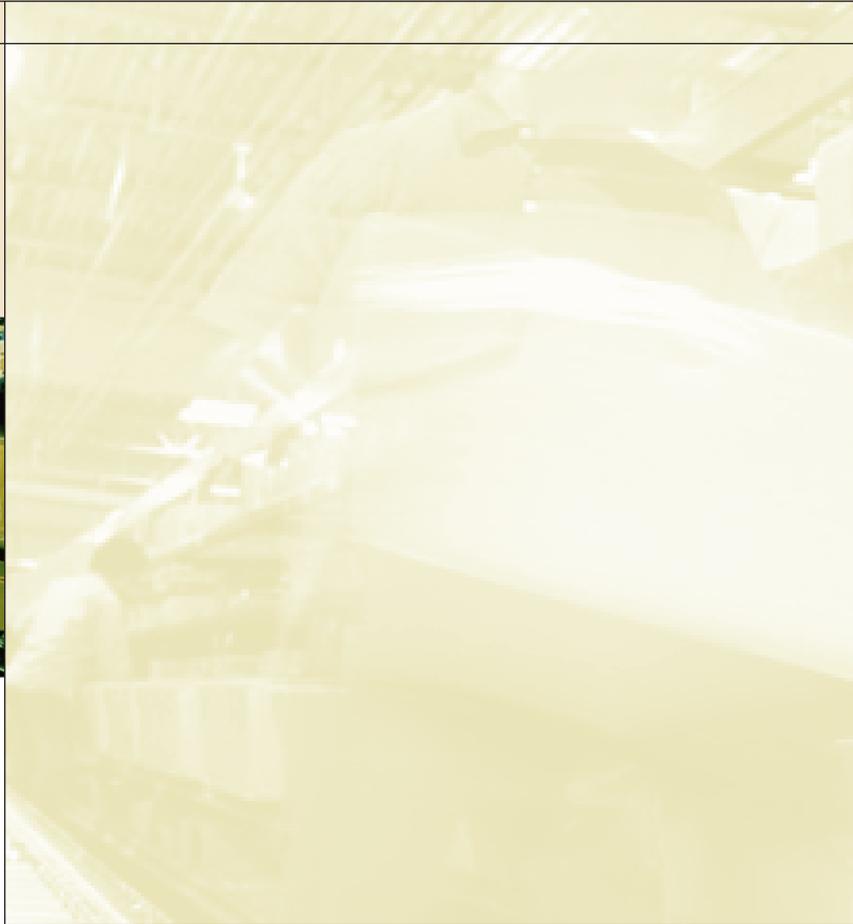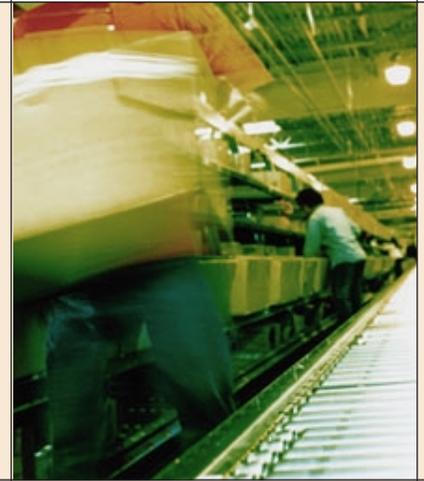LOGISTICS IS A COMPLEX AND EXTREMELY CRITICAL FUNCTION, WITH REAL-TIME FLOWS OF INFORMATION AND PHYSICAL GOODS. MANY COMPANIES HAVE LEFT THIS TO THE EXPERTS (THE 3PLS) RATHER THAN TRY AND BUILD A CAPABILITY IN-HOUSE.

Optimizing 3PL Through IT

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Optimizing 3PL Through IT

Logistics is a complex and extremely critical function, with real-time flows of information and physical goods. Third Party Logistics (3PL) is gaining increasing ground in a global economy where companies source various elements of their value chain to external providers so they can focus more on their core competencies.

IT (Information Technology) is central to solving some of the most pressing challenges in the 3PL business, including exceptions handling, supply chain integration and optimization and increased transparency in the flow of goods and information.

