Achieving Optimal Customer Service and Efficiency with a

Digital Aftermarket Supply Chain Network

OPPORTUNITIES AND CHALLENGES IN AFTERMARKET PARTS

The aftermarket auto parts sector is expected to grow at more than 3% per year until 2030 . In the US, the average age of the cars on the road is reaching 11.8 years, and between 2018 and 2023 the number of cars between 6 to 11 years old will increase by 27% - fueling growth in the aftermarket sector. In addition to this anticipated growth, aftermarket companies should prepare to monitor and respond to the following trends in the coming years:

- Increasing importance of professionally managed fleets because of the emergence of Uber and other new generation transportation companies: **How to revamp the supply chain and work more closely with partners?**
- Growing importance of eCommerce and emergence of new digital native competitors to gain a share of revenue and profits: How to get closer to the customers? **How to maintain and increase customer service levels to meet shorter lead time requirements? How to be more omnichannel, serving online sales, dealerships, and workshop networks equally well?**
- Electric and hybrid electric vehicles will make up a significant portion of vehicle sales, reaching 30% by 2025: **How to cater to the proliferation of parts and maintenance tools and systems, in terms of changing demand patterns and requirements on inventory levels?**
- Shifting market growth to emerging markets: **How to expand global reach and put in place supporting infrastructure to capture growth and market share, while defending existing strongholds?**

Digitization is inevitable and will be accelerating due to rapid shifts in demand patterns, value chains, and therefore the supporting supply chains. To increase competitiveness, capture new opportunities, and embrace these disruptive changes, an OEM, parts manufacturer, parts distributor, or ecommerce company will have to revamp how it views its supply chain and leverages its partners as a close-knit network to improve performance. In this paper, we describe how.

REQUIREMENTS FOR SUPPLY CHAIN SUCCESS

The key supply chain requirements to support a well-run aftermarket business include:

HOW ONE NETWORK HELPS YOU MANAGE YOUR AFTERMARKET BUSINESS:

- **Highly scalable solution to continuously design and maintain desired service levels with right level of inventory investments and replenishment for individual parts**
- **Predict and sense demand by individual aftermarket part automatically. Propagate demand, orders, shipments, and arrivals in real-time across all tiers of partners and suppliers, in internal and external supply network**
- **Balance supply and demand across the entire supply chain network (including management of returns) with real-time data and collaboration in order to respond to fluctuating customer needs and reduce transportation and ordering costs**
- **Manage collaboration between customers and aftermarket service and parts providers to ensure on-time deliveries and task completion**
- **Optimize decision-making and respond more effectively when changes and exceptions occur**
- **Automatically reallocate materials around the clock**
- **Delight customers with unified order fulfillment**
- **Enable key steps in your digital transformation journey toward a truly digital and autonomous supply chain**

KEY FINANCIAL BENEFITS FOR YOUR AFTERMARKET BUSINESS:

- **Improve deliver service levels to over 95%**
- **Reduce inventory network-wide by 20 to 40%**
- **Reduce expedited freight cost by 30 to 50%**
- **Improve logistics utilization by 5%**
- **Improve resource efficiencies by 50%**

1. Provide parts inventory in the right quantities in the right mix at the right location and the right time
2. Satisfy customer service levels in order to minimize downtime and delays for customers
3. Minimize shipping cost required to satisfy orders and replenishment needs

However, to achieve a winning level of supply chain performance, there are some hurdles:

- Intermittent and/or high variability demand patterns: **How to modify demand and replenishment strategies and execution, especially for slow movers?**
- Large number of parts with different criticality assignments: **How to plan and execute in an optimal way for an enormous and growing number of parts?**
- Managing the tradeoff between inventory levels and fast responsive time requirements needed to satisfy customer demands: **How to keep the optimal level of safety stock on premise and in the network to minimize the costs while maintaining service levels?**
- Stock obsolescence and write-offs: **How to perform frequent demand and supply matching to eliminate waste and financial loss?**
- Introduction of new parts and phasing out old ones efficiently: **How to perform detailed planning and execution for individual parts (not just groups of parts or locations) to achieve winning performance? How to manage returns effectively?**
- Synchronization of orders and deliveries with work orders and project plans: **How to match material arrivals with project plans and maintenance work orders?**
- High transportation costs: **How to minimize expensive modes of transportation (for example, parcel delivery) and minimize expediting?**

- Adoption of new service-oriented business models: **How to digitally manage transactions and returns between customers and aftermarket service providers?**

ONE NETWORK'S AFTERMARKET PARTS SOLUTION

The One Network aftermarket parts solution includes parts catalogs and workflows for OEM, aftermarket, refurbished, rebuilt, and spare parts businesses. The platform aggregates demand across your network of dealers and customers, and optimally sources parts, then concurrently optimizes material and transportation with:

- A Supply Chain Control Tower plus network services including forecasting, autonomous forecast adjustment, multi-tier order, replenishment and inventory optimization, and returns management to ensure network-wide visibility, orchestration of inbound supply and supply-demand match, management of MRO and returns – all you need to avoid disruptions.
- An integral transportation suite (including parcel management) to ensure rapid execution and collaborate with logistics providers in real time to resolve unforeseen issues in a timely manner.

