Spare Parts Logistics:

Quintessential Global Supply Chain Management – Market Size and Major Players

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Supporting the machinery and devices of modern globalization has required the development of sophisticated worldwide spare/service parts logistics (SPL) networks. A handful of third-party logistics providers (3PLs) have answered the market's demand and service most of earth's area and population. As a result, the spare parts logistics network, which relies on companies like Cat Logistics, CEVA, DHL, Kuehne + Nagel, DB Schenker and UPS, has grown to $35 billion a year.

The major vertical industries in the spare parts logistics network are Automotive, Industrial and Technology. In short, the spare parts logistics market is driven by high value manufactured products and their maintenance.

To arrive at estimates for the spare parts logistics market, we begin with some basic Armstrong & Associates' research results. Each year, Armstrong & Associates estimates global third-party logistics market revenue. We then split total revenues by Fortune 500 industry verticals and geographical areas. The base year used in this analysis was 2008. Our initial estimates for 2009 indicate an overall decrease of 7%.

Table 1 breaks down global 3PL revenue by select vertical industries and the corresponding spare parts logistics revenue. The portion of total 3PL revenue attributable to spare parts logistics is highest for Aerospace & Defense at 18.8%. Automotive and Industrial are also high at 15.8% and 15% respectively. Technology overall is 9.4%. Excluding Aerospace & Defense, individual Technology industry sub segments vary from 7.6% to 8.4%.

Of the total spare parts logistics revenue of $35 billion as shown in Table 1, $12.5 billion or 35.7% is Automotive and Technology is $14.4 billion or 41.1%.

Table 1. Global 3PL Revenues by Select Industries & Sub Segments (US$ Billions)

Vertical Industries & Sub Segments	Total 3PL Revenue	3PL Spare Parts Logistics Revenue
Automotive	59.3	12.51
Industrial*	37.1	8.09
Technology:		
Aerospace & Defense	10.2	2.60
Computers, Office Equipment	18.9	2.84
Computer Software	2.4	0.33
Electronics:		
Electrical Equipment	22.4	3.42
Medical Equipment	12.6	1.93
Network, Communications Equipment	4.5	0.63
Semiconductors, Electronic Components	1.6	0.23
Telecommunications	16.1	2.33
Wholesalers: Electronics & Office Equipment	0.5	0.09
Technology Subtotal	89.2	14.40
Totals	**185.6**	**35.00**

Source: Armstrong & Associates, Inc. Customer Analysis©

*The Industrial vertical industry includes 30 companies involved in energy related activities. The largest, Enterprise GP Holdings and Plains All American Pipeline, are heavily involved in petroleum. This group also includes Halliburton, Sonoco Products, National Oilwell Varco, etc. These companies provide one-third of the revenues for the Fortune 1000 Domestic vertical industry Industrial. Utilities are included in the Fortune vertical industry Elements.

Geographically, Table 1 3PL spare parts logistics revenues follow the distribution of major markets and industrial production. Europe accounts for $11.6 billion (33.1%), North America $9.4 billion (26.9%) and Asia Pacific $8.4 billion (24.0%). The rest of the world accounts for $5.6 billion (16.0%).

Table 2. 3PL Spare Parts Logistics Revenue by Region – 2008 (US$ Billions)

Region	Country	3PL Spare Parts Logistics Revenue
North America	Canada	0.8
	Mexico	0.7
	United States	7.9
	Region	9.4
Europe	France	1.8
	Germany	1.9
	Italy	1.7
	Netherlands	0.6
	Spain	1.3
	United Kingdom	1.7
	Others	2.6
	Region	11.6
Asia Pacific	China	3.5
	Hong Kong	0.1
	India	0.6
	Japan	2.4
	Singapore	0.1
	South Korea	0.6
	Taiwan	0.3
	Others	0.8
	Region	8.4
South America	Brazil	0.9
	Venezuela	0.1
	Argentina	0.1
	Others	0.5
	Region	1.6
Central America[1]		0.1
Australia		0.7
United Arab Emirates (Dubai)		0.2
Remaining Countries/ Regions		3.0
Total		**35.0**

[1]Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

In analyzing the distribution of transportation and warehousing related costs, we estimate that transportation accounts for 70% to 75% and warehousing accounts for 25% to 30%. The transportation component is higher in North America and Asia than in Europe.

