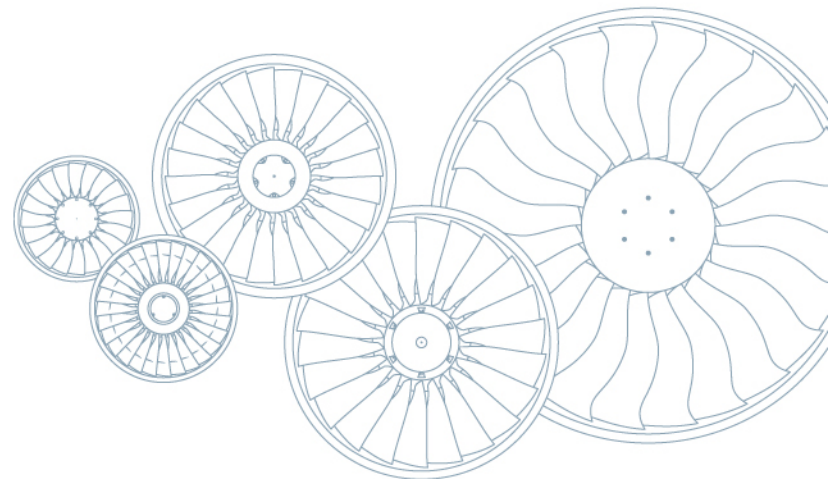




## Market Outlook 2010

*11th Annual Aviation Suppliers Conference  
September 21-23, 2010, Toulouse*

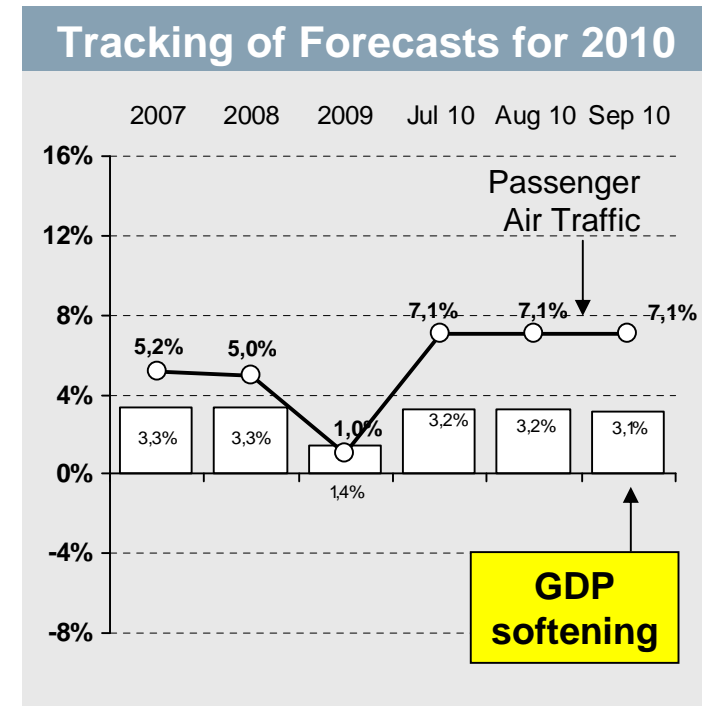
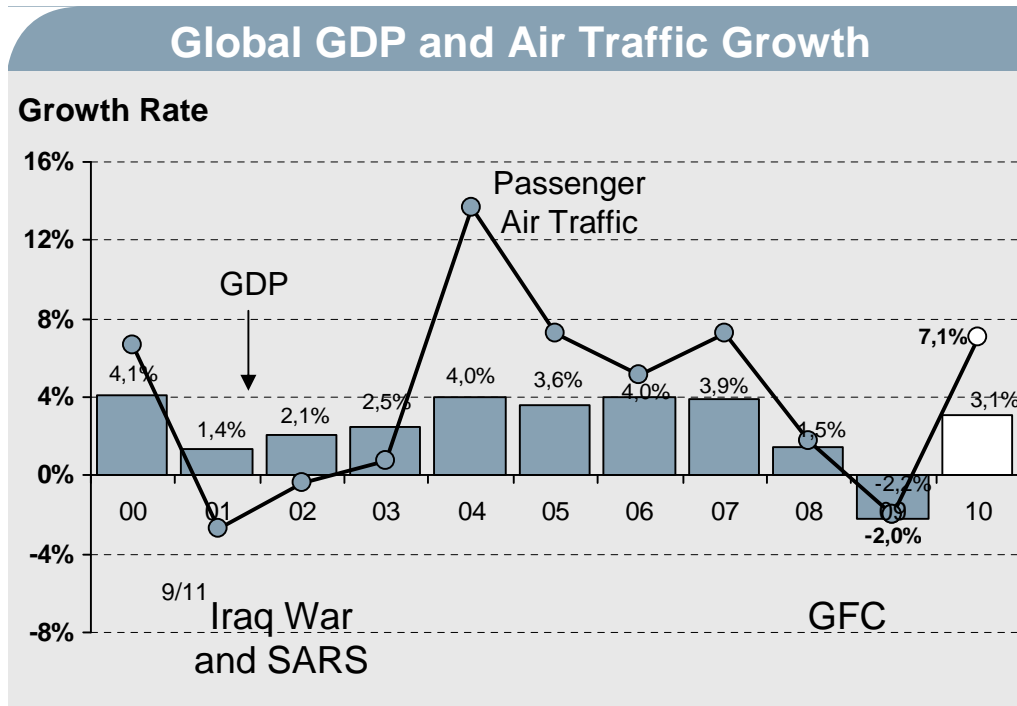
**Marc Le Dilosquer – Director, Market Analysis**