"Wal–Mart's progressive use of 3PL and inventory management yielded them the ultimate reward for a retailer—CUSTOMER LOYALTY."

1.

SIGNIFICANCE OF 3PL IN THE GLOBAL ECONOMY

The 3PL Vision—Playing a Key Role in the Supply Chain

Third Party Logistics (3PL) is gaining increasing ground in a global economy where companies source various elements of their value chain to external providers so they can focus more on their core competencies.

Logistics is a complex and extremely critical function, with real-time flows of information and physical goods. Many companies have left this to the experts (the 3PLs) rather than try and build a capability in-house. Doing so enables them to tap into a best-in-class logistics capability, at costs that are lower than an in-house equivalent.

This puts the burden on 3PL firms to develop robust planning, scheduling and delivery capabilities, so that they can be effective as the hubs of their clients' supply chains. These capabilities typically include demand forecasting, requirements planning, transportation planning and pull-based replenishment. High caliber 3PL firms are able to leverage these capabilities to create a "glass pipeline of supply" for their clients, wherein the client has full visibility to inventories and the rate of flow of inventories can be adjusted, based on end-customer demand.

How Leading Firms are Leveraging 3PL
### CASE STUDY: Wal-Mart

There are several examples across multiple sectors of the positive results retailers are realizing from leveraging 3PL, but the most quoted case in point is Wal-Mart, the U.S.-based mega retailer, which relies heavily on 3PLs to keeps its world-class supply chain humming, and its thousands of stores stocked in a "just in time" manner.

Retailers face a very challenging environment in terms of keeping their shelves stocked with the right products at the right time. This is particularly true in the U.S. where the following characteristics make supply chain management challenging:

- **SKU proliferation is very high—customers have come to expect a huge variety of brands in a plethora of different configurations**

- **Acceptable stock out levels are very low**

- **Retailer margins are relatively thin**

- **Demand for retailers' goods is highly price sensitive, requiring logistics and supply chain costs to be minimized while supporting the highest service levels; underlying inventory costs have to be well controlled to keep the business profitable.**

- **Competition amongst retail chains is high and customer loyalty is difficult to retain.**

Wal-Mart attacked this challenge head-on and leaped well ahead of its competition by implementing an inventory replenishment paradigm in conjunction with its 3PL and strategic suppliers. The results? Service levels increased to 95+%, and inventory holding and obsolescence costs were reduced. The reward? They won customer loyalty! *(see Figure 1)*

Figure 1: Wal-Mart's intelligent replenishment paradigm
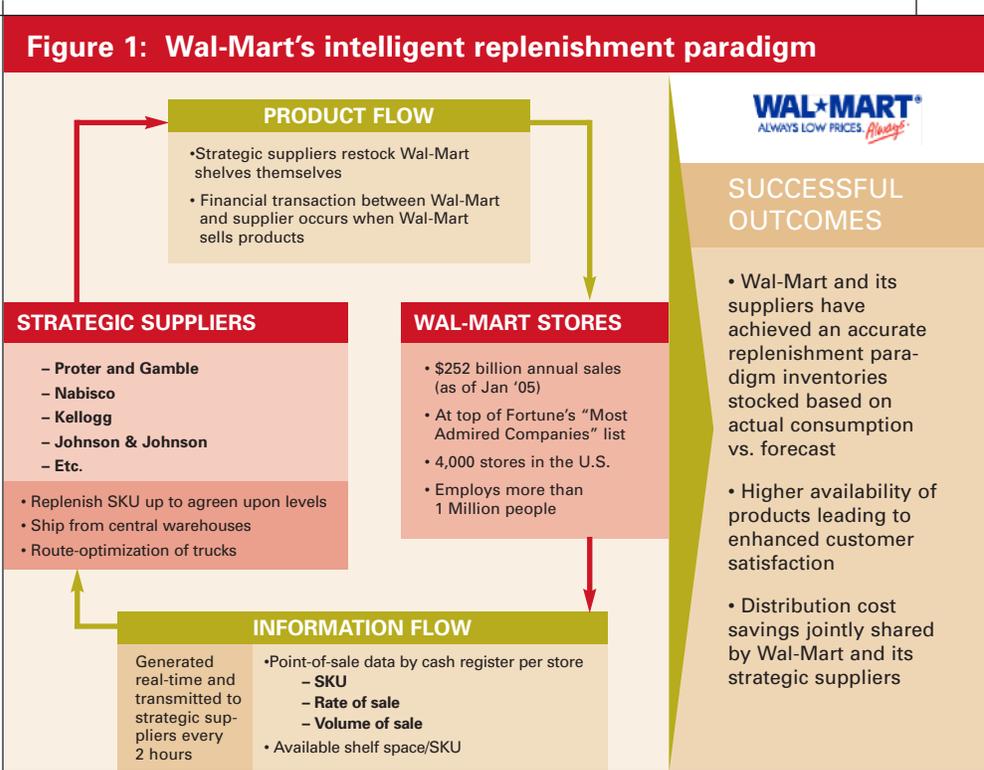
Today, one of Wal-Mart's strategic advantages over competitors is high product availability for its ever-widening array of SKUs. Logistics costs in the overall supply chain have been slashed and savings are jointly shared by the retailer and its partners.