Major Players

CEVA

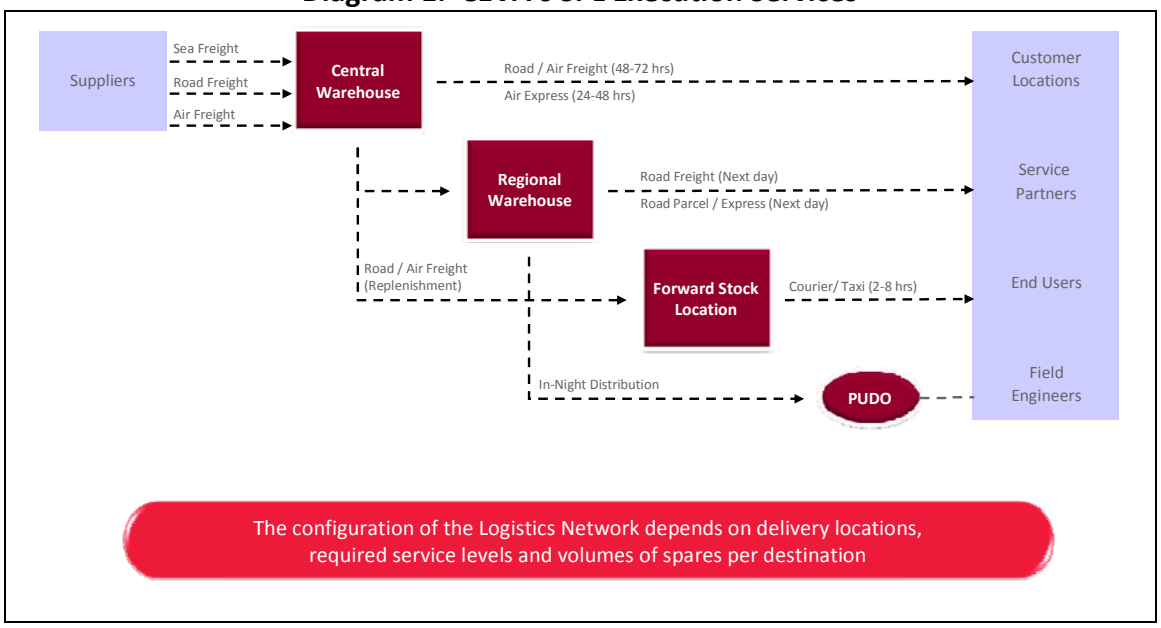
CEVA (and its previous incarnations, TNT Logistics and CTI) has been heavily involved in automotive logistics for over 20 years. It has developed and executed very well a series of automotive logistics business models. The principal components are inbound logistics, materials management, sequencing centers and kanban manufacturing support. Development of its spare parts logistics capability was a logical extension. Consequently, SPL has grown to 15%+ of revenues for CEVA.

CEVA maintains a series of key central locations for managing its global SPL network. They are:

- North America (Detroit, Michigan and Jacksonville, Florida)
- South America (Sao Paulo, Brazil)
- Europe (Antwerp, Belgium and Barcelona, Spain)
- Asia (Singapore)
- Australia (Sydney)

CEVA's core internal model for spare parts logistics management ("Smart Spares") is a stepped approach beginning with a central warehouse. Parts channels are provided direct to customers, service partners, end users and field service engineers. The central warehouse and its central center are responsible for controlling inventories throughout the flow process. Regional warehouses are the main parts suppliers for car dealerships and retail locations. Replenishment for service partners tends to be predictable, scheduled and involving multiple line, stock orders. Forward stocking locations (FSLs) carry small inventories of critical parts. Service from these locations can be scheduled or "mission critical". Field service engineers (FSEs) normally pickup parts from FSLs or pickup and delivery "lockbox" locations. Returns by FSEs are normally to FSLs.

Diagram 1. CEVA's SPL Execution Services



Transportation from suppliers to the central warehouse is optimized using the least-cost mode that can meet stocking requirements. Service is measured in terms of days. Similarly, most central and regional warehouses can modally optimize distribution to customers. PUDO (pickup and delivery locations) transportation is normally scheduled and overnight. The most interesting (challenging) transportation involves FSLs where networks of ongoing courier services are used, or outbound and airfreight replenishment is often required. Occasionally, next flight out (NFO) emergency service is required when mistakes or unexpected failures occur. A variant of in-night distribution is the delivery of parts to auto dealers during the night using drivers with "key" access.

Table 3 lists the services offered by CEVA for automotive SPL.

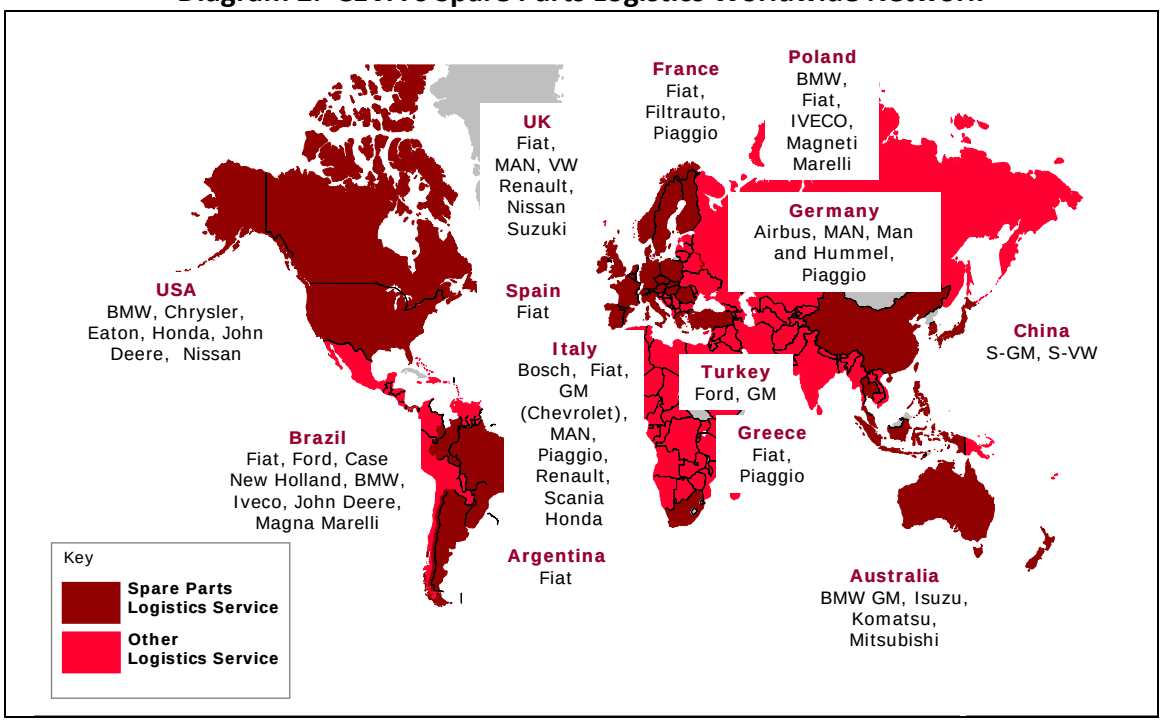
Table 3. Automotive SPL Services offered by CEVA

