

The Rosslyn Automotive Supplier Park – A critical assessment from a supply chain perspective

ANTON NIEUWOUDT

Introduction

The opening of the first dedicated Supplier Park by Seat adjacent to its Abrera assembly facility in 1992, in many ways, marked the beginning of a global trend. Since then, depending on the definition used, around 40 to 70 supplier parks have been established around the world. Initially, this trend was mostly confined to Europe but the Supplier Park concept quickly gained momentum in newly industrialised countries like Brazil and, more recently, the USA and South Africa.

The automotive industry is a vital part of the workings of the global economy and the wellbeing of the world's citizens. According to the International Organisation of Motor Vehicle Manufacturers (OICA) if vehicle manufacturing were a country, it would be the sixth largest economy in the world requiring the direct employment of nearly eight million people in manufacturing the vehicles and the parts that go into them. This is more than five percent of the world's total manufacturing employment. In addition to these direct employees, many more people are employed indirectly in related manufacturing and service provision industries.

Also in South Africa the automotive industry (incorporating the manufacturing, distribution, servicing and maintenance of motor vehicles) plays a vital role in the local economy. In 2012, it contributed around 7.0% of the country's R4, 024 billion Gross Domestic Product (GDP) and represented the largest manufacturing sector in the South African economy, accounting for close to 21% of manufacturing output. Direct employment by Original Equipment Manufacturers (OEMs) is in excess of 30,159 individuals, with more than 200,000 individuals reportedly employed in the industry (including vehicle and component manufacturing, the tyre industry, as well as motor trade, distribution and servicing). Through the gearing effect, work opportunities can be traced to many kinds of basic manufacturing activities, including steel production, paint, rubber, leather, textiles, plastics, petro-chemical industries and component manufacturing. Also, the impact that the industry has on a large proportion of employed South Africans is substantial due to the fact that the industry provides employment by default in many other areas such as civil servants, tax officials and customs and excise personnel.

Significant investment programmes driven by export plans have been implemented by all the OEMs since the commencement of the MIDP and capital expenditure by the OEMs from 1995 to 2012 amounted to R48, 6 billion. Under the MIDP 2 411 277 left and right hand drive vehicles have been exported to global markets. The industry's performance during 2012 reflects industry exports increasing by R4, 7 billion or 5, 7% to R86, 9 billion from R82, 2 billion in 2011. Furthermore, with the export value to 65 of the 152 countries the industry exported to more than doubling from 2011 to 2012, it has set the scene for 2013 and beyond.

Within the automotive value chain, the relationships between the Original Equipment Manufacturer and its suppliers have changed over the last fifteen to twenty years from a centralised model with a

focus on in-house manufacturing to a model characterised by the continued focus on core competence. This has led Original Equipment Manufacturers to foster greater collaborative relationships with their supply chain partners to support increased levels of outsourcing and modular production combined with Just-in-Time deliveries, ultimately leading to an increased demand for logistical coordination of manufacturing processes. Seen in this light, the supplier park allows the concentration of dedicated production, assembly, sequencing and warehousing facilities managed by suppliers or a third party in one location, or at least within close proximity to Original Equipment Manufacturers, in order to achieve synergies. The supplier park thus has the potential to improve the production environment and services, lower costs and exploit the latest advances and practices in the automotive manufacturing chain.

The development of the Rosslyn Automotive Supplier Park (RASP) in 2004 was the local automotive industry's response to the recognition of the fact that competition between automotive networks and clusters is becoming paramount to the sustainability of the industry, more specifically from a South African perspective. The RASP is situated in the north-western part of the Tshwane (Pretoria) metropolitan area, in the province of Gauteng, South Africa. It is approximately 1.3km from the Rosslyn assembly facilities of Nissan/Renault, 3.3km from BMW, 0.5km from TATA, and 35km from Ford in Silverton. The uniqueness of the RASP enables it to promote and benefit, not just one Original Equipment Manufacturer, but also the South African automotive industry as a whole.

The RASP, in essence, remains true to the definition of being a concentration of dedicated production, assembly, sequencing and/or warehouse facilities run by suppliers and/or a third party in close proximity to the Original Equipment Manufacturer's plant. The RASP is also unique when compared to the international concept presented, especially when considering the leadership role of the provincial and local governments, and the fact that it serves multiple Original Equipment Manufacturers from a single location.

South African Automotive Industry Objectives and Challenges

The objectives for the domestic automotive industry was highlighted in the 2008 Supply Chain Foresight study as the achievement of lower procurement costs, lower inbound transportation costs, improved service to the customer, reduced investment in inventory as well as lower manufacturing costs.

One initiative to achieve these objectives, and described by many analysts as the catalyst for the growth that the industry has shown since its inception on 01 September 1995, is the Motor Industry Development Program (MIDP). It was implemented to reshape the future direction of the South African automotive and associated industries (i.e. Tier-one to Tier-n suppliers and service providers). The MIDP was developed to address competitive challenges facing the industry in South Africa such as trade liberalisation, globalisation of markets against the background of rapid and continuous change, rising end user expectations as well as markets which were becoming increasingly demanding and fast moving in terms of fashion and trends.

Dr Hansgeorg Niefer, chairperson of the board of management of the then DaimlerChrysler South Africa (DCSA), highlighted the fact that an initiative such as the MIDP, which aims to stimulate exports, is imperative as the domestic market alone is too small to sustain a domestic manufacturing

plant and that it is also important to support domestic manufacturing operations as the distance to markets from South Africa places it at a competitive disadvantage. According to VWSA MD, David Powels, the South African automotive industry has an approximate 20% lag in terms of cost competitiveness compared to manufacturers in Western Europe and that this gap widens to between 30% and 40% when compared to cost structures with emerging automotive production industries such as India and China.

The MIDP concept was replaced by the APDP in 2013. The Automotive Production and Development Program (APDP) is structured around four key elements, namely, tariffs, local assembly allowance, production incentives and automotive investment allowance. It aims to stimulate growth in the South African automotive vehicle production industry to 1.2 million vehicles per annum by 2020 with an associated expansion in the automotive components industry.

The key challenges, from a domestic automotive industry perspective (Figure 1), are to produce at a globally competitive cost while having the ability to respond timeously and reliably to sophisticated first-world market demands. Also, high reliability and high responsiveness to the demands of the customer-driven production processes are some of the key supply chain challenges. These challenges centre on the capability of the industry to meet the demands of its specific supply chains by negotiating agreements with logistics service providers.

