MSG Group

Boeing 777-300ER Economic Impact

How MSG Group's Automated Touchless Washing Technology Creates Value for Airlines, Airports and MROs



Why Clean Aircraft Matter

Contamination Creates Costs

Aircraft accumulate:

- Salt deposits & carbon residue
- Hydraulic fluids
- Insect contamination & pollution

Resulting Operational Impacts:

- ✈ Increased drag & higher fuel burn
- ✈ Elevated corrosion risk
- ✈ Increased maintenance costs
- ✈ Reduced aircraft appearance



Boeing 777-300ER Fleet Profile

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Typical Characteristics:

- 365 passengers capacity
- Long-haul global operations
- 5,000–6,000 flight hours/year
- Fuel consumption: 6.8–7.5 tonnes/hour
- Asset value: US$150–200 million

Why This Matters

"Given the immense scale and operational hours of the B777-300ER, even small fuel savings create substantial annual economic benefits."

MSG Touchless Technology Comparison

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Traditional Aircraft Wash

- Takes 4–6 hours
- Requires large teams
- Significant water use
- Aircraft unavailable during cleaning

MSG Technology

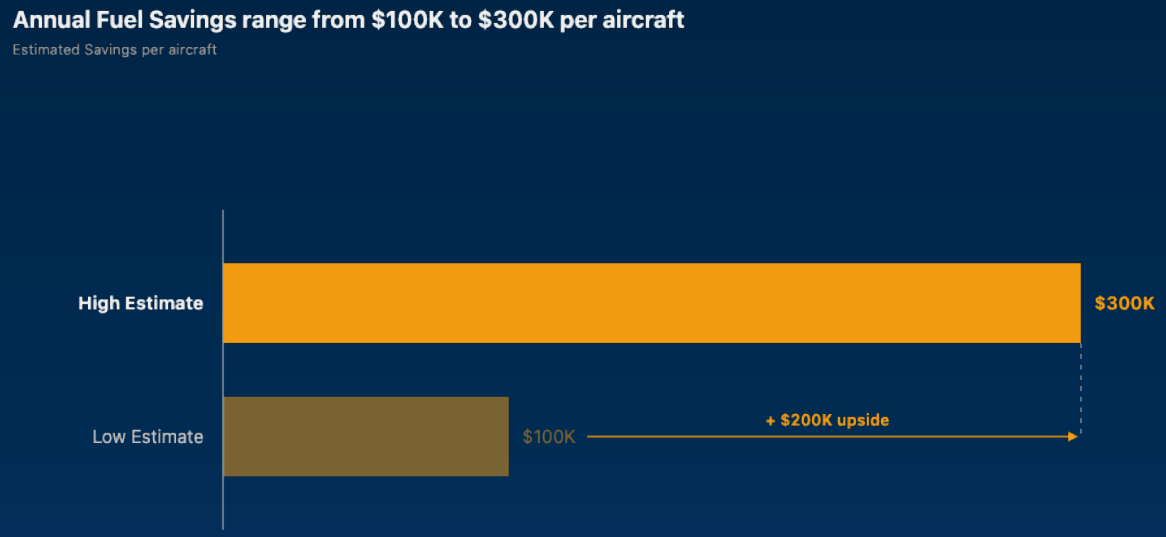
- Takes approximately 20 minutes
- Fully automated and touchless
- Approx 300 liters of fresh water & recovery
- Minimal aircraft downtime

Direct Fuel Savings

Example Assumptions:

Annual flight hours: **5,500**
Fuel burn: **7 tonnes/hour**
Annual fuel consumption: **38,500 tonnes**
Improvement from cleaner aircraft: **0.5–1.5%**

Annual fuel savings: US$100,000–300,000



A highly impactful economic driver for airline operations.

Maintenance & Corrosion Reduction

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Key Benefits:

- Reduced salt contamination
- Reduced paint deterioration
- Reduced corrosion inspections
- Longer coating life
- Improved aircraft residual value

Estimated Annual Value:

US$ 50,000–150,000

Aircraft Availability

Traditional Wash:

Aircraft unavailable for several hours.

MSG Wash:

Approximately 20 minutes.

Potential additional revenue-generating availability.

"For airlines, availability often matters more than the direct washing costs."