Service Offering		CEVA Activities
Core	Warehousing	Management of all warehouse operations from receiving to shipping. CEVA also offers warehouse design and construction management services.
	Customer Relationship Management	Management and follow up of orders to suppliers and from dealers, including Help Desk functions and Exception Management.
	Distribution Planning	Optimization of network locations, including center of gravity analyses and detailed route planning.
	Transportation	Execution and monitoring of all transport requirements including regular route optimizations together with certified pick up and delivery measures.
Extended Core	Reverse Logistics	Management of all types of reverse flows from the customer – Buy Backs, Returns, Remanufacturing Cores, and Returnable Containers.
	Inventory Management	Management of stock levels to generate maximum availability from minimum stock investment. Control of stock integrity to ensure assets protection.
Complimentary Services	Special Services	Supply chain reengineering, from design to management of the transformation. Management of additional services such as packaging, packaging design, Customs.

CEVA's solutions are supported by a host of IT solutions with multiple WMS (warehouse management systems), TMS (transportation management systems) and interconnecting capabilities.

CEVAs automotive customer list is long and includes most car companies and several major (Tier 1) suppliers. The only major brand missing is Toyota. CEVA includes John Deere, Case New Holland and Komatsu among its automotive customers.

Diagram 2. CEVA's Spare Parts Logistics Worldwide Network



A major CEVA initiative for many years has been to expand its vertical industry penetration beyond automotive. CEVA's efforts have been successful in the high-tech vertical.

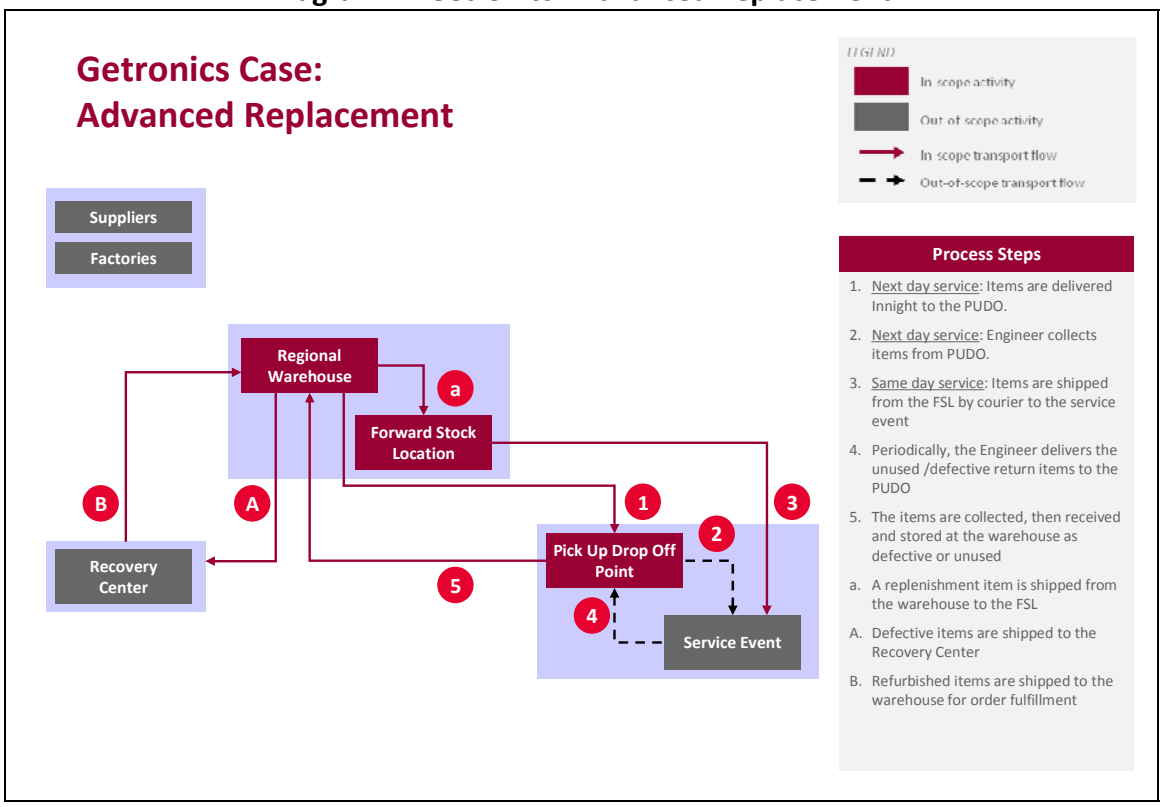
Diagram 3. CEVA's High-Tech and Telecom Customers

