LONG-TERM SERVICE AGREEMENTS (LTSA) FAQs

This document provides a list of frequently asked questions and their corresponding answers on our Long-Term Service Agreements (LTSA) in Civil Aerospace

What is an LTSA contract?

- Most engines sold by Rolls-Royce are maintained under Long-Term Service Agreements (LTSAs).
- The airline pays an amount per engine flying hour (EFH).
- In return, Rolls-Royce maintains the engine to an agreed standard, ensuring that it is operating safely, complies with Airworthiness Directives and is performing to its full potential.

How long is a typical LTSA fixed-term contract?

- For large (widebody) engines:
  - The first contract is typically 12 or more years in length.
  - The second is slightly shorter at c.8 years.
  - The average duration for our existing large engine LTSA contracts is c.8 years.
- For Business Aviation engines, the LTSA contract duration is 10 years.

What does an LTSA contract cover?

There are six elements included in all LTSA contracts:

1. Maintenance, repair & overhaul services
2. Engine reliability improvements
3. Comprehensive Engine Health Monitoring (EHM) analysis
4. Specialist line maintenance (on-wing) Rolls-Royce-initiated
5. Aircraft on Ground (AoG) support
6. TotalCare® services integration

All LTSA engines also benefit from Time on Wing improvements made during the life of the programme.

There are also other options that airlines can choose, including:

- Materials management solutions – Line Replaceable Units (LRUs), Life-Limited Parts (LLPs)
- Spare engine services
- Engine change and transportation
- Engine split and reassembly (Trent XWB only)
- Technical records
- Specialist line maintenance customer-initiated
- Efficiency management
- Customer training

Are there different types of LTSA contract?

- We offer a range of different LTSA contracts to suit customers' requirements.
- Most of our large engine fleet is covered by TotalCare® agreements.
- Our CorporateCare® agreements caters for Business Aviation customers.
- We also offer a range of other specific LTSA products for lessors.

What percentage of your engines are on LTSAs?

- Over 90% of Trent engines are on LTSAs.
- Over 70% of Business Aviation and Regional engines are on LTSAs.

What is the benefit of an LTSA agreement to airlines?

- The benefits to airlines are:
  - OEM-level engine maintenance, support, and future performance upgrades
  - Maximised aircraft availability and reliability
  - Predictability of engine maintenance costs, which are aligned with airline revenues

- Predictability of cashflow in USD and ability to forecast hedging requirement
- Scope to benefit from the range of other services offered under our LTSA agreements.

What is the benefit of an LTSA agreement to Rolls-Royce?

- The benefits of LTSA agreements to Rolls-Royce are:
  - Upfront cash receipts, increased predictability of cash flows, and a potentially higher Net Present Value (NPV)
  - Strong long-term relationships are forged with our airline customers
  - The long term view allows us to anticipate fleet renewal dynamics and future revenue opportunities
  - Improved technological insights through data into product performance
  - A greater ability to manage shop visit and engineering capacity, and focus R&D investments on product attributes

How many engines are covered in a typical LTSA contract?

- In early 2024, there were 248 total large engine LTSA contracts vs. a fleet size of c4,000 engines.
- Typically, an LTSA contract covers the engines of a given type for a single airline customer.
- These are normally struck at the point at which the airline buys the planes, e.g., a specific airline may order 10 A350-900s with 20 engines plus spare holding.

Is the sale of the engine connected to the LTSA contract?

- When we sell an engine, we look at the total economic value of the Original Equipment (OE) sale, both installed and spare engines, and aftermarket contract.
- From an accounting perspective, OE and aftermarket sales are treated as discrete performance obligations.

How do you set the EFH rate?

- We have a clear idea of the costs of an engine over its life based on how it will be used.
  - The contract will specify factors such as stage length, take-off and climb thrust de-rate, etc.
  - These factors influence an engine's servicing requirements and therefore its costs: using an engine more arduously will result in it needing a shop visit sooner or heavier SV work scopes.
  - To reflect this, each EFH contract has a matrix where the airline pays a different EFH rate depending on how the engine is being used.
- A clear view of engine's costs allows us to set the EFH rate, based on a targeted margin and NPV.
- Data collected on the engine fleet allows rapid intervention.

How profitable are LTSA contracts?

- LTSA contracts are profitable, assume they are priced correctly, and costs are managed well.
- We are getting more sophisticated and better at estimating costs and pricing LTSA contracts, based on a growing amount of data and years of experience.
- We are improving LTSA margins through 6 levers:

1. Improved pricing on new and renewing contracts
2. Better execution on existing contracts (including accurately collecting Customer Related Costs when an engine goes through a shop visit) and keeping older engines earning.
3. Renegotiating onerous/ loss-making contracts directly with our customers
4. Increasing time on wing
5. Reducing shop visit costs
6. Reducing product costs

How have you been able to renegotiate onerous (loss-making) LTSAs with customers?