One Network Enterprises™

- One Network's multi-party digital business network to enable all trading partners to work closely together in order to improve performance and solve problems quickly at the lowest cost.
- NEO Autonomous Agents, One Network's proprietary machine learning and intelligent agent technology, to continuously monitor the supply-chain wide network and intervenes to prevent or solve problems. When disruptive events occur, NEO agents can take quick proactive, predefined actions anywhere in the Network. NEO Autonomous Agent workflows in the network use cost-based resolutions to minimize total costs while keeping your supply chain running smoothly.
- Transactional API's to connect with required dealer/customer sales order management systems to enable a collaborative ordering process.

CONTROL TOWER FOR FULL VISIBILITY AND CONTROL

One Network's Control Tower provides end-to-end visibility and control across the network, as well as plan-to-actual tracking, with alerting and KPI visualization for all network participants (suppliers, carriers, channel partners, and end customers). It monitors, manages, and controls decisions and execution across functions and across companies to optimize the entire network.

The Control Tower solution offers considerable benefits and capabilities for Aftermarket businesses, including:

- End-to-end visibility across aftermarket supply chain partners, including suppliers, transportation carriers, and third-party logistics
- Collaborative information sharing in real-time for decision-making and actions
- Early warning alerts and exception management to resolve supply chain disruptions before they impact your business
- Predictive and prescriptive decision-support for predictive and prescriptive analytics
- Autonomous decision-making and control that takes the robot out of the human and boosts productivity

The Control Tower uses Intelligent NEO agents extensively. It serves as a system of engagement across trading partners and orchestrates companies and functions to work together in real-time to serve the end consumer at the lowest possible cost.

Any combination of local and global Control Towers can be configured on the network, providing each party with the right level of **visibility, control and exceptions management** across any combination of sites, regions, and countries.

A REAL-WORLD AFTERMARKET PARTS CASE STUDY

An automotive manufacturing company deployed One Network's Aftermarket solution for all inbound raw materials, all aftermarket parts and all refurbishment businesses. The solution managed inbound supply, sustainment, and logistics across the globe.

The highly scalable Aftermarket solution enables fully integrated inbound support, global logistics and outbound fulfillment system with more than 30 thousand suppliers for several hundred thousand SKUs. With this single global connection to all suppliers, carriers and fulfillment partners worldwide, this customer is accelerating its digital transformation and attaining tremendous benefits along the way. The company achieved rapid ROI, going live in phase one within six months. It reduced transportation costs by 20 percent, including improved customer service levels and reduced overall operational costs.

The Aftermarket Parts solution runs on One Network's multi-party digital business network, and is integrated with many other powerful network services, including One Network's industry-leading Control Tower, recognized as a leader by Gartner, Nucleus Research, IDC and others.

NETWORK SERVICES

One Network has designed its network services and business capabilities around industry-specific cores. The Automotive and Manufacturing industry core embraces the fundamentals and nuances of the automotive and manufacturing industries. It includes industry workflows, algorithms, machine learning, planning, transaction flows, data models, alerting, KPIs, and reports. Thousands of companies, including OEMs, automotive and industrial suppliers, carriers and freight forwarders are already on the platform, providing a global network that grows stronger and more efficient with each new addition.

Predict and sense demand, then autonomously create and adjust orders

Artificial intelligence and statistical forecasting are changing the way aftermarket manufacturers and distributors predict and keep up with consumer demands for unique features, styles, and performance options. **Demand-driven forecasts are immediately propagated and translated across the network to all relevant trading partners**. Autonomous forecast adjustment determines where inventory should be moved and generates orders for replenishment.

Intelligent NEO agents compute dependent and independent demand for aftermarket parts, embracing not just history, but all order forecasts by channel to provide a seamless demand sensing and consumption service. NEO agents continuously make autonomous demand and supply adjustments on an hourly or daily basis to ensure customer service levels are met.

Bring greater insight and alignment to business planning

Real-time data, taken directly from planning and execution systems, shortens business planning cycles and brings insight and alignment to the process. Using the Network to conduct simulations and impact analyses makes it easy to compute directional profit and loss statements. The platform can **model and store multiple scenarios at each business level**, encompassing all or some of these plans depending on your role in the supply chain, including the demand plan, finished goods plan, production plan, raw materials plan, and logistics.