These challenges were further detailed in the 2008 Supply Chain Foresight study highlighted the need for improved planning and forecasting capabilities, the effect of increased supply chain complexities, limiting sourcing and procurement practices, the limited skills and capabilities of supply chain staff, as well as the diverse needs and requirements of customers.

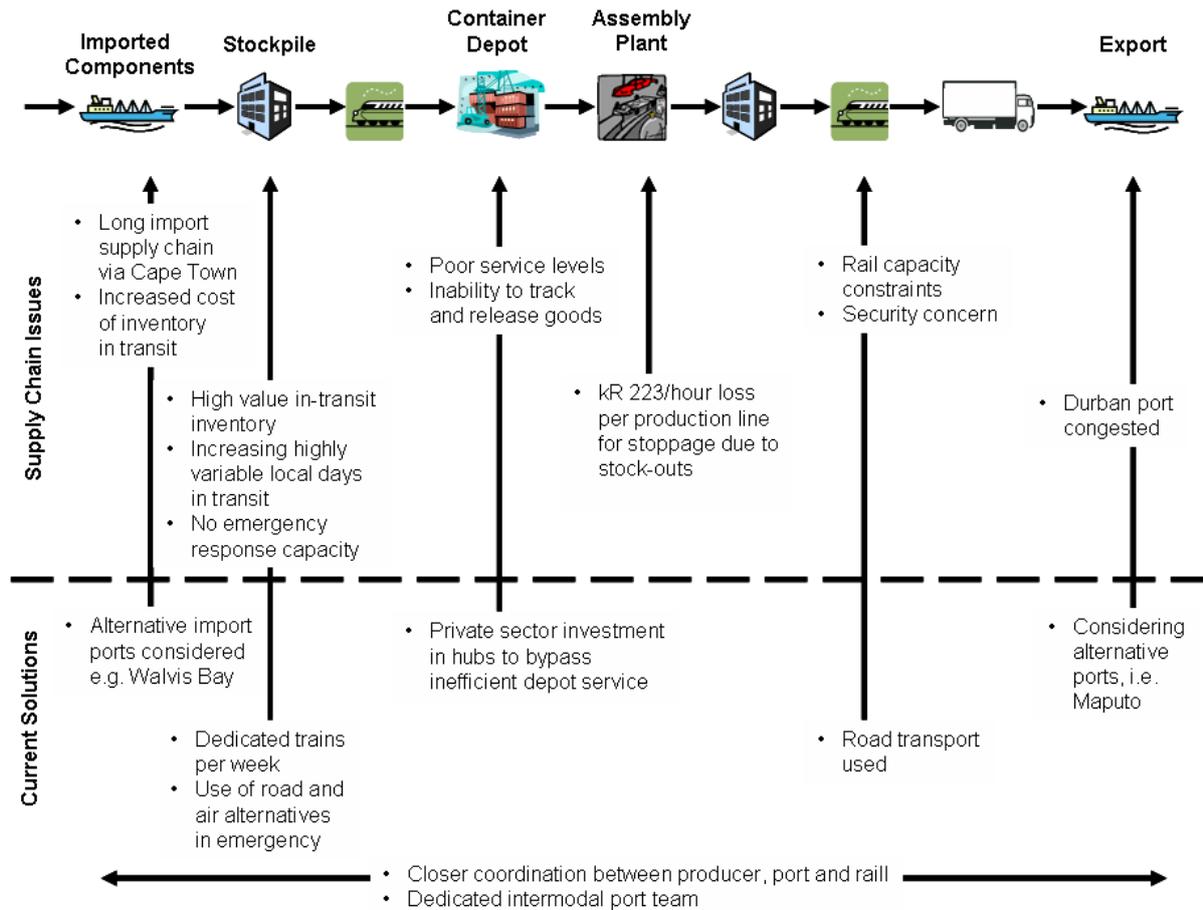


Figure 1 – Challenges in the automotive supply chain

Source: Adapted from the Second Annual State of Logistics Survey for South Africa (CSIR, 2005)

South African supply chain bottlenecks are typically caused by the lack of adequate rail capacity and efficiency, port congestion, border post delays and customs clearance. In linking these concerns with the continuous aim of the automotive industry to be highly reliable and highly responsive to equal the demands of the customer-driven production process, it is clear that the current logistics infrastructure is not conducive to enabling the industry to achieve those goals.

Today’s automotive companies (OEMs and suppliers alike) have spent considerable time and funds in order to implement the controls to lessen the effect of inefficient supply chains and logistics networks. Demand forecasts are increasingly based on firm orders, enabled by the postponement of production to the very last minute. Information is shared via various electronic mediums such as Electronic Data Interchange (EDI), and is made available to the nth Tier in the supply chain via complex modelling of the Bill-of-Material (BOM). Lead times are shortened through the JIT, JIS, and/or Modular delivery of goods to the point of use on the assembly line, which also facilitates the reduction in batch sizes and more frequent order deliveries. Skilled accounting and foreign exchange management limits price fluctuations.

The inbound process is a complex network of forecasting, planning, sourcing, ordering, scheduling and time management, all of which, in today’s automotive industry, would be impossible without management information systems (MIS) as the enabler. The complex nature of the modern automotive supply chain necessitated the introduction of various other concepts and methods to alleviate the pressure on material planners and logistics managers. Concepts such as JIT, JIS and Modular-supply are some of the building blocks of the inbound material flow where collaboration and supplier integration has become the rule rather than the exception.

The generic inbound material flow for most OEMs (which can also be applicable to many automotive suppliers) can be divided into three broad flows, inbound from international suppliers delivered to the plant warehouse via either sea-freight or air-freight, inbound from domestic suppliers also delivered to the plant warehouse, and inbound from domestic suppliers delivered to predetermined points or marshalling areas (Figure 2).

One of the theoretical success factors of supplier parks is their close proximity to the point of final consumption, as is the case with the RASP where many suppliers are located close to Rosslyn (BMW, Nissan and Fiat) and greater Pretoria (Ford) OEMs. The theory is that, in being in close proximity, these suppliers can implement more sophisticated supply strategies such as Just-in-Time, Just-in-Sequence and Modular manufacturing. These strategies have great value in improving flexibility, responsiveness and overall delivery cost optimisation.