- We are looking for win-win solutions between us and our long-term airline partners.
- At the end of 2022, around 10% of large engine contracts were onerous.
- In 2023, all negotiations progressed or were completed, which resulted in a £385m provision release.
- In return for improved commercial terms, Rolls-Royce can offer contract extensions, or amendments to the contractual terms to provide operational benefits to the airline.

How do LTSA contracts deal with inflation?

- LTSAs have inflation-linked "escalation" mechanisms built in to mitigate the impact of inflation.
- EFH rate escalation is calculated with reference to our spare catalogue price and/or to an agreed industry standard basket of costs, e.g., labour, energy, and raw materials prices
- Separately, we hedge purchases of some key raw materials and have targeted £1bn of third-party cost savings by 2027, to mitigate the impact of inflation.

What are the key drivers of LTSA balance growth to 2027?

We expect LTSA balance growth of £0.8-1.2bn pa to the mid-term, driven by

- Growing EFH receipts, driven by our growing fleet. We expect large engine flying hours to grow between 120% to 130% of 2019 levels by the mid-term.
- Business Aviation, where a considerable proportion of our engines are on LTSA agreements, and we collect LTSA receipts ahead of shop visits. Engine deliveries will grow to 250 to 300 per year vs 165 in 2022. These engines are used less intensively than large engines, so the time between shop visits is longer, driving the LTSA balance growth.
- On a normalised basis, a higher average rate per EFH on LTSA contracts.
- Time on wing improvements, which reduce the number of shop visits, notably post-2027.
- FX, as our hedge rate improves from $1.50 in 2023 to $1.36 in 2027.
- Partly offsetting the above, large engine refurbs will grow to 700 to 750 in the mid-term.

Do you anticipate any deviations in Shop Visit (SV) volumes to the mid-term?

- We have a high degree of visibility over shop visit volumes.
- Delivery delays due to supply chain issues can defer future shop visits. Howeverwe have a high degree of visibility and transparency with our partners Airbus and Boeing and can adjust our forecast well in advance
- Absent a COVID-type event, or a significant time on wing issue, we would expect 700-750 major refurbs in the mid-term.

Who controls the timing of the shop visit?

- The timing of shop visits is driven by the usage of the engines (EFH/cycles).
- Rolls-Royce has good visibility over the usage of engines and the timing of shop visits.
- This allows us to manage our MRO capacity accordingly.

What happens if fewer shop visits are needed than you expected in a contract?

- Customers are charged according to the number of EFHs flown.
- If fewer SVs are needed, this could result in a higher contract margin and a positive contract catch-up.

What if you fall short of your time on wing improvement plan?

- We are investing £1bn over the next four years to deliver a 50% improvement in time on wing for our modern engines (Trent 1000, Trent 7000, Trent XWB-84 and Trent XWB-97).
- We have a granular plan for each engine.
- Theoretically, if the plan falls short, there would be a negative catch-up to reflect lower margin expectations, due to more expected shop visits. Shop visit numbers would be higher, mostly after 2027, which would represent a drag on cash flows and contract margins.

What happens if an aircraft is sold or retired mid-contract?

- If an aircraft is sold or retired before the defined/minimum term, Rolls-Royce could be entitled to claim losses/compensation from the airline.
- If the aircraft is sold to another airline, we would look to sign a new LTSA contract with the next operator

How much of your work is Time & Material (T&M)?

- Most of our large engines are on LTSA agreements; very few are serviced outside a contract on a T&M basis. In 2023, total aftermarket revenues were £4.6bn in Civil Aerospace. Of this, £3.3bn were

"revenues recognised over time" (LTSA revenues) and the remaining £1.2bn were "revenues recognised at a point in time" (T&M).
- The £1.2bn of aftermarket revenues recognised as a point in time included V2500, Business & Regional and Large Engine aftermarket.
- Large engine aftermarket revenues include engines that are not on LTSA agreements and parts for engines that are on LTSA agreements but where LLPs are "unbundled".