# 1. Current Situation

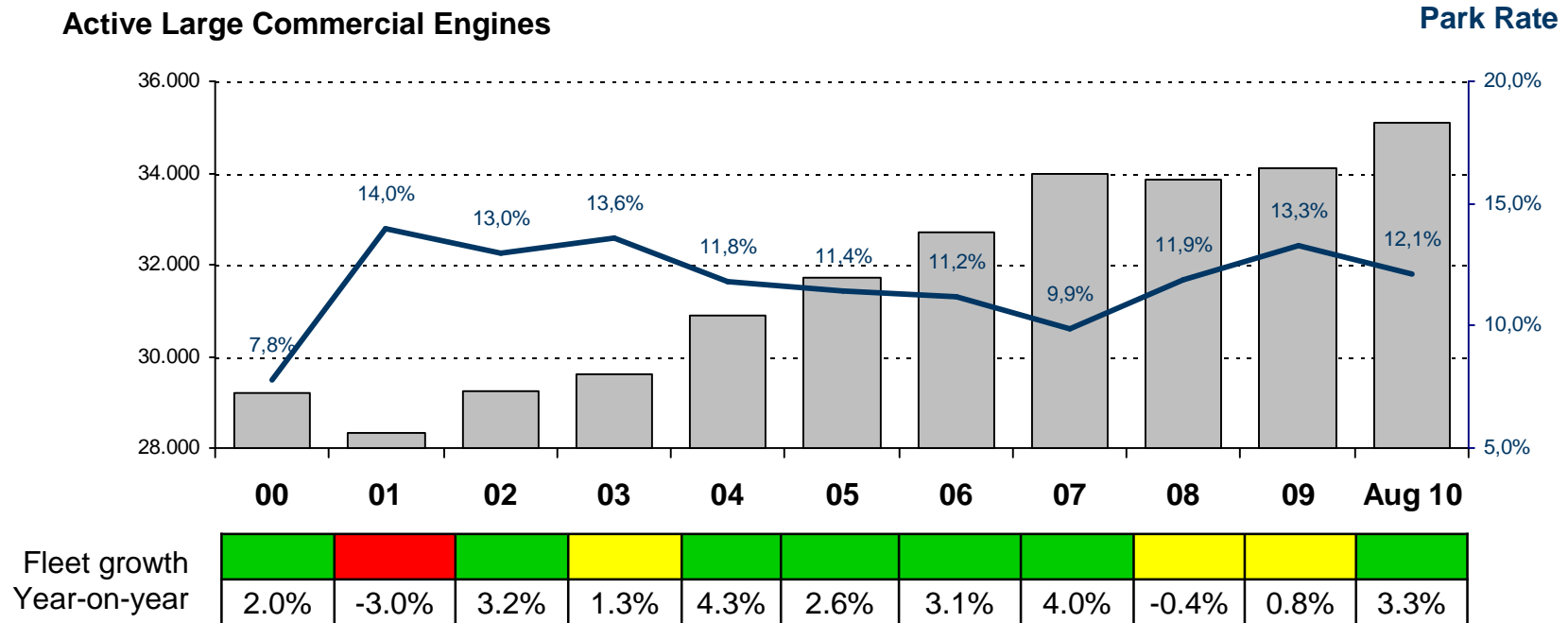
## 2. Outlook

# Recovery continues with first signs of softening



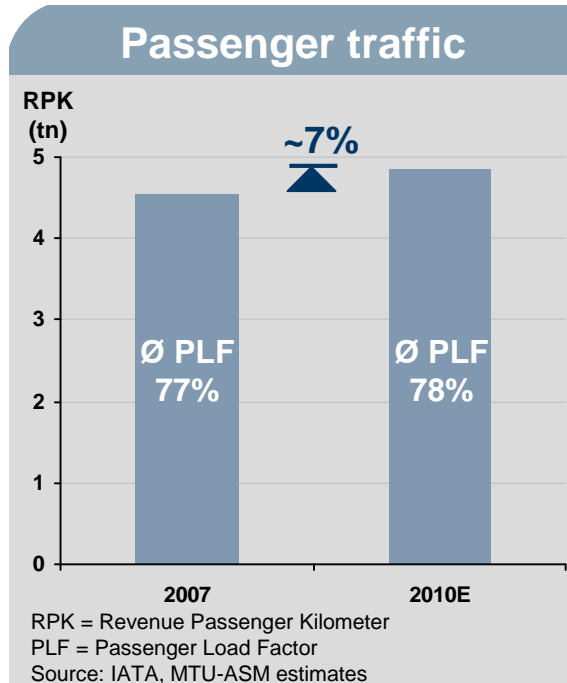
Source: EIU, IATA, ICAO, Boeing, MTU/ASM estimates