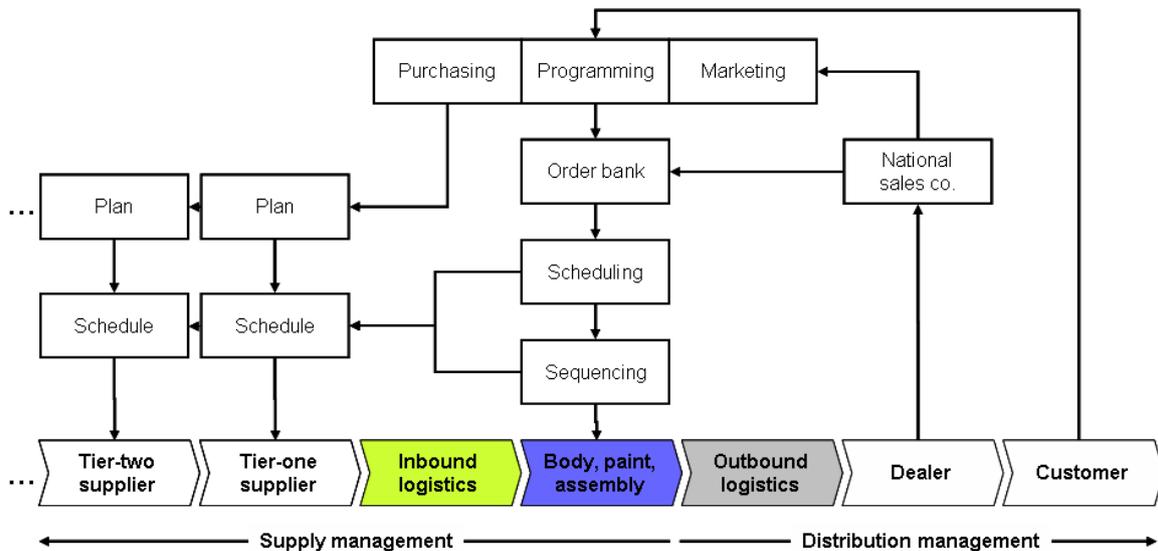


Figure 2 – Typical automotive order-to-delivery process

Source: Adapted from Holweg and Pil (2004)

The Supplier Park Concept

Supply chain management has become a central part of many companies’ competitive and growth strategies in the global business environment. The increasing complexity and pace of change have a dramatic impact on the successful management of today’s companies. The competitive edge of yesterday becomes the minimum service requirement of tomorrow. This is mainly due to the

sophistication and knowledge of today’s consumers. Consumers are more demanding and informed than ever before. This demands from management, a fresh approach to both strategy formulation and execution.

The challenge for logistics and supply chain management is to seek out strategies that will move the business towards a sustainable position of strength based upon differentiation and cost advantage. An increasingly powerful route to achieving a cost advantage comes, not necessarily through volumes and the economies of scale, but instead through logistics management. The basis for this argument is that logistics costs represent a significant proportion of total costs in many industries and that it is possible to make major cost reductions through fundamentally re-engineering logistics processes.

Logistics management and, more specifically, the integrative perspective of supply chain management provide the tools to target the coordination of materials and information flow from origin to destination ultimately satisfying the needs of the customers. Traditionally, addressed in isolation, each of the logistics activities on both inbound and outbound sides of the supply chain results in a suboptimal supply chain. Gaining competitive advantage through supply chain management is only possible when individual activities are optimised through an integrated approach where the focus is on total logistics costs and not individual costs.

The supply chain is a series of linked suppliers and customers (individual logistics chains) (Figure 3). Every customer is, in turn, a supplier to the next downstream organisation until a finished product reaches the end user.

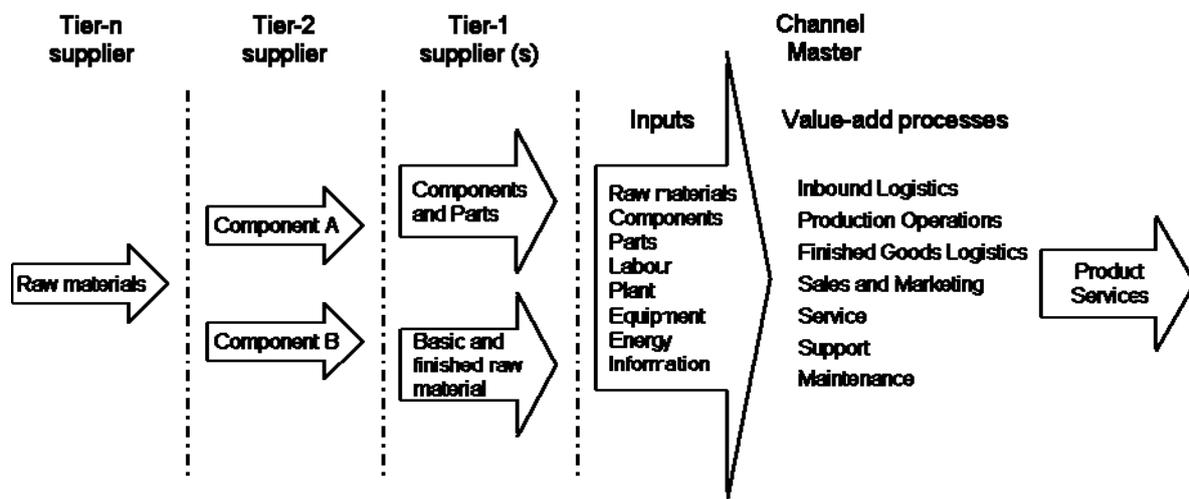


Figure 3 – A typical manufacturing supply / value chain

Source: Reddy and Reddy (2001)

The focus of many OEMs has shifted from making their own components to only assembling the finished vehicle, and, in doing so, they focus all their efforts on their ‘core business’ that is the design and assembly of motor vehicles. This trend provides the logistics and supply chain professional with challenges of integrating and co-ordinating the flow of materials from a multitude of domestic and

global suppliers, managing the internal flow to ensure optimal production, as well as managing the flow of the finished product through its domestic and international networks. The management of these globalised upstream and downstream relationships contribute to the success of this industry.

