

# **Rolls-Royce**

### **Investor Presentation**

September 2021

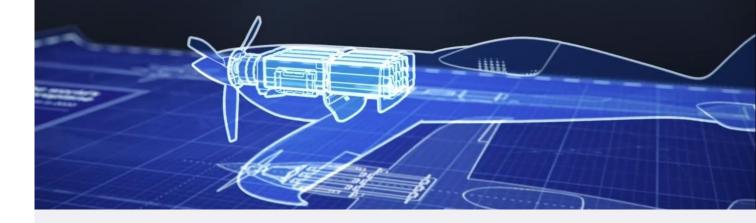
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# Our company



Delivering on financial priorities and looking towards a lower carbon future



- Restructuring on track and delivering expected results
- V Disposal programme progressing well towards £2bn target
- Improving cash flow and profitability and on track for 2021 guidance
- Strong liquidity and targeting net cash medium-term
- Exciting incremental growth opportunities in low-carbon businesses
- ✓ Taking a key role in the transition to Net Zero



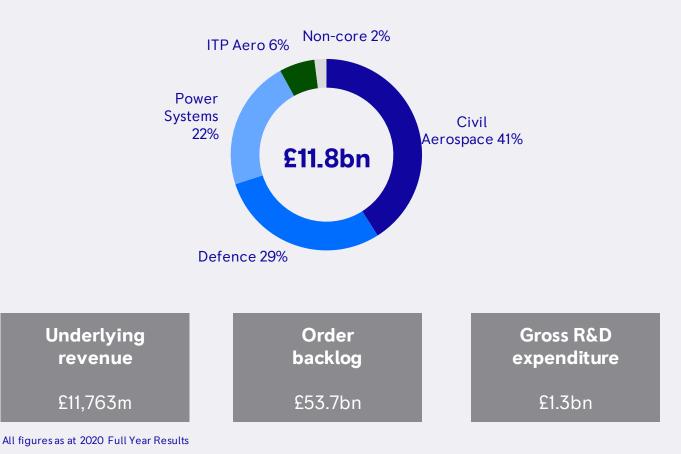
#### Who we are

We are one of the world's leading industrial technology companies.

Our purpose is to pioneer the power that matters to connect, power and protect society.

We deliver cleaner, more sustainable power for the world's most vital needs.

#### Underlying revenue by business





#### What we do

We are tightly focused into four core operating businesses

Figures show 2020 performance, with Civil Aerospace, Power Systems & ITP Aero impacted by COVID-19. and Defence resilient

Disposal process underway for ITP Aero





- Major manufacturer of aero engines for the large commercial aircraft, business aviation and regional jet markets
- Engineering expertise, in-depth knowledge and capabilities to provide through-life support solutions for its customers

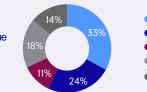
#### £5,089m Underlying revenue £(2.6)bn Underlvina operating loss

Large engines Business Regional V2500



- A market leader in aero engines for military transport and patrol aircraft
- Strong positions in combat and helicopter • applications
- Significant scale in naval





Transport Combat Naval Marine Submarines Other

POWER SYSTEMS





Includes civil nuclear operations that supply safety-critical systems

£2,745m Underlying revenue £178m Underlying operating profit



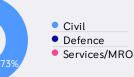
Power Gen Marine Industrial Defence

ITP AERO



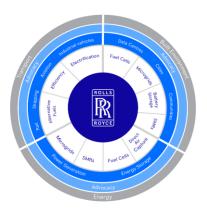
- A global leader in aero-engine design, manufacture and maintenance
- Development, manufacturing, assembly and testing of engines
- MRO services for regional airlines, business • aviation, industrial and defence applications







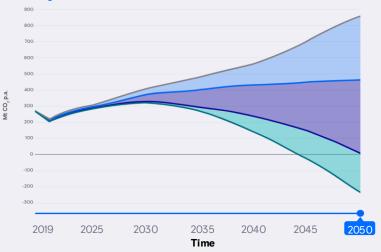
#### We have a fundamental role to play in meeting the challenge of climate change



### Applying technical pathways to decarbonise complex, critical systems

#### **Rolls-Royce Products in Service**

Change in Annual CO<sub>2</sub> Emissions from 2019 to 2050



#### Net Zero Targets



Please see the Rolls-Royce Net Zero Report for full details on our Net Zero Targets.

O Hypothetical 'no improvements' case

O With fuel efficiency + new technology

O With fuel efficiency + new technology + sustainable fuel

O With fuel efficiency + new technology + sustainable fuel + SMRs' avoided emissions



# Positioning for recovery and creating a sustainable future



Positioning for the recovery and creating a sustainable future Restore financial performance

Science-led innovation in sustainable power

#### Restore performance, maximise value and focus on sustainable power

Maximise value from

existing capabilities

- Market recovery and low carbon opportunities in Power Systems
- Deliver fundamental restructuring in Civil Aerospace
- Disposal programme to achieve >£2bn proceeds

- Civil Aerospace: realise value from installed base
- Power Systems: focus on high-growth end markets
- Defence: win strategic opportunities

- Improve gas turbine efficiency and SAF\* compatibility
- Develop low carbon solutions: electric, hybrid and hydrogen
- Capitalise on adjacent opportunities (e.g. SMRs)



\*Sustainable Aviation Fuel



### Restructuring progressing well

Delivering on track to sustainably reduce our costs and improve operational efficiency in Civil Aerospace

### Progress on restructuring. Driving efficiency

#### Headcount reduction – close to 90% complete

- ~8,000 roles now removed, Civil Aerospace reduced by about 30%
- Confident in target reduction of at least 9,000 roles

#### Footprint rationalisation progressing well

- Actions underway to consolidate Civil Aerospace sites (11 sites into 6)
- Widebody engine assembly three locations rationalised to a single site
- Crosspointe rotatives and turbine facilities closed and activity transferred
- Wide chord fan blade production consolidation underway to a single location
- Rationalisation of services (MRO) footprint driving increased efficiency

#### Achieving sustainable productivity improvement

- ~40% YoY reduction in lead times achieved in Civil large engine assembly
- ~10% point productivity improvement in large engine assembly