Environmental Impact

For one Boeing 777-300ER:

Water Savings

Traditional: 500–1,000 liters

MSG System: **approx 300 liters**

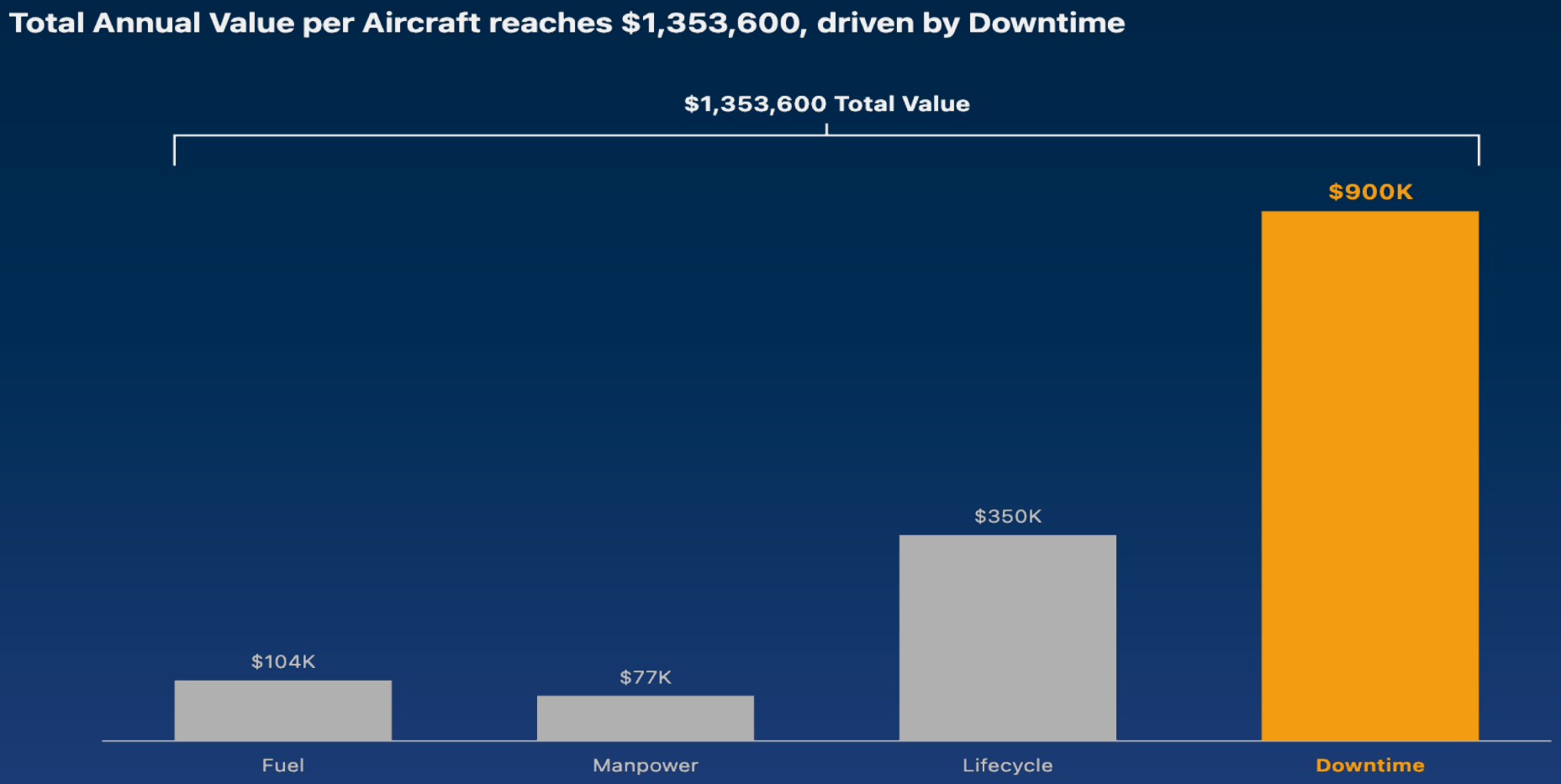
Emissions & ESG

CO_2 Reduction: **~310 tonnes/year**

Sustainability: Supports airline ESG objectives

Total Annual Economic Benefit

Total Annual Benefit: US$1,353,600 per Aircraft



Fleet Impact

10 Aircraft: **US$13.5M**
25 Aircraft: **US$33.8M**
50 Aircraft: **US$67.7M**
100 Aircraft: **US$135.0M**

"This immediately attracts airline CFOs."



Why MSG is Different

MSG Group

- ✓ 100% Touchless
- ✓ 20-minute wash cycle
- ✓ Approx 300 liters fresh water
- ✓ Closed-loop recovery system
- ✓ Future AI inspection capability
- ✓ Engine wash capability
- ✓ De-icing capability
- ✓ De-sanding capability

Contact Us

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✈ Transforming Aircraft Downtime into Revenue

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