What many customers overlook are the numerous functions and processes that have to be managed and coordinated before vehicles are made available for purchase. Point out that the average vehicle contains up to 15,000 part numbers, representing between 2,000 and 4,000 individual components. These components are typically manufactured by more than one hundred Tier-one suppliers and are delivered to the production facility on a Just-in-Time, Just-in-Sequence and/or Modular basis. This process may be managed and coordinated by hundreds of people from across the globe. In many companies (original equipment manufacturers and suppliers alike), the responsibilities span over functional areas such as research and development, production, marketing, purchasing and logistics that add considerable complexity to processes and reporting lines.

The Supplier Park Concept

The supplier park, from an automotive perspective, can be defined as “concentration of dedicated production, assembly, sequencing or warehousing facilities run by suppliers or a third party in close proximity (i.e. within 3km) to the OEM plant”.

Most OEMs including BMW, Ford, Fiat, General Motors, Peugeot, Renault and Volkswagen have implemented supplier parks in Europe in some form or another. Typical activities found in these facilities include warehousing and inventory management, sequencing, assembly and late configuration.

The establishment of supplier parks are grounded on three major drivers. Logistical cost reduction (i.e. costs in inventory, transportation, and materials handling), labour cost reduction and efficiency improvements. OEMs see benefits in modular supply and a shift in the automotive value chain, there are apparent operational advantages of co-locating suppliers of those modules. There are also distinct advantages to a formal supplier park rather than loosely co-located supplier clusters.

Supplier parks are a demonstration of automakers’ desire to outsource various responsibilities to suppliers, and the outsourcing concept as pursued by OEMs and their suppliers are supported by the supplier park concept in providing the enabling infrastructure and services to drive and support the cornerstone initiatives. Supplier parks support the pursuance of manufacturing strategies such as modularisation, postponement and build-to-order as some co-location and clustering is necessary to successfully achieve these strategies. Location management forms the catalyst for the co-location of OEMs and suppliers in close proximity (such as in supplier parks), especially in new-entrant countries and developing economies where the infrastructure is not yet available.

Global networks have replaced local supply linkages. Even when production remains local, design and contract allocation is increasingly global. Global supply networks are becoming particularly important in the auto industry as assemblers and suppliers develop parallel networks across the globe and supplier parks become most useful in enabling and supporting the value adding activities of their tenants.

The value add continuum (Figure 4) described that the value add within the supplier park environment can be grouped into five levels of activities - simple sequencing activities, quality checks or functional testing on components prior to sequencing, late configuration or simple pre-assembly, full local manufacturing and final vehicle assembly by suppliers. It was concluded that the main and also most obvious drivers of how much value add is to be performed inside the supplier park or close to the assembly plant, are the existence of central manufacturing facilities, economies of scale and logistics considerations.

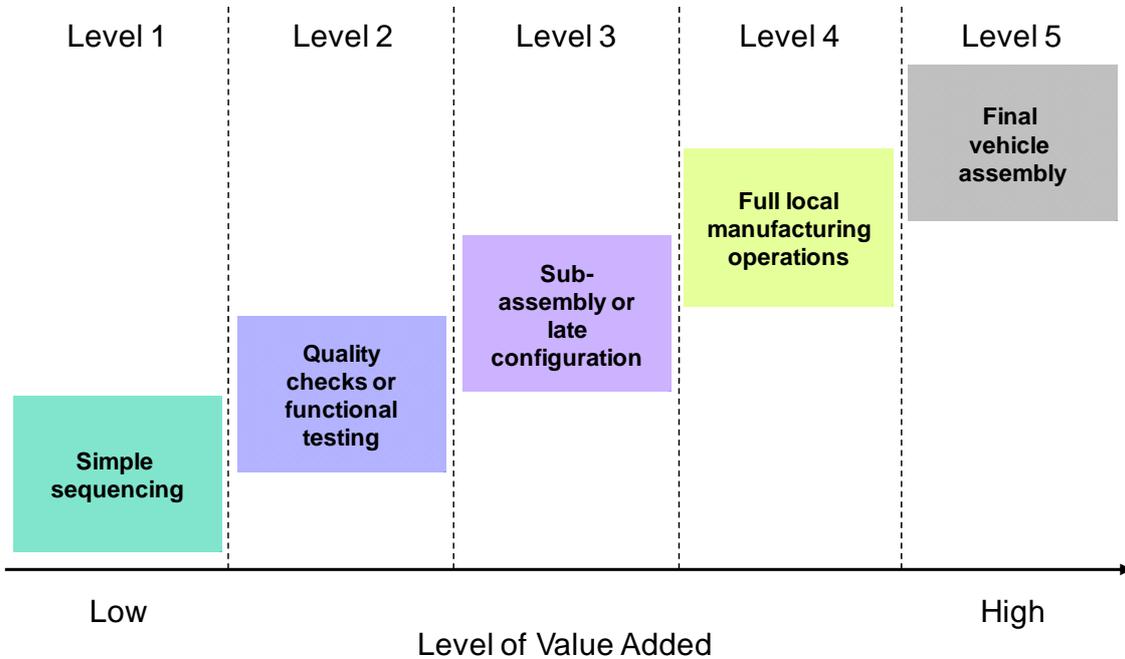


Figure 4 – The value add continuum

Source: Compiled for the purposes of this study; Adopted from Reichart and Holweg (2004)

The Rosslyn Automotive Supplier Park

The South African automotive industry’s focus on competitiveness has been fuelled by low product volumes compared to international standards; assemblers being quite distant from their export markets; long supply lines complicating logistics management and increasing supply chain costs; assemblers facing many newcomers in the form of imported models; and growth in the domestic market remaining essentially limited.

As the OEMs have pushed much of the pre-final assembly work out of their plants, they have found themselves subject to the logistical challenges and constraints of their suppliers. In an effort to manage the impact of these challenges, the assemblers have taken a more active role in how and where their suppliers conduct their operations. OEMs introduced the concept of JIT where components are delivered to the assembly plant within hours of when they are needed, thereby reducing the need for holding buffer inventory. This constant need for a flow of high quality parts has created demand for many more delivery trucks to be part of an ever-increasing logistics delivery system. The resulting congestion, unpredictability of shipping times, and differing inventory requirements has created a system where some suppliers are located very close to an assembly plant, while others are further away - depending on the component and the needs of the

automaker. One of the solutions for this tiered system of distance requirements is the Supplier Park concept as found in various forms around the world.

