



**Start: 1.30pm CET**

**MTU Aero Engines AG – Investor & Analyst Day 2021**

# Welcome

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Thomas Franz | Vice President Investor Relations





# Agenda

1

## COVID 19 crisis

Reiner Winkler | Chief Executive Officer (CEO)

2

## Our product portfolio in the current market

Michael Schreyögg | Chief Program Officer (CPO)

3

## Technology roadmap | Cost leadership

Lars Wagner | Chief Operating Officer (COO)

4

## Financials | Outlook 2022

Peter Kameritsch | Chief Financial Officer (CFO)

5

## ESG | Executive summary

Reiner Winkler | Chief Executive Officer (CEO)

## Q&A session





# COVID 19 crisis

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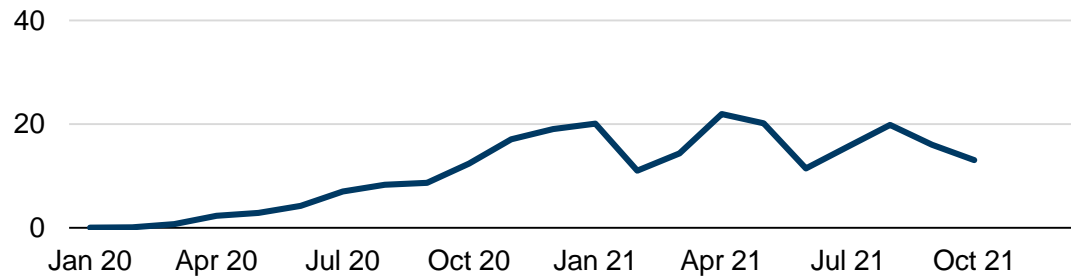
Reiner Winkler | Chief Executive Officer (CEO)

Gate C5

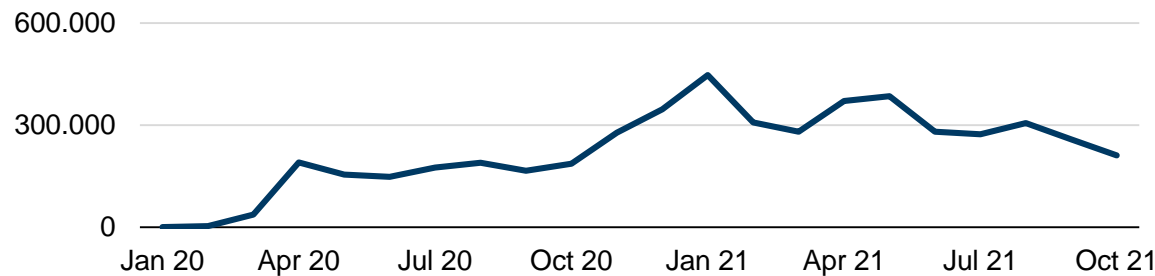
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# COVID-19 data show global infections stabilizing with related fatalities on a downward trend thanks to gradually improving vaccination rates

## Global monthly COVID infections (million)

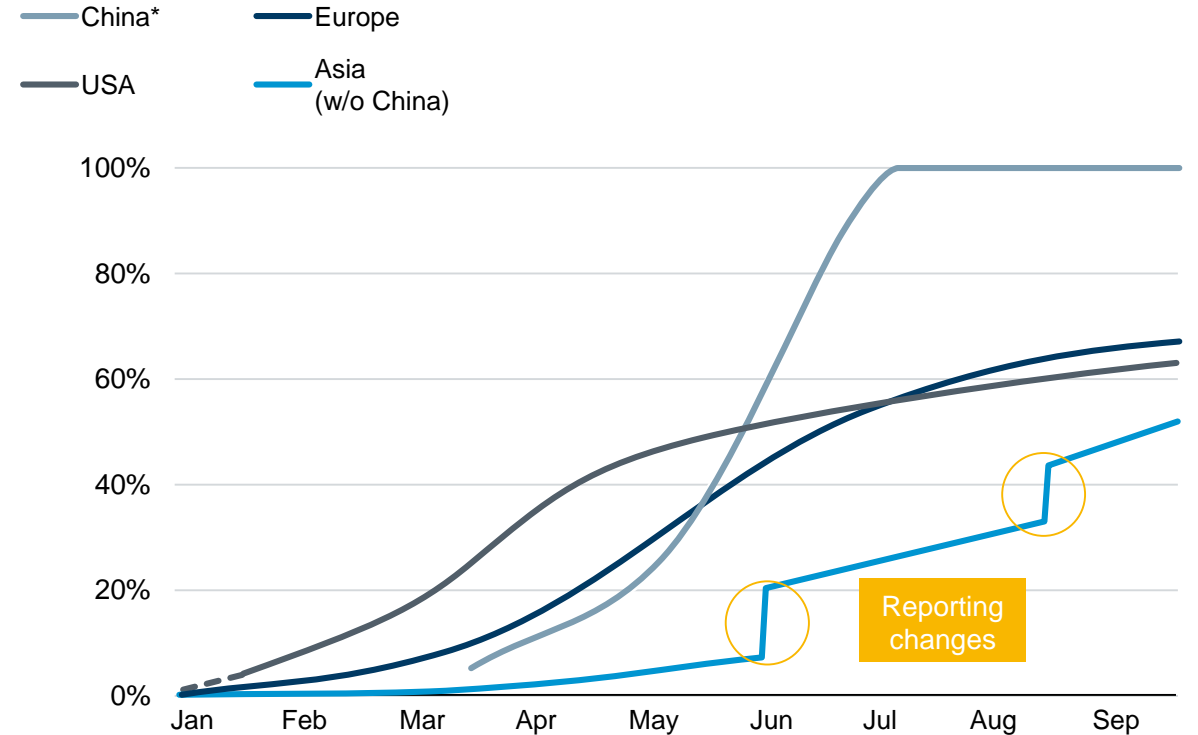


## Global monthly COVID-related fatalities



## Vaccination progress

Percentage of population with first dose administered as of Sept 19<sup>th</sup>, 2021



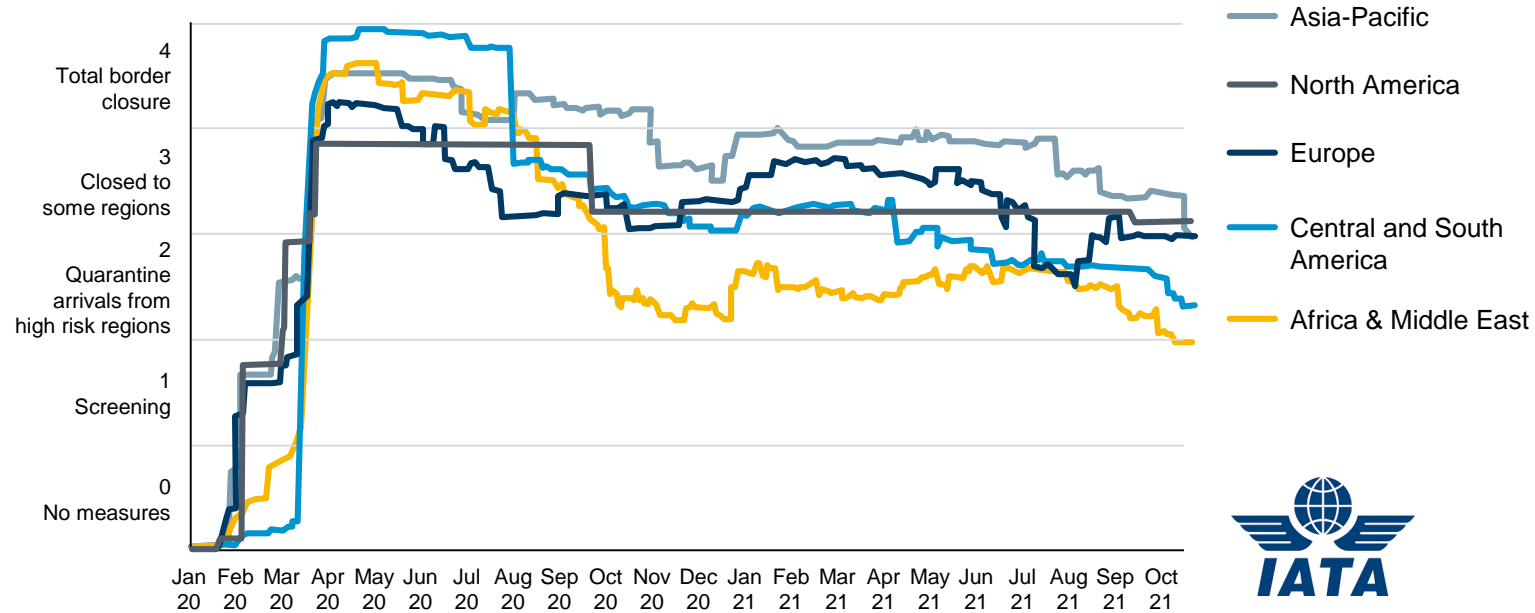
Sources: WHO, University of Oxford, Bloomberg  
November 18, 2021

\*China reports >150 doses per 100 people – no distribution data provided



# Restrictions have limited international travel recovery but progress in vaccination is increasingly giving governments the confidence to re-open

International travel stringency index weighted by population  
Jan 2020 to Oct 2021

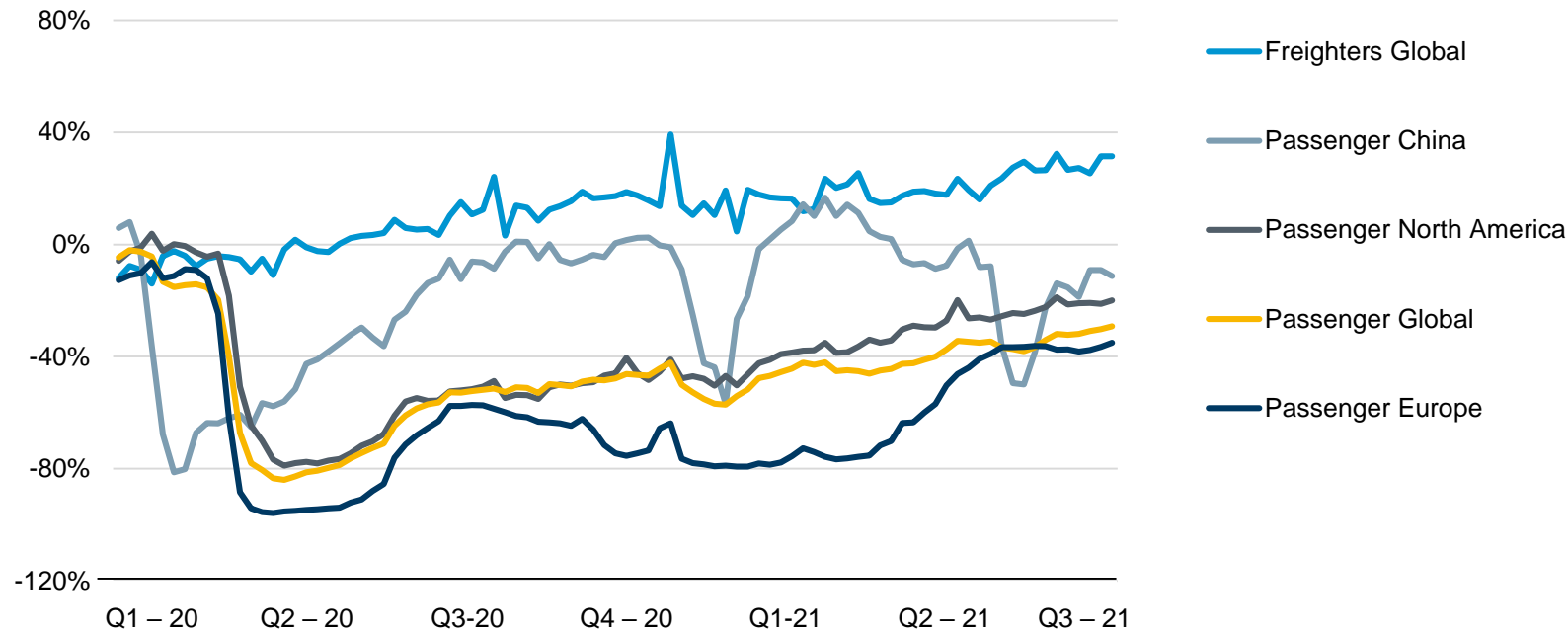


## Restrictions are being lifted

- Vaccinations are a key driver in the relaxation of border control measures
- Vaccine distribution in many developed economies gives governments the confidence to re-open borders
  - US has lifted travel ban on vaccinated travelers from EU
  - UK announced a strong reduction in the number of “red list” destinations
  - Australia, New Zealand, UAE, India, Singapore are beginning to re-open