# Active engine fleet growing again

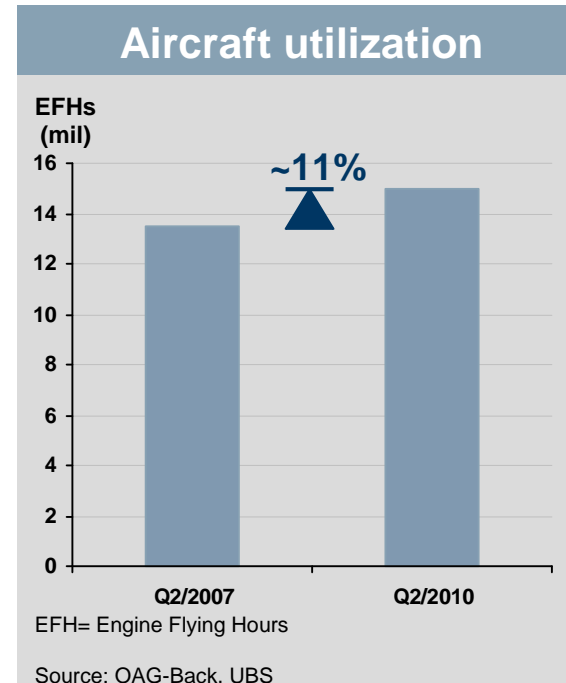


Source: Ascend Online

## Engine flight hours now above pre-crisis levels



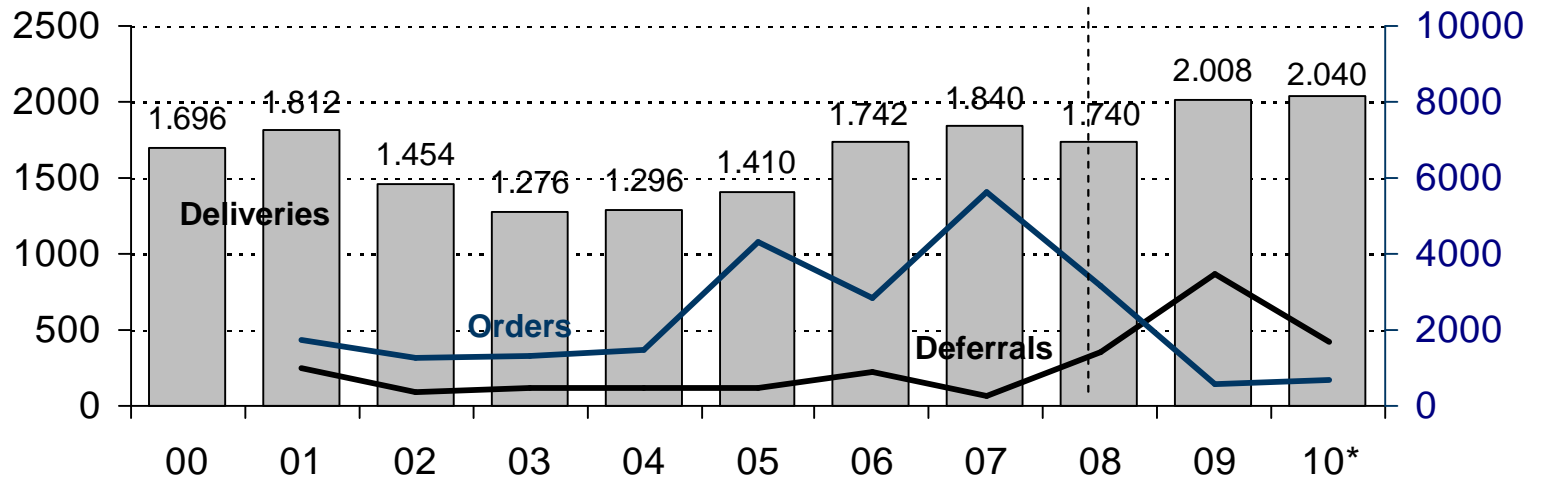
- Part of growing demand absorbed by higher load factor vs. add. aircraft



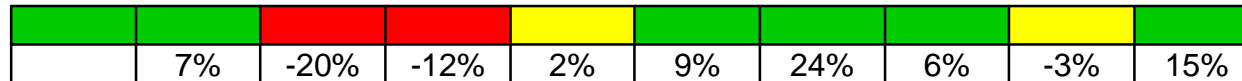
- Increase partly due to productivity improvement with new aircraft