Key aspects of the Wal-Mart replenishment model include:

- **Strategic relationships: Wal-Mart has entered into long-term strategic contracts with its core suppliers (including logistics). Each party engages in an open book policy with the retailer and there is a high degree of mutual trust.**

- **Information sharing:** Wal-Mart generates key point-of-sale data sets on a real-time basis and shares with strategic suppliers every two hours. Data shared includes:

    - **– SKU**
    - **– Rate of sale**
    - **– Volume of sale**
    - **– Available shelf space/SKU**

- **Minimal handoffs in material flow:** 3PLs/strategic suppliers re-stock retailer shelves themselves – there are no inbound inspections, no goods receiving at the retailer.

- **Separation of replenishment and accounting cycles:** Financial transaction between retailer and supplier occurs when retailer sells products

2.

3PL RISK FACTORS

There are several factors of the 3PL industry that put a service provider's ability to succeed at risk.

High Complexity

3PL is a complex business in which the service provider has to manage three key components:

- **Physical flow of goods** (involving transportation management, freight forwarding, warehousing management).

- **Information flows** (involving order processing, EDI, and tracking, as well as custom/package software development/installation and corresponding systems integration).

- **Financial transactions** to close out the physical and informational flows (involving auditing,

making payments, invoicing, billing) and corresponding financial management as required (which can sometimes include leasing, lending, insurance brokerage, foreign exchange).

Each of these components needs to be coordinated, and often requires integration between the provider's business process and underlying IT systems, and those of the client.

Fragmentation

The 3PL space in the U.S. is quite fragmented, with the top 10-15 players accounting for about 30 percent of the market. As a result, it is relatively easy for clients to "bargain" with 3PL service providers with pricing and delivery pressures to suit clients' business needs.
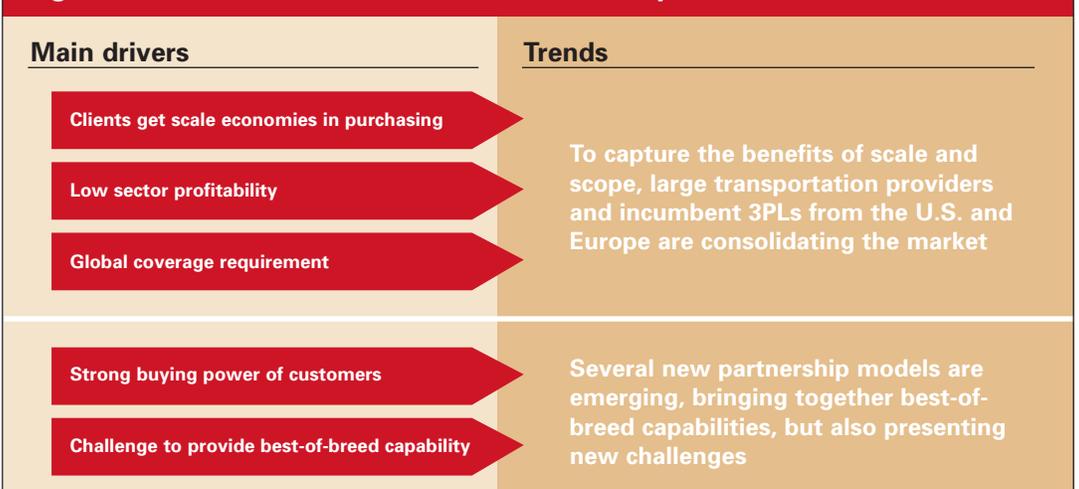
Low Profitability