Ensure customer service levels while optimizing inventory investments

The objective of One Network's **Multi-Echelon Inventory Optimization (MEIO)** is to maintain the desired customer service level at each service location while optimizing the service levels and inventory across the whole aftermarket value chain. Key capabilities include:

- Inventory optimization for multi-item, multi-echelon across the entire real-time business network
- Clear visibility of network-wide and site inventory costs and fill rates per item
- What-if scenarios and simulations to help form the best decisions
- Recommendations for optimal stocking levels given target service levels and a broad set of constraints
- Intelligent NEO agents to manage autonomous demand propagation and replenishment to fulfill the optimized plans

Improve fill rates and revenue by securing reliable supply

Gain visibility into short- and long-term supplier capacity by automatically propagating actual scheduled demand through the supply chain and matching it to supplier commitments—either as unit volume or as line capacity. **Aftermarket businesses can secure supplier commitment as demand levels fluctuate, to maintain stable production**. As you introduce new products or features, the system supports network-based capacity planning and impact analysis to help prepare for a broad range of what-if scenarios.

Delight customers with unified order fulfillment
Dramatically simplify and improve outbound service levels by using the Network to create a unified customer order fulfillment solution as part of your global supply chain management platform. This includes **order-to-cash capability and business workflows for receiving, processing, delivering, and invoicing customer orders**.

Follow the trail of each transaction, from beginning to end
Gain control and visibility over the entire life cycle of each transaction with full insight into cash flow and financial commitments. One Network offers **Source (Procure)-to-Pay services that integrate purchasing, logistics, and financial operations into a single environment**, so you can track each order from beginning to end. Services include supply management, requisition, sourcing, order management, logistics tracking, invoice management, and data feeds to payables (external payment systems).

Orchestrate inbound supply
One Network's Platform, together with its Intelligent Control Tower, offers a comprehensive platform for **managing the flow of parts and components from supply to delivery**. Take advantage of robust workflows for forecasting, planning, collaborating, executing, and delivering material orders. NEO offers early detection alerts for material and logistics issues, as well as ways to identify, resolve, and automate issue resolution.

Orchestrate MRO and Returns
One Network's asset management network services facilitate real-time MRO collaboration between parties to ensure deliveries and tasks are completed on time. With spares and repairables planning, asset and parts maintenance and monitoring, lot and serial tracking, and asset management financials, aftermarket parts and service providers can improve performance, cost of service, and efficiencies in significant ways.

Meet fluctuating supply needs and reduce transportation costs
Make sure material supply meets fluctuating demand, and reduce transportation costs by maximizing container and shipment use. One Network aggregates demand, source materials, and transportation requirements across the supply chain, offering an **integrated view of supply, demand,** **production capacity, and transportation** across both internal manufacturing operations and the external operations at suppliers and service providers.

Continuously and automatically reallocate materials
Dynamically plan and execute "milk runs"—where consumed material is replenished on a regular basis—according to real-time data. **NEO intelligent agents reduce the risk of part shortages by autonomously matching demand and supply around the clock**. As demand across each facility changes, NEO automatically reallocates materials in transit accordingly.

Work with logistics providers in real time
One Network's industry-leading transportation management solutions offer unparalleled visibility for material and logistics planners. The platform **integrates materials management and logistics for inbound, outbound, international, domestic, and cross-border transportation**, offering consolidated views that eliminate the need to manually track shipments via email and phone. Logistics features include global trade document and milestone management, multi-modal and multi-leg shipment visibility, global milestone management, alerting, and third-or-fourth-party logistics integration services. This functionality is especially critical in pursuing global and emerging aftermarket markets.

MULTI-PARTY BUSINESS NETWORK FOR THE NETWORK EFFECT

The most important innovation affecting supply chain performance is the sharing of applications, workflows, and data on one common network. This produces "Network Effect" which is what allows the entire supply chain to be viewed, managed and optimized as one unified system as opposed to many small enterprise-centric systems. Network Effect consequently drives value for all participants in the network. Network Effect is particularly acute in the automotive and manufacturing aftermarket sectors because of the massive numbers of parties involved in the collective group of manufacturing sites, suppliers, logistics providers, and service providers.

The total number of partners in a business network can be thousands. Having all members on one backbone lets information flow throughout the network seamlessly and quickly. Thus, a **problem anywhere in the network is quickly recognized and resolved in a fraction of the time of former**

paradigms. This minimizes the "bull whip effect" - where a small disruption in the supply chain gets amplified as it traverses and affects the rest of the supply chain. The longer the time for the original disruption to be felt elsewhere in the network, the greater the amplification. Resolving small issues before they become major problems requires real-time alerts and quick action -- one of the many benefits that Networks deliver.