The differentiation of the application of the supplier park concept is possible along at least three dimensions. It can firstly be differentiated based on spatial integration in conjunction with dedicated infrastructure, secondly based on value chain configuration, and finally based on organisational integration. It is however important to note that the supplier park concepts in different parts of the world vary substantially based on physical layout, synchronisation between the OEM's final assembly line and the suppliers' operations, capital investment, employment governance, and strategic supplier involvement.

The RASP – which is approximately 1.3km from the assembly facilities of Nissan/Renault, 3.3km from BMW, 0.5km from TATA, and 35km from Ford – in essence remains true to the definition of being a concentration of dedicated production, assembly, sequencing or warehouse facilities run by suppliers or a third party in close proximity to the OEM plant. The RASP is also unique when compared with the international concepts; especially when considering the leadership role of the provincial and local governments, and that it served multiple OEMs from a single location.

The success of global enterprises now heavily depends on the competitiveness of their clusters of interrelated organisations that add and generate value through cooperation. Likewise, the agility of individual manufacturers depends not just on their own actions and systems but also on those of the interrelated organisations.

The supplier park concepts, in a domestic context, were the outcome of close working relationships from both business and government to facilitate growth in the domestic manufacturing industry. From an automotive perspective the RASP was their response to the recognition that the competition between automotive networks and clusters are becoming paramount to the sustainability of this industry, more specifically in South Africa. The collaboration between government and the private sector with regards to the establishment of the supplier park concept in the South African automotive sector provides proof that these stakeholders are serious about guiding the industry, as an integrated cluster, to new levels of global competitiveness.

The uniqueness of the RASP enabled it to perform a function focussed on promoting and benefitting the South African automotive industry as a whole rather than a single OEM. The critical success factors identified for the implementation of this concept were related on the one hand to the SPDC with the focus on creating sustainable shareholder value.

From a tenant perspective the concept has to show financial benefit (i.e. logistics cost reduction through synergies), long term sustainability and expanding potential and that it will be this critical success factor which will be further discussed and evaluated on the hand of semi-structured interviews with key RASP stakeholders

The value proposition (Figure 5) of the RASP forms the basis of the proposed benefits model that consisted of ten individual benefits categories. These benefit categories were grouped into immediate beneficiaries and distant beneficiaries. Immediate beneficiaries were defined as those

stakeholders who can prove immediate efficiency- and effectiveness benefits from their participation in the ASP concept – such as OEMs, Suppliers and Tenants and LSPs. are of an immediate nature. The benefits for the distant beneficiaries are predominantly of a longer-term nature.

The RASP’s value proposition is grounded on four focus areas – Logistics & IT, Buildings and Infrastructure, Shared Services, and Socio Political factors (Figure 5). This value proposition and accompanied general and stakeholder group specific benefits were tested with the target group.

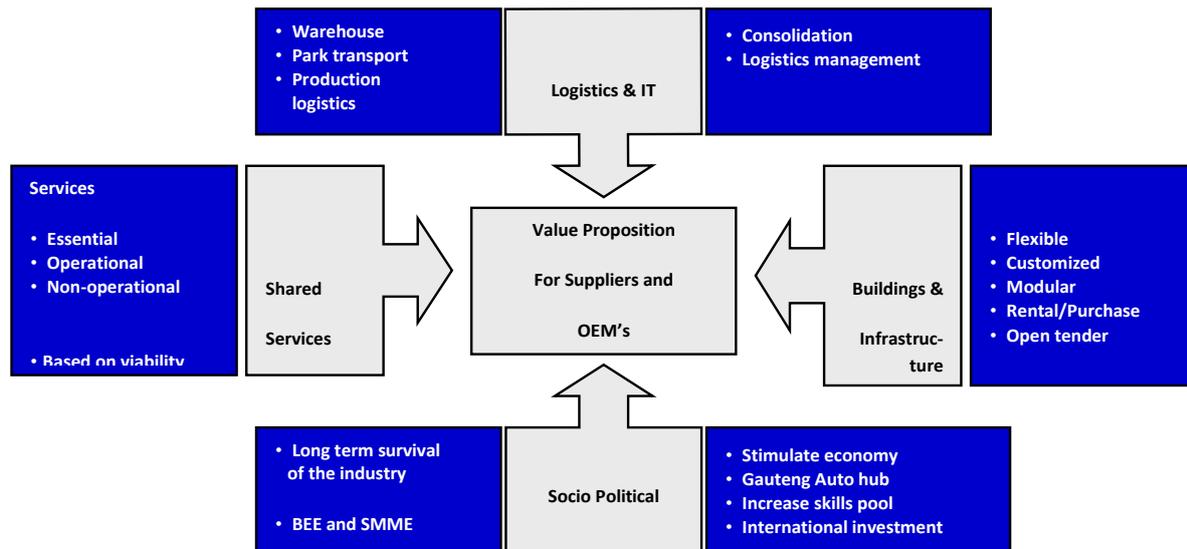


Figure 5 – Rosslyn Automotive Supplier Park value proposition

Source: Simeka TWS Communications (2003)

The feedback from the target group revealed the following general results:

- There was a limited focus on process improvement for specific members of the value chain which prevents the unlocking of benefits across the value chain,
- Being a tenant at the RASP has not resulted in any significant changes in the speed of production for most tenants,
- The increases in process improvement and its potential positive impact on the related costs, does not necessarily compensate for the increased rental costs to put the tenants in a better competitive position overall,
- With regard to access to state-of-the-art planning and execution systems it is clear that there are limited benefits from the RASP’s ICT facilities, with only one tenant expressing a moderate benefit, and
- Although certain supplier park supporting principles are being applied there is a significant lack of drive to unlock real supply chain value through the implementation of others.