# Global passenger flights have gradually improved whilst cargo keeps on strengthening

Weekly flight cycles compared to same week in 2019

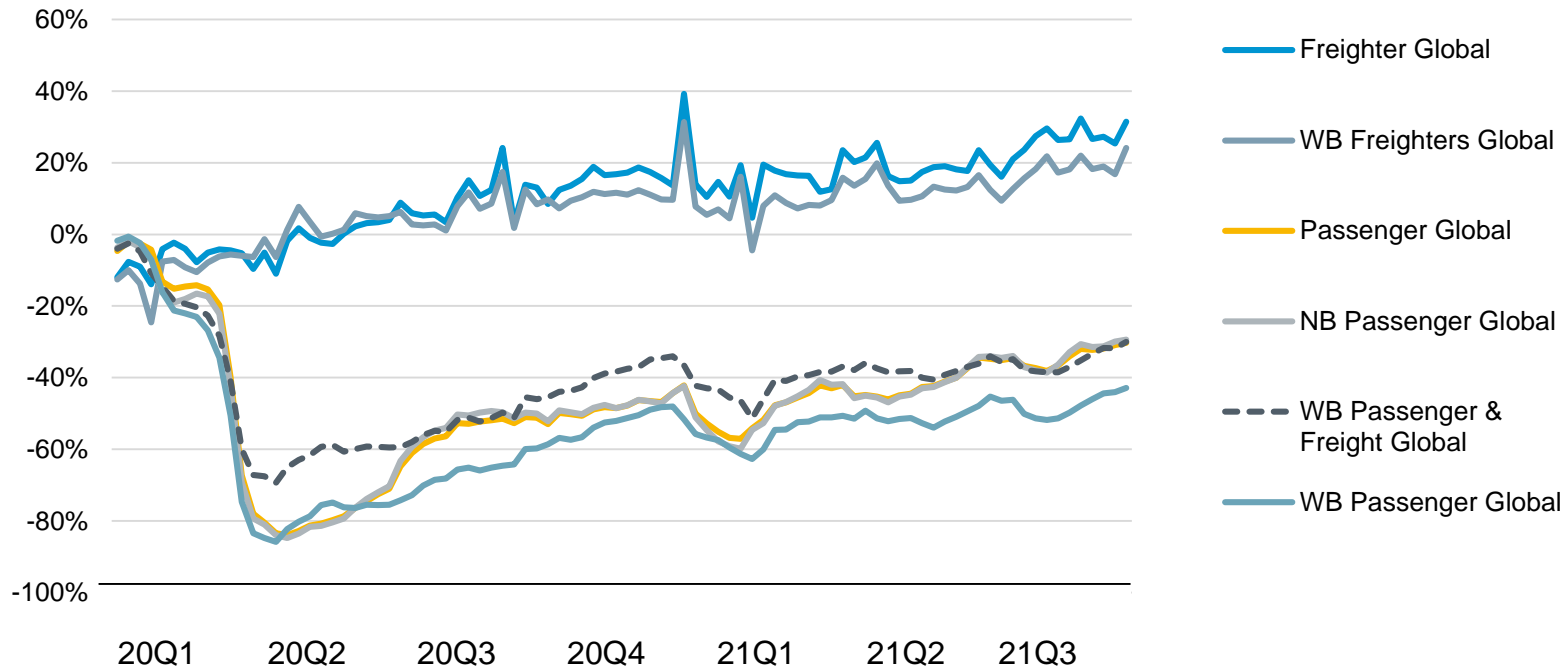


## Global passenger and freight

- Passenger flights now at 70% of 2019
- Apart from a number of temporary setbacks in January and August 2021, China has recovered to 2019 levels
- North America consistently outperformed global average in 2021
- European narrowbody (NB) flights show steep recovery since Q2
- European and US carriers to expand winter capacity after US lift travel restrictions for vaccinated travelers
- Dedicated cargo flights at 30% above pre-COVID levels

# Recovery of narrowbody flights continues... ... while widebody flights are heavily supported by strong freighter business

△ Worldwide flight cycles compared to same week in 2019



## Narrow- and widebody flights

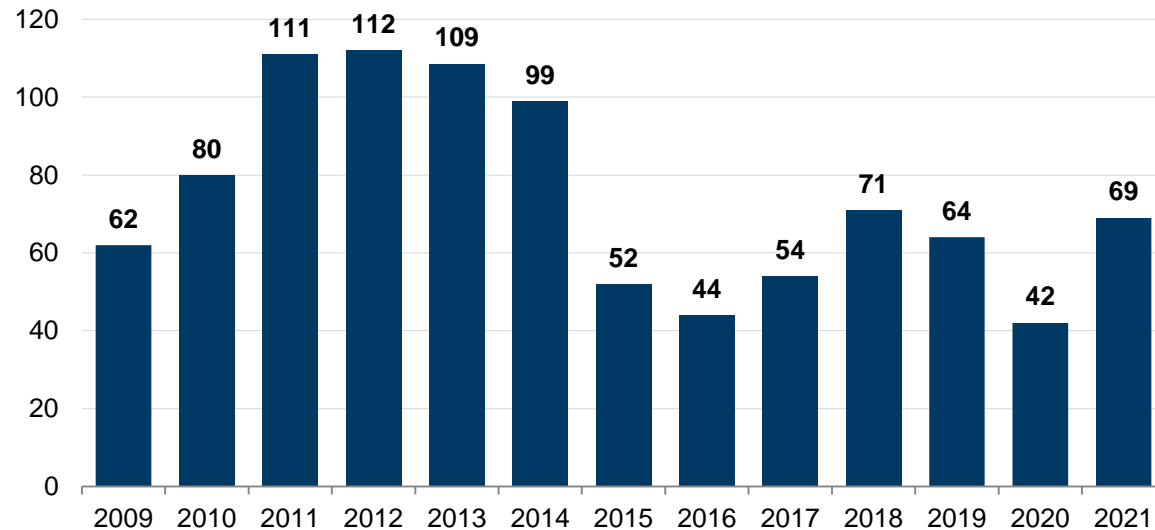
- Global and NB passenger developments almost identical
  - NB flights now at 70% of 2019 levels
  - Domestic recovery continues to boost NB flying, benefiting V2500 and PW1100G
- Despite recent easing in US and Europe, restrictions continue to limit int'l travel and widebody (WB) passenger flying (at 55% of 2019 levels)
- Air cargo strength means that WB flying for combined passenger and cargo flights is also at 70% of 2019, benefiting CF6-80C and GENx



# Oil price is picking up but remains at a historical average

## Interest rates remain historically low, despite current inflation hike

### Oil price



- Prices rising since 2020, with oil analysts expecting ~\$70/barrel in the short-term
- Supply constraints, increased demand driven by economic recovery and low OECD stocks have raised prices
- US shale production should help putting a ceiling on oil price

Source: US Energy Information Administration  
November 18, 2021

### CPI and interest rates

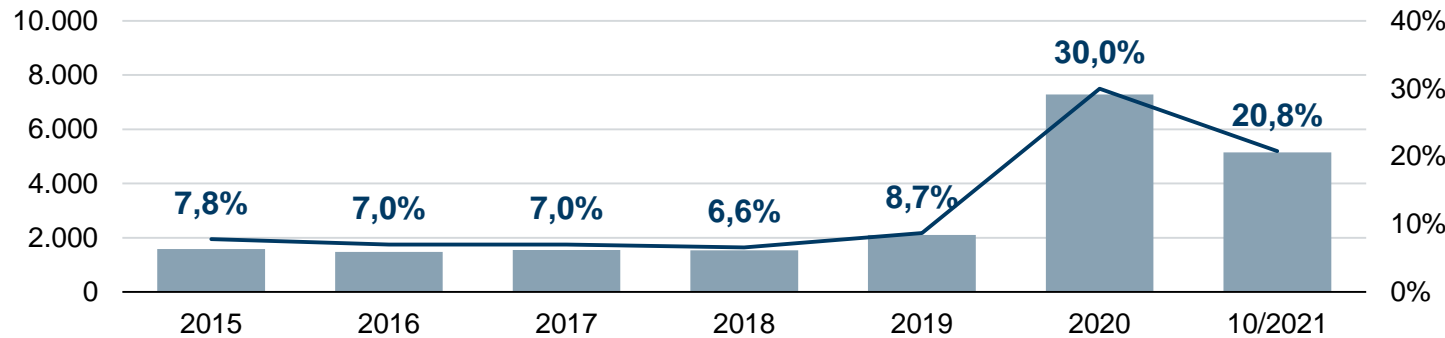
	2017	2018	2019	2020	2021
<b>Consumer price inflation (%;av)</b>					
<b>world</b>	3.2	3.5	3.5	3.3	4.9
US	2.1	2.4	1.8	1.2	3.6
OECD	2.2	2.5	1.9	1.2	3.0
Japan	0.5	1.0	0.5	0.0	-0.1
Euro area	1.5	1.8	1.2	0.3	1.9
China	1.5	1.9	2.9	2.5	1.3
<b>Main policy interest rates (%; end-period)</b>					
Federal Reserve	1.38	2.38	1.63	0.13	0.13
Bank of Japan	-0.04	-0.07	-0.03	-0.03	-0.02
European Central Bank	0.0	0.0	0.0	0.0	0.0
Bank of England	0.50	0.75	0.75	0.10	0.10

- Rising commodity prices and supply-chain disruptions fuel current inflation
- Low interest rates and cost of capital support OE backlog
- Capital continues to flow into the sector even though financing has become more selective

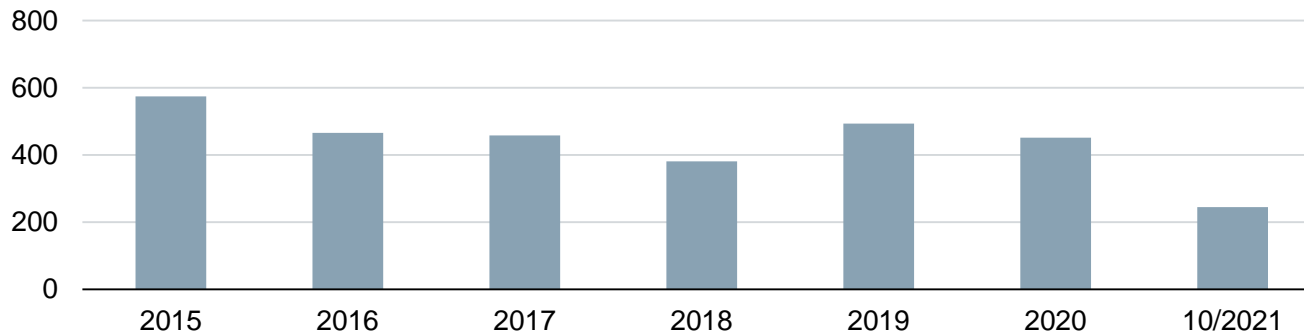
Source: The Economist Intelligence Unit October 2021

# No spike in retirements as operators re-activate parked aircraft or keep them in storage

## Industry park rate



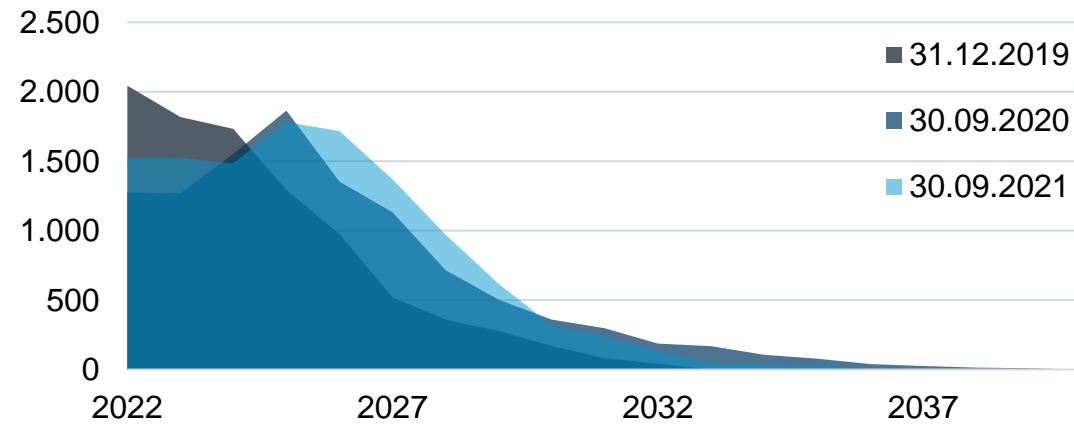
## Industry retirements



- As market recovers parked aircraft are activated for service resulting in a park rate of 21% as of today after peak of 30%
- Remaining parked aircraft are kept to maintain market recovery readiness or to await more favorable market values for tear-down once USM demand increases
- No step up in retirements seen yet

## Delivery peak around 2025 expected in line with recovery expectation of 2023 – 25

### # Aircraft on order



- Cancellations 01/2020 – 09/2021: 2,348 A/C (50% 737 MAX)
- New Orders 01/2020 – 09/2021: 2,356 A/C (60% A320 Family)
- Order backlog is at 12,100 A/C, similar to last year
- 87% of orders for narrowbodies, thereof 57% A220/A320 Family

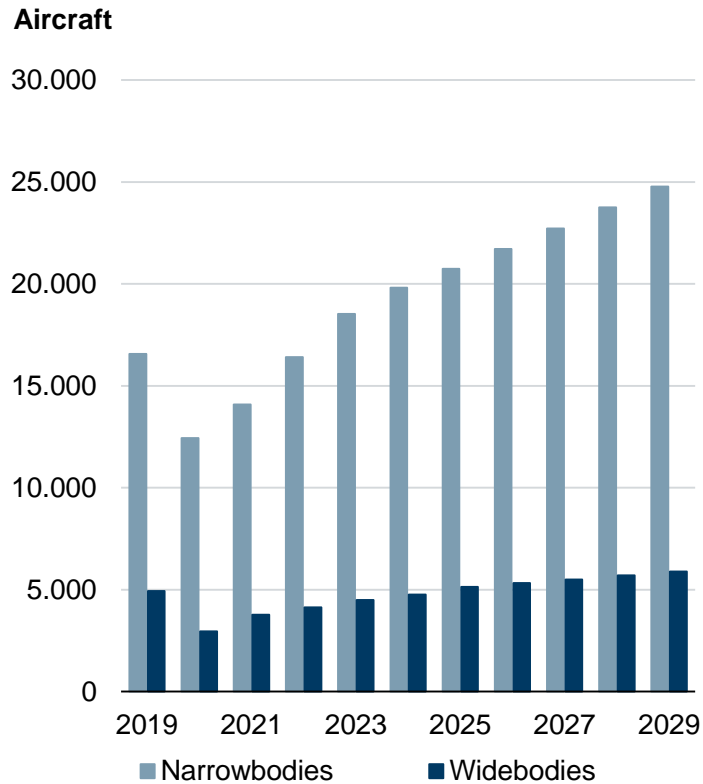
Monthly rate	2019	Current rate	Airframer scenario			
			2022	23	24	25
A220	4	5	6			14
A320	60	45		65	70	75
A330	4	2	2	2 – 3		
A350	10	5		6		
737	52/42	19	31			
787	14	2		5/m is next step		
767	3	2 – 3	2 – 3			
777X				EIS		
747	0.5	0.5	EoP			

- Airbus and Boeing ramp-up narrowbody rates (A320neo, A220, 737MAX)
- Widebody rates stable for now
- 787 issues are being addressed, long-term double-digit rate expected
- Airbus expects 600 aircraft in 2021 up from March guidance of 566

