



Analyst Lunch Meeting at Paris Air Show 2017

06/21/2017 – Paris Air Show 2017

Agenda - Analyst Lunch Meeting at Paris Air Show 2017

Speaker	Agenda
Michael Röger , VP Investor Relations	<ul style="list-style-type: none">• Welcome
Reiner Winkler , Chief Executive Officer	<ul style="list-style-type: none">• MTU's market environment
Dr. Rainer Martens , Chief Operating Officer	<ul style="list-style-type: none">• Status of development programs• Production ramp-up GTF @ MTU• Additive manufacturing @ MTU
Michael Schreyögg , Chief Program Officer	<ul style="list-style-type: none">• Geared Turbofan in service• V2500 aftermarket in sweet spot• Update on TP400-D6• Above market growth in MRO• JV with Lufthansa Technik agreed
Reiner Winkler , Chief Executive Officer	<ul style="list-style-type: none">• IFRS 15@MTU• Guidance 2017 confirmed• Long term outlook• MTU's cash deployment strategy

Market Environment Remains Encouraging

Market Indicator	2015 A	2016 A	
Passenger Traffic	+7.4%	+6.3%	Strong start in 2017
Airline Profits	\$35 bn	\$36 bn	... remain at peak level
Crude Oil (Brent)	52 \$	44 \$	Stimulates traffic, benefits park and retirement rates
Airliner Deliveries	1,397	1,443	Delivery rates are expected to go up
Airliner Orderbook	13,365	13,442	Backlog is turning into deliveries
Airliner Engine Fleet	43,300	45,600	Fleet up to meet traffic growth

Status of development programs

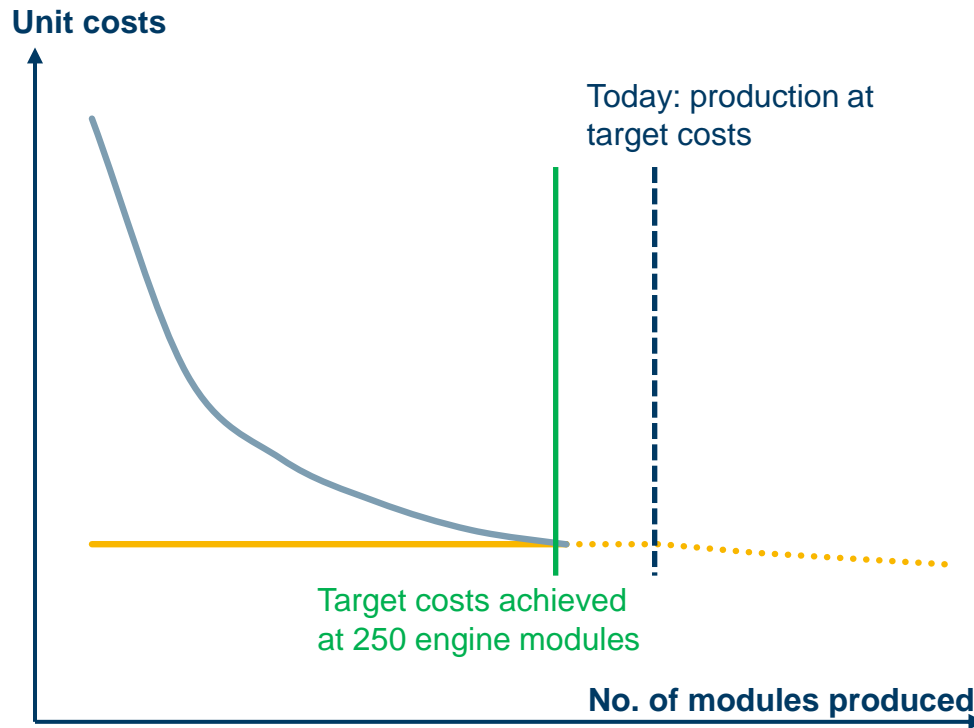
	PW1500G C Series	PW1100G A320neo	PW1200G MRJ	PW1400G MS-21	PW1900G 2nd Gen E-Jets	PW800 G500 / G600	GE9X B 777X	T408 CH-53K
								
First engine to test	✓	✓	✓	✓	✓	✓	✓	✓
Tested in flying testbed	✓	✓	✓	N/A	✓	✓	2017	N/A
Engine certification	✓	✓	✓	✓	✓	✓	2019	2018*
First flight	✓	✓	✓	✓	✓ (E190-E2)	✓	2019	✓
Entry into service	✓	✓	2020	2019	2018	2017	2020	2019

* T408: Certification of whole aircraft system after flight testing is completed

With PW1200G and PW1900G two more GTF-engines were certified in 2017

Production ramp-up Geared Turbofan @ MTU

PW1100G-JM target costs and achievements



- Overall quality is at a high level
- Volume is increased step by step
- Lead times are on track
- Actual costs are within target costs, further reductions are ongoing

— Learner curve
 — Target costs Efficiency gains p.a. post learner curve

Quality, volume and cost are on track

Additive Manufacturing @ MTU

MTU's expertise and current status of AM-activities

- 10 years of experience in metallic 3D-printing technology (first part used for rig-testing in 2007)
- First 3D-printed part certified and implemented in service at PW1100G-JM in 2013
- Strategic partnership with German innovator EOS in industrial 3D-printing
- Online monitoring system developed to achieve airworthiness certification
- In-house expertise allows benchmark quality and process know-how of the whole value-added chain
- Double digit cost savings achieved
- Volume of ~15,000 parts p.a. expected for GTF-engines
- Additional parts in future engine programs identified which could grow volume up to ~200,000 parts p.a
- For this reason high focus on bionic design capabilities



