6B Prowler
J52 Engine

B-52 Stratofortress
TF33 Engine

Mobility & Surveillance Systems

C-17 Globemaster III
F117 Engine

E-8 JSTARS
JT3D & JT8D Engine

KC-46A Tanker
PW4062 Engine

Fifth Generation Fighter Engines

F-22 Raptor
F119 Engine

F-35 Lightning II
F135 Engine

Advanced Engine Programs

AH-64 Apache
HPW3000 Engine

Predator C Avenger
PW545 Engine

Future Applications

All engine photos credit: Pratt & Whitney

WORLDWIDE MILITARY ENGINE FAMILY

United States | Argentina | Australia | Belgium | Brazil | Canada | Chile | Denmark | Egypt | Great Britain

United Arab Emirates | Greece

Turkey | Indonesia

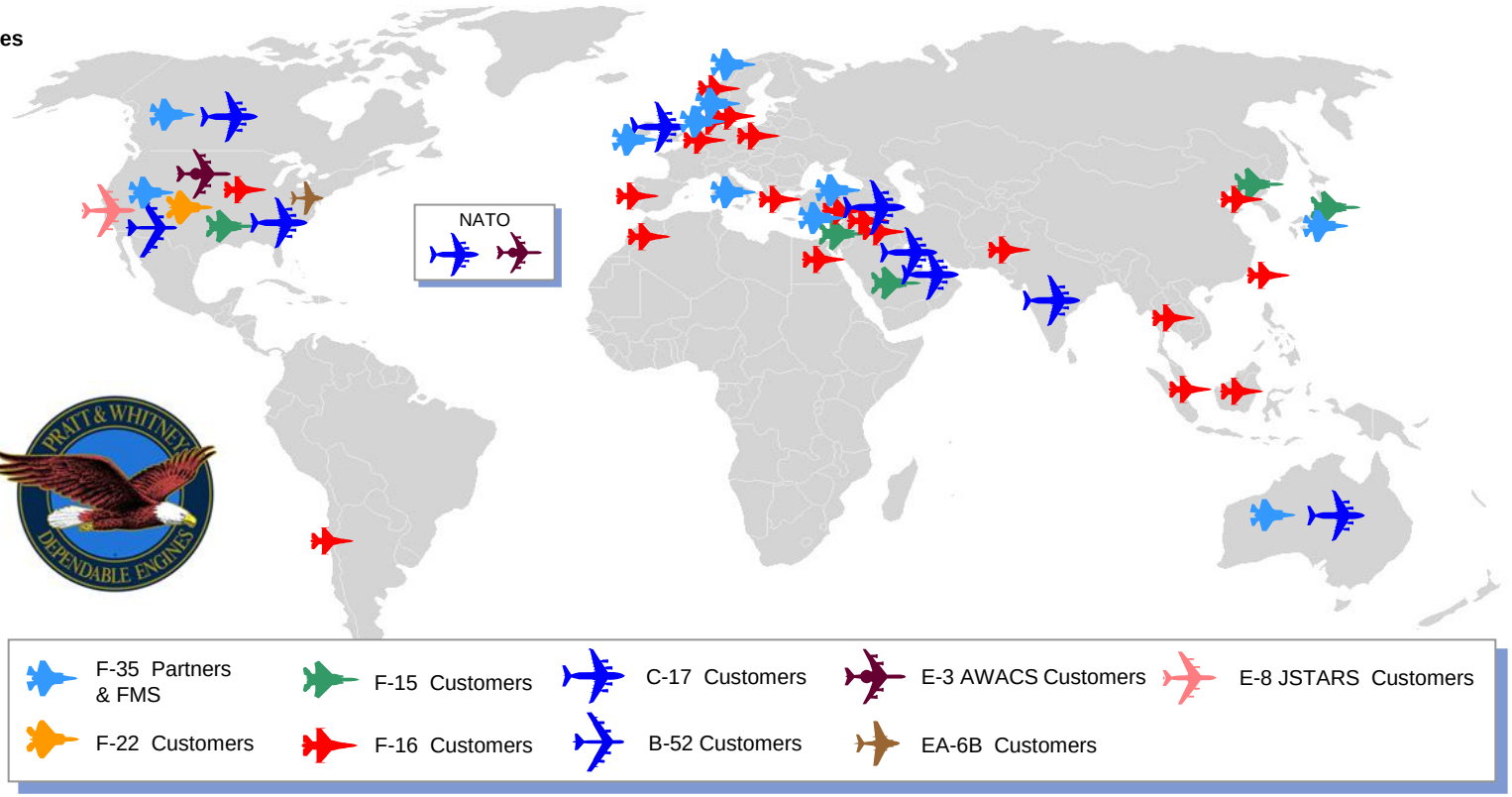
Thailand | India

Taiwan | Iraq

Singapore | Israel

Saudi Arabia | Italy

Qatar



Portugal | Poland | Pakistan | Norway | Netherlands | NATO | Morocco | Kuwait | Korea | Jordan | Japan

F100 OVERVIEW

Powering the world's 4th generation fighters

43 Years of fighter engine experience

Over 3100 operational engines in service

Over 25 million engine flight hours

Air forces of 22 nations

Powers 100% of all production USAF F-15s

Industry leading safety and reliability

Production opportunity through 2016+

Photo credit: U.S. Air Force

Photo credit: Pratt & Whitney

C-17 / F117 ENGINE

Power for the C-17 Globemaster III

40,000 lb thrust class