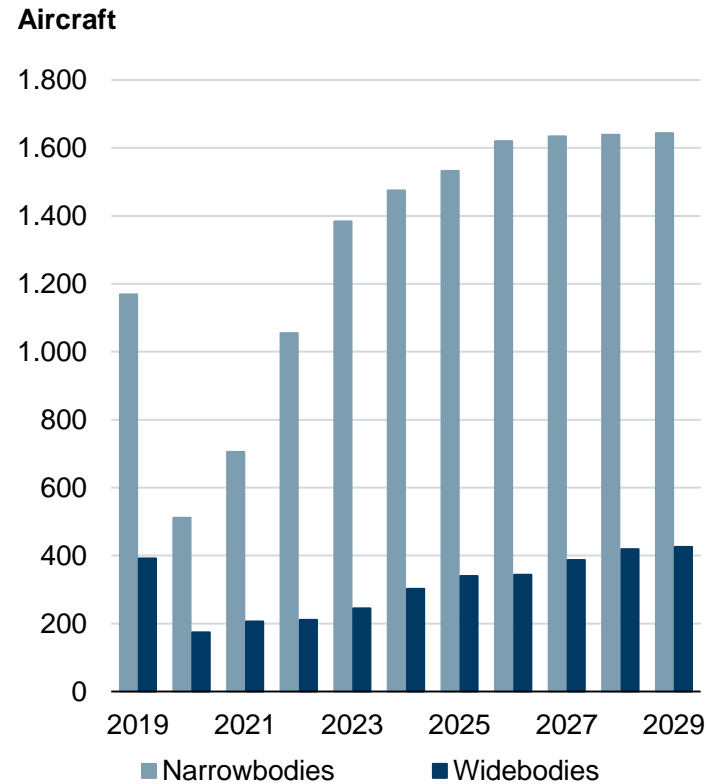


# MTU expects narrowbody fleet and deliveries to recover in 2023 Widebody fleet and deliveries recover in the 2<sup>nd</sup> half of the decade

## Aircraft in-service fleet



## Aircraft deliveries



- Narrowbody passenger fleet to recover in 2023, widebody passenger fleet in 2025
- Narrowbody passenger deliveries to recover by 2023, widebody passenger deliveries later
- Global RPK expected to grow by 4 – 5% p. a. in 2025 – 2029 driven by short-haul demand
- Forecasted traffic growth and deliveries are not expected to lead to significant changes in average retirement age



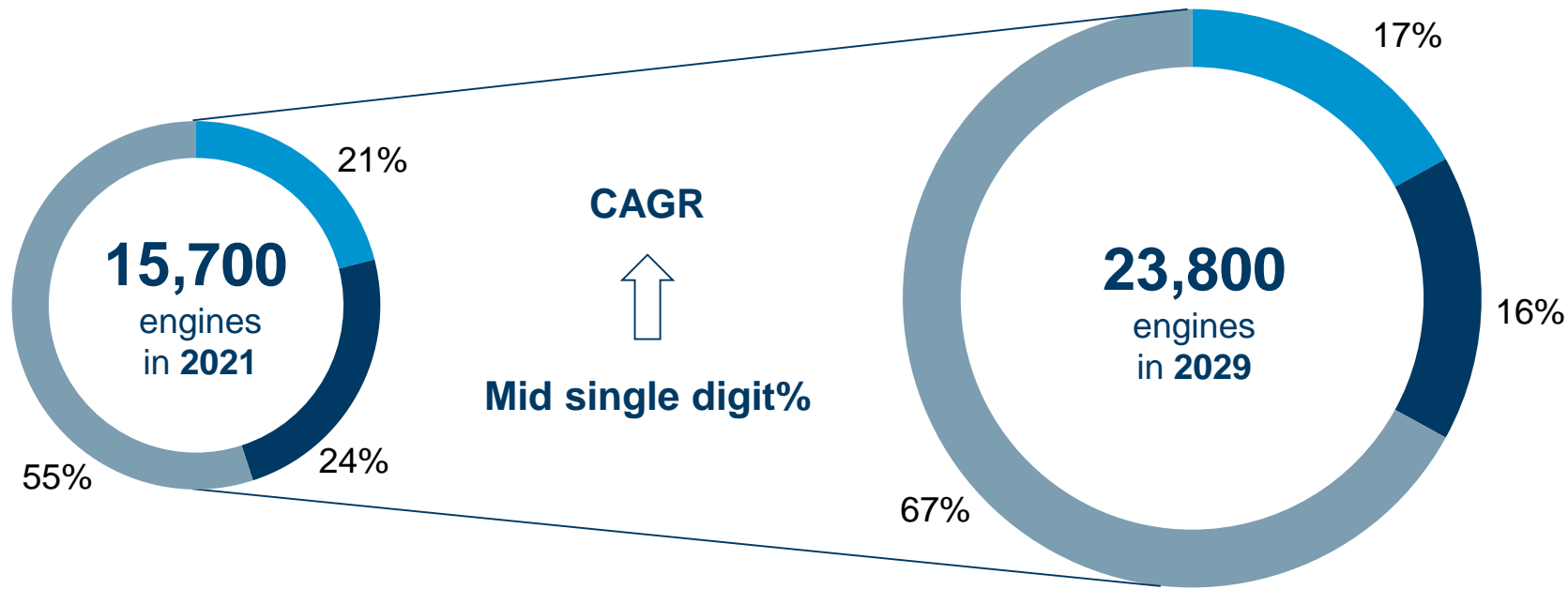
# **MTU's engine portfolio today and in the future – a strong basis for future growth**

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Michael Schreyögg | Chief Program Officer (CPO)

# MTU's fleet mix is proving resilience with 80% of narrowbody or non-passenger aircraft

## Fleet of commercial engines with MTU participation



- Strong presence in rebounding single-aisle market, booming cargo segment and some resilient government applications
- Participation in leading engine programs in all segments

■ Passenger narrowbodies incl. RJs   ■ Passenger widebodies   ■ Cargo and government applications

Source: MTU – Engines with MTU participation  
November 18, 2021



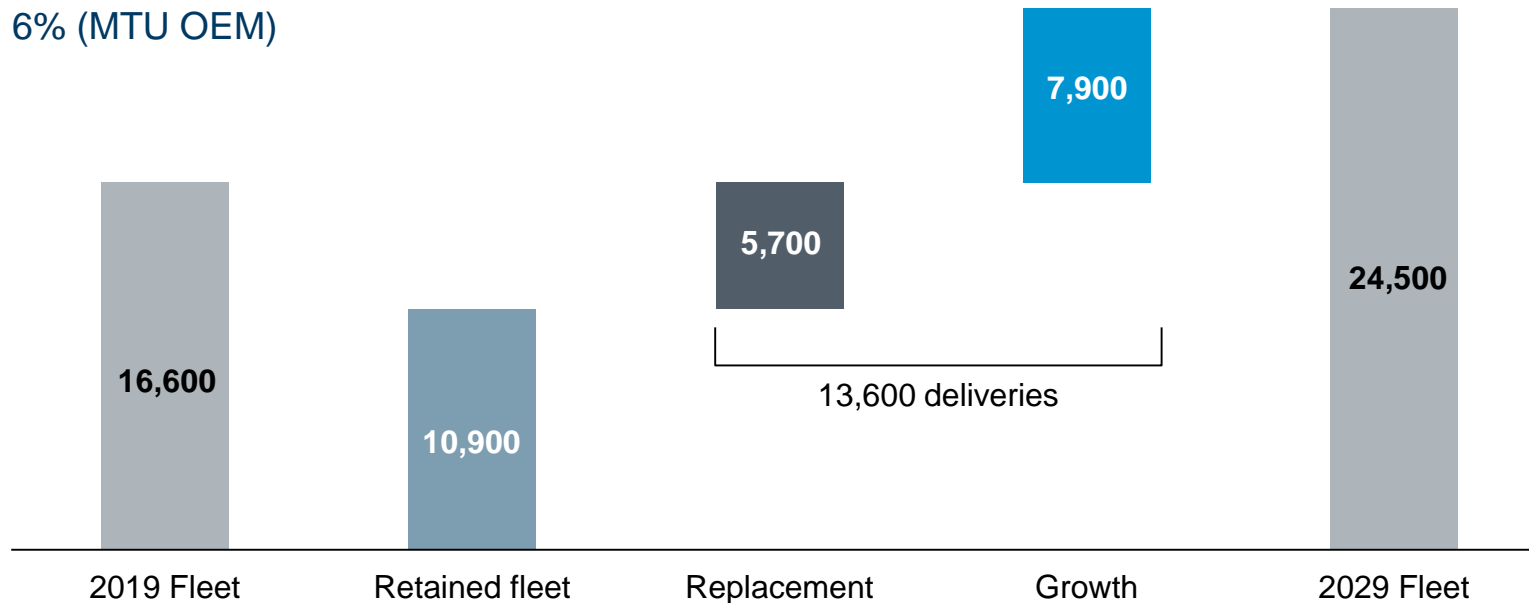
# Narrowbody fleet to grow by 4% p.a. over the next 10 years MTU fleet outperforms market thanks to GTF engine programs

Narrowbody aircraft fleet breakdown 2019 – 29 (# a/c)

**CAGR 2019 – 29:**

4% (Total)

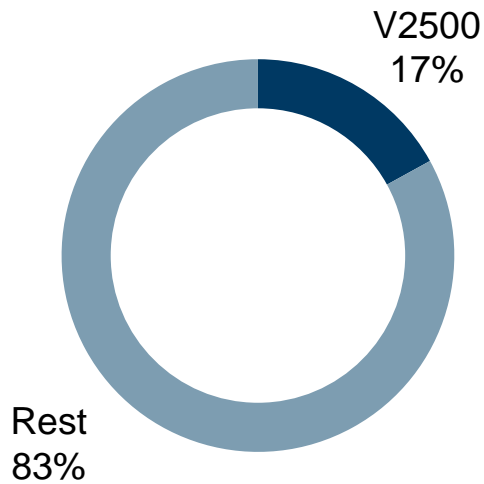
6% (MTU OEM)



- Domestic market to exceed pre-Covid levels in 2023
- Retirements in line with historical average, stabilizing at ~600 a/c per year
- A320neo production rates of 65 confirmed for 2023
- ~29% (or > ~1,600 a/c) A320neo orders without engine selection
- Penetration of A321 XLR in traditionally widebody markets

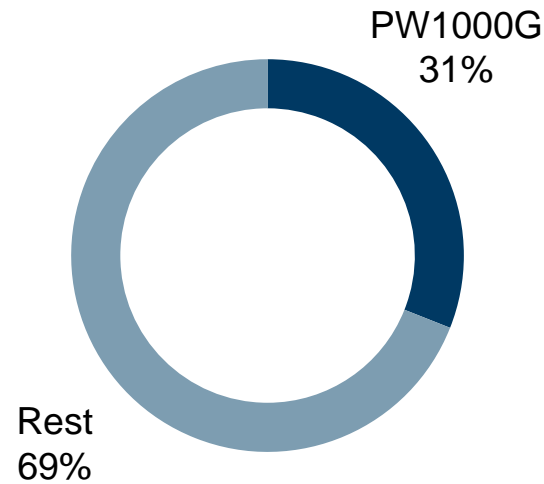
# MTU's share of the narrowbody fleet is expected to grow from 23% to 28% in 10 years V2500 retirements on normal level, PW1000G with strong share on new deliveries

5,700 retirements in 2020 – 29 (# a/c)



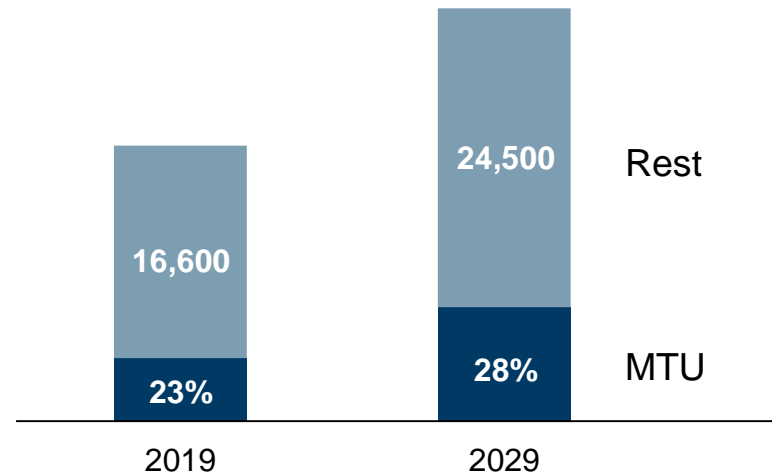
Aircraft with V2500 represent 17% of narrowbody retirements in the next ten years

13,600 deliveries in 2020 – 29 (# a/c)



~31% market share for GTF of total narrowbody a/c deliveries over next 10 years

MTU market share of global passenger narrowbody fleet 2019 – 29<sup>1</sup> (# a/c)



MTU narrowbody market share to increase from 23% to 28% within next 10 years

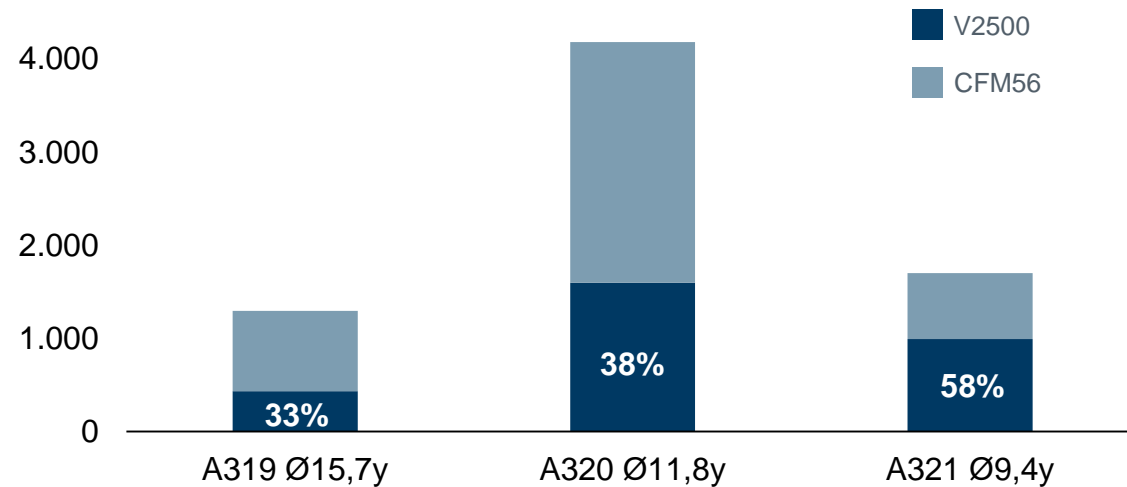
Source: MTU OPSP22 Preliminary July 21 | <sup>1</sup>Incl. storage in 2019 and after market recovery (new methodology)

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# The fuel efficient V2500 is a young fleet with a strong MRO outlook