## High production rate maintained but few orders

**Deliveries & Deferrals of Large Commercial Engines (# Engines)**

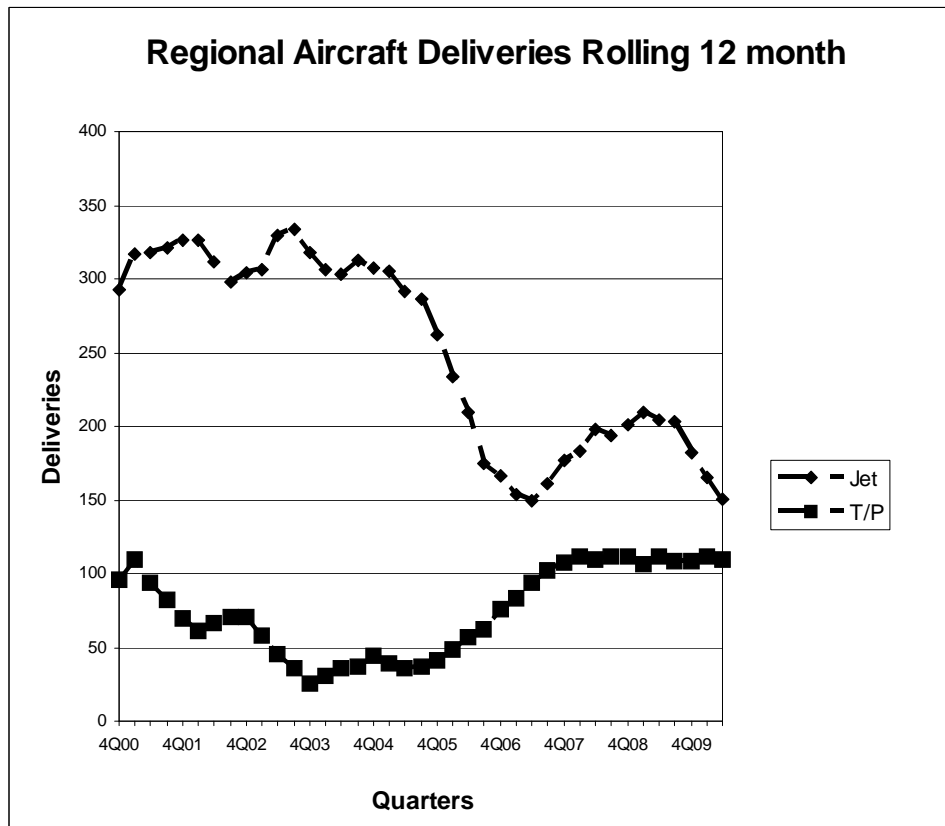


**Delivery growth  
Year-on-year**



## Same environment but different courses for RJs and TPs

### Deliveries 00Q4 to 10Q2



### Highlights

- RJ deliveries down since 2008
- 90-seaters make bulk of demand
- TPs at 2000 level and stable

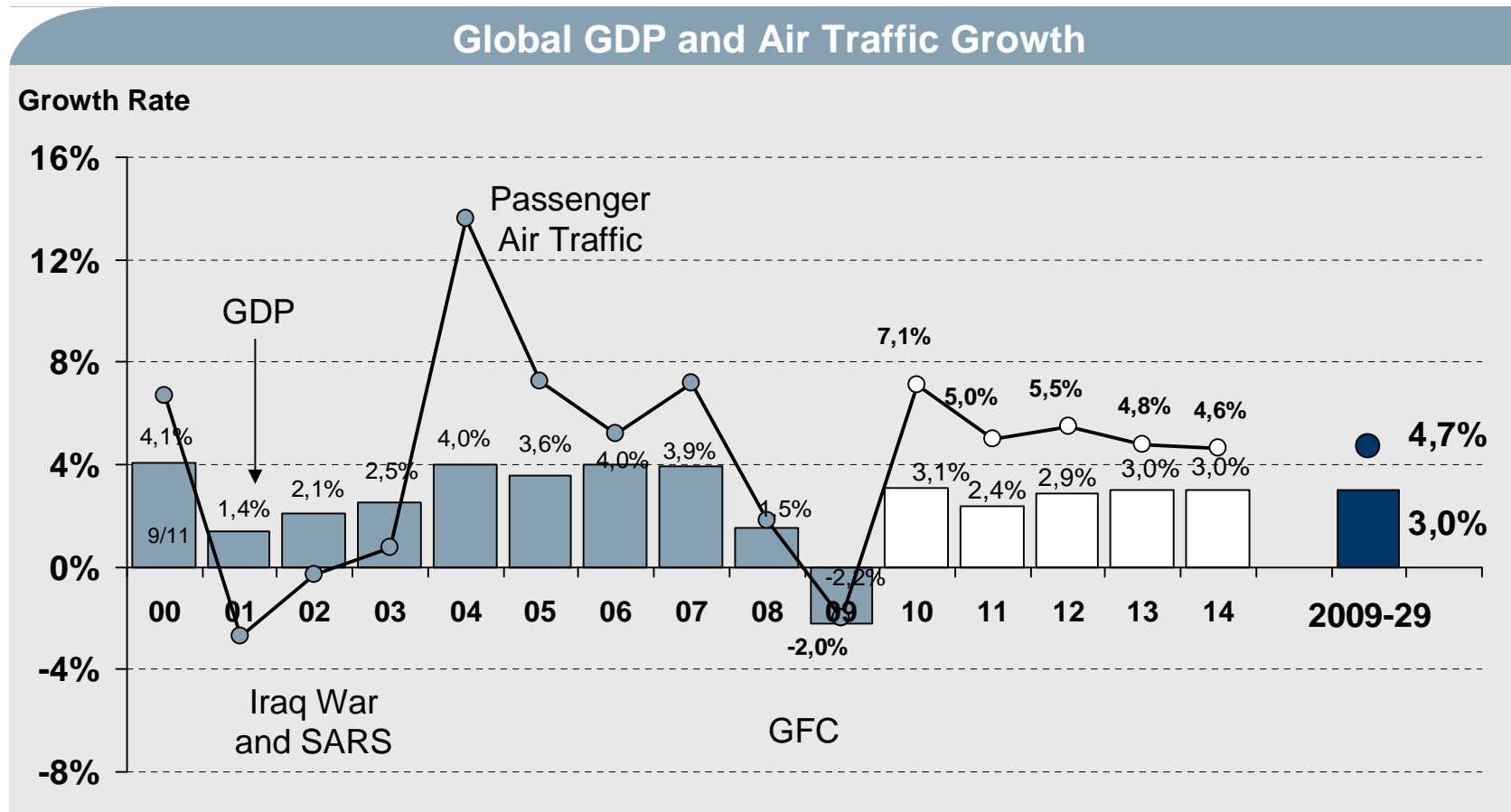
## Current Market Situation – Highlights