Because of a number of factors (including the asset intensity of the business, the market fragmentation and resulting buying power that consumers have), even some of the larger players have a net margin of only about 7 percent. Hence, costs are of critical importance in the 3PL business, and IT-enabled initiatives that can cut costs are of typically of high value to the business's bottom line.

Consolidation and collaborative plays

As a result of the challenges outlined above, the industry (particularly in the U.S.) has seen several consolidation and collaborative plays, where larger players have either acquired smaller ones, or players have collaborated with each other to create a "broad spectrum" best-of-breed set of services *(see Figure 2)*.

The dynamics outlined here put pressure on 3PL service providers to contain costs, differentiate themselves via strengthened value propositions and increase process efficiencies. This in turn puts a lot of pressure on the underlying IT systems—the heart of a 3PL's operations.

Figure 2: Consolidation and Collaborative Plays in 3PL

Main drivers	Trends
Clients get scale economies in purchasing	To capture the benefits of scale and scope, large transportation providers and incumbent 3PLs from the U.S. and Europe are consolidating the market
Low sector profitability	
Global coverage requirement	
Strong buying power of customers	Several new partnership models are emerging, bringing together best-of-breed capabilities, but also presenting new challenges
Challenge to provide best-of-breed capability	

3.

HOW IT CAN HELP REDUCE RISK AND IMPROVE OPERATIONS

IT is a Key Enabler in Core 3PL operations

IT enables five key aspects of a 3PL service provider's operations:

- **Network and production planning**
- **Operations planning and execution**
- **Tracking and tracing of goods, and exception handling**
- **Transportation management**
- **Customer service**

IT is also central to solving some of the most pressing challenges in the 3PL business, including exceptions handling, supply chain integration and optimization and increased transparency in the flow of goods and information.

Hence, a 3PL service provider needs to have a strong IT development and maintenance capability, that can speedily and cost-effectively support the changing needs of business operations.

Three Steps to Leverage IT Effectively

To address these challenges, 3PL service providers need to effectively develop and leverage an IT capability that is responsive to the changing business environment, and can deliver IT-enabled solutions quickly and cost effectively. In order to reach this objective, the 3PL service providers need to pull three broad levers, as described below.

Reduce Bottlenecks in Systems Deployment

Many global 3PL firms are burdened with a complex IT architecture that is a result of the evolution of the firm over time. This makes both the ongoing development and maintenance of the 3PL's applications difficult and costly, and also makes integration with clients' systems that much more difficult (the latter being required to enable supply chain visibility and optimization). In order to solve this problem, 3PL firms need to de-layer and simplify their architecture by selectively encapsulating legacy systems, rationalizing data storage across the architecture, and developing a range of reusable services that enable rapid applications development and systems integration to support future business needs.

Another key lever to remove the systems deployment bottleneck is to set up offshore "test factories" which serve the dual purpose of accelerating testing while also becoming centers of excellence for improved testing effectiveness.