#### • Delivering sustainable cost savings

- Capex £123m reduced £92m vs H1 20; expected ~£150m reduction for full year
- On track to deliver in year cash cost savings of >£1bn in 2021
- Confirm on track for >£1.3bn run rate savings by end 2022



# Fundamental restructuring

We were quick to act, implementing a fundamental restructuring programme to reduce costs Group-wide and consolidate our Civil Aerospace footprint

#### **Operating Cost**

~£1bn



- Total role reduction of more than **9,000**
- ~7,000 exits in 2020
- Use of voluntary severance and attrition
- Engaging with unions & supporting employee mental health



- Subcontractor spend in Civil Aero reduced to <1/3 pre-COVID level
- Continued strict cost control on travel & expenses
- Footprint reduction and lower load **reduces other indirect** spend





- Targeting peer range of 3-4% of sales (2020: 5%)
- Expanded third-party MRO network to meet demand growth in Civil Aero
- Capital-light approach to spare engines

>£300m

>£1.3bn annual cost savings by end 2022



2020 cash mitigations successfully delivered

>£1bn 2020 savings successfully delivered versus pre-COVID budget

# Pay & Benefits

Capex

10% pay cut in 2020 for senior management

- Accessed government furlough schemes
- Restructuring role reductions

Paused non-essential capital spending from April

- Re-phased and delayed certain capital programmes
- **£300m** PPE capex of £600m vs. pre-COVID budget of £900m

Engineering (incl R&D)

• COVID-19 has delayed airframer timelines for new aircraft programmes, allowing re-phasing of Civil Aero R&D spend **£200m** • Reduced spend on certain longer-dated projects

Modest additional savings across other indirect cost, e.g. travel & subcontractors

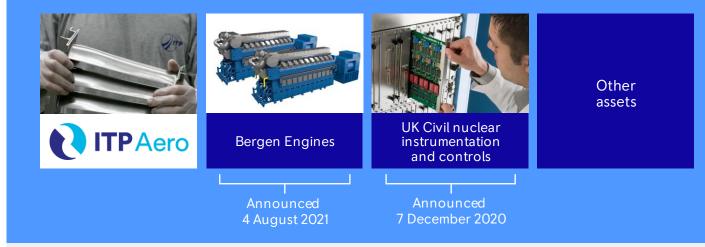
>f'lhn cash mitigations delivered during 2020

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Disposals programme progressing well towards target

### Focused disposal programme to sell non-strategic assets



- Focused disposal programme to sell non-strategic assets
- Target to raise at least £2.0bn in proceeds
- Constructive discussions and good interest from buyers



Realising the value of our installed base, growing strategic opportunities and focusing on high-growth end markets

#### Maximising value from existing capabilities

#### Civil Aerospace



- Past investment to build installed base of >5,000 large engines and >7,000 business jet engines
- Major investment cycle largely complete, fleets amongst youngest in respective markets
- Primary focus on extracting aftermarket value
- Continue efforts to reduce cost of components



#### Defence



- Over £7bn estimated lifetime value from:
  - B-52 new engine programme; >650 engines; outcome expected 2021
  - Future vertical lift programme; >4,000 engines; outcome expected 2022
- Installed base 16,000 engines, through-life upgrades on inservice engines; growing export market



#### **Power Systems**



- Installed base >150,000 engines; expansion into complete system solutions
- Growing strategic position in China
- Commercialising electrical, hybrid and hydrogen technology alternatives

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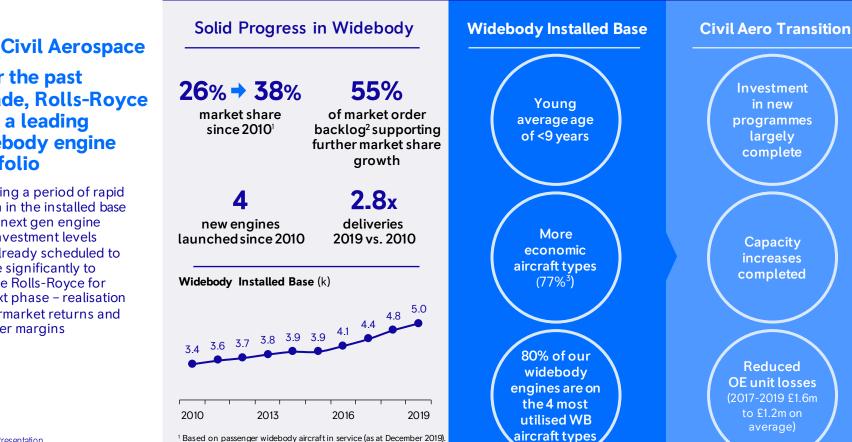


#### Rolls-Royce was already reaching a pivot point in Civil Aero prior to COVID-19

**Over the past** decade, Rolls-Royce built a leading widebody engine portfolio

Following a period of rapid growth in the installed base and in next gen engine R&D, investment levels were already scheduled to reduce significantly to prepare Rolls-Royce for the next phase - realisation of aftermarket returns and stronger margins





<sup>2</sup> Widebody order backlog (as at December 2019) <sup>3</sup>Twin-engined aircraft with EIS post-1990.