- Recovery slowdown is an expected adjustment
- Two-speed traffic recovery
- Engine flight hours clearly above pre-crisis levels
- Return from storage of mature and older engines is limited
- Airliner and turboprop engine deliveries stable, RJ deliveries down

## 1. Current Situation

## 2. Outlook

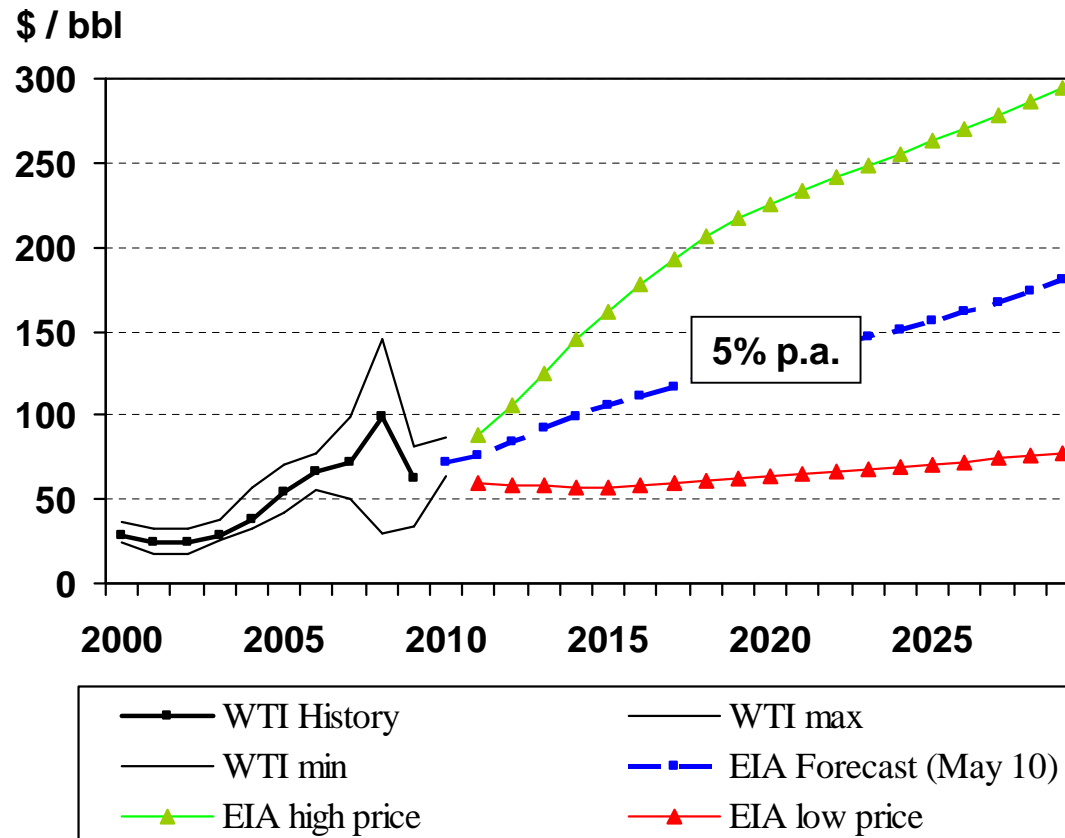
## Softening in 2011 with more moderate expansion in 2012-14 Structural issues weigh down on long term growth