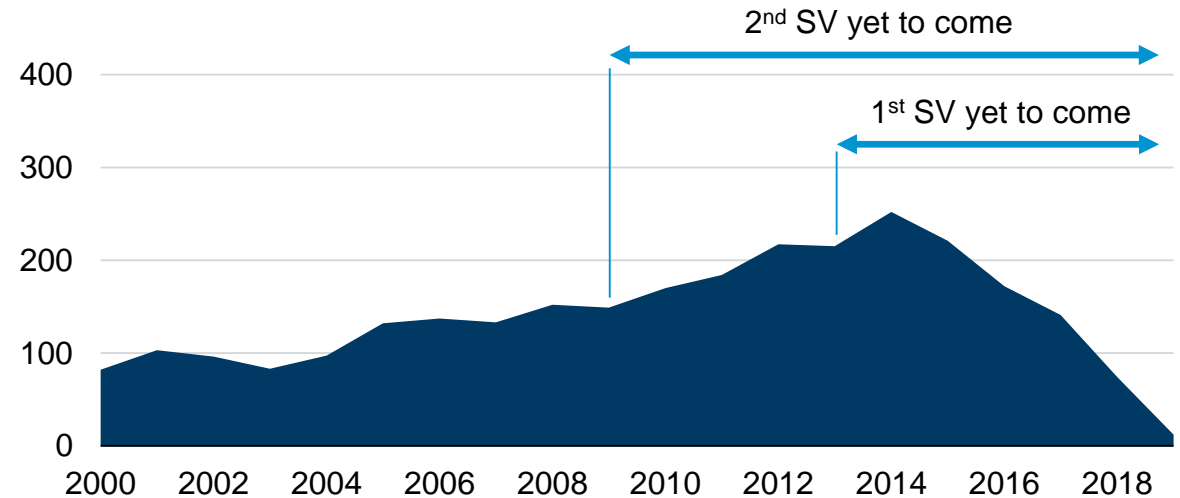
## A320ceo Family – engine split (# a/c)



- Current fleet of 2,900 A320ceo with V2500
- High V2500 share in young and relatively more MRO-intensive A321 fleet
- Pax-to-freighter conversion programs just starting, indicating strong demand for A321 conversion with V2500
- Additional demand from Embraer C-390 application

Source: Cirium  
November 18, 2021

## A320ceo with V2500 – entry into service and SV (# a/c)



- Around 65% of the fleet have not had the first heavy shop visit requiring replacement of life limited parts yet
- High OEM FHA share in aftermarket

Source: Cirium



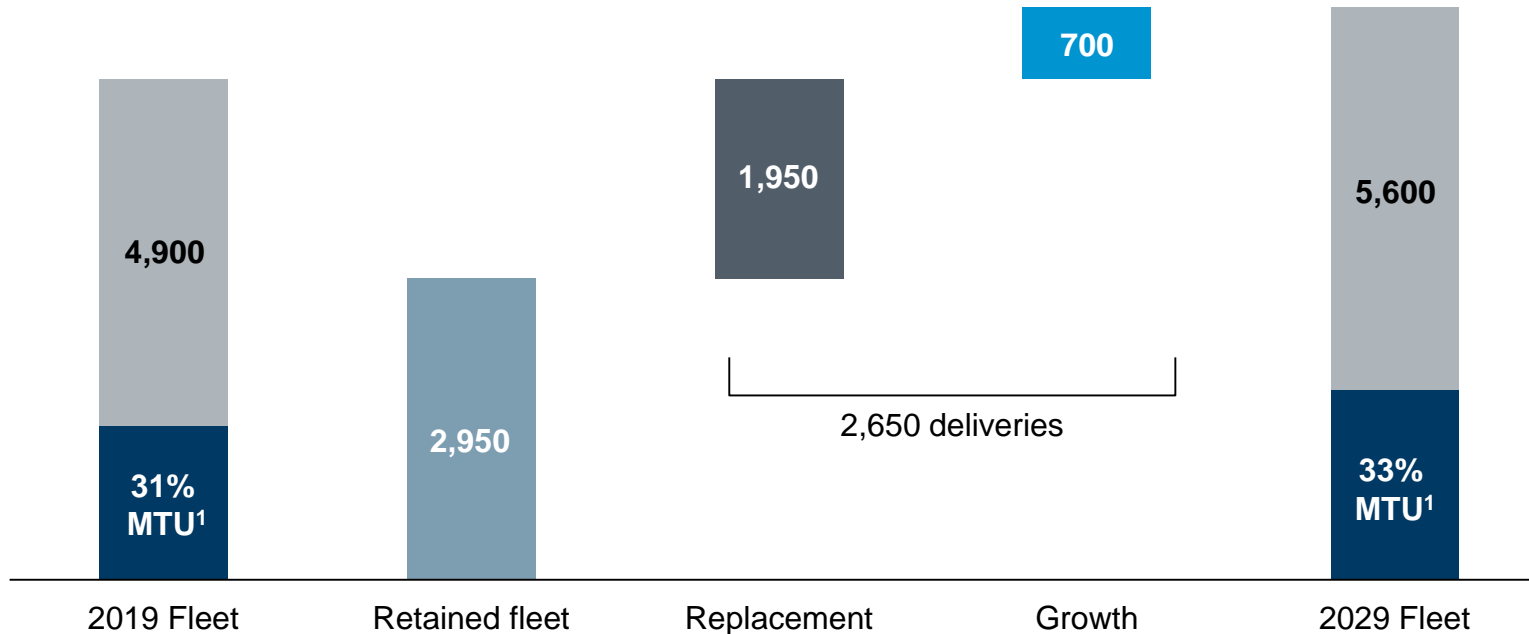
# Widebody passenger fleet to grow more modestly by 1.4% p.a. over the next 10 years MTU widebody fleet outperforms market slightly thanks to GENx and GE9X

Widebody aircraft fleet breakdown 2019 – 29 (# a/c)

**CAGR 2019 – 29:**

1.4% (Total)

2.1% (MTU OEM)



- Widebody fleet recovery expected by mid of this decade with deliveries in second half of this decade
- 787 to return to double-digit rates in the 2<sup>nd</sup> half of the decade
- GENx expected to maintain high share on 787 (75 – 80% in 2019/20)
- 777X with GE9X will bring twin-aisle economics to upper widebody segment once dominated by 747 and A380

Source: MTU | <sup>1</sup>MTU market share of global widebody fleet

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## BizJet market held up better than commercial aircraft market during the crisis Strong footprint in heavy BizJet market with the PW800 and PW307

**2021 BizJet flight hours up 50%** and 5% above Pre-Covid levels<sup>1</sup>



**~over 7,500**  
active BizJet engines  
with MTU components

**>100**  
Gulfstream G500/600  
delivered since EIS

- Utilization rates for all BizJet segments significantly higher than pre-COVID levels
- Pre-owned BizJet market at record lows coupled with sharp increase in demand → driving demand for new BizJets
- ~7,400 new BizJet deliveries from 2022 to 2031<sup>1</sup>
- Large BizJets will make up ~34% of total BizJet deliveries
- Strong footprint in heavy BizJet market with PW800 (Gulfstream G400/500/600, Dassault Falcon 6x) and the PW307 (Dassault Falcon 7x, 8x)

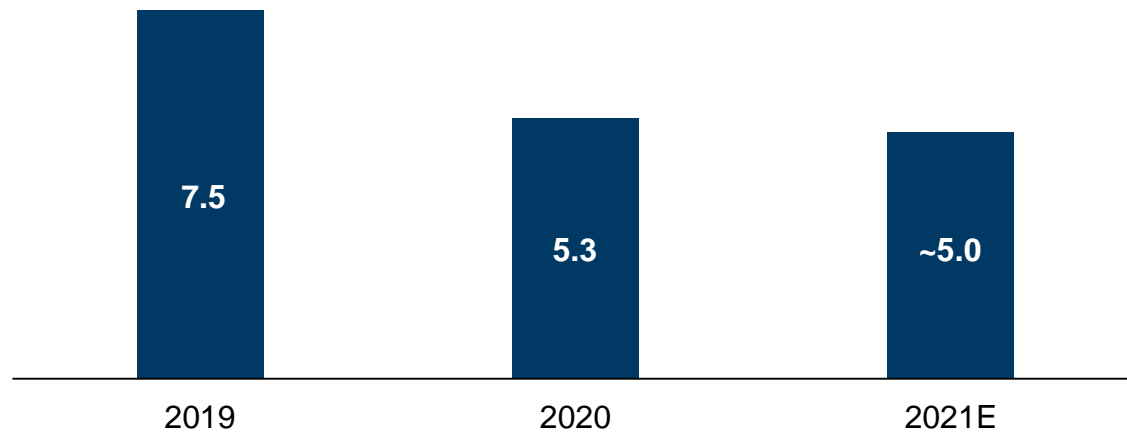
<sup>1</sup>Source: Honeywell

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# MTU Maintenance successfully navigates through the crisis

## Ongoing strong order book secures future growth in MRO

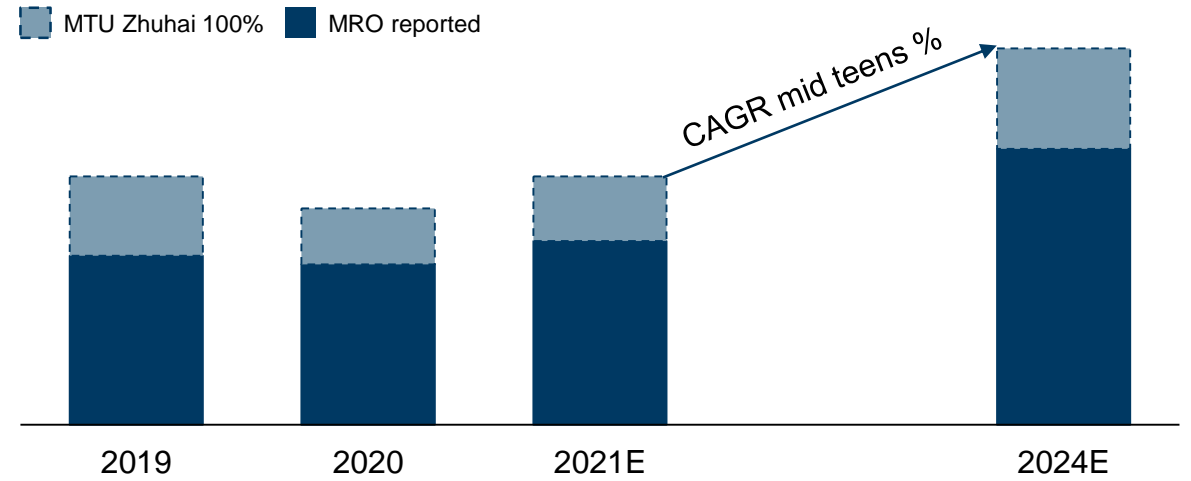
Independent MRO campaign wins 2019 – 2021E (in bn US\$)



- Solid independent MRO contract wins of ~10 bn US\$ in 2020 and 2021
- Total MRO order book of 17.9 bn US\$

## Revenue to reach Pre-Covid level in 2021/2022

MRO revenues development in million US\$ 2019 – estimate 2024



- High share of narrowbody engines in their best lifecycle phase
- Customers base in strong domestic regions (USA, China)
- Freight traffic importance remains thanks to e-commerce



# MTU well positioned to emerge stronger from the crisis – flexibility more important than ever



## Increasing shop visit demand

Market environment

- Recovery ramp-up faster than expected
- Strong shop visit demand by airlines already started
- Freight and cargo demand remain strong
- Airline behavior budget driven
- Newer engines are activated first and highly utilized



## High flexibility required

MRO activities

- Know-how and capacity maintained → enabler for strategic and quick market reactions
- Customized solutions with high flexibility to react to market trends
  - OSS<sup>1</sup> network for smaller worksopes
  - P2F<sup>2</sup> conversion strategy
  - Increase green-time/USM<sup>3</sup> usage)
- Targeted workscooping
- Multiple MRO locations serve key engine programs to increase induction flexibility



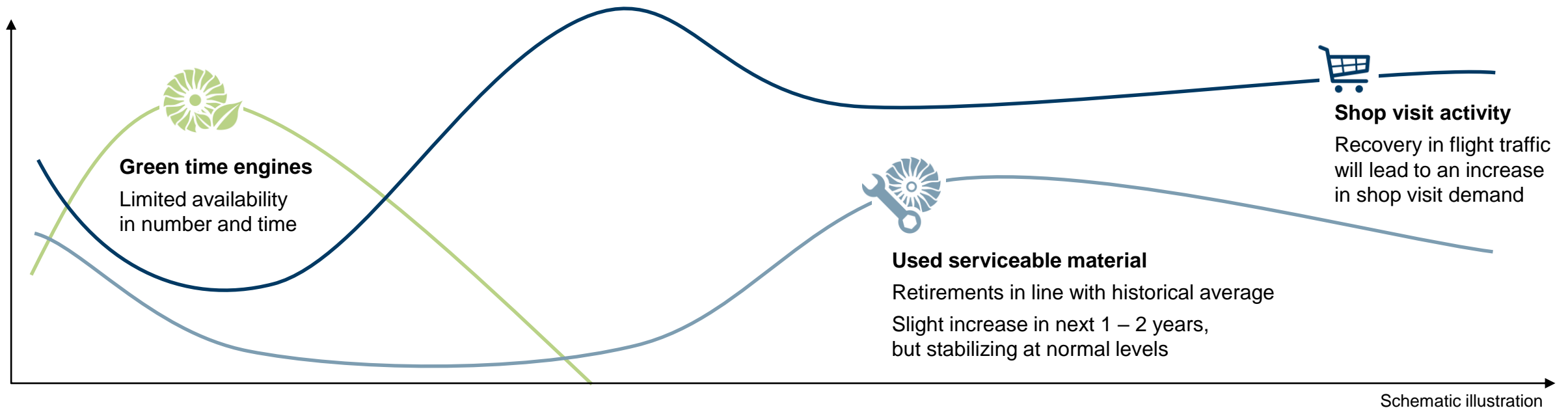
## Strong market position

Strategic initiatives

- Strong market position thanks to multiple market access ways, broad product portfolio, customized MRO solutions and financial strength
- Expansion of MRO network with focus on best cost (MTU Zhuhai II, MTU Serbia)
- Expansion of digital MRO solutions for innovative AI<sup>4</sup>-based engine fleet management and shop visit calculations

<sup>1</sup>OSS = on-site-service | <sup>2</sup>P2F = passenger to freighter | <sup>3</sup>USM = used serviceable material | <sup>4</sup>AI = artificial intelligence

## MTU takes advantage of USM<sup>1</sup> and green-time engines to increase competitiveness

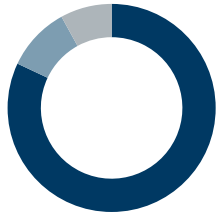


### MTU action

- Optimizing own MRO service costs or engine lease pool
- Strengthening customer loyalty by offering customized solutions incl. USM or green-time engines
- Limited impact on shop visits expected