#### Civil Aerospace Realising the value of our installed base

Realising

the

opportunit

in Busines

Aviation

Busin

2010

1 As at Q1 2020.

2013

Strategy to capitalise on the strong position in Business Aviation and realise the value in the widebody installed base

New forms of industrial collaboration for future programmes

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Capitalise on our strong position in Business
Aviation

### Realising value in the widebody installed base

	#1	2
	with 31% market share <sup>1</sup> by value	new flagship engines over the last 5 years
	Low EFH volatility coupled with long engine lives	Resilient deliveries volumes (down (8)% in H1 2020)
ty s	Continue market penetration with launch of new products	Improve OE economics as Pearl platform matures
ies	s Aviation Installed Base	e (k)
7 -	6.0 5.6 5.0 5.2	4 6.6 6.8 7.1 7.2 14%

2016

Civil Aero underlying revenue in 2019

2019

Continued growth in installed base from a lower base

Growing engine flying hours as installed base grows after 2022

Improved OE losses (with ongoing restructuring as a catalyst)

Improved time on wing

Reduced investment levels, in part through industrial collaboration



# Power Systems & Defence

Continue to be the bedrock of financial performance and cash generation

# With accelerating growth potential from the middle of the decade

\* £3.2bn (adjusted for Civil Nuclear I&C & Bergen disposals)





- Revenue to return to approximately 2019 levels by 2022\* as GDP-driven shortcycle markets rebound
- Margins to return to >10% by 2022 with further improvement towards 'mid-teens' thereafter
- Resilient performance through COVID-19
   pandemic
- Revenues broadly stable through to 2022
- Continuing to offset customer pricing headwinds & investment through costsavings

Strong cash conversion supports Group cash flow recovery



**Power Systems** 

#### Varying levels of COVID-19 related impact

Diversified end markets and mission critical services expected to help return underlying revenue to 2019 levels by 2022

5				
	Power Generation 33% of Sales	<b>Marine</b> 34% of Sales	<b>Industrial</b> 22% of Sales	<b>Other</b> 11% of Sales
	<ul> <li>Mission critical backup power for data centres, hospitals and other infrastructure</li> </ul>	<ul> <li>Government focused customer base with stable, robust demand</li> </ul>	<ul> <li>Oil &amp; Gas and mining remain subdued, construction recovery visible</li> </ul>	<ul> <li>Defence markets remain robust</li> </ul>
		COVID-19 Impact	on Power Systems	
n	<ul> <li>COVID-19 impact due to construction delays and lower economic activity reducing demand for power</li> </ul>	<ul> <li>Impacting yachts and commercial vessels, government demand stable</li> </ul>	<ul> <li>COVID-19 impact visible, lower commodity prices impacting Oil &amp; Gas, construction slow down</li> </ul>	<ul> <li>Limited impact given installed base and mission critical nature</li> </ul>
		Medium and Lor	ng Term Outlook	
	<ul> <li>Sustained driven by economic recovery</li> <li>Data centre usage</li> <li>Trend towards decentralized power grid</li> <li>Digitalization trend driving data centre demand</li> </ul>	<ul> <li>Long term demand in yachts driven by UHNWIs</li> <li>Structural trend towards low emissions in commercial vehicles to benefit the group</li> </ul>	<ul> <li>Potential growth opportunities over the medium term through focus on efficient, lower carbon solutions, e.g. hybrid rail power pack</li> </ul>	<ul> <li>Sustained growth with a view to being a global power company based on low carbon technologies</li> </ul>

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Defence

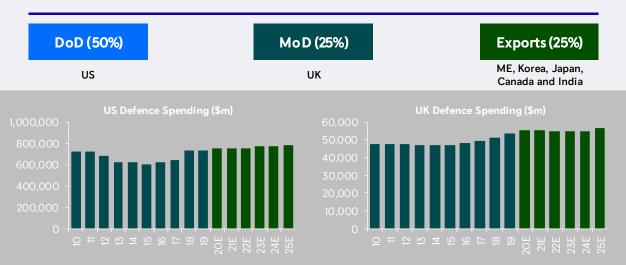
Defence demand driven by government defence spending; expect resilient performance despite COVID-19

Exposure in Transport, Combat and Submarine

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Demand for defence business' transport, combat, submarine and naval products is driven by government defence spending



Long term drivers of defence spending

- US: large new programmes expected for US Air Force and Army (including B-52 reengine competition and future vertical lift competition)
- UK: relatively stable in the short term given the government's commitment to maintain fighting capability through Project Tempest and UK-led Next-Generation fighter programmes
- Export Markets: continued growth including naval products, transport aero engines and Eurofighter typhoon exports
- Level of geopolitical tensions

Source: charts: Jane's Defence Budgets (JDB) defence spending summary spreadsheet, 2020.



# Looking to the future

Realising the value of our installed base, growing strategic opportunities and focusing on high-growth end markets

#### **Civil Aerospace**

Lower investment needed

as engine programmes

Focus on efficiency and

All in production engine

sustainable fuel (SAF)

UltraFan architecture to

deliver step change in

compatible by 2023

digital enablement

types to be 100%

efficiency

mature

#### Defence

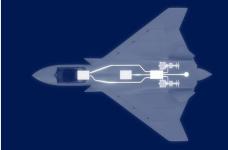
- Long-lifespan products supported by through-life upgrades and aftermarket services
  - Working with military customers to certify engines for SAF and position them to lead their government's decarbonisation agenda
  - Investment in adjacencies to expand product portfolio
  - Over £7bn estimated lifetime value from key US tenders



**Power Systems** 

- Growing in China with a rapidly expanding network
- Increasing customer interest in hydrogen, electric and hybrid solutions
- 35% cut in lifetime emissions of new sold products by 2030 (science-based target)









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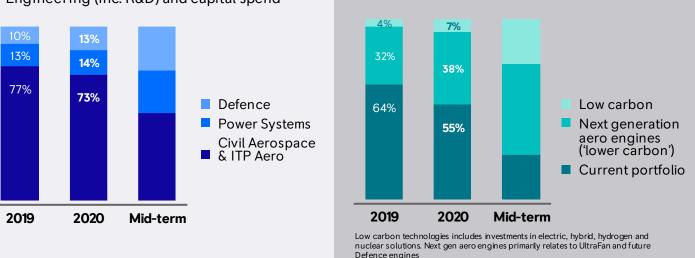
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Investment priorities

Targeting approx. 20% annual R&D spend on low carbon solutions including SMRs, hybrid, hydrogen and electric power technologies, by 2023

#### **Pivoting towards Power Systems and Defence** Engineering (inc. R&D) and capital spend



Accelerating focus on low carbon

Self-funded R&D

#### Net zero ambitions

- Joined UN Business Ambition for 1.5°C and UN Race to Zero campaigns
- Committed to enabling the vital sectors in which we operate to achieve net zero by 2050
- Committed to becoming a carbon neutral business by 2050: net zero greenhouse gas emissions from operations and facilities by 2030 (ex-product development/safety testing) and fully compatible by 2050



# Low carbon technologies

Improving engine efficiency and ensuring compatibility with more sustainable fuels.