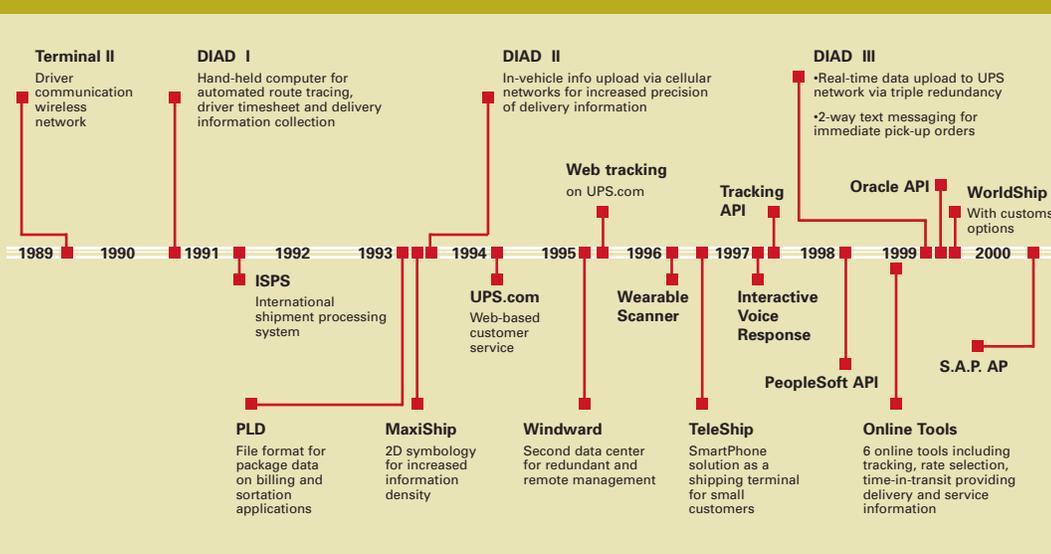#### Move Key Components Offshore (IT and business processes)

Another lever that 3PL firms can pull is that of offshoring, which has been widely leveraged in banking, insurance, telecom and other industries. While IT applications development and applications maintenance are often the first considerations for offshoring, an increasing number of firms are also offshoring standardized and repeatable business processes, especially around customer care, marketing (campaigns, promotions, etc.), and billing.

Build "Point Solutions" to Create IT-enabled Differentiation in Market

Given that IT is so entwined with the core operations of a 3PL service provider, leveraging IT to build differentiating operational capabilities can be a winning strategy. This means thinking of executing an IT strategy as an integral part of the overall business strategy, and aggressively pursuing an applications development and deployment program (both third-party and custom) to create IT-enabled distinctiveness in the 3PL's operations. UPS is one example of an integrated logistics provider that pursued this approach. UPS' timeline for IT–enabled innovation is shown in *Figure 3*, and has been publicized as one example of effectively leveraging IT to create a winning operational capability.

Figure 3: UPS's Timeline of IT-enabled Innovation

Terminal II — Driver communication wireless network

DIAD I — Hand-held computer for automated route tracing, driver timesheet and delivery information collection

DIAD II — In-vehicle info upload via cellular networks for increased precision of delivery information

DIAD III — •Real-time data upload to UPS network via triple redundancy •2-way text messaging for immediate pick-up orders

Web tracking on UPS.com

Tracking API

Oracle API

WorldShip — With customs options

Timeline: 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000

ISPS — International shipment processing system

UPS.com — Web-based customer service

Wearable Scanner

Interactive Voice Response

PeopleSoft API

S.A.P. AP

PLD — File format for package data on billing and sortation applications

MaxiShip — 2D symbology for increased information density

Windward — Second data center for redundant and remote management

TeleShip — SmartPhone solution as a shipping terminal for small customers

Online Tools — 6 online tools including tracking, rate selection, time-in-transit providing delivery and service information

Source: Center for Information Systems Research, Sloan School of Managment, MIT

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4.

CONCLUSION

As 3PLs contend with complex system architectures, fragmentation, and mergers and acquisitions, they will benefit from the expertise and support of a skilled IT vendor. Logistics organizations can leverage Atos Syntel's extensive industry experience and our unique perspective on the specific process issues and technology implications affecting them, enabling it to successfully implement technologies that meet requirements and drive business results.

Atos Syntel's Solutions for 3PL—Eliminating the Bottleneck

Some of the leading logistics companies find that applications testing is often a bottleneck and slows down the introduction of new services in a highly competitive marketplace. Atos Syntel has dedicated Test Centers of Excellence that serve as offshore "test factories" for some of our key logistics clients *(see Figure 4)*.

Atos Syntel has also developed the IntelliSourcing™ approach where we work collaboratively with you to determine which components of your IT capabilities and business processes you can outsource to us, and which ones you should continue to keep in-house, to maximize your business capabilities, while minimizing your costs. And eliminate those bottlenecks!