Also, the following target group specific results can be highlighted:

- OEM specific: Although the expected reduction in various logistics costs and the increase in plant flexibility have not materialised, other benefits such as some service level improvements and greater convenience in other areas did make the OEMs support of the RASP worthwhile,
- Tenants specific: Considering that one of the key pillars for the business case of the RASP concept to its tenants was the minimisation of logistic costs and improving logistic efficiencies, in isolation this might indicate that the RASP did not fulfil its mandate. There were however exceptions with some tenants expressing a marginal reduction in operational costs, support in terms of developing and maintaining long-term relationships, strengthened strategic position through cost synergies and an enhanced environment, which resulted in productivity improvements associated with a reduction in absenteeism, and
- LSP specific: Based on the above it can be concluded that, although both LSPs continue to support the RASP in spite of the limited benefit materialising from the initial business case, they had to search beyond the initial scope for opportunities to gain benefit from their involvement in the RASP

From the above it is clear that forming a conclusion of the success of the RASP in providing its tenants and the greater South African automotive industry with the necessary benefits would not be a simple matter.

Research Overview

The primary objective of this study was to assess the performance of the RASP concept in terms of the realisation of the value proposition as communicated to its various stakeholders from a supply chain perspective. The secondary objective was to expand the body of knowledge on supplier parks within the South African business environment.

In order to achieve these objectives, comprehensive research in the fields of supply chain management and logistics management was undertaken. This involved a detailed review of various academic literature, articles, Internet sources and unpublished sources. The assessment of the mechanisms driving and supporting the management of logistics- and supplier parks internationally, in particular, was a challenge due to the limited availability of information. Hence, the use of a limited array of writings from specific academics was used to manage the potential impact on the quality of deliverables.

The study followed a mixed method research approach that ‘employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problems’. Data collection in the mixed methods approach involves gathering both numeric and text information so the database contains both quantitative and qualitative information. The qualitative research method is the dominant method used in this study. Straus and Corbin define this method as ‘research that produces findings not arrived at by means of statistical procedures or other means of quantification’ utilising inductive strategies.

Primary information was collected during semi-structured interviews with specific representatives of the various RASP stakeholder groups. The semi-structured interview process ‘...is linked to the

expectation that the interviewed subjects' viewpoints are more likely to be expressed in a relatively open ended interview situation than in a standardised interview or a questionnaire'. It is imperative to note that a random sample would not have elicited useful responses from participants, given the nature of the formulated problem and the units of analysis being of a very limited and specialised nature. The quantitative and qualitative data was then linked to identify, select and compare outliers. Firstly enabled confirmation of each method through triangulation, secondly, it provides richer detail through elaborate analysis, and, thirdly, it provide a fresh insight through new lines of thinking. So, in an attempt to know more about the identified research problem, the open-ended questions were complemented by questions with quantifiable results.

The identified target group consisted of representatives of original equipment manufacturers (OEMs), tenants, non-tenants and logistic service providers (LSPs) and subject matter experts (SMEs) (Figure 6).

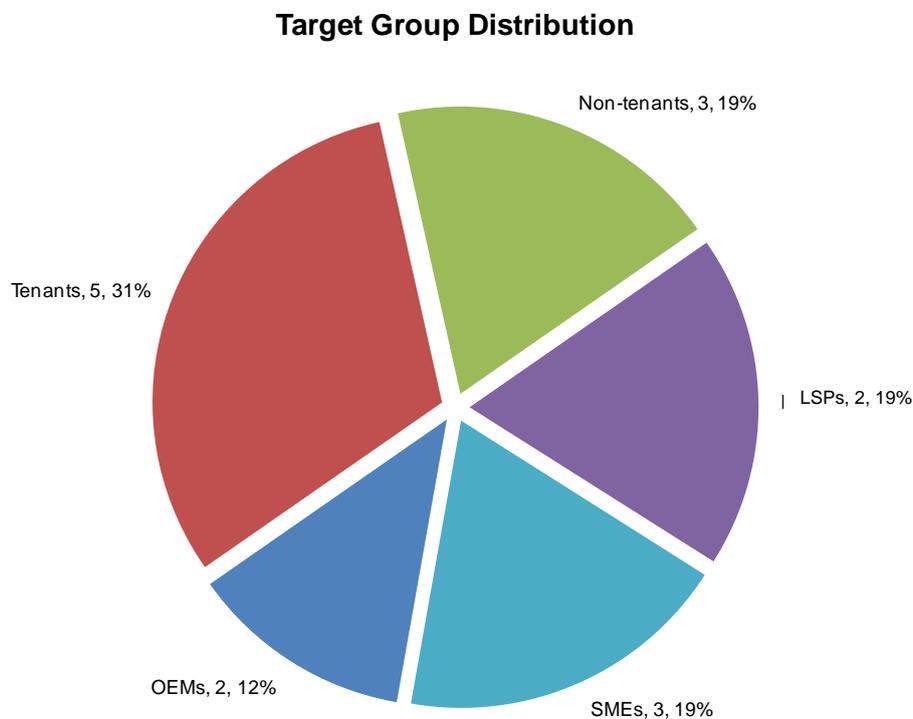


Figure 6 – Study target group distribution

Source: Compiled from data collected through semi-structured interviews

OEMs (12% of target group): Currently the Rosslyn area plays host to three OEMs. Two of these OEMs were part of the RASP feasibility study, and both participated in this study (100% of the OEMs).

Tenants (31% of target group): At present, 11 of the 26 RASP tenants (42% of the tenants) are considered Tier-1 suppliers. The majority of tenants supply parts to OEM's and one tenant is an exclusive supplier of a specific product to a company in Europe. This study targeted five of the 11 Tier-1 component suppliers (45% of the Tier-1 component suppliers) four that were part of the initial

RASP feasibility study. These component suppliers provided valuable input into the business case, benefits realisation model and the logistics infrastructure design.

Non-tenants (19% of target group): There are numerous Tier-1 and Tier-2 component suppliers in and around the Rosslyn area. Locally manufactured components are delivered to the OEMs and their Tier-1 suppliers from as far as Durban, but mostly from closer areas such as Brits, Babelegi, Ga-Rankuwa and within Rosslyn. Three Tier-1 suppliers from this group were targeted. These suppliers were specifically selected because of their involvement in the RASP feasibility study. Like the tenant group, the non-tenants were included in very detailed discussions with respect to the RASP's business case, proposed benefits and provided input into the logistics infrastructure design. The component suppliers in this group, despite of having a detailed view of the potential benefits, decided against locating into the RASP. Input from this group supported a balanced view of the impact of the RASP on the wider industry.