Member of P&W's proven PW2000 family of commercial engines

First flight: 1991

Initial operational capability: 1995

Over 1200+ F117 engines delivered

International customers: UK, UAE, Kuwait, Australia, Canada, Qatar, NATO, India

More than 30 International C-17s

Over 10 million engine flight hours

Globemaster III Integrated Sustainment Program partnership with Boeing for F117 overhaul & repair

Photo credit: U.S. Air Force

Photo credit: Pratt & Whitney

PRATT & WHITNEY POWERS USAF KC-46A TANKER

Program size: 179 Boeing 767-2C aircraft

358 BOM PW4062 install engines

10 spare program engines

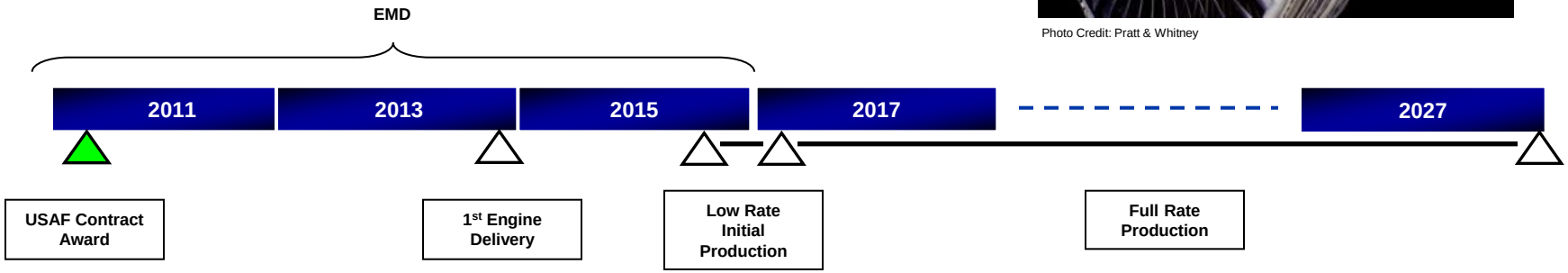
All EMD engines on purchase order

1st engine delivery in November 2013

KC-46A Tanker first flight in 2014

Photo Credit: Boeing

Photo Credit: Pratt & Whitney



P&W PROVIDING 5TH GENERATION POWER

F-94 Starfire

F9F Panther

A-6 Intruder

F-100 Super Sabre

F-111 Aardvark

F-16 Fighting Falcon

F-15 Eagle

F-22 Raptor

F-35 Lightning II

1st Gen	2nd Gen	3rd Gen	4th Gen	5th Gen
				
J48	J52	TF30	F100	F119
				
J42	J57			F135

Pratt & Whitney Engines

Safety, Reliability & Maturity

The Only Engine for the 5th Generation Fighters

5th Gen A/C Characteristics

- All Aspect Stealth
- Fighter Performance
- Increased Situational Awareness
- Net-Enabled Operations
- Advanced Diagnostics