We are so committed to your success and to our delivery of value to you, that we are often ready to structure our services as a fixed-price contract. In fact, more than 50 percent of our IntelliSourcingTM engagements are structured as fixed price contracts, and are delivering high value to our customers year after year. For these customers, we are managing the full life cycle of their IT applications development and maintenance needs, on a fixed-price basis.

Create IT-enabled Differentiation

We have developed and continue to develop customized point solutions for some of the world's leading 3PL firms to enable them to reduce costs and provide more integrated logistics services to their clients. *Figure 5* gives a brief overview of the kinds of point solutions we have developed for leading logistics providers, across the spectrum of logistics operations. These projects typically have a blended delivery model where part of the work is done onsite at our clients' facilities and part of the work is done in one or more of our global development facilities.

5.

PARTNERING WITH ATOS SYNTEL

Atos Syntel has provided outsourced IT services for over 20 years. In fact, Atos Syntel was the first US-based firm to launch a Global Service Delivery model in 1992 and leverages this model today to deliver increased time-to-market, enhanced efficiencies, and quality improvements for a majority its Global 2000 customers.

Atos Syntel crafts each solution around its deep under-standing of the issues facing 3PL firms across planning, scheduling and delivery. Our combined expertise in logistics and several other industries give us a unique set of skills and knowledge base to help 3PLs succeed.

Our customer-centric approach and our ability to understand your 3PL business set us apart from our competitors. As you get to speak with some of our key clients, you will see that Atos Syntel thinks first of our client's business strategy and our client's imperatives for business success. Around this understanding, we work together to become thought and implementation partners of IT-enabled components of our client's business strategy—to unlock value from IT and create IT-enabled competitive advantage.

Figure 4: Our Dedicated Test Center of Excellence (offshore)

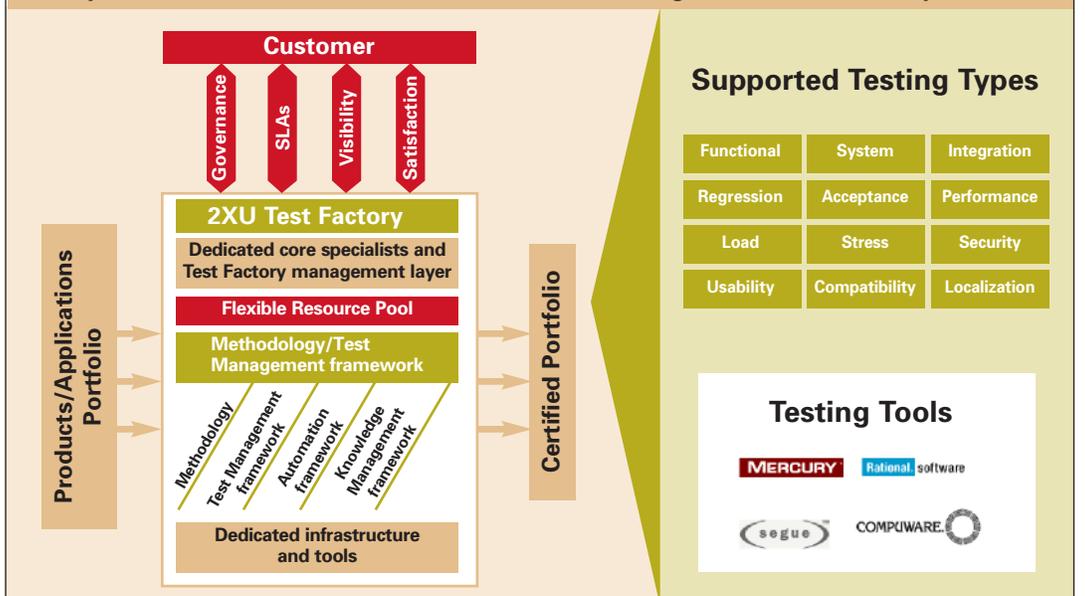**Atos Syntel Test COE (Center of Excellence) serves as a high caliber "test factory" for clients**