LSP (19% of target group): Five companies offering a wide range of import, export and contract logistics services are tenants in the RASP. Two of the five companies were chosen because of their involvement in the RASP feasibility study. As with the tenant and non-tenant group, the selected LSPs were also included in very detailed discussions with respect to the RASP's business case and, proposed benefits, and they provided input into the logistics infrastructure design. Input from this group gave additional perspective on the impact of the RASP on how the LSPs offered support to the wider supplier park concept.

SMEs (19% of target group): Various SMEs were involved in the RASP feasibility study. The selected group of SMEs were, however, also involved in the design, implementation and management of the RASP.

The researcher's involvement in the feasibility study, initial concept design, and to a lesser extent the implementation of the RASP, as well as his exposure to the subject matter and related industry contacts, have allowed him to perform a careful stakeholder identification and selection process. The researcher's current non-involvement in the RASP supported an objective approach to the study.

In order to present truthful and unbiased findings, it is of the essence to also highlight the reliance, limitations and enhancement opportunities of the study.

Two pivotal reliance points are firstly the documented unpublished communications blue paper and secondly, the integrity and professionalism of the target group.

The communicated benefits, as documented in the unpublished communications blue paper (as tested in the study), is not available in the public domain. The document was compiled by a communications company appointed by the RASP to...

'...provide a comprehensive overview of the Automotive Supplier Park project to enable communications consultants to understand the project as well as the various features that are to be communicated to a diverse range of stakeholders. The practical value of the Blue Paper is that it

provides an easy-to-understand template for the content of the communications programme so that any new communicator to the project should be able to shape a communications media release, video etc. appropriate and effective in the specific circumstances, yet closely fitting the overall structure.'

The document was made available to the researcher by a reliable source who was also included in the target group. The source has many years of experience in the automotive industry both locally and globally, with operational experience in similar concepts in other parts of the world. Ensuring that other supplier park related studies support the RASP specific benefits both from an academic as well as from a practical point of view mitigated this reliance - hence the strong reliance on scholars such as Sako, Reichhart, Holweg, Pil and others.

The study and findings relied heavily on the integrity and professionalism of the various individuals in the target group. This reliance was mitigated by the identification and targeting of specific individuals in the specific companies based on their previous/current involvement in the RASP.

Certain limitations were identified, and these were addressed during the theoretical and physical research for this study.

The quantitative and qualitative data collected during the physical interview process was from a relative small target group. This approach was due to the focused selection criteria, process and nature of the study. Increasing the target group would not have significantly increased the quality of the data. In fact, increasing the target group would have had a negative effect on the data quality, as it would have required the inclusion of individuals not familiar with the RASP concept and its possible benefits. By following an academically sound research methodology, this study determines whether the communicated benefits of the RASP have been realised.

The decision to exclude the assessing of social, economic and related benefits was not taken lightly. It was however clear from the outset, that the establishment of the RASP was very much related to the government's focus on socio economic growth. Due to this fact, many studies and audits by both public and private enterprises have been conducted to assess the socio economic impact of the RASP. Allowing the dilution of this study's focus on supply chain related benefits by including the assessment of socio economic benefits would have compromised the objectivity of this study. The subject matter is a potential political minefield so extending the study in these areas would not have been in the interest of the South African automotive and supply chain communities.

Conclusion

The decision to assess the feasibility and later implement the RASP was driven by the necessity to develop the South African automotive industry and to improve the local industry's global competitiveness. This Blue IQ initiative was, supported by the Department of Trade and Industry (DTI), to promote the South African automotive industry due to its local economic importance. The role of the RASP in supporting both macro (such as GDP growth and sustainable job creation) and micro (such as tax income generation for the local Tshwane council as well as local small medium and micro enterprise development) economic strategies cannot be underestimated.

OEM-Supplier relationships have changed considerably in recent times with assemblers now increasingly focusing on their core competencies. In many instances this has led to the fostering of relationships between supply chain partners which supports increased levels of outsourcing and modular production combined with Just-in-Time (JIT) deliveries, ultimately leading to an increased demand for logistical coordination of manufacturing processes. In light of this, the supplier park concept allows the concentration of dedicated production, assembly, sequencing and warehousing facilities managed by suppliers or a third party in a single location or at least within close proximity to OEMs in order to achieve synergies. It has the potential to improve the production environment and services, lower costs and take advantage of the latest advances and practices in the automotive manufacturing chain.

What makes the RASP unique from other local and similar international incarnations is that while various stakeholders (i.e. OEMs, suppliers, logistics service providers, etc.) were involved in the conceptualisation phase, the RASP is managed as a separate entity without any direct relation to other companies in the automotive industry. The objective nature of this approach enables the RASP to provide a truly unique solution to all companies in the local automotive industry, without prejudice and non-business influences. This allows the RASP to provide services to any automotive supplier, irrespective of their OEM customer, the percentage of local content in their final product, or whether their production is for local consumption or manufactured for the export market. In many ways the RASP can also be seen as the initial 'blueprint' for other similar initiatives in South Africa and has realised significant macro- and micro economic benefits. Other South African supplier park and industrial development zone initiatives were able to build on the lessons learned from the RASP to develop a more unique and focused value proposition to their intended customers. Many of the more recently implemented supplier parks and industrial development zones have an improved conceptualisation, better implementation and are more effective in serving their intended purpose(s).

The feedback from the various study participants in the assessment of the communicated core value proposition, has made it possible to summarise the findings in three distinct categories.

Pockets of benefits

Considering the feedback with regard to the common benefits, it can be deduced that it is mainly suppliers that have benefited from their location within the RASP and that very few of these benefits can be attributed to synergies with respect to logistics and/or IT systems. Thus, little to no common benefits were identified across the value chain, but pockets of benefits occurred mostly as a result of the companies' own initiative. Although certain supplier park supporting principles are being applied there is a significant lack of drive to unlock real supply chain value. There are a number of dormant opportunities, like 'milk run' type delivery systems and shared warehouse and staging facilities, where additional evaluation could lead to a plan to unlock more of the potential benefits.

Beyond the business case

Although the expected reduction in various logistics costs and increase in plant flexibility have not materialised, other benefits such as service level improvements and greater convenience in other areas did make the support of the RASP worthwhile. Highlighted benefits were not gained from the expected sources, as presented in many of the business cases, which supported the location

decision. The unlocking of unexpected sources of benefits beyond the business cases provided the actual value. These benefits were more qualitative rather than quantitative in nature.