Source: EIU, IATA, ICAO, Boeing, MTU/ASM estimates

## EIA forecasts oil price to grow 5% p.a. over the next 20 years

### EIA Crude Oil Price Forecasts



### Highlights

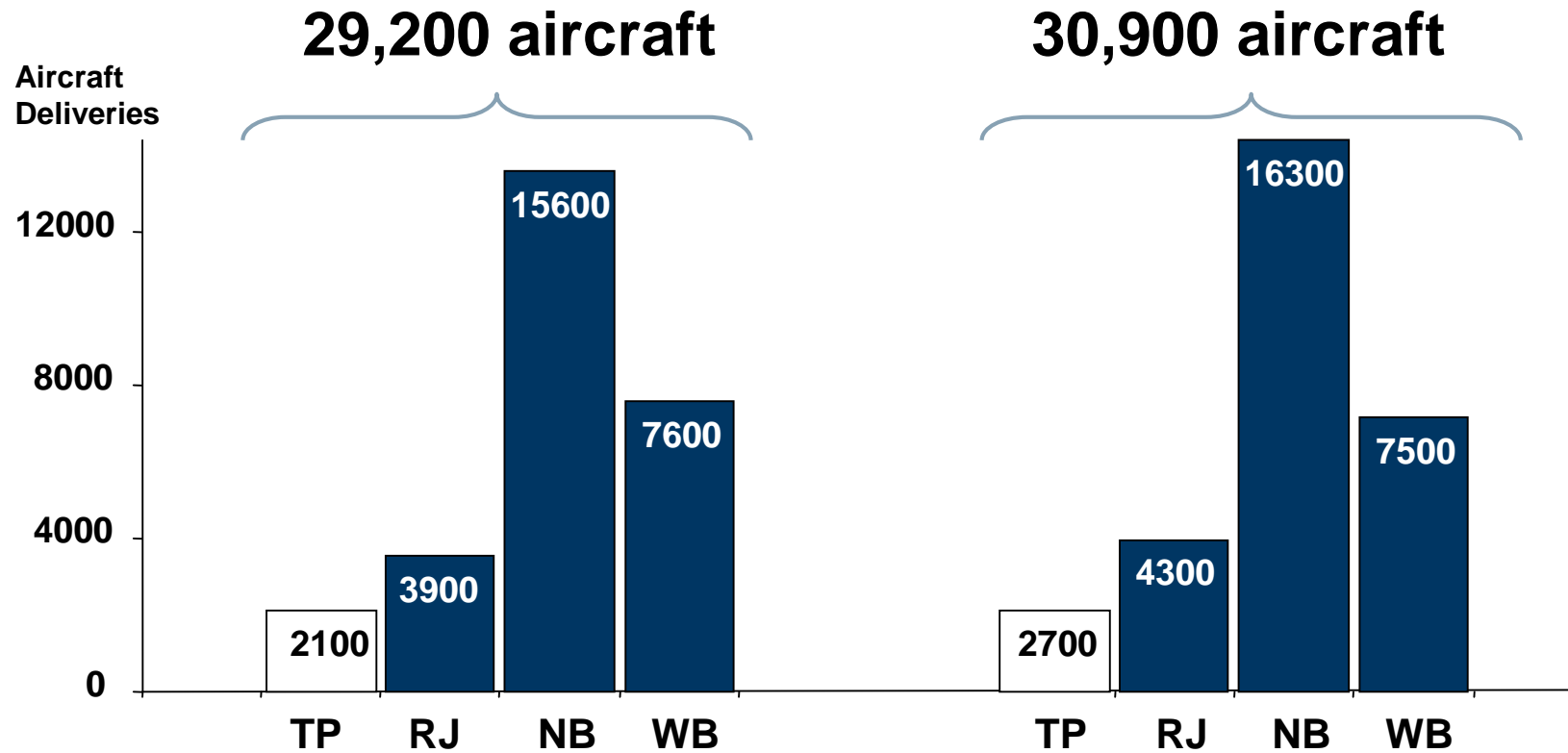
Price in 2020	2008\$	Nominal
High	\$185	\$185
Ref.	\$108	\$132
Low	\$52	\$63

Source: EIA May 2010, US Department of Energy, Energy Information Administration (EIA); 2.5% escalation p.a. after 2010