<sup>1</sup>USM = used serviceable material

## Military Business is a stable pillar – also during the Corona crisis



- Fighter
- Transport
- Helicopter



### Military revenue split 2021

- Fighter engines are key revenue contributor
- Today EJ200 and RB199 generate ~3/4 of total military sales

### Eurofighter – EJ200

- Most important revenue contributor
- International export campaigns
- German Eurofighter Quadriga order of 38 aircraft secured
- Tornado replacement expected

### A400M – TP 400

- In total, 176 A400M orders
- Thereof over 100 aircraft delivered
- Over 400,000 engine flight hours
- A400M (incl. TP400) capabilities demonstrated during rescue mission in Kabul, which could attract further potential export customers



# Next European Fighter Engine (NEFE) – power for the 6<sup>th</sup> generation of military aircraft

## Another major advance in engine technology



### Achievements



- Foundation of 50:50 JV EUMET
- ITP joined as a main partner
- Equal workshares of 33%
- Funding of demonstrator program phase 1b approved



### Contribution/ Responsibilities



- Compressors 
- Aftermarket business
- Combustor, turbine 
- Integration
- Low-pressure turbine 



### Benefits for MTU

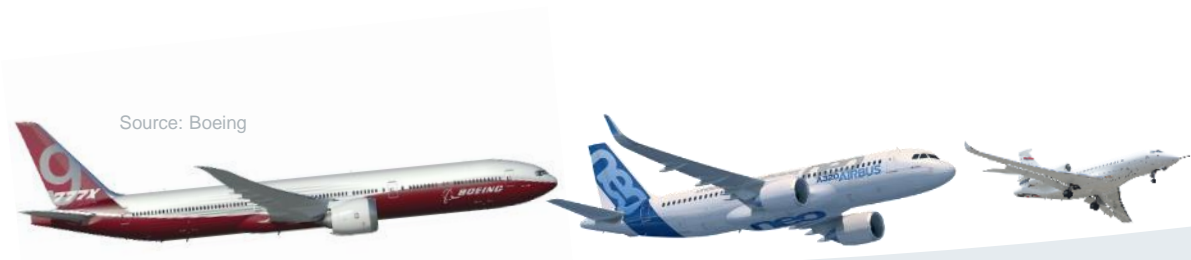


- European military backbone for the next 60 years secured
- Technology boost for MTU

# The Technology Roadmap manoeuvres MTU into position to participate in future aircraft platforms – next investment phase expected for mid/end of this decade

Participation on platforms in all segments secured

**Today**



Source: Boeing

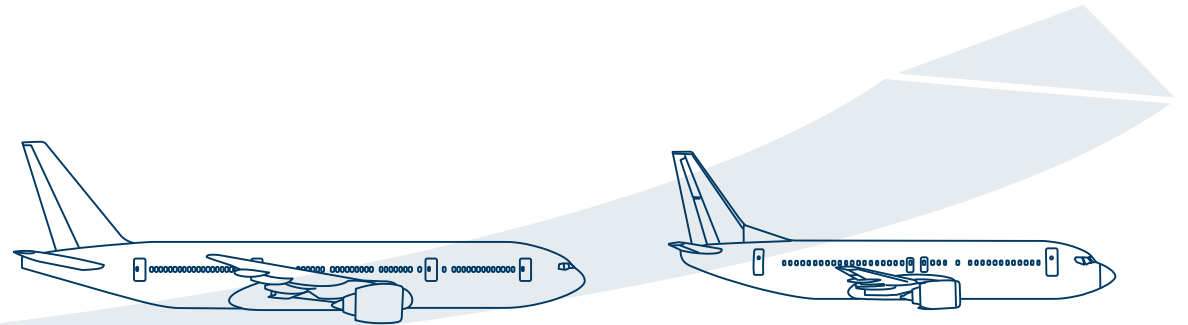
B787, B777x

A320neo  
A220, E-2Jet

G500,600,400  
Falcon 6x

MTU will be technologically ready for future new aircraft platforms

**2030 – 2040**



New widebodies

New narrowbodies

## A strong product portfolio and its long-term perspective (2022 to 2032)<sup>1</sup>



**~23,000**  
New Engine deliveries  
(commercial + military)



**~14,000**  
GTF engine deliveries



**~14,000**  
Shop visits  
(commercial MRO)



**~80 bn €**  
Aftermarket sales  
(commercial spare parts + MRO)

<sup>1</sup>Source: MTU estimates

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# Technology Roadmap | Cost Leadership

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Lars Wagner | Chief Operating Officer (COO)

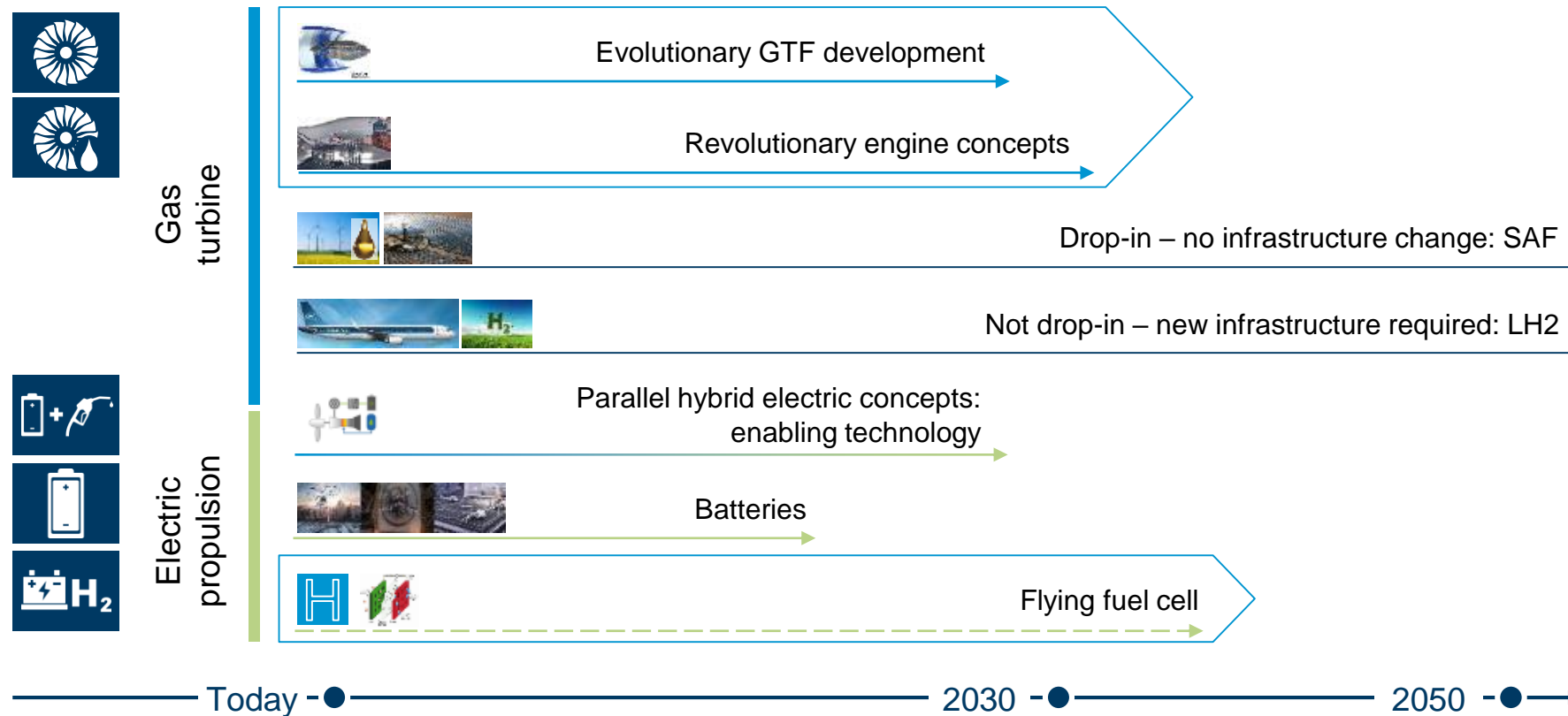






**Future engine technologies,  
enhanced production and global footprint**

# MTU's technology roadmap towards emission-free flying

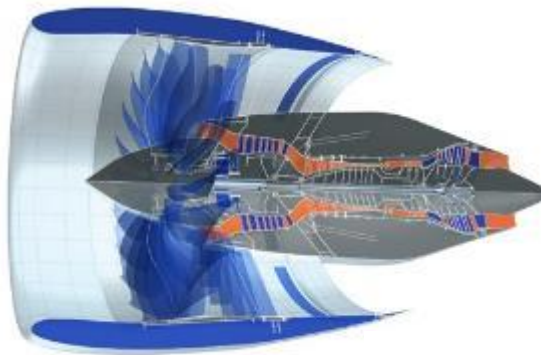


### Application/Range

	Short-range	Mid-range	Long-range
Evolutionary GTF development	Short-range	Mid-range	Long-range
Revolutionary engine concepts	Short-range	Mid-range	Long-range
Drop-in – no infrastructure change: SAF	Short-range	Mid-range	Long-range
Not drop-in – new infrastructure required: LH2	Short-range	Mid-range	Long-range
Parallel hybrid electric concepts: enabling technology	Short-range	Mid-range	
Batteries			
Flying fuel cell			
Urban mobility	Short-range	Mid-range	
Urban mobility			
Urban mobility	Short-range	Mid-range	

# New concepts

## Evolutionary



**Gen2 GTF**

<b>CO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Contrails</b>
-10%	↘	→

<b>SAF</b>	-100%	↘	↓
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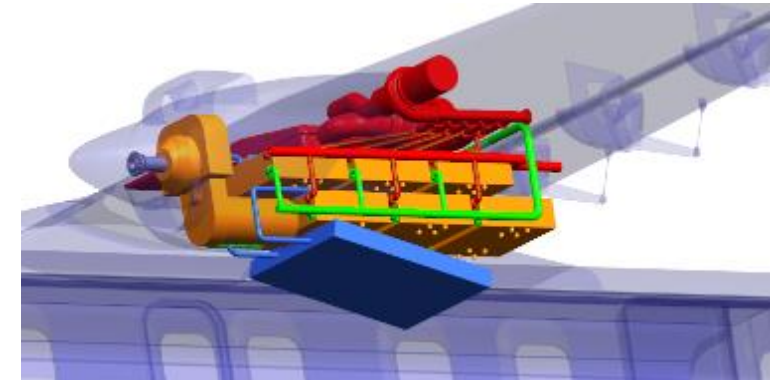
## Revolutionary



**WET Engine**

<b>CO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Contrails</b>
-20%	-80%	↓

<b>SAF</b>	-100%	-80%	↓↓
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**Flying fuel cell**

<b>CO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>Contrails</b>
-100%	-100%	-100%

## R&D technology initiatives and achievements



### Worldclass components

- Low pressure turbines
- Low/high pressure compressors



### Advanced systems demonstrators

- Flying Fuel Cell scaled ground demonstrator and flight demonstrator Do 228
- Hydrogen ejector tests
- WET sub-system rigs



### Additive manufacturing

- Volume parts (borescope eyes, brackets, compressor vanes, struts)
- New military applications (bearing casings, compressor intermediate case)



### Leight-weight, high-temperature materials

- Fibre-reinforced plastics
- Powder metal



### Sustainable Aviation Fuels

- Support of short-term scale-up for for maximized production capacities
- Mid-term: optimize Power-To-Liquid pathway for highly sustainable fuels



### Digitization

- Parts and maintenance cost reduction through enhanced simulation techniques
- Digital twin for end2end value stream

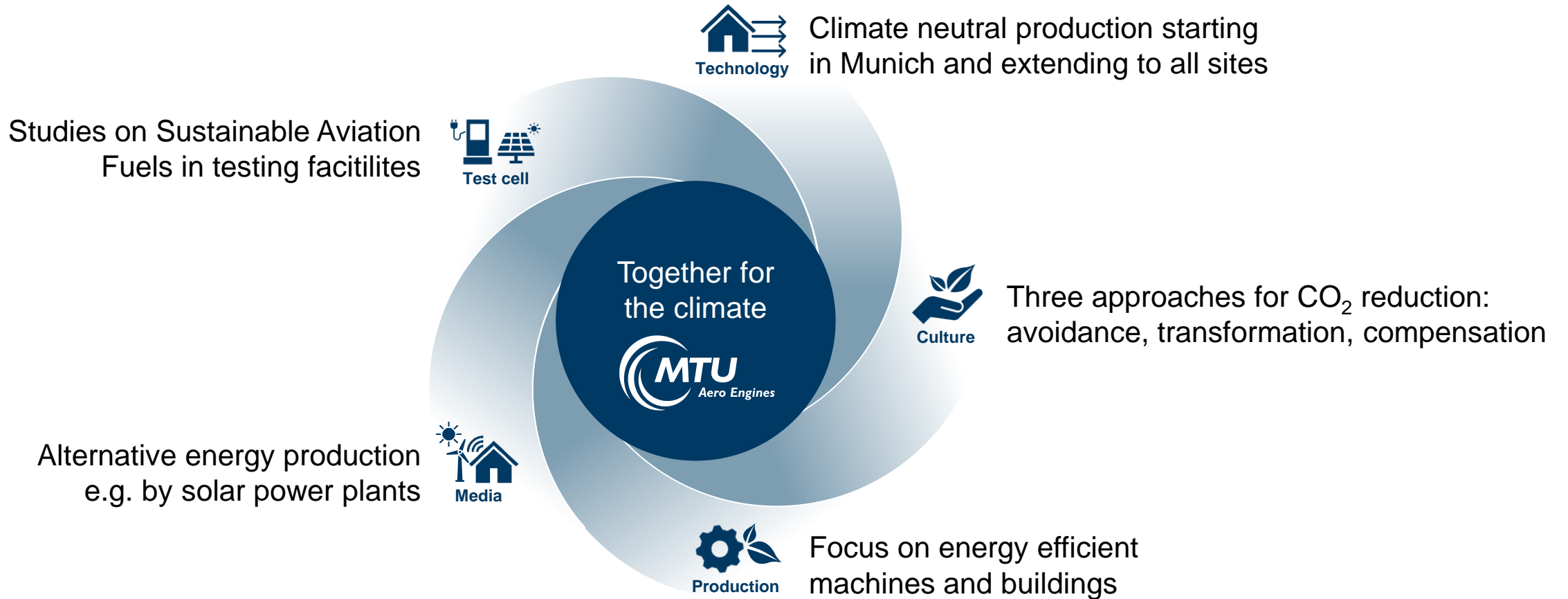




**Sustainable production**



## EcoRoadmap: climate neutral production @MTU





Work Task  
E1500 - 101  
S/N EN3028  
Inspection  
Combined Oil Pump (COP)  
Accept  
Cancel