Dovetailing vision with focus

One of the key pillars for many of the business cases of the RASP concept to its tenants was the minimisation of logistic costs and improving logistic effectiveness, and viewed in isolation, this might indicate that the RASP did not fulfil its mandate. Dovetailing this operational focus with the broader vision of supporting the wider South African automotive industry through the building of relationships and looking beyond the political contention to benefit certain regions, will provide greater insights into the challenges faced.

From the outset of this study it was clear that reaching a definitive conclusion on the success of the RASP to deliver the communicated benefits would be challenging. The feedback from the various individuals interviewed delivered some very insightful results which has led to the conclusion that, from a purely logistical perspective the RASP has delivered little of the value it originally intended to achieve (i.e. supporting the immediate beneficiaries to become more competitive by providing a logistics infrastructure from which they could drive competitive advantage). From a greater supply chain perspective it did however help the immediate beneficiaries to unlock unexpected benefits like increased productivity associated with lower levels of absenteeism, and placed them in an improved networking and relationship building position (something which most likely would have been achievable in any industrial park environment). Also, considering the broader vision to benefit the South African automotive industry it has succeeded in becoming the catalyst for the implementation of similar concepts, each of which could utilise the insights gained from the RASP, to implement an improved solution. However seen in isolation the objective of benefiting the regional automotive sector (i.e. Gauteng based OEMs, suppliers and LSPs) didn't transpire in the various interviews and wasn't supported by the data. So, the RASP had limited success in supporting its immediate beneficiaries to leverage logistics and supply chain solutions to improve competitiveness. It did however unlock unexpected benefits and also acted as the blueprint for similar concepts, which will support the South African automotive industry in its drive towards increased global competitiveness.

In conclusion, from a pure theoretical and academic supply chain perspective it is clear that the RASP still has a long way to go before it will unlock the core benefits commonly found in these types of facilities around the world – for example reduced logistics costs and increased plant flexibility. Also it was clear that the communicated benefits originally used to drive and support the business cases of the various tenants, in many cases did not materialise. However the fact that none of the tenants who moved into the facility have endeavoured to pursue other location opportunities, suggests that moving into the RASP was a good business decision. Herein lays the RASP's biggest appeal. The fact that the qualitative benefits of being located in the RASP – such as operating from a world class facility with new and well maintained infrastructure, more favourable working conditions, an improved and professional corporate image, amongst others – have made the tenants view the RASP as a long term partner in achieving sustainable business benefit from the relationship. From a broader perspective, to support the local automotive industry to become more competitive, the RASP cannot be seen as a key contributor – the feedback from the members of the local value chain does not support the notion of a more competitive industry for all its stakeholders. Although the RASP can be seen as the initial blueprint for many similar concepts implemented across the country,

(and those individuals who had the vision and skills to make this happen deserve the necessary credit), it is now in the hands of the new order of leaders to support their tenants and the automotive community in the region to unlock more of the communicated benefits and so drive the RASP to the next level of maturity.

This study lays the foundation for similar studies in this field. The focus on operational effectiveness and efficiency, however, did not allow for a broader evaluation of the financial benefits related to the RASP. There is therefore a clear opportunity to enhance the findings of this study in two specific areas. One, through further financial performance analysis of the target groups through evaluating various financial ratios; and two, by also including interviews with representatives from the suppliers purchasing division who potentially will give a balanced view of the actual financial benefits of having suppliers in the RASP from a sourcing and procurement perspective.

Sources

- Council for Scientific and Industrial Research (CSIR). (2005). The Second Annual State of Logistics Survey for South Africa: Defining research priorities for developmental logistics.
- Holweg, M. and Pil, F.K. (2004). The Second Century: Reconnecting customers and value chain through Build-to-Order. USA: MIT Press.
- Humphrey, J. & Memedovic, O. (2003). The Global Automotive Industry Value Chain: What Prospects for Upgrading for Developing Countries. United Nations Industrial Development Organisation (UNIDO), Vienna.
- Morris, D., Donnelly, T. and Donnelly, T. (2004). Supplier Parks in the Automotive Industry. Supply Chain Management: An International Journal, 9, (2), 129-133.
- Pfohl, H. & Gareis, K. (2005). Supplier parks in the German automotive industry – A critical comparison with similar concepts. International Journal of Physical Distribution & Logistics Management, 35 (5), 302-317.
- Reddy, R. and Reddy, S. (2001). Supply Chains to Virtual Integration. USA: McGraw-Hill.
- Reichhart, A. & Holweg, M. (2007). Do we still need supplier parks? Automotive Logistics, March/April 2007, 52-58.
- Reichhart, A. and Holweg, M. (2008). Co-located supplier clusters: forms, functions and theoretical perspectives. International Journal of Operations and Production Management, 28 (1), 53-78.
- Sako, M. (2003a). Governing Supplier Parks: Implications for Firm Boundaries and Clusters. Unpublished working paper. Said Business School, University of Oxford.
- Sako, M. (2003b). Who Benefits Most From Supplier Parks? Lessons from Europe and Japan. Unpublished interview.
- Sako, M. (2005). Governing Automotive Supplier Parks: Leveraging the Benefits of Outsourcing and Co-location. [Unpublished working paper] Said Business School, University of Oxford.
- Simeka TWS Communications. (2003). Rosslyn Automotive Supplier Park – Communications Blue Paper. Unpublished working paper.
- Venter, I. (2008). Finally, Certainty ... but VWSA warns of growing competitiveness divide. Engineering News.

SPEAKER PROFILE



Anton Nieuwoudt has close to 15 years' experience in logistics- and supply chain management across various industries. Prior to co-founding dasRESULTAT as a boutique logistics and supply chain advisory company, Anton was at Accenture where he was involved in various projects in the Retail, Mining, FMCG and Energy sectors. At DB Schenker he lead the Supply Chain Analysis team focussing on integrated logistics management, spare parts logistics as well as inbound- and outbound logistics solution development and implementation.

Anton holds a Bachelor's degree in Marketing from the Rand Afrikaans University and a Master's degree in Logistics Management from the University of Johannesburg.

Contact details

Email address	anton.nieuwoudt@dasresultat.com
Website	http://www.dasresultat.com
Telephone	+27 82 495 3419