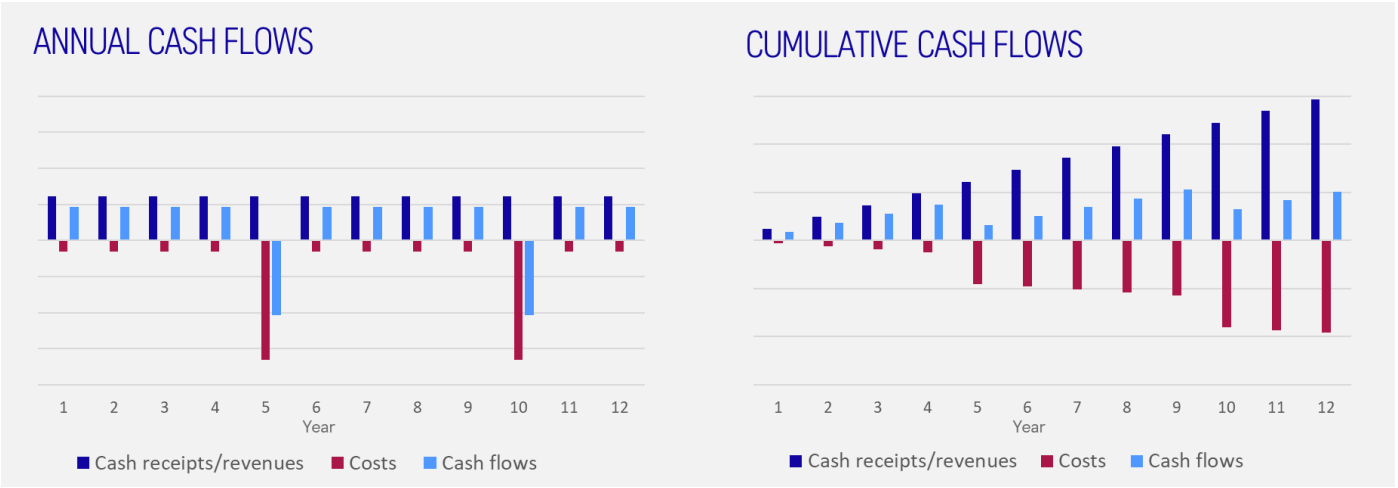
What % of your current LTSA contracts are "unbundled" for LLPs?
- Approximately half of the LTSA contracts are "unbundled" for LLPs
- A growing percentage of new LTSA contracts are unbundled. This allows us to add flexibility and responsiveness to our LTSA contracts.
- We raised the price of LLPs by 12% in 2023 and by a similar percentage in 2024.

Do you have enough spare engines to support the increase in Shop Visits?
- We have good visibility of the number and timing of LTSA shop visits.
- Spare engines are important for operational performance and resilience and we ensure that our LTSA contracts include a healthy level of spare coverage.
- Typically, spare engines represent 10-15% of large engine deliveries, to avoid potential operational issues for our customers.
- Spare engines currently represent a higher percentage of total deliveries than the above, reflecting relatively low wide-body production rates and in anticipation of a rising number of shop visits.

How do you provide spare engines to airline customers?
- In most cases, airlines buy spare engines and pay a lower EFH rate.
- In other cases, we provide spare engines for airlines who do not wish to own their own, which would result in a substantially higher EFH rate. These are either kept on our balance sheet or owned by third parties.
- Most spares are sold to airline customers.

What do the cash flows of a typical LTSA contract look like?
- Figure 1 shows the cash flows of an illustrative 12-year LTSA contract, with:
  - Two major shop visits in years 5 and 10.
  - Around two-thirds of total costs are incurred during the shop visit and the other one-third accrue evenly each year.

Figure 1: Illustrative revenues, cost, and cash flows for a 12-year LTSA contract (left: annual, right: cumulative)



- The contract is cash flow generative every year, except for those where there is a major shop visit.
- We receive cash inflows from the first year onwards.

How are LTSA contracts accounted for under IFRS15?

- IFRS15 was introduced in 2018.
- Under IFRS15, revenues and profits are recognised as costs are incurred.
- Figure 2 shows an illustrative example of a 5-year LTSA contract with stable annual contract receipts (no inflation) and one major shop visit in year 5.

Figure 2: Illustrative Example of a LTSA Contract (baseline)

		$k	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Cash flow		Engine flying hours	100	100	100	100	100	500
		$ per EFH	10	10	10	10	10	10
		Contract receipts	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**
		Shop visit costs					-2,000	-2,000
		Other ongoing costs	-100	-100	-100	-100	-100	-500
		Contract costs	**-100**	**-100**	**-100**	**-100**	**-2,100**	**-2,500**
	C	**Contract cash flow**	**900**	**900**	**900**	**900**	**-1,100**	**2,500**
		Contract margin						*50%*
P&L		Revenue (driven by costs)	200	200	200	200	4,200	5,000
		Cost of sales	-100	-100	-100	-100	-2,100	-2,500
	A	**Profit for the year**	**100**	**100**	**100**	**100**	**2,100**	**2,500**
Balance sheet		Opening LTSA balance	0	-800	-1,600	-2,400	-3,200	
	B	Contract receipts	-1,000	-1,000	-1,000	-1,000	-1,000	
		Revenue	200	200	200	200	4,200	
		Closing LTSA balance	**-800**	**-1,600**	**-2,400**	**-3,200**	**0**	
	A	**Profit for the year**	**100**	**100**	**100**	**100**	**2,100**	**2,500**
	B	**+ Net LTSA movement**	**800**	**800**	**800**	**800**	**-3,200**	**0**
	C	**= Cash flow for the year**	**900**	**900**	**900**	**900**	**-1,100**	**2,500**