Cost-efficient and cutting-edge production



## Preparation of re-ramp-up

MTU has used the time during COVID crisis to prepare for the re-ramp-up



### New matrix organization



- Lean structure & value stream alignment
- Centralized support and competence functions
- Scalability for future growth
- High level of cross-functional collaboration



### Industry 4.0 & digitization



- Cost reduction through automation
- Highly flexible lot sizes (down to 1)
- Increased reliability and quality
- Sophisticated process data management

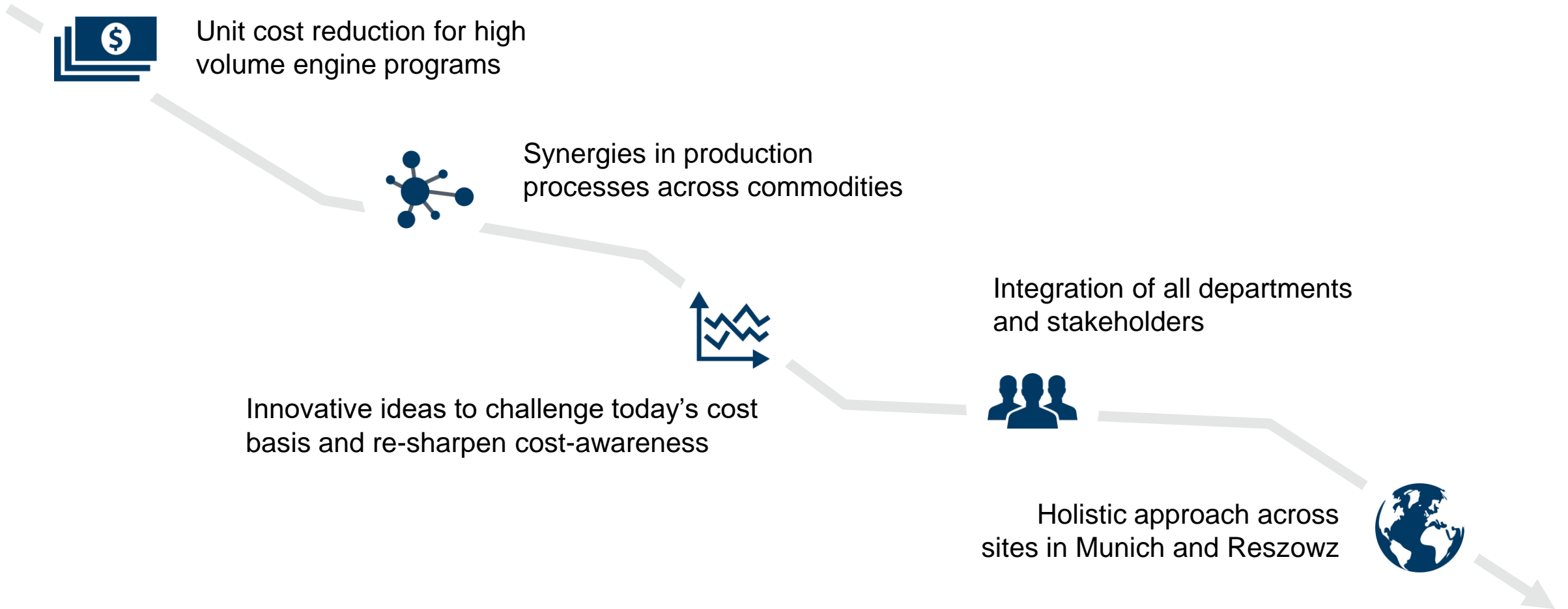


### Supply chain & digitization



- Make-or-buy strategy
- Sourcing and hedging strategy
- Product design producibility
- Digital supply chain control tower

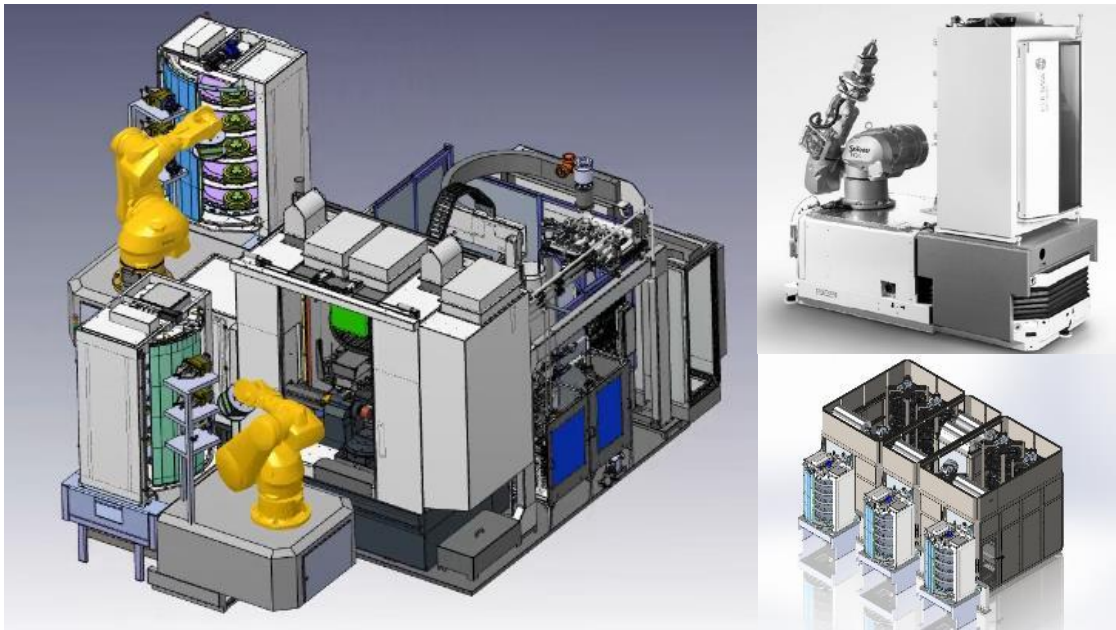
## Cost Leadership: “BKM” – project for unit cost reduction





# FPH: Flow path hardware

Next step in Industry 4.0



## Fully automated flow path hardware manufacturing with autonomous robots

### Main benefits

- Eco-system of freely moving robots for autonomous storage, parts and tools management
- Offset corrections for individual geometry and adjustment of NC-programs → repetitive quality
- No dedicated storage necessary
- Lot size 1 and no set-up activities
- Pilot project with further benefits for MTU's automation and digitalization strategy



-20%



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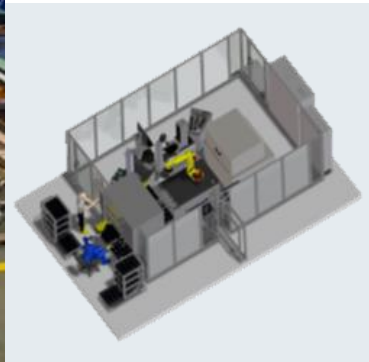
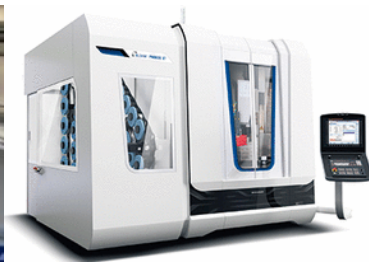


-20%



# FFS: Flexible manufacturing system

Next step in Industry 4.0



**Fully automated HPT blade, vane and structure parts manufacturing**

## Main benefits

- High degree of automation:
  - Chained production system for grinding, milling and drilling
  - Automated parts and tool set-up
  - Adaptive production based on realtime process data management
- Reduced cost and set-up time
- Up to three days unstaffed production
- Easy adaptation for extended product portfolio



-20%



++



24/7



**Extended global footprint**



# OEM Global footprint: Global growth perspectives

Increased capacities for engineering, manufacturing and the supply chain

**Future global footprint**



Engineering



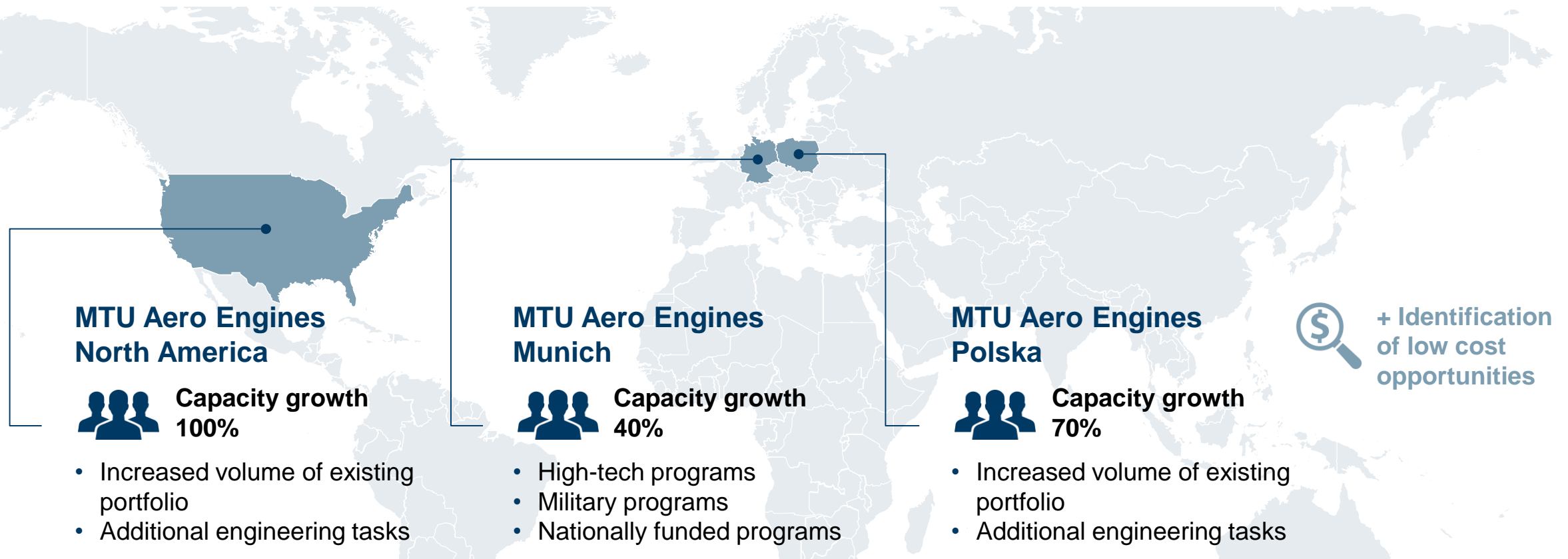
Manufacturing



Procurement

# Extended engineering footprint for optimal cost structure and customer proximity

## Target set-up for future engineering footprint



## OEM Global footprint – target vision for future manufacturing sites

### Target set-up OEM Munich:

Renewed infrastructure and competences GEN2/NEFE/FFC



- Development/compliance hardware and pre-series
- High-tech procedures
- Military programs
- Highly automated production systems

### Target set-up OEM Polska:

Enhanced portfolio



- Expansion to static parts with increased complexity
- Additive manufacturing

### Target set-up OEM Best Cost:

Capacity growth

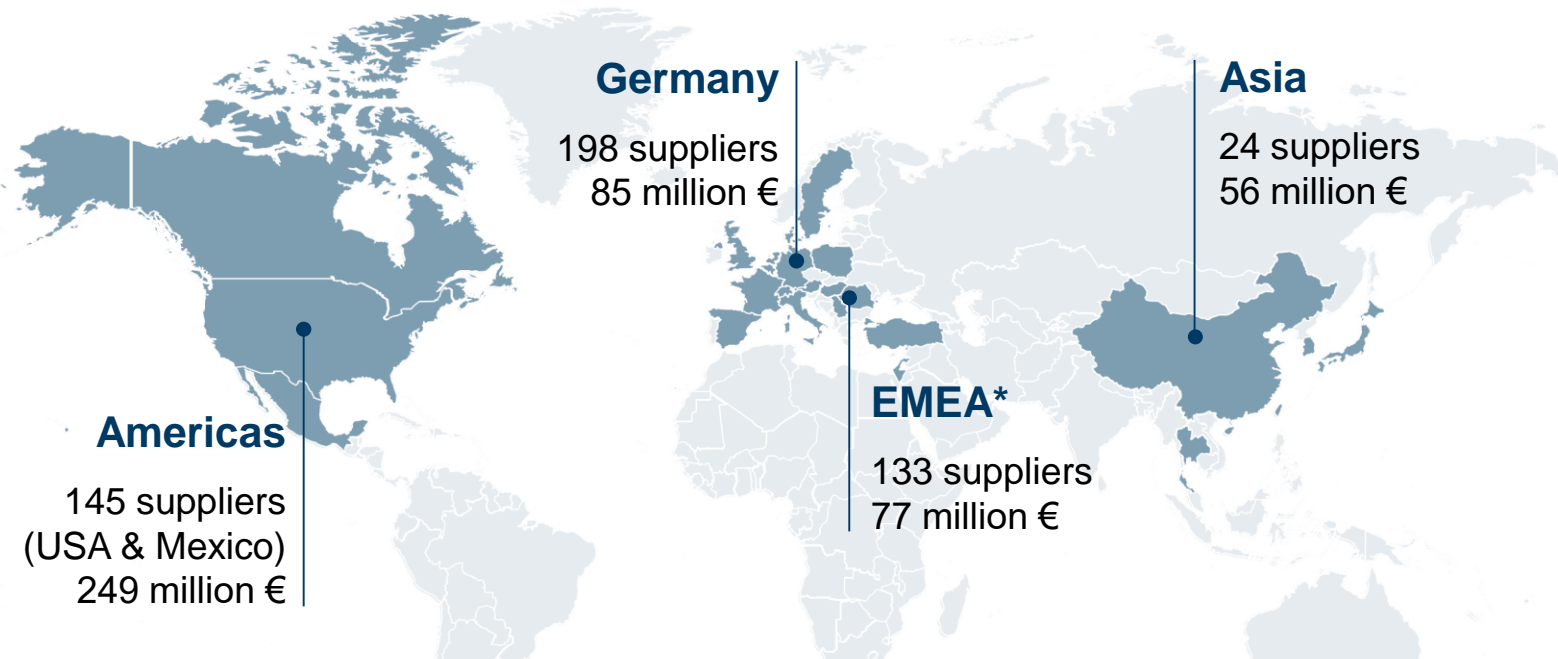


- Low-tech process steps
- Simple parts for training purposes
- Labour-intensive, manual production steps and assemblies



