



The
Logistics Institute
Asia Pacific

Trends and Opportunities in Service Part Logistics

By

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A Collaboration Between



Georgia Institute
of Technology





The Logistics Institute – Asia Pacific

- Established in Nov 1998
- An initiative of Economic Development Board of Singapore
- A collaboration between
 - ★ National University of Singapore
 - ★ Georgia Institute of Technology
- Mission: To be the premier institute in Asia Pacific nurturing logistics excellence in research and education





Objectives of the Study

- To understand the various service parts logistics practices in automotive and aircraft industries in the Asia-Pacific region.
- To understand the process flow for service parts logistics in the two industries.
- To identify trends and opportunities for service parts logistics business in Singapore.



Study Team and Method

- Researchers in TLI-Asia Pacific
- A/P Rajesh Piplani from NTU Center of Supply Chain Management
- Interviews were conducted with senior executives taking care of service parts
 - 3 automotive companies
 - 2 aircraft companies and
 - 1 logistics provider



Why is Service Parts so different?

- Demand is less predictable
- More SKUs to manage than final products
- Life cycle is longer than final products
- Parts range from those with high costs and low volume to parts with low costs and high volume



Why setting an Auto-part regional center in Singapore?

- Due to its strategic location, world-class infrastructure and excellent connectivity
- For the luxury cars, cost is not as critical as fast service and quick replenishment of parts
- Take advantage in inventory pooling for the region
- Leverage on tax incentives in Free Trade zones



Type of Service Parts

Genuine parts (most expensive)	<ul style="list-style-type: none">• Made by Manufacturer and bearing the manufacturer brand name
OEM Parts	<ul style="list-style-type: none">• Make parts for original manufacturer but sell parts under a different name with the same quality
After market parts	<ul style="list-style-type: none">• These products may be of lower grade but warranties are provided.
Counterfeit and fake parts (cheapest)	<ul style="list-style-type: none">• Make parts illegally bearing the manufacturer brand name.



Type of Services and Processes

Type of Support	Service level and goal	Processes and costs
Vehicle Off Road (VOR) Replenishment	<ul style="list-style-type: none">• Customers usually want their vehicles to be repaired fast.• Parts are then ordered on a daily basis and the lead time is 24 hours.	<ul style="list-style-type: none">• Express delivery to customer site.
Emergency Replenishment	<ul style="list-style-type: none">• Customer may need a part soon, but can afford to wait a day or two.	<ul style="list-style-type: none">• Parts in warehouse are consolidated in the center before shipping out overseas.• Emergency replenishment is mainly transported by air via contracted carriers.
Normal Stock Replenishment	<ul style="list-style-type: none">• Customer places an order and the parts are delivered in a week's time.	<ul style="list-style-type: none">• Stock replenishment is mainly by sea.• Outbound logistics is outsourced to 3PL to ensure distribution throughout the South East Asian countries.



Challenges faced in Service Part Logistics in Automotive industry

- Increase in security checks at customs
- Some of the parts need special licenses as they are classified as dangerous goods
- Cost is relatively higher than other countries
- Recruiting and retaining blue collar workers is challenging



Type of Services

Type of Service	Service level and goal
AOG (Aircraft on Ground)	Immediate delivery
H24 (response required within 24 hours)	Delivery within 24 hours
Ordinary Orders (Routine)	Delivery within 1 week to a month



Summary of the two industries

- Capital investment is very high to put all parts on the shelf.
- Cost of test equipment is quite high. With a limited number of customers, there are few units coming through the repair shop to justify investing in these equipments.
- Expect High availability of service parts.



Operating Time

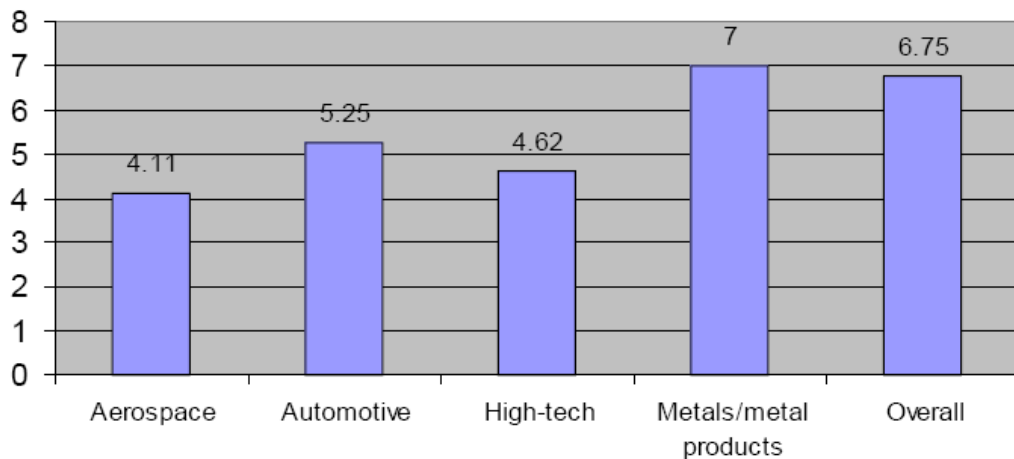
Standby Time



$$\text{Availability} = \frac{\text{Uptime}}{\text{Uptime} + \text{Downtime}}$$

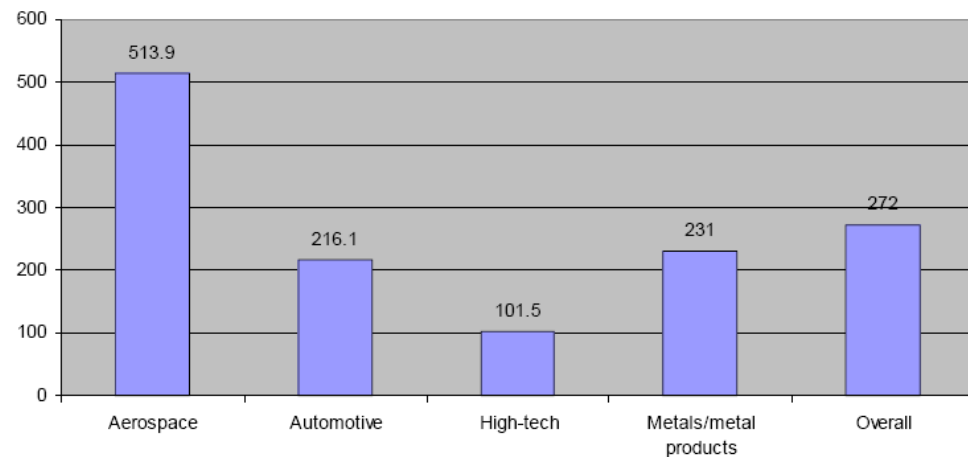


Average spares inventory turns per year



Source: Aberdeen Group, September 2003

Avg. number of stockouts per year



Source: Aberdeen Group, September 2003



Trends

- Need real-time track and trace capability
- MRO in these industries requires people with special technical knowledge and skills
- Industries moving from Just-in-Case to Just-in-Time management of service parts (Power by Hour)
- 3PLs need to apply for AS9120 accreditation for the aerospace industry
- More outsourcing of service parts logistics is expected as more company move from fixed cost to variable cost.



Logistics Service Providers Value Adding