Geared Turbofan in Service

- 54 A320neo equipped with PW1100G-JM engines in operation
- 13 C Series powered by PW1500G engines entered flawlessly into the market
- GTF engines performed > 200,000 flight hours
- GTF dispatch reliability over 99%
- Fuel consumption reduced by 16%, noise footprint reduced by 75%
- Strong order book of more than 8,000 GTF engines
- Motor to start time and nuisance messages - solved
- Retrofit program for carbon oil seal completed
- Upgrade of combustion chamber will extend on wing time in harsh environments
- Delivery of 350 - 400 GTF engines in 2017 confirmed



V2500 Aftermarket in Sweet spot

- Equals ~40% of MTU's spare parts and MRO revenue
- ~7,300 engines delivered, 6,900 operational
- Peak production rate achieved in 2014, peak in aftermarket expected mid of 2020's
- Average age of engines in service is 9 years
- MTU-MRO has exclusivity on 2 of the Top 3 V2500 operators
- V2500 MRO market share of >30%
- ~50% of the engines have not seen any heavy MRO/aftermarket activity yet
- >60% of the fleet is under OEM flight hour agreement



Update on TP400-D6

- 174 A400M aircraft on order
- Ramp up of TP400-D6 production successfully achieved
- 275 TP400-D6 engines produced
- 43 A400M aircraft delivered and in operation
- ~ 75.000 flight hours performed
- Aircraft well positioned for export
- Fix for the power gearbox issue was certified in July 2016
- Production of TP400-D6 with modified gearbox started immediately afterwards
- Retrofitting of existing planes will be completed in Sept 17
- Service network established



Above Market Growth in MRO

- Broad MRO engine portfolio with strongest growth platforms
- No.1 independent MRO provider and OEM – MRO network partner
- Expansion of full services packages ensures additional campaign wins and revenues
- Growing portion of flight hour agreements for new engine platforms
- No.1 MRO provider in China with huge market shares on V2500 and CFM56
- Current above market growth in 2016 was driven by increase of 11% in workload and 10% in higher material content
- Existing MRO network to absorb short to mid term growth
- Extension of MRO capabilities at MTU Vancouver
- Future MRO capacity increase in best cost environments, e.g. JV with Lufthansa Technik



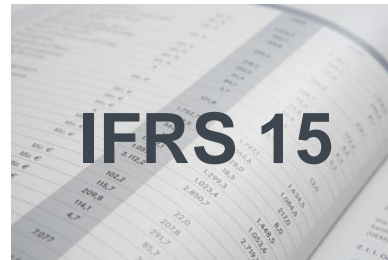
Joint Venture with Lufthansa Technik agreed

- 50/50 Joint Venture will start operations in 2020
- Joint Venture foundation planned in H2 2017
- Lufthansa Technik and MTU are both partners of the PW1000G aftermarket network
- Lufthansa group is launch customer on A320neo and C Series
- First scheduled shop visits of GTF expected in early 2020s with a significant growth afterwards
- High baseload volume of both partners result in strong economies of scale
- One product shop (Geared Turbofan) will allow high industrialization
- Low labor cost environment for higher efficiency of MRO activities
- Shop will have a similar capacity than MTU Zhuhai (300 shopvisits p.a.)
- 500 employees planned
- 150 m€ investment for both parties



IFRS 15 @ MTU

- Implementation in FY2018
- Amortization of entry fees will be deducted from revenues
- Concessions will be booked as negative revenues instead of costs
- Group EBIT margin will be increased by ~ 300 bps
- Treatment of flight hour agreements confirmed
- No material impact on absolute profit and cash recognition expected from IFRS 15



Guidance 2017 Confirmed

Military:	Down high single digit	⇩⇩
New engine Sales (Com. OE):	Up high single digit	⇩⇩
Spare parts Sales (Com. Spares):	Up mid single digit	⇩
Commercial MRO:	Up ~10%	⇩⇩
Revenues	~ 5.1 – 5.2 bn €	
Tailwind from US\$ fx-rate		
Slight headwind from business mix		
EBIT adj.	Stable margin	
Lower interest expenses & Tax rate of 29%		
Net Income adj.	Growth stronger than EBIT adj.	
CCR*	Low double digit %	

* Cash conversion rate: Free Cashflow / Net Income ad.

June 21, 2017

Paris Air Show 2017 / Investor Relations

13

Long Term Outlook 2014 – 2025

	Investment Phase 2014 – 2017	Consolidation Phase 2018 – 2025
Revenues	Military: → Com. OE: ↑ Com. Spares: ↑ Com. MRO: ↑↑	Military: → Com. OE: ↑ Com. Spares: ↑↑ Com. MRO: ↑↑
EBIT adjusted	Growth in line with revenues	Growth stronger than revenues
Net Income adj.	Growth stronger than EBIT adj.	Growth in line with EBIT adj.
CCR*	Low double digit %	High double digit %

* Cash Conversion Rate = Free Cash Flow / Net Income adj.

MTU's Cash Deployment Strategy

Prio	Instrument	Investment phase 2014-17	Consolidation phase 2018 - 25
I	Investment in organic growth	Strong investment in new programs ✓	Limited opportunities ↘
II	Dividend deployment	Growth in line with net income ✓	Growth stronger than net income ↗
III	Share buyback programs	No buyback programs as cash conversion low	Instrument to limit deleveraging ↗
IV	M&A	No suitable targets in aircraft engine market	No new targets expected →



**Thank you very much for your attention!
Q&A session**