Customer

Governance | SLAs | Visibility | Satisfaction

Products/Applications Portfolio

2XU Test Factory
- Dedicated core specialists and Test Factory management layer
- Flexible Resource Pool
- Methodology/Test Management framework
- Methodology | Test Management framework | Automation framework | Knowledge Management framework
- Dedicated infrastructure and tools

Certified Portfolio

Supported Testing Types

Functional	System	Integration
Regression	Acceptance	Performance
Load	Stress	Security
Usability	Compatibility	Localization

Testing Tools

MERCURY   Rational software

segue   COMPUWARE

Figure 5: Atos Syntel's custom solutions for global logistics firms

FedEx · DHL WORLDWIDE EXPRESS · Ryder · ALLIED · NS NORFOLK SOUTHERN

Information Technology plays a central role in 3PL firms…

Network Planning and Fleet Planning Systems
- **Applications maintenance**
- **Applications testing**

Network and production planning
- Network and production planning and optimization
- Production planning and management
- Fleet planning (air/rail/road)

Operation Planning and Execution
- **Crew planning systems**
  - Custom applications development of a sophisticated rules-based engine to schedule and optimize crew operations and facility schedules
- **Operations optimization systems**
  - Inventory management, warehouse management, tracking & forecasting and replenishment management
  - Web-based supply chain tracking and forecasting system
  - Applications testing

- **Asset scheduling**
- **Asset operations**

IT plays a central role in 3PL firms

Transportation Management and Forwarding Systems
- **Custom development of:**
  - Transportation management system
  - Revolutionary "dynamic fuel surcharge" system, which has led to significant operational profit increase for the clients
- **Applications testing**

Track and Trace and Exceptions Management

Sales and Customer Service
- **Revenue management**
- **Reservation systems**
- **Customer care**

- **Custom applications development in:**
  - Account management
  - Customer care
  - Data analytics

Commitment to Quality Sets Us Apart

Any successful corporation understands that the quality and dedication of the people behind the processes and technology are what stands between success and failure. Quality focus and commitment is a key characteristic that distinguishes Syntel from many other outsourced providers. This focus extends throughout the Syntel organization, and impacts its people, processes, and technology. Syntel follows the widely recognized Six Sigma methodology to continually measure and improve performance and processes. As an integral part of this methodology, it adheres to the DMAIC—Define, Measure, Analyze, Improve, Control—framework to guide process improvement.

Syntel's Global Development Centers in India are assessed at both ISO 9001 and Level 5 of the SEI CMMI (Carnegie Mellon Software Engineering Institute Capability Maturity Model), making it one of just a handful of organizations in the world assessed at this level. Its delivery performance is benchmarked against the highest capability standards of this model and achieving Level 5 is the ultimate recognition in the IT industry for the maturity of Syntel's software processes. This means

Atos Syntel's solutions have been proven to deliver:

- **Faster project timelines,**
- **Greater costs savings,**
- **Reduced risks,**
- **Increased work efficiency,**
- **Constant work process improvement, and**
- **Greater situational awareness.**

Atos Syntel's Project Management practices are based on the Project Management Institute's (PMI) Project Management Body of Knowledge, which emphasizes communication, risk management, and leadership. Most of Atos Syntel's Project Managers are PMI-certified, or are in the process of pursuing certification, and all project managers are leaders empowered by Atos Syntel to act in the best interest of the customer's success.

about Us:

Syntel is a global Applications Outsourcing and e-Business company that delivers real-world technology solutions to Global 2000 corporations. Founded in 1980, Syntel's portfolio of services includes complex application development, management, product engineering, and enterprise application integration services, as well as e-Business development and integration, wireless solutions, data warehousing, CRM, and ERP. We maximize outsourcing investments through an onsite/offshore Global Delivery Service, increasing the efficiency of how complex IT projects are delivered. Syntel's global approach also makes a significant and positive impact on speed-to-market, budgets, and quality. We deploy a custom delivery model that is a seamless extension of your IT organization to fit your business goals and a proprietary knowledge transfer methodology to guarantee knowledge continuity.

ISO 9001 2000   SEI CMMI LEVEL 5

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