For Apple, CEVA handles iPod and iPhone board replacements in Australia. Returns are forwarded to a recovery center. For IBM in Thailand, CEVA handles a mix of servers,

ATMs and other products through a 25,000 square foot warehouse. In Italy, CEVA does cell phone logistics for Telis/TIM.[1]

For Getronics, CEVA provides advanced replacement services. This operation is a good example of CEVA's high-tech spare parts ability. Getronics is a leading information and communication technology (ICT) service provider and the largest in the Benelux. CEVA's services for Getronics are next day and same day. Overnight service orders are sent to the pick-up and drop-off location. Same day orders are couriered to the service required location. Returns are sent to the recovery center and refurbished when possible.

Diagram 4. Getronics: Advanced Replacement



DHL

DHL Global Service Logistics started in 1996. Today, it has 200 customers and serves 100 countries. DHL's supporting infrastructure is 50 large, regional warehouses and 850 or more local storage locations. Controlling the global information and event flow are three multiple language call centers/control towers. The control towers are in Sterling, Virginia; Brussels, Belgium, and Singapore. Nine languages are used. The commonly used, global IT system is "SeLECT".

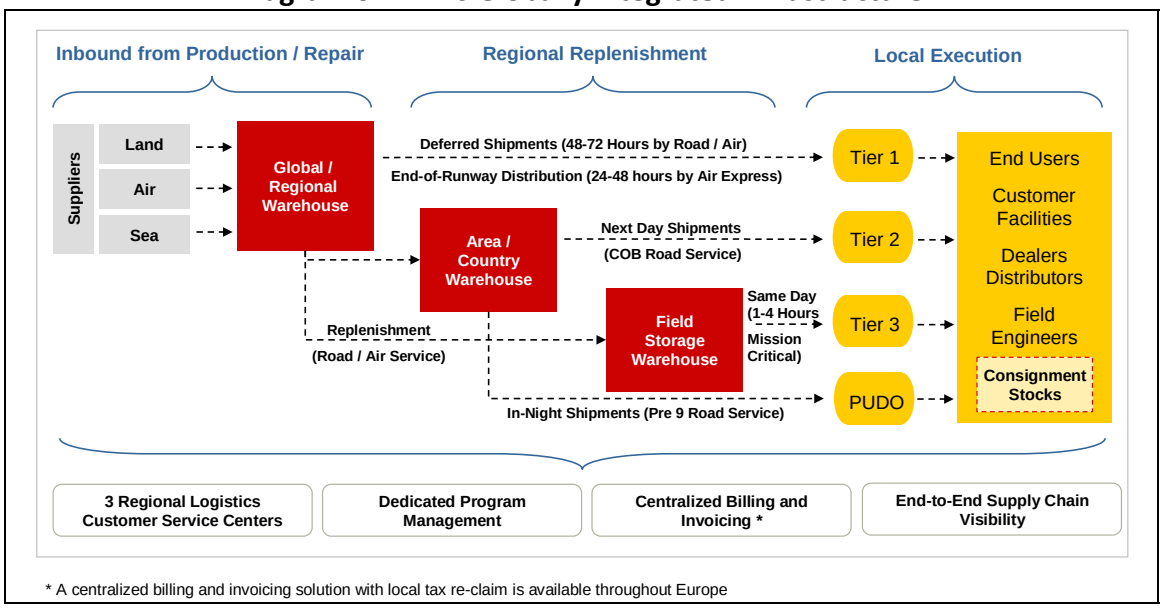
[1]For purposes of this paper. We generally treat cell phone logistics as a separate business.

DHL's SPL industry emphasis is on technology related companies. The overall SPL service model is similar to CEVA's with minor changes.

Diagram 5. DHL's SPL Customers

DHL's SPL infrastructure is shown in Diagram 6. DHL's infrastructure and overall SPL process are similar to CEVA's (Diagram 1). This parallelism indicates how global spare parts operations need to work for the major players.

Diagram 6. DHL's Globally Integrated Infrastructure



Recently, we had a ground level look at DHL's Technology Center near Johannesburg, South Africa (Randjiesfontein). Our site visit gave us a close up look at how the model shown in Diagram 6 gets "fleshed out" in practice. Andre Bresler, the general manager, has 60,000 or more square feet of the central warehouse. He uses six field stocking

warehouses at key locations (Durban, Cape Town, Port Elizabeth etc.) in South Africa. The FSLs are about 5,000 square feet each.

Ninety-five percent of the deliveries from Randjiesfontein go to field service engineers. FSLs are stocked overnight and serviced by air because of the distances involved. HP is a major customer. Most mission critical sites are banks, the stock exchange and other key economic locations.

Bresler uses couriers extensively to provide same day service. Dispatches are usually made within 20 minutes. About 10 to 20 critical shipments are made each day. Total shipments run 150 to 250 per day. Courier charges run $50 to $60 a shipment.