# Global footprint procurement: 1 billion € volume in 2020

460 million € volume in production material in 2020



**Procurement share vs. in-house production 2020**  
(Commercial OEM series in %)

68%  
Procurement



32%  
In-house value creation

## Future procurement strategy 2030



### Technology support

- Early participation in development phase
- Future programs: NEFE and Gen1+



### Competitiveness

- Raw material hedging
- Multi-source-strategy



### Sustainability

- Eco Roadmap
- Supply chain law (starting 2023)



### Supplier relations

- Long-term contracts: best cost sourcing
- Digital supplier network

\*EMEA: Europe (excl. Germany), Middle East, Africa

# Financials

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Peter Kameritsch | Chief Financial Officer (CFO) |  
Chief Information Officer (CIO)







**GTF MRO network**

## GTF MRO – worldwide network provides capacity for the fast growing fleet



**All partners in the GTF MRO service network operate under one standard**

- Contractual fixed hourly rates or fixed prices for work packages
- Companies purchase spare parts at list-price from IAE
- IAE coordinates specialized repair developments



**Once the shop visit is finished**

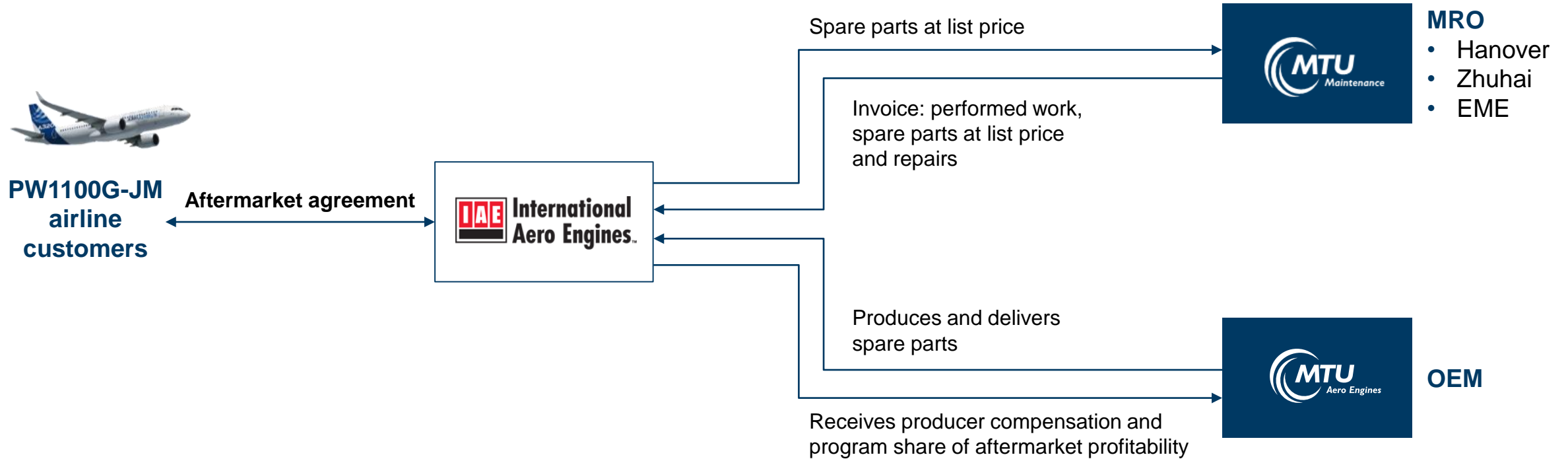
- All costs are invoiced to IAE, spare parts at list price
- Profitability of the shop visit is limited to the shops' ability to control cost

---

**Aftermarket profitability remains at OEM partners' level**  
**No spread in profitability between regular MRO and warranty**

# GTF MRO – worldwide network provides capacity for the fast growing fleet

One standard for all GTF MRO service providers





# GTF MRO at MTU Maintenance

## Secured shop load and absolute EBIT contribution

### Implications for MTU Maintenance

Workload secured, no sales activity needed

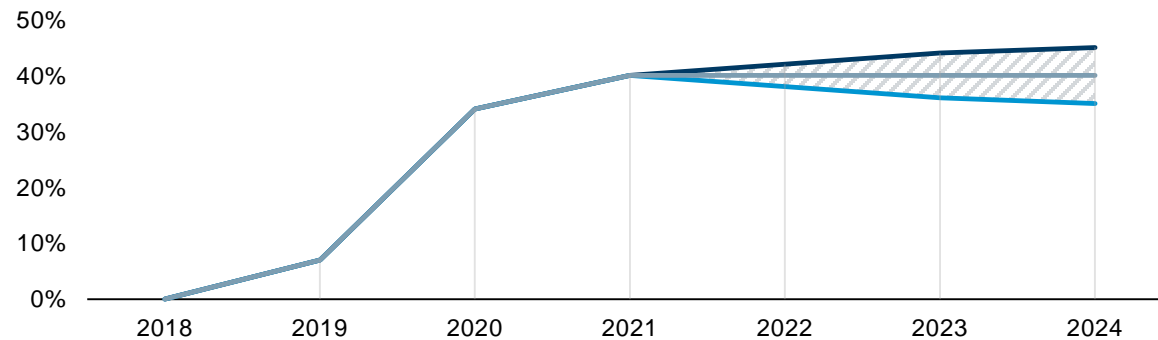
Strong revenue contribution/growth

Positive EBIT contributor

Efficient cost control provides opportunities for profitability

Segment EBIT margin suffers from large volume with limited profitability

### Share of GTF MRO on total MRO sales remains high



**MTU's participation in the GTF MRO network provides strong and profitable volume**  
**Margin as only indicator for the business is not sufficient**

## Balance sheet

	734,826
Current assets	88,905
Non-current assets	1,645,921
<b>Liabilities</b>	<b>166,630</b>
Current liabilities	110,327
Non-current liabilities	56,303
<b>Equity</b>	<b>74,393</b>
Paid-in capital	72,921
Retained earnings	1,472



## Equity statement

<b>Current year</b>	<b>1,774,576</b>
Comprehensive income	98,400
Issue of share capital	25,800
Dividends	
<b>Previous year</b>	<b>166,630</b>
Comprehensive income	110,327
Issue of share capital	96,300
Dividends	67,678



## Income statement

<b>Revenues</b>	<b>12,978,516</b>
Net sales	12,873,892
Investment	104,624
<b>Expenses</b>	<b>6,372,535</b>
Research and Development	1,285,395
Operating expenses	4,430,118
Marketing	548,022
<b>Net income</b>	<b>6,505,981</b>



## Cash flow statement

<b>Operations</b>	<b>12,978,516</b>
Net earnings	12,873,892
Depreciation	104,624
<b>Investing</b>	<b>6,372,535</b>
Real estate	1,380,395
Equipment	4,430,118
<b>Financing</b>	<b>6,505,981</b>
Notes payable	6,505,981



# Guidance 2022

# The year 2022: Acceleration in recovery

## Business driver



### Military

- EJ200 deliveries growing (export customers)
- Stable support volume for fighter aircraft on existing fleets
- Growing customer funded R&T for FCAS engine



### Commercial OE

- Production volume for narrowbody engines grows strongly
- Production rates for widebody engines start to improve
- Production of Business Jet engines keeps growing



### Commercial Spares

- Spare parts continue to grow – main volume and growth coming from narrowbody (V2500, GTF)
- Engines with freighter applications remain solid



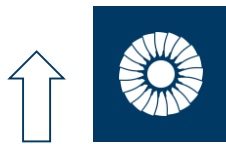
### Commercial MRO

- Recovery in narrowbody MRO continues
- GTF MRO Volume grows in line with overall business
- Strong freighter demand remains

# The year 2022: Acceleration in recovery

## Organic revenue

**Military**  
Up high single digit %



**Commercial OE**  
Up mid to high teens %



**Commercial Spares**  
Up mid teens %



**Commercial MRO**  
MRO up mid to high twenties %  
GTF in line with overall growth



**Total Group Sales:**  
**5.2 – 5.4 bn €**



**EBIT adj.**  
Up mid  
twenties %



**Net Income adj.**  
Growth in line  
with EBIT adj.

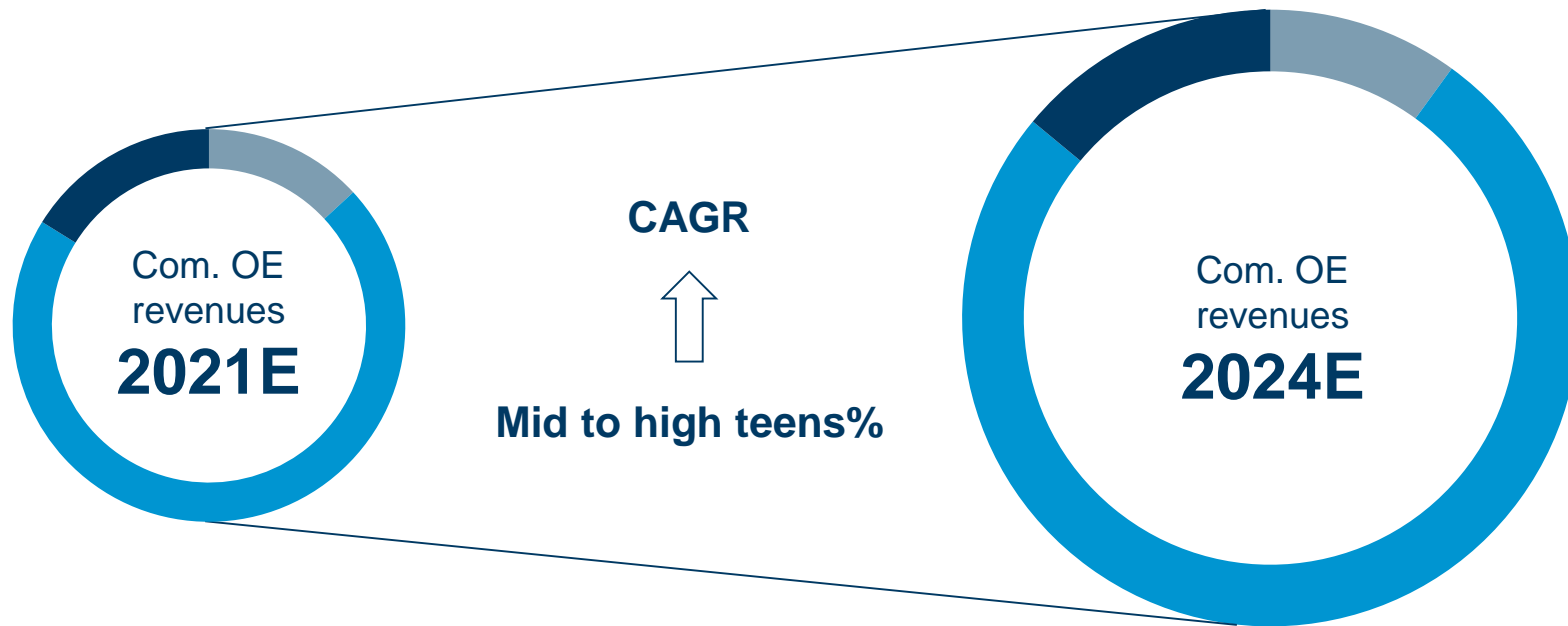
# Mid-term outlook





# Increase in production rates drives strong growth

## MTU commercial OE revenue breakdown

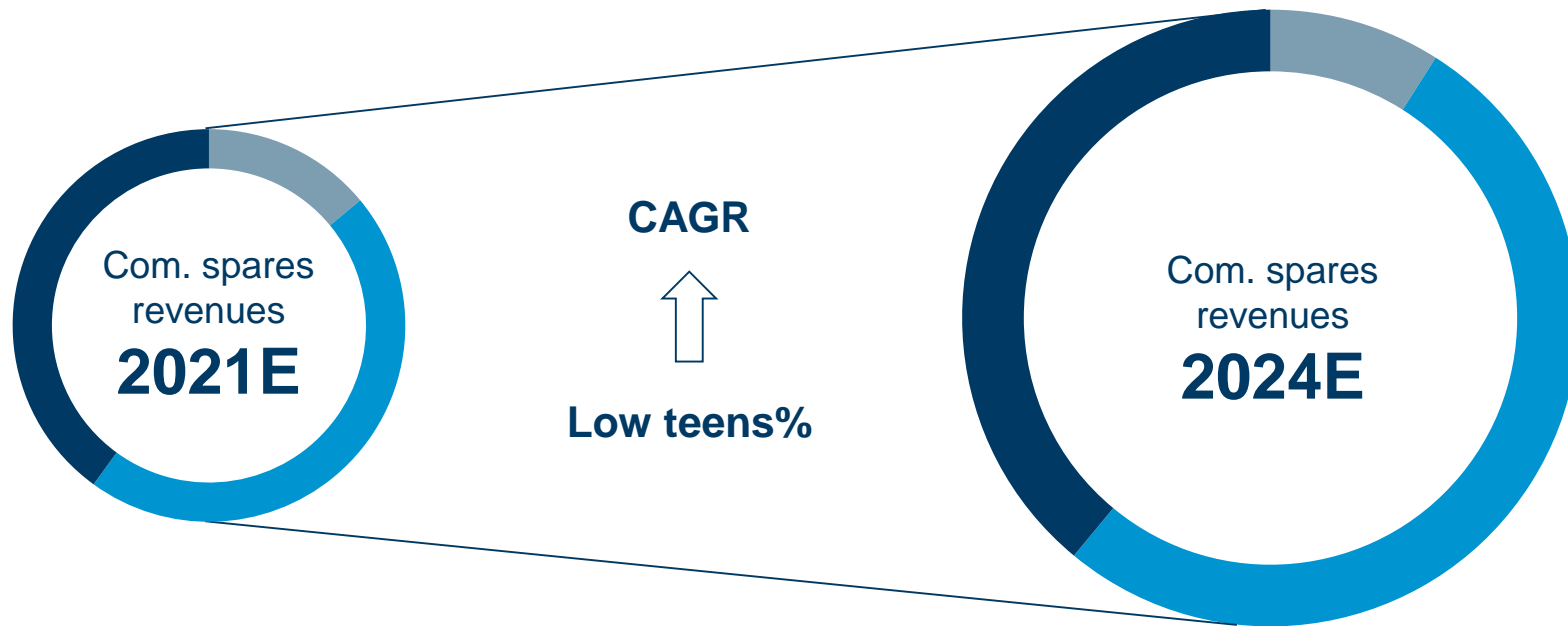


- Growth in narrowbody and regional jet output dominates
- GEnx delivery rates improving from current lows
- GE9X will start to contribute to widebody revenue
- BizJet engines with stable growth rates