## 20-year forecast up 6% with close to 31,000 commercial aircraft

### 2009 Outlook

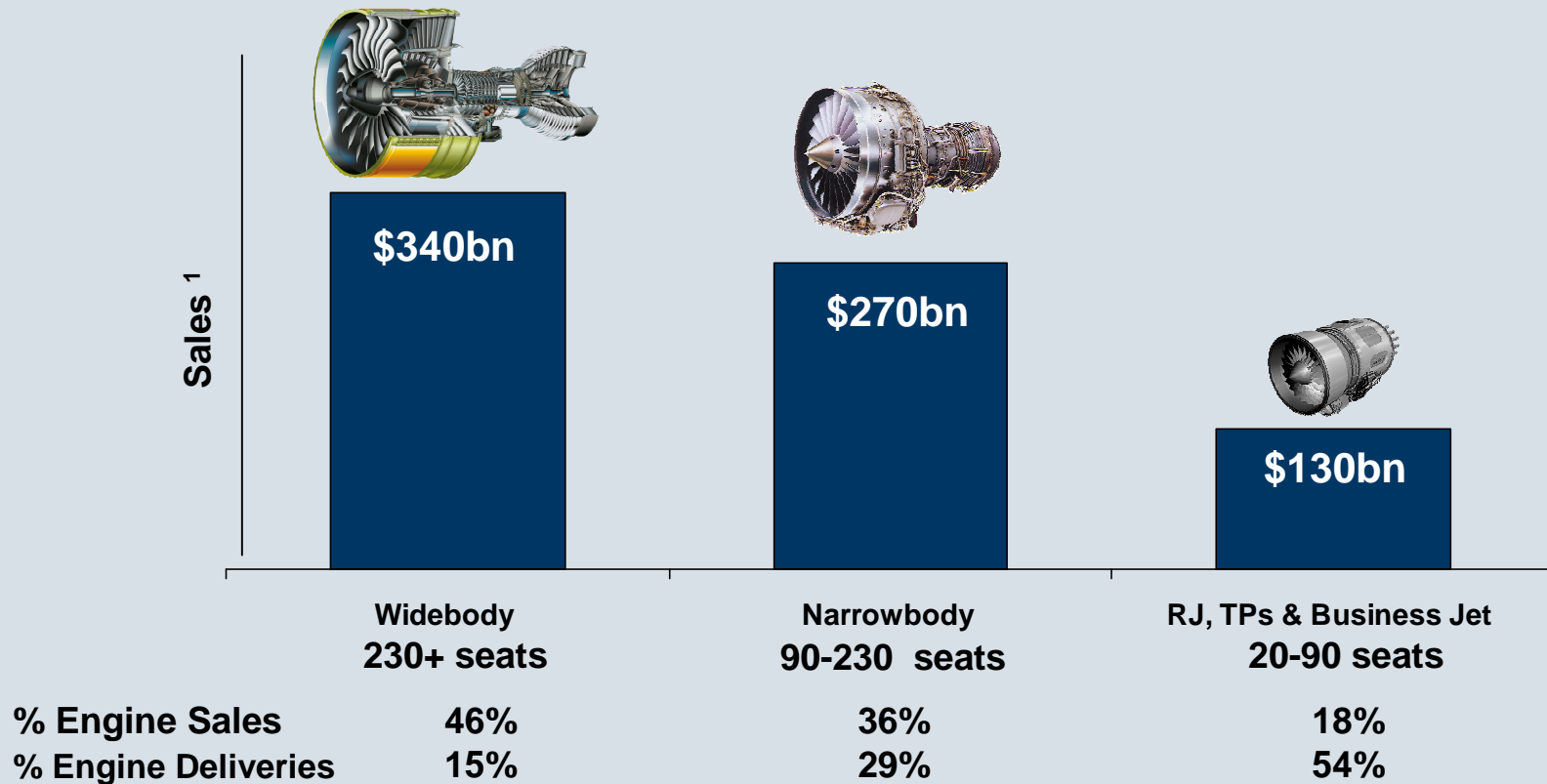
### 2010 Outlook



Source: MTU/ASM September 2010 Note: RJ and NB segments do not include derived bizjets

# The commercial aero engine market is expected to generate \$740bn of new engine sales over the next 20 years

Expected Deliveries and Sales 2010-2029: CAGR ~3%



Source: MTU/ASM September 2010 1) Sales expressed in constant 2010\$

## Scenario analysis – Impact of various economic scenarios on narrowbody demand

- 4 possible outcome for world economy selected
- Influence of GDP and oil price on traffic growth alone
- Quantification of impact limited to narrowbody segment
- Within narrowbody sub-segments, all aircraft types assumed to have similar productivity characteristics
- Single retirement curve used and based on recent 2002-2008 data
- Some load factor and aircraft productivity growth assumed over 20 years
  
- **Warning: study conducted with a university and using different assumptions to MTU forecast presented up to now!**

## Scenario analysis – Economic scenarios

		2008 – 2015	2016 – 2023	2024 – 2030
Baseline scenario	Ø oil price	85\$	110\$	120\$
	Ø GDP growth*	2.2 %	3.2 %	3.2 %
Strong recovery	Ø oil price	110\$	190\$	210 \$
	Ø GDP growth*	2.7% ↑	3.2%	3.2%
Double-Dip	Ø oil price	65\$	75\$	100\$
	Ø GDP growth*	1.2 % ↓	3.2%	3.2%
Stagnation	Ø oil price	85\$	95\$	100\$
	Ø GDP growth*	2.2%	2.2% ↓	3.2%

	EIA oil price reference scenario growth rates
	EIA high price scenario growth rates
	EIA low price scenario growth rates