Bresler employs 50 people in Randjiesfontein. Security is always a major issue as it is throughout South Africa. It has been an area of quick and constant improvement since parts of the business include laptops and cell phones.

Inventory levels and replenishment for the central warehouse are controlled by the Brussels call center/control tower. They have information for the stock levels of all parts. Next flight out shipments are used when required. Main parts flow for HP is from its Prague distribution center.

Returned devices and parts are accumulated in ocean containers. One container is normally shipped north each week.

Customers are able, through their customized dashboards, to track each spare parts event.

A major problem for Bresler has been the wild fluctuation in fuel prices. The fuel services charges he is responsible for create cost and pricing difficulties.

Bresler's operation provides 25 value-added services to its customers. The multi-client operations conducted in South Africa are required to be closed book.

For operations to countries surrounding South Africa, SPL shipments are sent by DHL Express.

UPS

UPS refers to its SPL business as "Post Sales Services". It operates four global central stocking locations (CSLs) to run its network.

They are:

- Louisville, Kentucky – SC Logistics Center and UPS Air Hub
- Roermond, Netherlands – Cologne Air Hub
- Singapore – APAC
- Miami, Florida – Central/South America

Regional stocking locations include: Shanghai, Philippines, Hong Kong, Sao Paulo, Chicago and Burlington, Ontario.

UPS has a very large global capacity with over 975 FSLs. Ninety percent of the volume it handles is through UPS-owned facilities. In Europe, 99% of businesses are located within four hours of a UPS FSL. In the U.S., 88% of businesses are within two hours of a UPS FSL. There are 22 global locations with technical services capabilities. Extensive use is made of courier services for same day deliveries and NFOs as needed. UPS also offers a proprietary "Service Parts Returns Solution" that can dynamically route parts from a service technician back to their optimal final destination (return-to-stock, repair vendor, recycler, etc.) saving days in transit and transportation legs and reducing truck stock.

Diagram 7. Comprehensive Global Infrastructure – FSL Network

Extensive Field Stocking Location network to provide high service levels across the globe and access to any market

	US	Canada	Mexico	Latin America	EMEA	APAC	Total FSL Network
FSL's	211	46	22	65	281	363	988

– 90% of global volume is handled by UPS-owned facilities (96%+ in N. & S. America) means UPS controls your quality

Global Touch Points for convenient Pick-up and Returns

– 1,300 "Hold for Pick Up" locations
– 650 Pick-up and Drop-off (PUDO) EMEA locations
– 5,900 UPS Store and Mail Boxes Etc. locations
– 40,000 UPS drop boxes
– 17,000 authorized shipping locations
– 65,000 UPS drivers
– 1.8 million daily pickup customers

UPS' "SPLUS" system is deployed globally. Like its major competitors, it provides extensive online real time information and research design. Customer orders and

advanced ship notices feed the inventory management module which is supported by order management, warehouse management, parts return, shipping and reporting including receipt confirmation.

UPS service parts logistics customers include the following:

Customer	Product/Service
Silicon Graphics, Inc. (SGI)	Desktop Workstations, Servers, Software
DecisionOne	Multivendor IT Service
Tokyo Electron Limited	Semiconductor Production Equipment
Hewlett Packard (HP)	High-Tech Equipment
Sprint	Wireless Telecom
Embraer	Aircraft
Philips Healthcare	Healthcare Technology
Hitachi GST	Hard Drives/Storage Technology

For Philips Healthcare, UPS put together a global package in 2006. Three continental stocking locations were set up in Louisville, The Netherlands, and Singapore. There are 50 FSLs used globally and service technicians use 1,000 pick-up/drop-off points. Overall inventory dropped 30% and total costs have been reduced more than 15%. Service delivery reliability increased 95%.

For HP, UPS provides:

HP Scope of Services[2]

- Courier/NFO (next flight out)
- Field Stocking Locations (FSL) – United States and Canada
- Information Technology (IT) – for scoped services
- Request Fulfillment – call centers/help desks
- Reverse Logistics – "Service Parts Returns Solution", defective warehousing, free trade zone
- Technical Services and Repairs – Latin America
- Package Transportation – domestic and international, hold for pick-up
- Customs Brokerage
- Air Freight

UPS initiated the new scope of services for HP in 2004.

UPS began centralizing SGI's inventory in the Louisville CSL in 1996. From the CSL and FSL network, SGI dispatches 2,000 or more parts a month. Most of these orders have

[2]The services for HP include functioning as an airfreight forwarder out of UPS' Pudong Airport facility in Shanghai. A report on that operation is at: http://www.3plogistics.com/Site_Visits.htm.

two to four hour service requirements. UPS maintains an inventory of 31,000 parts. An accelerated reverse logistics process is utilized.

For DecisionOne, UPS operates with seven direct repair return vendors and has a central stocking location (Louisville). Parts availability is 24/7 with over 100 FSLs within four hours of the DecisionOne customer base. UPS utilizes its stores and other locations to provide 1,100 hold for pickup points. In addition, real time order status is available for field engineers.