■ Business Jet/others
 ■ Narrowbody/Regional Jet
 ■ Widebody

# Spare parts revenues growth – overweight in narrowbody engines

## MTU commercial spares revenue breakdown

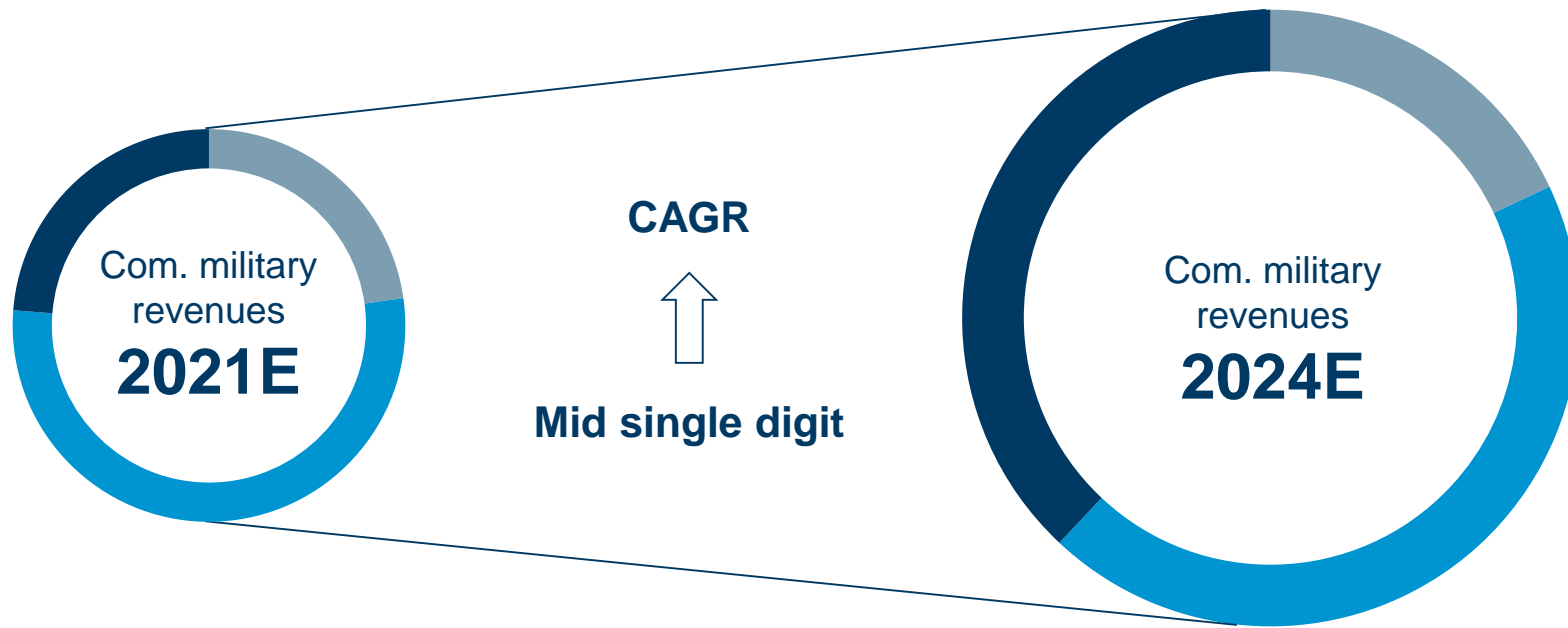


- Spare parts for narrowbody and regional aircraft with highest growth rates
- Solid widebody contribution supported by strong freighter exposure
- BizJet revenues mirror increased flight activity

■ Business Jet/others  
 ■ Narrowbody/Regional Jet  
 ■ Widebody

# Military business provided stability in the crisis – and continues to grow

## MTU military OEM revenue breakdown

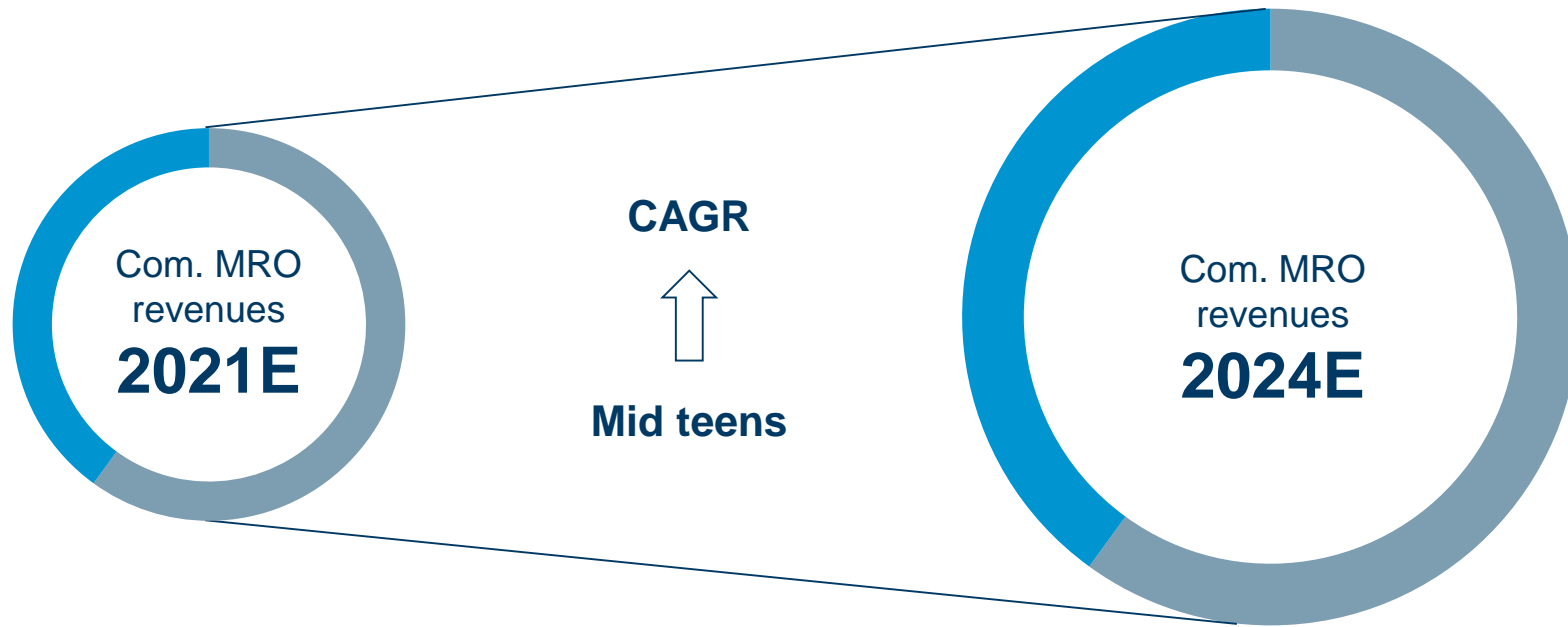


- Revenue generation from new engines declining
- Services and aftermarket provide solid growth potential
- Underlying assumptions
  - Campaign wins for Eurofighter
  - Acceleration in activity on the next fighter engine

■ New Engines    ■ Aftermarket    ■ R&D and Services

# Commercial MRO business will continue to grow strongly

## MTU commercial MRO revenue breakdown



- Strong independent MRO wins lead to a strong growth expectation
- Share of independent vs. OEM-MRO cooperation will remain stable with GTF maintenance as main driver

Independent
  OEM-MRO cooperation



## Mid-term outlook 2021 – 2024

Improved free cashflow conversion confirmed – back on growth path



**Revenue**

Steady  
growth



**EBIT adj**

Exceeding  
2019 level



**CCR\***

High double  
digit %



\*Cash Conversion Rate = Free Cashflow/Net Income adj.

# MTU's target is a balanced leverage ratio in the range of 0.5 to 1.5 x net Debt/EBITDA

MTU's cash deployment strategy – return to previous targets

Priorities

2021 – 2024



Organic growth

New program opportunities



Dividends

Payout target of 40% of net income adj.



Share buybacks

Opportunistic instrument to limit deleveraging and manage dilution





**Prepared for above market  
growth as aviation returns**

# ESG & Executive summary

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Reiner Winkler | Chief Executive Officer (CEO)



## MTU is committed to the UN Sustainable Development Goals and contributes to 8 goals

**5**

MTU advocates diversity and equality of opportunity (important focus on promotion of women)

**9**

Advancing sustainable aviation – MTU makes major contributions to industry, innovation and infrastructure

**13**

Climate action through sustainable engine technologies and energy-efficient production sites

**17**

MTU is convinced that the challenges the international community of states is currently facing can be addressed in partnerships only



**4**

MTU is committed to high-quality education & training

**8**

Decent working conditions are a top priority at MTU

**12**

MTU stands for sustainable production and aims to maximize the eco-efficiency of its products

**16**

Good corporate governance practice (group-wide Code of Conduct)

## ESG @ MTU – CR fields of action and primary goals up to 2025

CR board implemented pushing sustainability

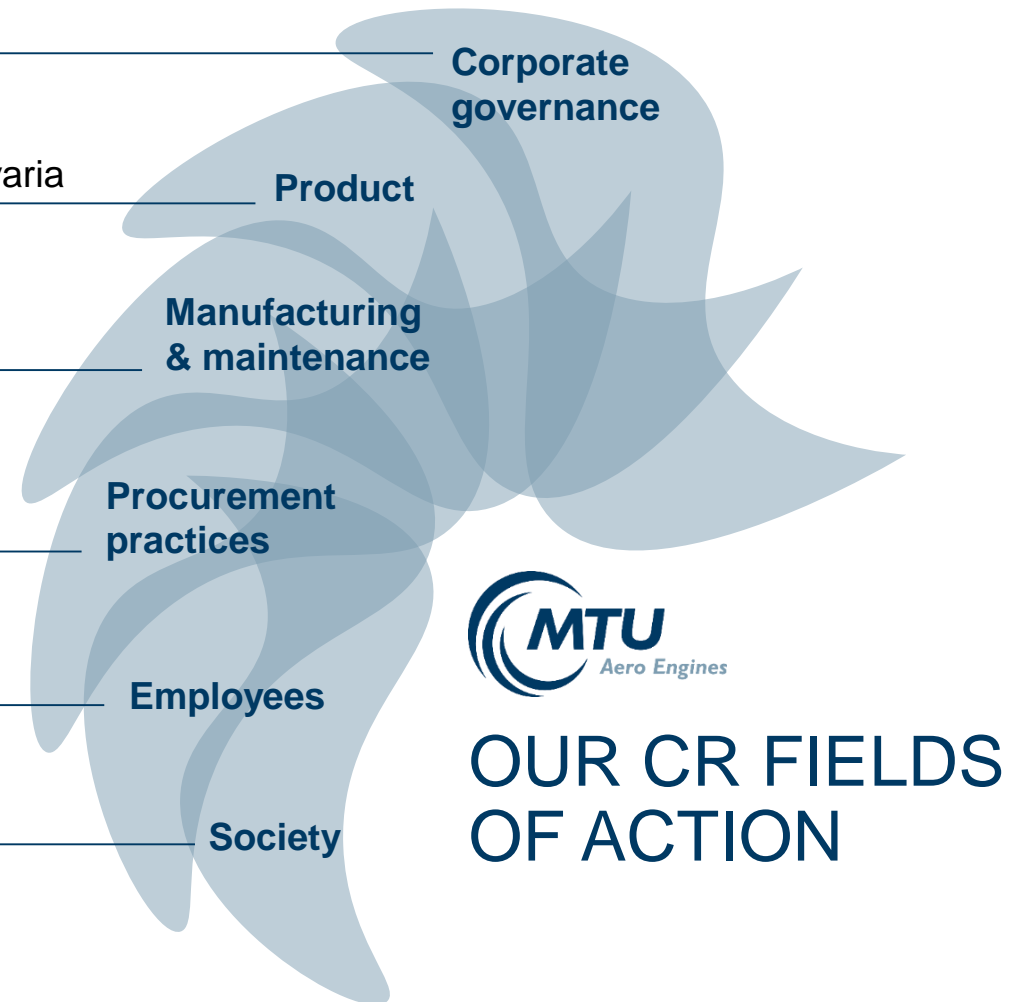
- Reducing the climate impact of products
- MTU supports plans to build a production plant for green kerosene in Bavaria

ecoRoadmap

In our cooperation with suppliers, we pay attention to a resource- and environment-friendly value chain

Ensuring a high level of employee satisfaction

Research collaborations for joint knowledge building



# ESG @ MTU – our claim and corporate responsibility (CR) strategy



## MTU’s Sustainability Program 2025+

- Fields of action identified
- Respective goals for each field of action for 2025
- Continuous development in 5 year terms

## 2030 Climate strategy “Production”

- **ecoRoadmap** – evolution in production to reach 1.5 degree target

## 2050 Climate strategy “Product”

- **CLAIRE (Clean Air Engine agenda)** – evolution in product development to reach 1.5 degree target
- Climate-neutral revolutionary gas turbine concepts

**As a technology leader, we play a decisive role in making aviation sustainable and achieving emissions-free flight through innovative propulsion solutions. In doing so, we stand for responsible and environmentally friendly production, maintenance and procurement and offer a safe and attractive working environment.**

## Executive Summary



**Profitable growth path and future prospects secured.**



**Market recovery** driven by improved vaccination rates is taking hold



**MTUs unique product portfolio** benefitting from rebounding single-aisle market and booming cargo segment



MTU will **outperform market growth** in commercial narrowbodies and widebodies



**Increased capacities, extended global footprint** and ready for the re-ramp-up in new engine business



**Ongoing strong order book** secures future growth in MRO



A black and white photograph showing the silhouettes of several people walking through an airport terminal. They are carrying luggage and backpacks. The background is a large window with a grid pattern, and a globe is visible on the left side. The overall scene is dimly lit, with light coming from the windows.

# Questions & Answers

**Reiner Winkler**  
Chief Executive Officer (CEO)

**Michael Schreyögg**  
Chief Program Officer (CPO)

**Lars Wagner**  
Chief Operating Officer (COO)

**Peter Kameritsch**  
Chief Financial Officer (CFO)

## Investor & Analyst Day 2021

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