One Network's multi-party digital business network for Automotive and Manufacturing offers a revolutionary alternative to traditional supply chain management. Rather than requiring trading partners to integrate multiple times with multiple platforms, **One Network's NEO platform** turns each partner into a node (or a hub in a unique hub-to-hub architecture) on One Network's Real Time Value Network. This massively scalable cloud-based architecture is absolutely necessary given the large number of SKUs in play across the multiple stocking locations within the supply network. One Network's customers have been using the NEO cloud platform to manage and share POS transactions across thousands of item-store level combinations and in daily, weekly or monthly buckets.

Bringing the power of global networks to global business
The Real Time Value Network connects more than **75,000 companies and 16,000 carriers with a single connection to the Network**, so they each have real-time access to data from every partner across the Network, according to a well-developed permissions framework. It enables workshops, customers, distributors, OEMs, suppliers, and logistics providers to synchronize and optimize their entire supply and demand network in real time based on a single shared version of the truth.

Multi-Enterprise Master Data Management (MDM)
When connecting with customers and suppliers, the platform provides the capability for organizations to **keep their master data harmonized both internally and externally**, in order to avoid expensive and time-consuming master data set-up and maintenance problems. Data cleaning services are available to rationalize not only all internal master data but also community master data. After trading partners have been on-boarded once to the Network, master data is automatically available on the network to the enterprise with the simple checking of a box. A "request assistance" capability allows organizations to manage requests to modify key master data attributes, such as an item number or new vendor, through

an administrative service. This service provides workflows for approval and other associated requirements. The system manages and monitors the transfer of master data between internal and external systems and data consumers. The Network alerts users to any issues that require resolution.

An extensible platform with powerful development tools and transactional APIs
The platform also includes more than 950 public APIs and powerful multi-party development tools that allow third parties to tailor existing applications and build new ones. Together, the Network and this growing library of sophisticated applications are transforming industries around the world, while using the expanding trove of network data to train NEO to autonomously make and execute better, faster, and more precise decisions.

NEO AUTONOMOUS AGENTS

Augmenting the benefits of the Network Effect are the NEO Autonomous Agents. Their ability to continuously monitor the supply-chain wide network and to detect and resolve issues proactively, is the most effective way to dampen supply chain problems such as the "bull whip effect." This reduces major supply chain costs such as expediting, unplanned overtime, and setups, and teardowns. NEO also identifies patterns, trends, and anomalies, and extracts insights to inform execution decisions, make recommendations and execute them. With the latest version of NEO, global manufacturers gain an unprecedented level of visibility, control, flexibility, efficiency, and the ability to coordinate multiple parties on a single, shared version of the truth.

PROVEN SOLUTIONS AND RECOGNIZED LEADERSHIP FROM ONE NETWORK

Industry analysts have praised One Network's innovative vision for supply chain visibility, collaboration, and automation. Gartner has recognized One Network Enterprises as a Leader in its "Magic Quadrant for Multi-enterprise Supply Chain Business Networks" report, as well as a Leader in the IDC Marketscape "Worldwide Multi-Enterprise Supply Chain Commerce Network Vendor Assessment." The company also ranked highest for the fourth consecutive year in Nucleus Research's "Control Tower Technology Value Matrix for 2019."

Transform and Lead the Your Industry with One Network

One Network Enterprises™

ABOUT ONE NETWORK

One Network is the intelligent business platform for autonomous supply chain management. Powered by NEO, One Network's machine learning and intelligent agent technology, this multi-party digital platform delivers rapid results at a fraction of the cost of legacy solutions. The platform includes modular, adaptable industry solutions for multi-party business that help companies lower costs, improve service levels and run more efficiently, with less waste. This SaaS and aPaaS platform enables leading global organizations to achieve dramatic supply chain network benefits and efficiencies across their ecosystem of business partners. One Network offers developer tools that allow organizations to design, build and run multi-party applications. Leading global organizations have joined One Network, helping to transform industries like Retail, Food Service, Consumer Goods, Automotive, Healthcare, Public Sector, Defense and Logistics. To date, more than 75,000 companies have joined One Network's Real Time Value Network™ (RTVN™). Headquartered in Dallas, One Network also has offices in Japan, Europe, and India. For more information, please visit www.onenetwork.com.

One Network Enterprises™

US Corporate Headquarters

4055 Valley View Ln, Suite 1000
Dallas, TX 75244

📞 +1 866 302 1936 (toll free)
📠 +1 972 385 8630
✉ inquiries@onenetwork.com
🌐 www.onenetwork.com

One Network Europe

PO Box 59383
London NW8 1HH, UK

📞 +44 (0) 203 28 66 901
✉ europe@onenetwork.com

One Network Australia/Asia-Pacific

📞 +61 401 990 435
✉ cedwards@onenetwork.com

One Network India Pvt Ltd

Westend Centre III, Survey No. 169/1,
Second Floor, South Wing, Sector 2
Aundh, Pune 411007, Maharashtra, India

📞 +91 20 49111800
✉ indiasales@onenetwork.com

One Network Japan

✉ utsu@onenetwork.com