Kuehne + Nagel Lead Logistics Solutions

Service parts and reverse logistics aftermarket management for Kuehne + Nagel Lead Logistics Solutions (KN LLS) involves maintaining 450 parts distribution locations worldwide. These services include last mile handling and hand-offs to service technicians. Returns are handled as requested including cartridge collection and waste management. Typical customers for this segment are medical machinery, device manufacturers and high-tech/computer companies.

Diagram 8. Kuehne + Nagel LLS' Selected Customers

The Tomo Therapy Solution

In 2006, Tomo Therapy selected KN LLS to design and manage a global spare parts network with requirements that included critical spare parts delivered globally within 10 hours. KN LLS maintains a 24/7 call center, 18 regional stocking locations and manages a global transportation network, including next flight out services. A dedicated KN LLS team manages more than 12,000 annual service orders. The call centers handle orders including critical needs and turns, tracking and tracing. The solution allowed a startup

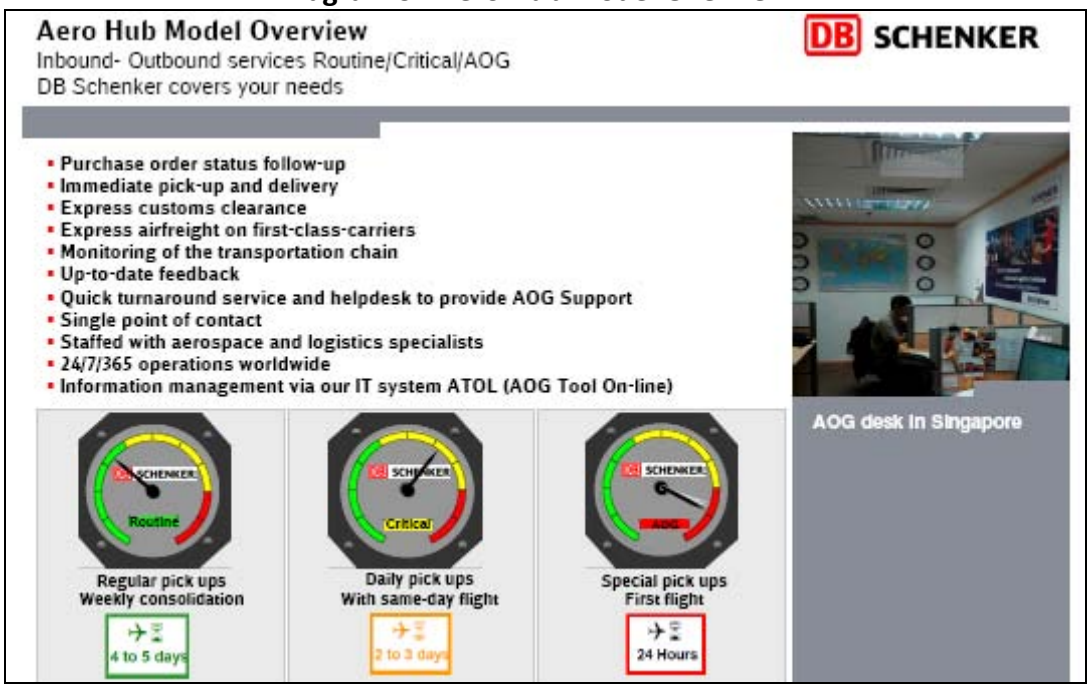
company to have immediate access to a global infrastructure able to support a fast-growing installed equipment base worldwide.

DB Schenker/Schenker Logistics

DB Schenker Logistics has extensive SPL applications in Automotive, Industrial and Electronics vertical industries. The automotive SPL is a natural add-on to Schenker's extensive operations supporting car assembly in Germany, the Americas, China, France and Malaysia. Customers include: BMW, Porsche, Nissan, Mercedes, VW and Bosch. DB Schenker's automotive SPL operations are at the CEVA/Cat Logistics level.

DB Schenker's industrial activities include a global network for aerospace/airline customers. Current major locations for running the network are London, Paris, Singapore, Dubai and Seoul. Customers include GE, SIA, Airbus, Messier-Bugatti, Embraer, Revima APU and Rockwell Collins. (DB Schenker comment: Please take into account three things here. Aero Hub is currently in ramp-up. The AOG (transportation product based on direct delivery) already exists in more than 20 locations worldwide. The target for Aero Hub is to get to the same level as AOG. Additionally, we have RMS (Return Management Services) as an option within the AOG network. As this is network driven, we're able to open each new airport to the network extremely quickly as we're there already.)

Diagram 9. Aero Hub Model Overview[**]



[**]Content from DB Schenker's Aero Hub solution presentation

Between DB Schenker and its customers, information flows are primarily by EDI and an internet based integrated environment which is refreshed real time. Extensive use is made of handheld scanners and Zebra printers. A single control center is used for each customer. Multi-client warehousing is standard. Reporting inventory visibility and event activity are very good.

One of DB Schenker's Aero customers is Messier-Bugatti, a leader in aircraft brakes. For Messier-Bugatti, DB Schenker maintains parts at five global locations. Three hundred eighty Airbus parts are maintained in Singapore, Sydney and Dubai. Stocking and aircraft on ground (AOG) service are featured in Singapore and Sydney and run 24/7/365. Delivery statuses are confirmed in 15 minutes.