Our hybrid-electric solutions further reduce  $CO_2$  impact.

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#### Sustainable fuels

- 100% non-blended sustainable aviation fuel successfully tested in Widebody, Business Jet and Defence
- Power Systems' Power Lab exploring synthetic fuels
- Power-to-X: go-ahead for the PtX Lab Lausitz as a competence center for green hydrogen and its downstream products





#### Hybrid power

- MTU Series 2000 hybrid propulsion for yachts; more power, low noise
- World's first E2SG demonstrator by Defence to support Tempest

UltraFan: next generation aero engine

• 25% more fuel efficient and 100% sustainable aviation fuel compatible

Scalable engine architecture offers market optionality

Incorporates ALECSys Lean Burn Combustor

Progressing to final assembly in 2021

• Expanded position in uninterruptable power market with acquisition of Kinolt



#### **Enabling net zero**

Innovating across a wide range of net zero technologies and across multiple markets



#### **Energy Storage**

• Majority stake acquisition of Qinous, central to our microgrid solutions, enabling renewable power and energy storage

Hydrogen

 Expanded product portfolio to include mtu EnergyPack scalable battery storage systems, installed in Costa Rica, Cook Islands and Germany





#### **Small Modular Reactors**

Member of European Clean Hydrogen AllianceExploring the fundamentals of H2 in aviation

operation with biogas and compatible with H2

fuel-cell generators in finalisation

Partnership with Daimler Truck / Volvo on stationary H2-powered

• MTU Series 500 engine for power generation to be available for

- Nuclear power solution to deliver low carbon electricity with potential to power sustainable aviation fuel or H2 production
- Joint venture vehicle underway with UK Government support
- First power targeted by 2030



# Enabling net zero: electric aviation

Focused on near-term revenue generation: technology progress leading to commercial opportunities across multiple markets



#### **Urban Air Mobility**

- First commercial contract for electric propulsion units to power an eVTOL vehicle (with Vertical Aerospace)
- Vertical Aerospace announced intention to list; >\$4bn pre-orders for >1,000 aircraft
- CityAirbus eVTOL demonstrator flight test programme

#### **Commuter and regional**

- Collaboration with Tecnam and Widerøe to cover all elements of developing and delivering the zero-emissions 'P-Volt' commuter aircraft
- Continued development of gas turbine hybrid-electric propulsion system for Apus i-5 regional aircraft
- 2.5MW generator currently on test in Norway





#### Small propeller

- 1,500+ missions flown across 2-4 seat demonstrators with EASA EPU certification plan in-progress
- Successful tests of ACCEL aircraft demonstrating energy storage technology for UAM and commuter markets



**Financial priorities** 



# Financial progress and priorities

#### Improving cash flow generation

- 2021 FCF expected to turn positive during the second half 2021 and targeting around £(2)bn for the full year
- Our self-help actions are generating savings and efficiency gains: on track to deliver at least £1bn in 2021 and targeting £1.3bn savings by end 2022
- £750m FCF achievable when flying hours recover to at least 80% of 2019 levels

#### Strong liquidity and priority to rebuild the balance sheet

- Clear pathway back to net cash position in the medium-term
- Targeting a return to investment grade profile
- We have sufficient liquidity to manage the uncertainty of EFH recovery

#### Investing in the future

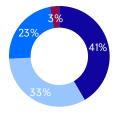
- Long-term revenue growth expectations driven by technology and innovation opportunities and rising global demand for sustainable power
- Targeting 75% of total R&D spend on lower carbon growth



#### H1 2021 Group underlying results



(continuing business)



<ul> <li>Civil Aerospace</li> </ul>	(13)% 🔻
<ul> <li>Defence</li> </ul>	17% 🔺
Power Systems	(4)% 🔻
• Other businesses	5 <b>16% </b>

# Strong liquidity and improving financial performance

#### 2021 H1 Results summary

- Solid start to the year with improving cash flow and profits, as expected
   ✓ Underlying operating profit £307m, improved from £(1,630)m in 2020 H1
  - ✓ Free cash flow  $\pounds(1,174)$ m, improved from  $\pounds(2,862)$ m in 2020 H1
- Restructuring delivering results and expected to achieve >£1bn savings in 2021
- Disposal programme progressing well towards targeted proceeds of at least £2bn
- Strong liquidity position with no maturities before 2024

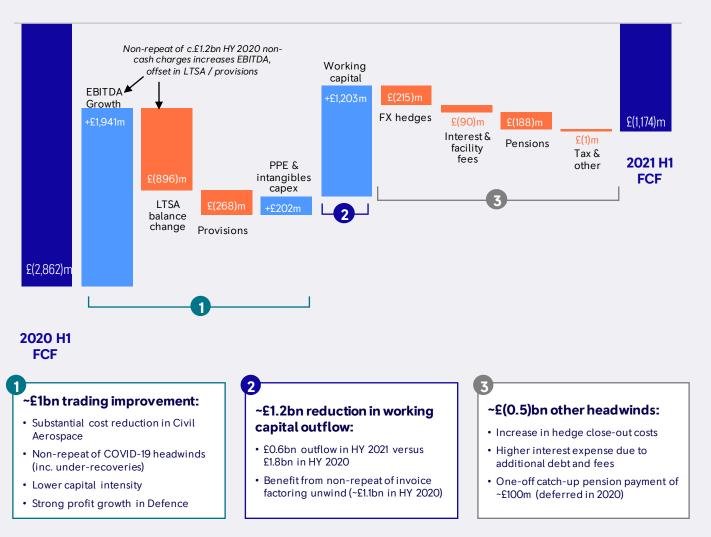


## **£1.7bn improvement** in free cash outflow

Improvement led by cost reduction, focused investment and reduced working capital outflow

Numbers based on continuing operations

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# Rebuilding the balance sheet