- Most revenues and profits are recognised in the year when the shop visits occur.
- Cash and profit must equal one another over the life of the contract.
- In any given year, for a single contract, cash flows and IFRS15 profits will almost never be equal.
- The difference between cash revenues and IFRS15 revenues goes to the balance sheet, as a "net LTSA liability".
- Over time profit equals cash and the LTSA balance ends at zero.

How do you estimate your LTSA margin?

- LTSA margins are estimated based on:
  - Revenues are based on the airline's agreed usage the expected flying hours and EFH rate.
  - Costs are estimated based on the number and cost of SVs, and other contract costs.
  - We also include a layer of contingency in our margin assumptions.

What happens if the assumptions change?

- These assumptions are reviewed in full on an annual basis and on an interim basis throughout the year.
- If revenue or cost assumptions change, then the long-term contract margin will also change.
- This will result in a "contract catch-up" to true-up the historical IFRS15 profits recognised to the new long-term margin assumption.
- A "catch-up" can be positive OR negative.

Figure 3 shows an illustrative example (see Figure 2 for baseline contract example) in which:

- The estimated cost of the shop visit in year 5 was reduced by $0.5m to $1.5m.
- This improves the contract margin to 60%.
- Year 4 revenues are now $0.4m vs $0.2m previously. The extra £0.2m comprises £0.15m from a catch-up and £0.05m from recognising year 4 at a 60% margin vs 50% in figure 2. .
- The $0.15m catch-up brings historic review to the new 60% (year 1-3 cost of sales $0.3m at 60% margin is $0.75m, less historic revenue recognised of $0.6m is $0.15m).

Figure 3: Illustrative Example of a LTSA Contract (catch up)

		$k	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Cash flow		Engine flying hours	100	100	100	100	100	500
		$ per EFH	10	10	10	10	10	10
		Contract receipts	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**
		Shop visit costs					-1,500	-1,500
		Other ongoing costs	-100	-100	-100	-100	-100	-500
		Contract costs	**-100**	**-100**	**-100**	**-100**	**-1,600**	**-2,000**
	C	**Contract cash flow**	**900**	**900**	**900**	**900**	**-600**	**3,000**
		Contract margin						*60%*
P&L		Revenue (driven by costs)	200	200	200	400	4,000	5,000
		Cost of sales	-100	-100	-100	-100	-1,600	-2,000
	A	**Profit for the year**	**100**	**100**	**100**	**300**	**2,400**	**3,000**
Balance sheet		Opening LTSA balance	0	-800	-1,600	-2,400	-3,000	
	B	Contract receipts	-1,000	-1,000	-1,000	-1,000	-1,000	
		Revenue	200	200	200	400	4,000	
		Closing LTSA balance	**-800**	**-1,600**	**-2,400**	**-3,000**	**0**	
	A	**Profit for the year**	**100**	**100**	**100**	**300**	**2,400**	**3,000**
	B	**+ Net LTSA movement**	**800**	**800**	**800**	**600**	**-3,000**	**0**
	C	**= Cash flow for the year**	**900**	**900**	**900**	**900**	**-600**	**3,000**

What is an onerous provision release?

- For onerous contracts, we have already provided for all future losses.
- If the long-term revenue or cost assumptions change, we will adjust the provision for the future losses on that contract.
- The movement in the onerous contract provision is taken through the income statement.

Why is not the LTSA balance treated as debt?

- There is no recourse on the LTSA balance, and the credit rating agencies do not consider it to be debt.
- The LTSA balance represents deferred income; some of it will be retained as profit.
- We expect the LTSA balance to grow by £0.8-1.2bn pa to the mid-term, with growth thereafter.

How do the RRSA (Risk and Revenue Sharing Arrangement) work contractually and through the accounts?

- RRSAs pay Rolls-Royce a participation fee or contribute to the development cost of an engine. This is capitalised on our balance sheet and amortised over time.
- RRSAs allocate RRSPs (risk and revenue sharing partners) an agreed % of customer receipts and contract costs, based on their contribution to the programme.
- RRSP income statement cost is contract accounted in the same way revenue is (i.e. RRPS revenue = 'total net RRSP cost' X 'cost % complete') This results in a prepayment asset being recognised on our balance sheet.
- When the SV occurs, the RRSAs contribute to that. This results in a lower COGS in the income statement and an unwinding of the RRSA prepayment asset.