For Bombardier, DB Schenker manages a 4,500 square foot warehouse space at the Narita Airport hub. About 3,000 SKUs (stock keeping units) are maintained. A one hour window is used to address aircraft on ground (AOG) situations.

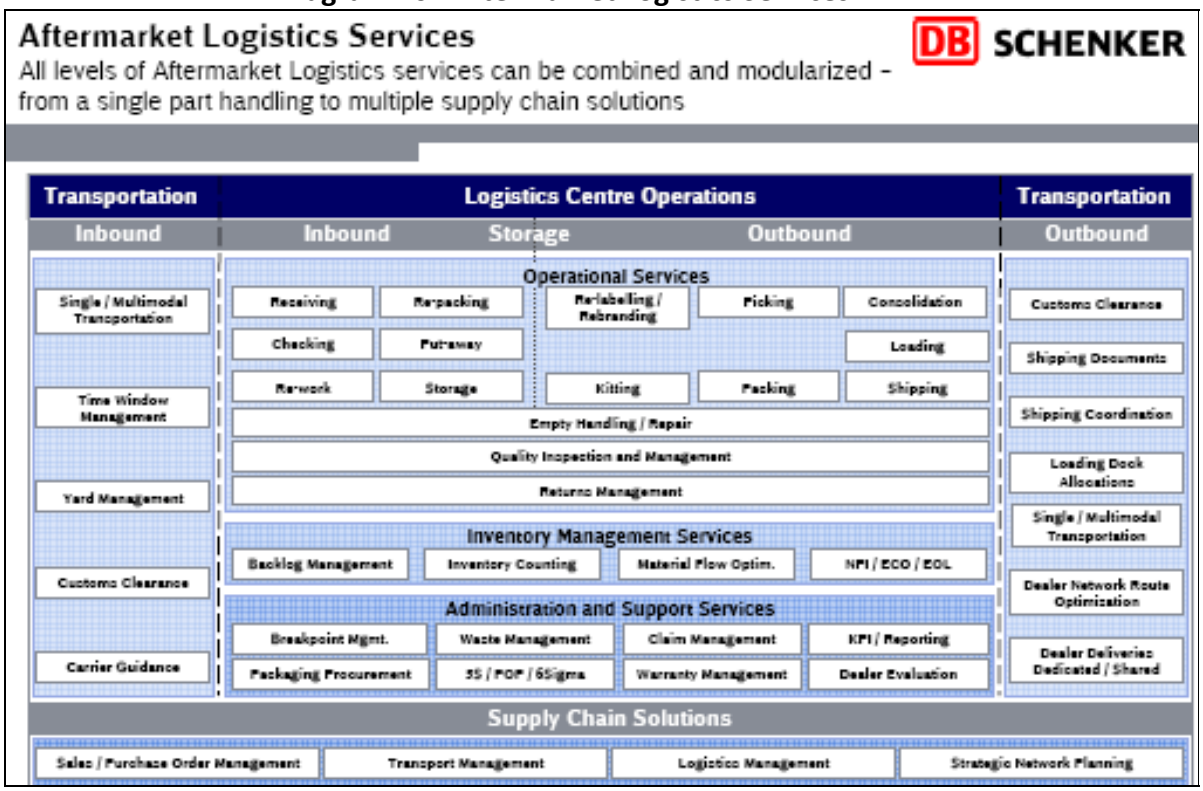
Here are some other examples of DB Schenker's solutions for SPL customers:

In Shanghai, for the automotive replacement parts of the Schaeffler Group, DB Schenker maintains a distribution hub serving 250 end customer and OEM (original equipment manufacturer) locations. DB Schenker's WMS and TMS capabilities have led to high KPI (key performance indicator) results.

Heidelberger Druckmaschinen utilizes DB Schenker for its SPL facility in Indianapolis, Indiana. DB Schenker set up an operation with FTZ (free trade zone) accreditation in Indianapolis to handle Heidelberg's printing press spare parts. DB Schenker's WMS is integrated to Heidelberg's SAP system and 24/7 coverage is provided. Thirty-six thousand SKUs are handled. This warehouse, like all DB Schenker operations, uses quality methods to continuously improve processes. These include a "Permanent Optimization Program" (POP) which is KAIZEN based and Six Sigma/Lean logistics focused.

For Océ in Columbus, Ohio, DB Schenker runs a "Mega Center". This operation supplies service parts to field technicians, as well as consumables for machines to customers. Copy machines are supplied regionally with deliveries to customers via "white glove" carriers. The Mega Center is housed within a 217,000 square foot facility. In addition, the center is automated with "pick to light" technology that supports high velocity picking from horizontal carousels containing 26,000 locations. Océ field technicians perform both emergency and regular service calls. DB Schenker processes approximately 800 spare parts orders a day, including emergency, replenishment and next flight out for critical repairs. In addition, it ships machine supplies to Océ customers, customized copiers and three to four sizable dealer orders daily. The WMS used in Columbus is Exceed (Infor). It is used as the control center to communicate with multiple applications internal and external to the operation.

Diagram 10. Aftermarket Logistics Services[***]



Caterpillar Logistics Services

Cat Logistics is a tier-one global supply chain manager. Cat Logistics has core capabilities in value-added warehousing and distribution. The majority of its customer relationships are in the Automotive and Industrial manufacturing verticals. However, Cat Logistics has also been diversifying into Mining, Oil & Gas, Aerospace & Defense, Technological, and Consumer Durables industries.