Improving free cashflow Disposals progressing well

#### Net debt progression (pre-leases)

Illustrative, not to scale



#### **£7.5bn liquidity provides resilience and strength to ride out the pandemic**

- £3.1bn cash and £4.5bn undrawn committed facilities
- No material maturities before 2024
- £2.0bn 2025 UKEF backed bank facility drawn in June 2021
- 2021 €750m bond and £300m CCFF repaid from cash



# 2021 guidance summary

**Group guidance includes ITP Aero** (discontinued business as at 2021 H1)

	2020	2021	
Civil Aerospace Drivers			
Large engine deliveries	264	200-250	
Large engine LTSA EFH	6.6m	Gradual recovery	Significant near term uncertainty over Civil Aerospace outlook
Large engine LTSA major refurbs	272	~250	
Defence			
Revenue	£3,366m	Stable	
Operating margin	13.3%	Stable	
Power Systems			
Revenue	£2,745m	Return to growth from H2	Order recovery in H1 drives acceleration in sales from H2
Operating margin	6.5%	High single-digit	
Trent 1000 in-service cash costs	£(524)m	£(300)m-£(400)m	~£(170)m reported H1
FX hedge close out cost	£(186)m	£(452)m	£(303)m reported H1
Research & Development cash spend	£(904)m	Broadly stable	£(396)m reported H1
PPE Capex	£(579)m	£(350)-(450)m	£(124)m reported H1
Net interest received and paid (including fees on undrawn facilities)	£(172)m	~£(250)m	£(116)m reported H1
Cash tax	£(231)m	Modestly lower	£(102)m reported H1
Pensions (contributions in excess of PBT charge)	£160m	~£(100)m	£(94)m reported H1
Group free cash flow	£(4,185)m	~£(2)bn	Cash flow positive at some point in H2



# Appendix



Transition to net zero

We have pledged to achieve **net zero carbon** in our operations by 2030 and play a crucial role in enabling the sectors in which we operate reach **net zero by 2050** 

#### Net zero targets

- By 2023, all in-production civil aero engines to be proven compatible with 100% SAFs, contributing to UN Race to Zero breakthrough goal for sustainable aviation
- Show compatibility with SAFs for our in-production Defence aero-engines, subject to customer agreement by 2023
- Science-based target to reduce lifetime emissions of new sold products from Power Systems by 35% by 2030; new generation Series 2000, 4000 engines to be certified for sustainable fuel by 2023
- Increasing proportion of gross R&D spent on lower carbon and net zero technologies to 75% by 2025 to decarbonise transport, energy and the built environment
- New products compatible with net zero by 2030, whole business compatible by 2050



#### Understanding COVID-19 impact on Civil Aero drivers in FY20

COVID-19 impacts create distorting impact on Civil Aerospace drivers during 2020

#### £(4.6)bn trading cash outflow driven:

- Material reduction in EFH
- Large working capital outflow including invoice discounting impact
- Additional 2020 headwinds primarily relating to COVID-19

#### Widebody OE

- 264 total installed & spare deliveries (2019: 510)
- **£1.1m avg. installed loss** (2019: £1.2m), excluding higher under-recoveries
- Reflects continued cost reduction and lower launch price discounts
- Profit impact of lower spare engine volumes

#### WB AM Cash Margin

- Material reduction in WB EFH receipts (57% lower EFH)
- Significant reduction in widebody T&M revenues
- Non-repeat of £173m 2019 Trent 1000 insurance receipt
- Partly offset by lower WB major service visits, down 11% YoY to 272

#### Businesses, Regional & V2500

- Business jet invoiced EFH
   receipts resilient
- Lower business jet OE profit due to lower deliveries and adverse mix impact
- Material fall in regional jet and V2500 receipts & spare parts due to lower flying hours

Additional 2020 headwinds primarily relating to COVID-19 ~£(0.6)bn headwind in 2020 from temporary costs resulting from COVID-19, including material fixed cost under-recoveries and adverse FX costs

#### ~£(0.5)bn operations and engineering costs ~£(1.3)bn R&D, capex & C&A costs

Reductions reflect savings from headcount reduction and mitigating actions



#### **LTSA balance H1 21:** Drivers of Civil LTSA balance change

Deferred revenue

reflects difference between invoiced EFH receipts and P&L revenues traded

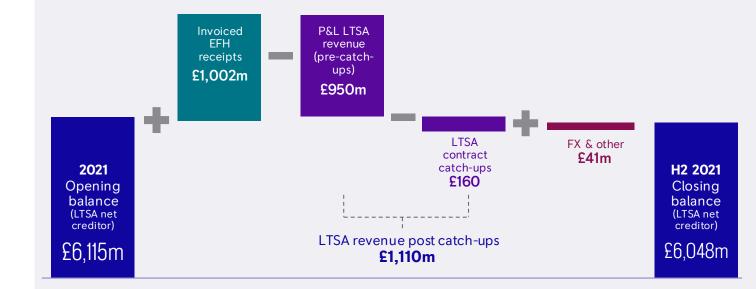
#### **Invoiced EFH receipts**

Reflects invoiced EFH receipts on long-term contracts across **entire** Civil LTSA-covered fleet

#### **P&L revenue**

Driven by cost (e.g. shop visits) across large engine, business aviation and regional fleets.

Recognised by contract, as costs incurred, at relevant contract margins





# Non-operational cash charges

#### Trent 1000 in-service cash cost schedule:

Costs are included in Group FCF definition

Total:	~£2.2bn	
2023+	~£200m	underly
2022	£100m-£200m	Provisi costs, r
2021	£300m-£400m (H1: ~£170m)  ]	<b>D</b> · ·
2020	£524m	
2017-19:	£1,023m	

Provisions provided for over half of future costs, remainder will be traded through underlying P&L as previously disclosed

#### USD hedge book

#### Cash costs of closing out over-hedge position

Costs are included in Group FCF definition

£m	2020	2021 H1	2021 H2	2022	2023	2024	2025	2026	Total
Cash cost	186	303	149	326	£7	'10m acro	oss 2023-2	26	1,674



# Trent engine products

Leading widebody market share

£m	Airframe	Market share*	Engines in service	Engines on order
Trent 7000	Airbus A330neo	100%	94	516
Trent XWB	Airbus A350	100%	714	919
Trent 1000	Boeing 787	33%	566	127
Trent 900	Airbus A380	48%	92	2
Trent 800	Boeing 777	40%	160	0
Trent 700	Airbus A330	60%	1,050	2
Trent 500	Airbus A340	100%	88	0
			2,764	1,566