All aircraft - Photo credit: U.S. Air Force / U.S. Navy
All engines - Photo credit: Pratt & Whitney

F-22 RAPTOR / F119 ENGINE

Safe & reliable fifth generation propulsion

35,000 lb thrust class

System integrated diagnostics

First fielded maintainable low observables

Initial operational service: 2005

World class fighter safety and reliability

Delivers game changing capability to the F-22

Photo credit: U.S. Air Force

Photo credit: Pratt & Whitney

Production completed at 187 aircraft / 507 engines; transitioning to sustainment

F-35 / F135 ENGINE

The world's most powerful fighter engine

40,000 lb thrust class

Providing power for all F-35 variants

Many common features with F119

First engines to test:
- CTOL / CV: October 2003
- STOVL: April 2004

F-35 first flights:
- CTOL: December 15, 2006
- STOVL: June 11, 2008
- CV: June 10, 2010

CTOL / CV and STOVL initial service release achieved in 2010

In production – over 130 delivered

Growing affordable sustainment footprint

Photo credit: U.S. Air Force / Master Sgt. John R. Nimmo, Sr.

Photo credit: U.S. Marine Corps / Lance Cpl Brendan King

Photo Credit: U.S. Navy / Maj. Karen Roganov, 33d Fighter Wing Public Affairs

MILITARY DEVELOPMENT PROGRAMS

FUTURE MILITARY NEEDS

Driven by U.S. Defense strategy

Range

Persistence

Power and thermal

Flexibility, adaptability

Technologically advanced

Image credit: Department of Defense

ADVANCED ENGINE PROGRAMS (AEP)

Create, validate, transition technologies to product

Industry technology development & transition leader

Product affordability

Sustainment and fuel burn cost reduction

Military / commercial dual use

Integrated power and thermal systems

Green technologies (noise, emissions, effluents)

Photo credit: Lockheed Martin

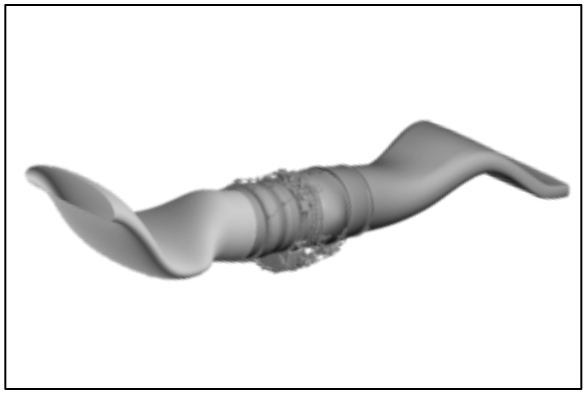


Image credit: Pratt & Whitney

AETD

Maturing critical technologies for adaptive engines

Program Goals: -25% SFC, +10% thrust relative to 5th Generation Fighter Engine Baseline

AETD program elements:

- Engine preliminary design
- AETD core demonstrator
- Adaptive fan & 3-stream exhaust engine demonstrator
- Common core studies