[***]Content from DB Schenker's Automotive Aftermarket Logistics solution presentation

Diagram 11. Cat Logistics Growth & Long Term Relationships

Cat Logistics services 1,933 dealer branches and 1,407 rental outlets for its parent company Caterpillar. Caterpillar's inventory includes approximately 650,000 unique parts. Cat Logistics operations are based in 23 countries on 6 continents. In all, 191 countries are served. There are 108 facilities with 20 languages spoken. In the Americas, there are 61 locations with 6,200 employees, EAME has 33 locations and 4,450 employees and Asia has 12 locations and 1,250 employees.

To illustrate Cat Logistics capabilities, we will look at its Japanese operations. The Cat Logistics story in Japan started in 1994 when it set up operations in Tokyo to support Sun Microsystems computer parts distribution. In 1996, it also began parts distribution and finished vehicle preparation operations for Chrysler. Today, Cat Logistics provides services to its parent Caterpillar and to its major Japan 3PL customers: Mitsubishi Heavy Industries, Ford Automotive, and MG Land Rover. Approximately 380 Cat Logistics employees are in Japan; 300 of which are based at the new Sagamihara distribution center. Cat Logistics provides operations gateway services, parts sourcing and contract packaging services, domestic Japanese and international service parts distribution, and inbound manufacturing support services.

Cat Logistics Sagamihara Distribution Center

The new 50,000 square meter Sagamihara distribution center was opened in November 2007. Prior to its opening, its clients, Mitsubishi Heavy Industries (MHI) and Caterpillar Japan, performed their own distribution from two smaller facilities: a 9,480 square meter parts center warehouse for MHI and a 33,000 square meter parts center warehouse for Caterpillar Japan. Migrating to the new facility was an extensive project which started in 2004 when a feasibility study was performed. In August 2005, Cat

Logistics made a proposal to MHI and Caterpillar to combine operations into a new, more efficient distribution operation. On June 9, 2006 logistics agreements were signed by Caterpillar and MHI and in December 2006, the old Caterpillar center on the current site was demolished and new building construction began.

Cat Logistics Sagamihara Distribution Center

The Sagamihara distribution center (SDC) is a two-floor operation with room to expand to a third floor. The SDC comprises 35,000 square meters for Caterpillar supply chain management operations and approximately 16,000 square meters for MHI operations, of which the total facility has approximately 21,000 square meters reserved for parts and product storage. Approximately 380,000 SKUs of parts and products are kept in on-hand inventory.

On an average day 3,800 lines of parts and products are received, 110,000 pieces are packaged for shipping, and 10,300 lines of service parts and products are shipped. In terms of a standard order profile, approximately 80% of Caterpillar Japan domestic orders are for emergency/Just-In-Time (JIT) fulfillment. Cat Logistics has just one hour from order release to pick and pack emergency/JIT shipments and have them available for loading on an outbound truck. Similarly, approximately 75% of MHI orders are also emergency orders. Export orders must be processed the next day for emergency shipments, or within five days for items in stock. To run operations, Cat Logistics is using its SAP warehouse management system integrated with radio frequency (RF) scanners.

Loading a Truck for Local Delivery

Storage locations in the distribution center are dictated by the individual demand forecasts for each part or product. Very slow moving items are stored outside when possible, or on the second floor of the SDC. Approximately 20% of the total pick volume comes from these areas. The remaining 80% of the total picks come from the first floor and are most often made from a central three-level mezzanine which accounts for 64% of all picks.

Three-Level Central Mezzanine

On the first floor, Cat Logistics is also running a packaging operation for its clients. It occupies approximately 10% of the SDC and employs approximately 100 people.
Cat Logistics manages parts sourcing services for the Caterpillar network from Japan. Often the service parts and products will need to be packaged in standard quantities prior to shipping. Cat Logistics performs the packaging services utilizing two main

packaging lines. Thirty percent of the volume is auto-bagged into plastic bags and the rest is manually processed. The parts are then consolidated into large, open-top containers for domestic distribution, put into storage or packaged for export. Value-added services include: wood crating for larger parts, specialty labeling for local markets and customers, and product rust proofing.

Packaging Line Auto-bagging of Parts

To support the packaging operation, Cat Logistics utilizes a proprietary packaging system (GPPS) which is integrated with the SAP WMS.

Key operational volumes and metrics are as follows:

- Inbound truck traffic: Approximately 90 inbound supplier trucks are unloaded each day.
- Outbound truck traffic: Approximately 50 outbound delivery trucks are dispatched each day to Mitsubishi and Caterpillar Japan dealer locations.
- Container shipments: Approximately seven forty-foot ocean containers are shipped each day to global Cat Logistics network locations including: Morton, Illinois; Grimbergen, Belgium; Melbourne, Australia, and Singapore.
- Outbound shipping performance: Cat Logistics has performed with more than 99% efficiency in on-time shipping across its clients.
- Notable point: The Sagamihara distribution center is processing approximately the same amount of emergency/JIT shipments each day as the largest Caterpillar parts facility in Morton, Illinois. The emergency/JIT shipment processing time is one hour from order release to having the shipment available for loading on an outbound truck.