\* Share of total firm and announced programme sales with an engine decision (excludes cancelled orders)



# Civil engine deliveries

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	H1 2021
By engine																			
RB211 22B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RB211 524	2	5	7	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0
RB211 5 35	14	6	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
RB211 Total	16	11	7	2	5	5	1	0	0	0	0	0	0	0	0	0	0	0	0
Trent 500	88	115	88	97	45	45	57	16	1	8	0	0	0	0	0	0	0	0	0
Trent 700	35	30	54	59	75	88	125	139	135	157	181	184	140	88	110	63	10	2	0
Trent 800	30	15	21	25	10	7	9	0	0	0	0	0	0	0	0	0	0	0	0
Trent 900				20	10	48	33	30	70	64	42	35	6	30	67	44	34	15	0
Trent 1000									18	46	59	79	106	122	109	125	126	82	11
Trent XWB-84												13	56	117	196	184	178	109	60
Trent XWB-97															1	45	56	34	9
Trent 7000																8	106	22	20
Trent	153	160	163	201	140	188	224	185	224	275	282	311	308	357	483	469	510	264	100
Civil Large Engines	169	171	170	203	145	193	225	185	224	275	282	311	308	357	483	469	510	264	100
Тау	48	43	55	66	80	92	68	51	57	60	67	46	38	28	2	0	0	0	0
AE3007	217	242	168	113	135	135	32	55	31	43	78	48	34	20	8	10	4	0	0
BR700	96	131	161	155	183	216	172	184	232	290	326	334	332	244	190	205	191	112	28
Pearl																2	22	72	20
<b>Civil Small Engines</b>	361	416	384	334	398	443	272	290	320	393	471	428	404	292	200	217	219	184	48
V2500*	216	237	327	319	308	351	347	371	418	220	0	0	0	0	0	0	0	0	0
Civil Total	746	824	881	856	851	987	844	846	962	888	753	739	712	649	683	686	729	448	148



#### Civil engine in-service installed fleet\*\*

Fleet data from Cirium excludes aircraft **temporarily parked** due to COVID-19

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 H1
By engine																			
RB211 22B	48	36	36	12	15	9	12	9	6	6	3	3	3	3	3	3	3	3	3
RB211 524	829	815	796	791	769	706	643	638	617	530	455	352	302	278	266	242	210	82	80
RB211 5 35	1,154	1,192	1,168	1,174	1,158	1,102	1,078	1,056	1,052	1,028	1,026	1,012	908	868	826	850	824	576	634
RB211 Total	2,031	2,043	2,000	1,977	1,942	1,817	1,733	1,703	1,675	1,564	1,484	1,367	1,213	1,149	1,095	1,095	1,037	661	717
Trent 500	120	212	292	380	412	432	464	492	480	452	440	388	352	336	280	284	240	68	88
Trent 700	234	264	306	364	422	492	590	696	816	948	1,114	1,288	1,388	1,460	1,590	1,636	1,606	1,054	1,050
Trent 800	376	392	406	430	444	442	448	450	444	446	436	422	362	352	330	334	320	134	160
Trent 900	0	0	0	0	4	36	60	80	140	208	244	280	304	332	360	400	428	68	92
Trent 1000	0	0	0	0	0	0	0	0	6	44	84	164	260	384	476	546	658	538	566
Trent XWB-84	0	0	0	0	0	0	0	0	0	0	0	2	30	124	278	432	590	562	616
Trent XWB-97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	70	96	98
Trent 7000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	80	90	94
Trent	730	868	1,004	1,174	1,282	1,402	1,562	1,718	1,886	2,098	2,318	2,544	2,696	2,988	3,314	3,662	3,992	2,610	2,764
Civil Large Engines	2,761	2,911	3,004	3,151	3,224	3,219	3,295	3,421	3,561	3,662	3,802	3,911	3,909	4,137	4,409	4,757	5,029	3,271	3,481
Spey	1,090	1,024	992	946	914	864	802	760	702	632	580	506	460	430	404	360	284	252	232
Тау	1,599	1,572	1,623	1,755	1,769	1,825	1,861	1,869	1,917	1,969	2,019	2,011	2,035	2,027	1,993	2,009	1,946	1,892	1,884
AE3007	1,934	2,164	2,328	2,458	2,564	2,520	2,528	2,562	2,550	2,544	2,598	2,534	2,468	2,326	2,302	2,448	2,472	2,028	2,096
BR700	864	990	1,144	1,272	1,446	1,560	1,752	1,910	2,128	2,362	2,696	2,964	3,388	3,642	3,858	4,098	4,322	4,314	4,332
Pearl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	58
Civil Small Engines	5,487	5,750	6,087	6,431	6,693	6,769	6,943	7,101	7,297	7,507	7,893	8,015	8,351	8,425	8,557	8,915	9,024	8,522	8,602
V2500*	930	1,054	1,196	1,348	1,492	1,613	1,722	1,852	2,002	0	0	0	0	0	0	0	0	0	0
Civil Total	9,178	9,715	10,287	10,930	11,409	11,601	11,960	12,374	12,860	11,169	11,695	11,926	12,260	12,562	12,966	13,672	14,053	11,793	12,083
Fleet growth	8%	<b>6%</b>	6%	6%	4%	2%	3%	3%	4%	-13%	5%	2%	3%	<b>2%</b>	3%	5%	3%	-16%	2%

 $^{\ast}$  50% of the total V2500 fleet included

\*\* Installed engine base is net of retirements and excludes aircraft which are parked or in storage