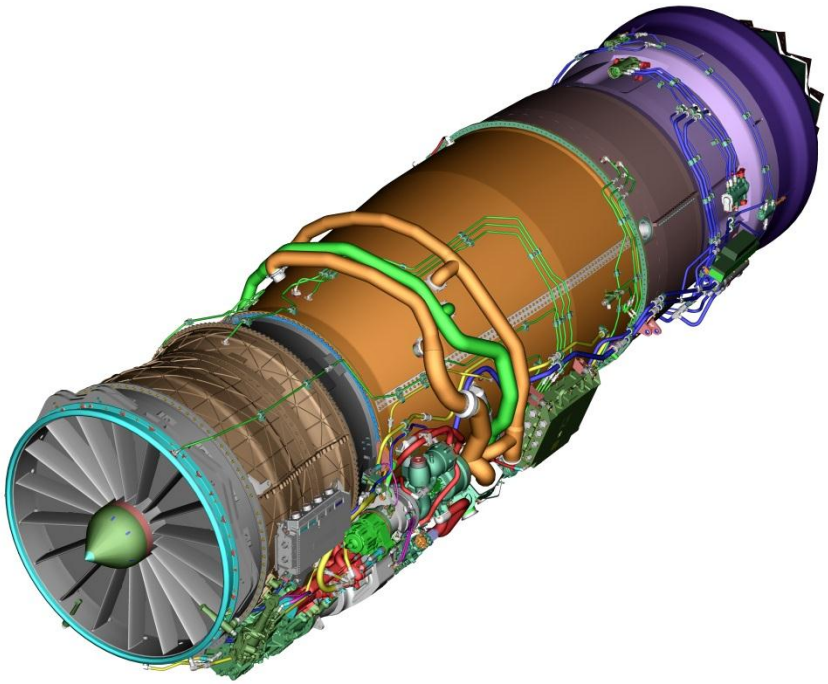


Image credit: Pratt & Whitney

Completed Adaptive Fan Risk reduction testing

SMALL MILITARY ENGINES (SME)

Affordable rotorcraft performance for military customers

Market segment focus for P&W Military Engines

Teamed with Honeywell on advanced 3000 shaft HP development

SME focus – military turboshaft applications and UAV

- Pratt & Whitney Canada engine derivatives
- New centerline development
- Small engine technology development

Photo credit: U.S. Army

Photo credit: U.S. Army

Image credit: ATEC

Photo credit: GA

Photo credit: Northrup Grumman

HPW3000 PROGRAM

Achieving outstanding technical success

3000 shp turboshaft engine

Significant improvement in efficiency and power density

Capability improvement for UH-60 Black Hawk and AH-64 Apache

Significant Operational Energy/O&S cost savings

ATEC
Advanced Turbine Engine Company
A Joint Venture of Honeywell and Pratt & Whitney
Honeywell Pratt & Whitney

HPW3000 ready for transition

Photo credits: ATEC

NAVY UNMANNED COMBAT AIR SYSTEM

Highly successful flight test program

Aviation first – first-ever catapult launch and arrested landing of a UAV on a carrier at sea in 2013

2013 Collier Trophy awarded to US Navy, Northrop Grumman, and Industry team

Photo Credit: Northrop Grumman

Dependable, proven single-engine safety with the F100-PW-220U

SPECIAL TECHNOLOGY PROGRAMS (STP)

Next generation low observable (LO) technology

Leader in LO technology

Photo credit: Pratt & Whitney

Image credit: U. S Air Force

Next generation system integration

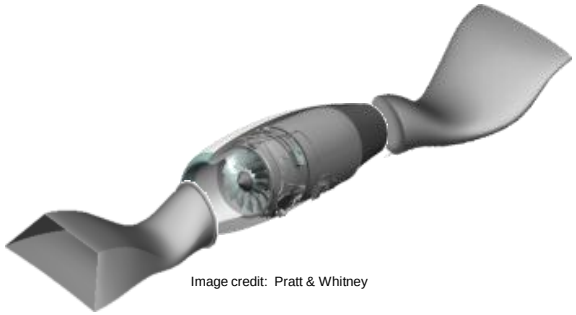


Image credit: Pratt & Whitney

Advanced unmanned systems

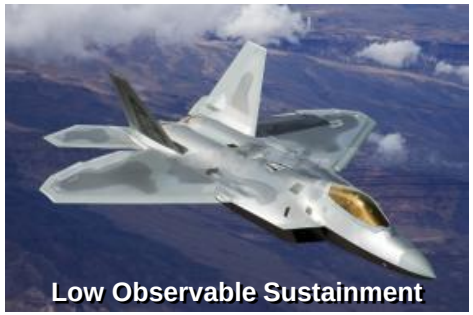


Photo credit: Lockheed Martin

Photo credit: Pratt & Whitney