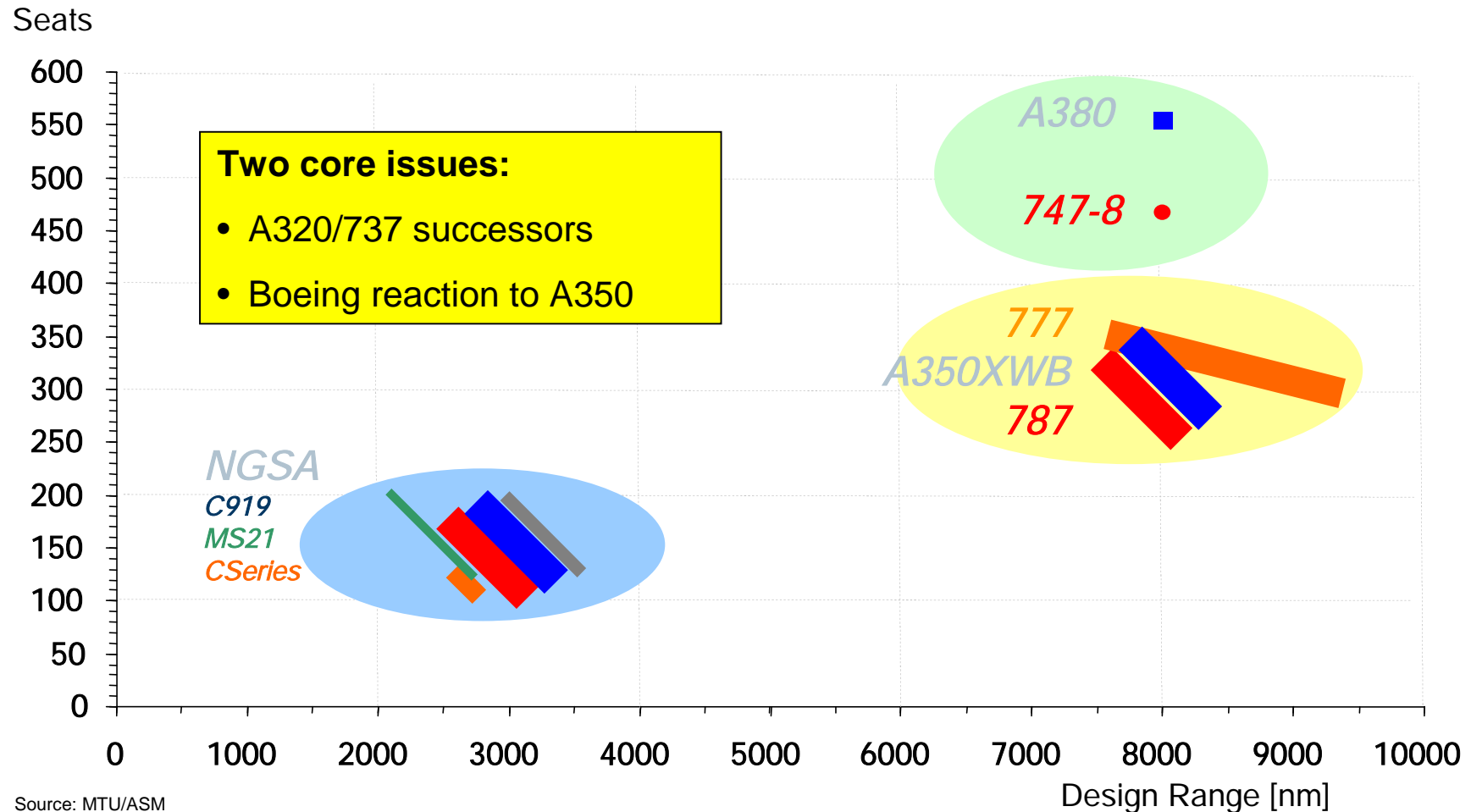
Sources: EIU, EIA      Note: case studies using different assumptions to MTU forecast presented

## Scenario analysis – 20-year results

Scenario	Average Traffic Growth	2009 Fleet	2029 Fleet	20-year Deliveries	Deliveries In 2020	Deliveries in 2029
<b>Baseline</b>	4.8%	11,700	23,200	20,200 (Base)	1,000	1,500
<b>Strong recovery</b>	5.3%	11,700	25,600	22,600 (+12%)	1,100	1,700
<b>Double-Dip</b>	4.1%	11,700	20,900	17,700 (-12%)	900	1,400
<b>Stagnation</b>	4.1%	11,700	20,400	17,400 (-14%)	700	1,400

Note: case studies using different assumptions to MTU forecast presented

## What's next to be developed? Plenty of scenarios here as well!



Source: MTU/ASM

## Market Outlook – Highlights

- Expected softening of GDP and traffic in 2011 (forecast: 2.4% and 5% resp.)
- Structural issues to weigh down on long-term growth (GDP: 3.0%, Traffic: 4.7%)
- Oil price to grow 5% p.a. over next 20 years
- 2010 forecast sees 31,000 commercial aircraft to be delivered over 20 years
- Engine market to generate \$740bn of new engine sales in next 20 years
- Economic scenario analysis points to corridor of confidence of -15% to +15% for 20-year narrowbody deliveries
- Product development core issues: A320/737 successors, Boeing response to A350

# Thank you!

## Key Figures

	TP	BJ	RJ	NB	WB	Total
Aircraft Deliveries 2010-29	2720	27890	4350	16290	7470	58720
	5%	47%	7%	28%	13%	100%
Engine Deliveries 2010-29	5880	53810	9400	35230	18370	122690
	5%	44%	8%	29%	15%	100%
Engine Sales (\$bn)	7	89	42	268	339	745
	1%	12%	6%	36%	46%	100%