#### **Civil in-service thrust base** (millions lbs)\*\*

Fleet data from Cirium excludes aircraft **temporarily parked** due to COVID-19

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 H1
By engine	Thrust per engine (lbs)																			
RB211 22B	60,000	3	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
RB211 524	60.000	50	49	48	47	46	42	39	38	37	32	27	21	18	17	16	15	13	5	5
RB211 5 35	40,000	46	48	47	47	46	44	43	42	42	41	41	40	36	35	33	34	33	23	25
RB211 Total		99	99	97	95	93	87	82	81	79	73	69	62	55	52	49	49	46	28	30
Trent 500	56,000	7	12	16	21	23	24	26	28	27	25	25	22	20	19	16	16	13	4	5
Trent 700	72,000	17	19	22	26	30	35	42	50	59	68	80	93	100	105	114	118	116	76	76
Trent 800	92,000	35	36	37	40	41	41	41	41	41	41	40	39	33	32	30	31	29	12	15
Trent 900	70,000	0	0	0	0	0	3	4	6	10	15	17	20	21	23	25	28	30	5	6
Trent 1000	71,000	0	0	0	0	0	0	0	0	0	3	6	12	18	27	34	39	47	38	40
Trent XWB-84	1 84,000	0	0	0	0	0	0	0	0	0	0	0	0	3	10	23	36	50	47	52
Trent XWB-97	97,000														0	0	3	7	9	10
Trent 7000	72,000														0	0	0	6	7	7
Trent		58	67	76	87	95	103	114	125	137	152	168	185	196	217	243	270	297	198	210
Civil Large Eng	gines	157	166	172	182	188	190	196	206	216	226	237	247	251	269	292	319	343	226	240
Spey	11,000	12	11	11	10	10	10	9	8	8	7	6	6	5	5	4	4	3	3	3
Тау	15,000	24	24	24	26	27	27	28	28	29	30	30	30	31	30	30	30	29	28	28
AE3007	7,500	15	16	17	18	19	19	19	19	19	19	19	19	19	17	17	18	18	15	16
BR700	15,000	13	15	17	19	22	23	26	29	32	35	40	44	51	55	58	61	65	65	65
Pearl	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Civil Small Eng	ines	63	66	70	74	78	79	82	84	88	91	97	99	105	107	109	114	116	112	112
V2500*	27,500	26	29	33	37	41	44	47	51	55	0	0	0	0	0	0	0	0	0	0
Civil Total		246	261	275	294	306	313	326	341	359	317	333	346	356	376	402	433	459	338	353
Thrust Growth		9%	6%	6%	7%	4%	2%	4%	5%	5%	-12%	5%	4%	3%	6%	7%	8%	6%	<b>-26</b> %	4%

\* Share of total firm and announced programme sales with an engine decision (excludes cancelled orders)



# Foreign exchange

### Rolls-Royce hedges transactional FX

- Transactional exposure arises when revenue currencies differ from cost currencies
- Achieved rate is not typically affected by short-term spot rate movements unless new cover is taken; this impact is usually diluted
- \$24 billion GBP:USD hedge book
- Hedge book average rate is £/\$1.52
- \$4 billion EUR:USD hedge book
- Hedge book average rate is €/\$1.25

### Rolls-Royce does not hedge against the impact of translational FX

- Translational exposure varies by source of revenues and profits
- Translational FX impact is driven by period average spot rates
- Translational impact increases as rate reduces

Translational impact of 0.01 unit of currency change in period average rates

	Revenue	Profit
USD	~£8 million	~£1 million
EUR	~£16 million	~£1 million



#### **Pensions HY21**

UK DB Plan continues to have a strong surplus **£888m** 

The UK DB Plan closed to future accrual on 31 December 2020

No further significant contributions expected to be paid to the UK DB Plan

#### UK Defined Benefit (DB) Plan

- UK DB Plan closed to future accrual on 31 December 2020 (it was closed to new hires in 2007). Just over 7,000 employed members onboarded to our UK Defined Contribution (DC) Plan on 1 January 2021 on 12% employer contributions (employees: 6%).
- UK DB plan represents 78% of gross liabilities and 91% of gross assets for group.
- £8.8bn of assets and surplus of £888m (IAS 19 basis\*). A reduction in liabilities of £1bn was matched by reduction in the value of the assets.
- 90% of assets in low risk investments to match liabilities

   key to protecting the funding position in low yield
   environment.
- Statutory funding valuation due as at 31 March 2020 now agreed with Trustee. The statutory funding surplus at 30 June 2021 is estimated at £916m.
- Cash contributions: 2019: £174m
   2020: £24m
   2021: £99m\*\*

#### **Overseas plans**

- 22% of gross liabilities and 9% of gross assets.
- Deficit of £1.4bn (IAS 19 basis) largely made up of the following unfunded obligations:
  - US healthcare: £443m
  - German retirement benefits: £907m
- Cash contributions:

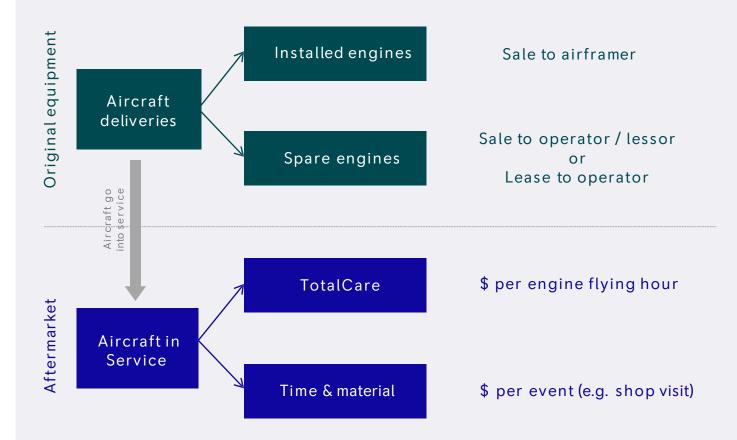
2019: £80m 2020: £56m 2021: £32m (year to date)

\*IAS 19 reporting basis discounts liabilities using a AA bond rate – while this is the required reporting method it does not match the method used to manage and fund the UK plan - which discounts liabilities using a curve aligned to its Liability Driven Investments (gilt based). This significantly reduces the real funding volatility relevant for cash funding purposes rather than that shown for IAS 19.

\*\*Contributions paid in 2021 relate to contributions from 2020 deferred by agreement with the Trustee. No further significant contributions are expected to be paid in 2021.



Civil Aerospace key drivers





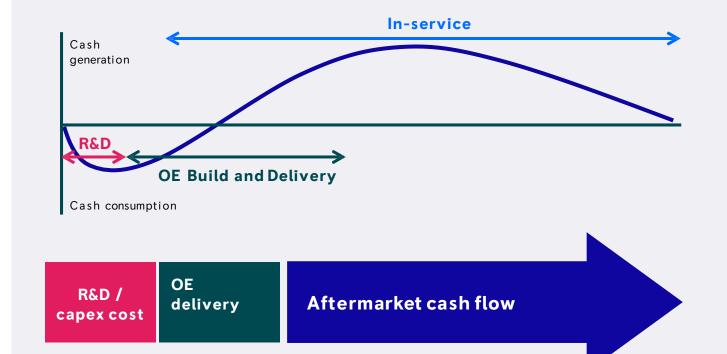
### Civil Aerospace investment cycle

Long investment cycles supported by:

Access to government funding for technology development

Risk and revenue sharing partnerships for programme investment

Supply chain and services joint ventures to access capability and spread investment cost





#### Aftermarket (LTSA) cash profit dynamics

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Change in LTSA balance must be added to EBITDA to capture cash flow from aftermarket operations

m	Maran 1					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Engine Flight Hours	20	20	20	20	20	
\$ per EFH	5	5	5	5	5	
FH Receipts	100	100	100	100	100	500
Major Service Costs	-	-	-	-	(200)	(200)
ash Profit	100	100	100	100	(100)	300
&L LTSA Revenue (Driven by Costs)	-	-	-	-	500	500
Cost (as Incurred)	-	-	-	-	(200)	(200)
&L Profit (EBITDA)	-	-	-	-	300	300
pening LTSA Balance	-	100	200	300	400	
Invoiced EFH Receipts	100	100	100	100	100	
P&L LTSA Revenues	-	-	-	-	(500)	
losing LTSA Balance	100	200	300	400	-	
P&L Profit (EBITDA)	-	_	_	-	300	
	100	100	100	100		
ash Profit	100	100	100	100		
	\$ per EFH # Receipts Major Service Costs ash Profit SL LTSA Revenue (Driven by Costs) Cost (as Incurred) SL Profit (EBITDA) Dening LTSA Balance Invoiced EFH Receipts P&L LTSA Revenues osing LTSA Balance P&L Profit (EBITDA) A LTSA Balance	per EFH5H Receipts100Major Service Costs-ash Profit100SL LTSA Revenue (Driven by Costs)-Cost (as Incurred)-Cost (as Incurred)-SL Profit (EBITDA)-Dening LTSA Balance-Invoiced EFH Receipts100P&L LTSA Revenues-osing LTSA Balance100P&L Profit (EBITDA)-Dening LTSA Balance100Dening LTSA Balance100Dening LTSA Balance100Dening LTSA Balance100Dening LTSA Balance100Dening LTSA Balance100	\$ per EFH55H Receipts100100Major Service Costsash Profit100100SL LTSA Revenue (Driven by Costs)Cost (as Incurred)SL Profit (EBITDA)Dening LTSA Balance100100P&L LTSA Revenuesosing LTSA Balance100200P&L Profit (EBITDA)OSING LTSA Balance100100P&L Profit (EBITDA)OSING LTSA Balance100100P&L Profit (EBITDA)OSING LTSA Balance100100P&L Profit (EBITDA)OSING LTSA Balance100100	Sper EFH55H Receipts100100100Major Service Costsash Profit100100100SL LTSA Revenue (Driven by Costs)Cost (as Incurred)SL Profit (EBITDA)Dening LTSA Balance100100Invoiced EFH Receipts100100P&L LTSA RevenuesOsing LTSA Balance100200P&L Profit (EBITDA)Dening LTSA Balance100100Dening LTSA Balance-Invoiced EFH Receipts100100Dening LTSA Balance-Invoiced EFH Receipts100Dot Descent Cost (EBITDA)-Descent Cost (EBIT	Sper EFH         5         5         5           H Receipts         100         100         100         100           Major Service Costs         -         -         -         -           ash Profit         100         100         100         100         100           Major Service Costs         -         -         -         -         -           ash Profit         100         100         100         100         100         100           SL LTSA Revenue (Driven by Costs)         -         -         -         -         -         -           Cost (as Incurred)         -         -         -         -         -         -         -           SL Profit (EBITDA)         -         -         -         -         -         -           Dening LTSA Balance         -         100         100         100         100         100           P&L LTSA Revenues         -         -         -         -         -         -           P&L Profit (EBITDA)         -         -         -         -         -         -           P&L Profit (EBITDA)         -         -         -         -         -	Sper EFH         5         5         5         5           H Receipts         100         100         100         100         100         100           Major Service Costs         -         -         -         -         (200)           ash Profit         100         100         100         100         100         100         (200)           ash Profit         100         100         100         100         100         100         (100)           SL LTSA Revenue (Driven by Costs)         -         -         -         -         500         (200)         (200)           SL LTSA Revenue (Driven by Costs)         -         -         -         -         500         (200)

#### Illustrative and simple worked example on 1 engine



### Safe harbour statement

This announcement contains certain forward-looking statements. These forwardlooking statements can be identified by the fact that they do not relate only to historical or current facts. In particular, all statements that express forecasts, expectations and projections with respect to future matters, including trends in results of operations, margins, growth rates, overall market trends, the impact of interest or exchange rates, the availability of financing to the Company, anticipated cost savings or synergies and the completion of the Company's strategic transactions, are forward-looking statements. By their nature, these statements and forecasts involve risk and uncertainty because they relate to events and depend on circumstances that may or may not occur in the future. There are a number of factors that could cause actual results or developments to differ materially from those expressed or implied by these forward-looking statements and forecasts. The forward-looking statements reflect the knowledge and information available at the date of preparation of this announcement, and will not be updated during the year. Nothing in this announcement should be construed as a profit forecast. All figures are on an underlying basis unless otherwise stated - see note 2 of the Financial Review section of the 2020 Full Year Results Statement for the definition



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