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# Potential U.S Market for Moroccan Auto Components

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# Potential U.S. Market for Moroccan Auto Components

## INTRODUCTION

The purpose of this study is to analyze the potential for the supply of Moroccan original equipment manufacturer OEM components into the U.S. automotive market. The study begins with a snapshot of the state of low-cost country (LCC) purchasing and background on the automotive components industry. The study then turns to a view of Morocco, its economy, and its automotive industry. To assess the awareness of and interest in Moroccan components in the United States, interviews were conducted with U.S. automotive executives; the results and analysis of the interviews are presented. The key data are analyzed and conclusions drawn about the U.S. market for Moroccan auto components. Finally, strategies are offered for Moroccan firms' entry to the U.S. market.

## AUTOMOTIVE BACKGROUND

### Global Automotive Industry and Sourcing of Parts

The global automotive industry has undergone radical change in the past decade. Industry growth has shifted from the developed countries of North America, Western Europe, and Japan to the developing countries of Asia, South America, and Eastern Europe. In the next five years, growth in the mature markets of North America, Western Europe, and Japan is expected to be flat. Sales in developing countries, however, are forecast to grow at 7.5 percent over the same time period. Driving this robust sales growth is the emergence of a middle class in heavily populated countries such as China and India. Growth in vehicle production in developing countries is forecast to rise at a rate similar to the sales growth rate. Because growth in the global automotive industry in the next five years will be concentrated in developing countries, the world's automotive manufacturers are turning their attention to these regions.

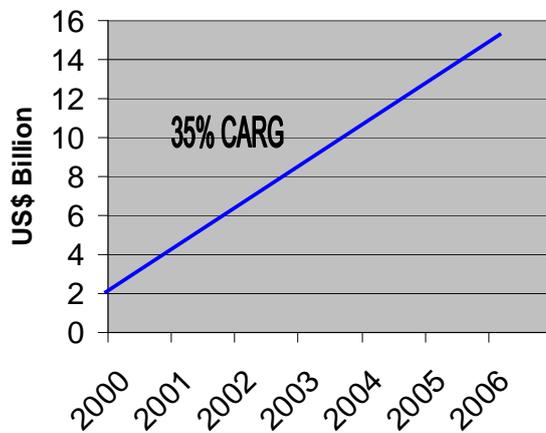
One aspect of the growth in the automotive industry in developing countries is the global sourcing of automotive components. In purchasing jargon, developing countries are sometimes referred to as low-cost countries, or LCCs. The ability of automobile manufacturers and suppliers to purchase quality components inexpensively and efficiently in LCCs has become both a necessity and a challenge. In the fiercely competitive automotive market, the quality, features, and performance of vehicles have continued to improve and consumers have continued to become more demanding. In this market, the ability of one auto manufacturer to purchase components less expensively than others gives it a significant advantage over its competitors. Consequently, global sourcing, and in

particular the LCC sourcing of automotive components, has become a major industry trend.

Globally, automotive components sales are estimated at US\$250 billion annually. Major exporting countries of auto components include the United States, Canada, and Mexico. Each of these countries exports between \$25 billion and \$35 billion in auto components annually. In Asia, China is the largest LCC auto components suppliers with \$16 billion of exports in 2006. This is conservatively forecast to rise to \$30 billion annually by 2011. India is also a significant LCC supplier of auto components, with exports of over \$1.6 billion in 2006. China and India are global LCC suppliers, selling components to customers in North American, Asia, and Europe. See Figures 1 and 2 for data on the growth of automotive component exports for China and India.

Figure 1

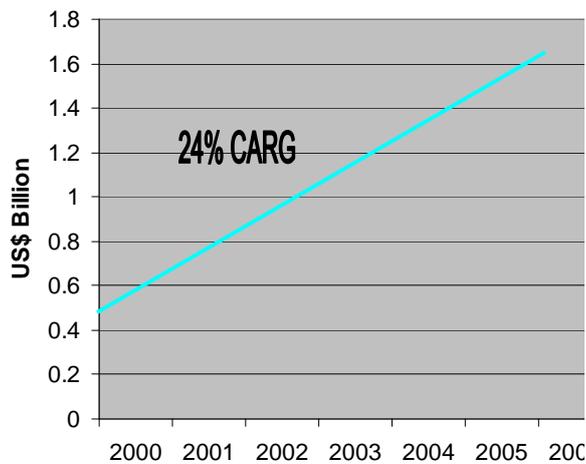
*Growth of Auto Components Export from China 2000-2006*



Source Boston Consulting Group

Figure 2

*Growth of Auto Components Export from India 2000-2006*



Source Boston Consulting Group

Other LCC supplier countries, such as Mexico, are regionally focused. Most of Mexico's automotive exports are shipped to customers in North America, in particular the United States. Mexico offers at least two major advantages to U.S. customers. One advantage is

the ease and low cost of logistics, since goods can move quickly across the U.S.–Mexico border on trucks, with no ocean shipping necessary. Another advantage is the North American Free Trade Agreement (NAFTA), which allows goods to flow between Mexico and the United States with few or no duty or taxes. In addition, NAFTA has allowed the creation of *maquiladoras*—assembly plants in Mexico that import materials from the United States, assemble products, and re-export them to the United States tax and duty free. For these reasons Mexico has become a strategic manufacturing location for the U.S. automotive industry.

## **Aftermarket and OEM Environments**

LCC automotive components can be subdivided into two classifications: OEM components and aftermarket, or replacement, parts. OEM components are installed on vehicles by automobile manufacturers, while aftermarket components are installed at some point after the purchase of the vehicle by a service shop, dealer, or mechanic.

There are important differences between aftermarket and OEM components. In simple terms, OEM components are custom designed, engineered, and manufactured for each vehicle model to provide optimum performance and durability. Aftermarket parts, however, often sacrifice a degree of performance and durability for low cost and generic fit. In general, replacement parts are designed so that a single version of a component can be installed on as many vehicle models as possible. This is a practical necessity, because the large number of manufacturers, models, and variations makes distributing and stocking unique components for every vehicle variation an overwhelming task. Minimizing cost is also a top priority in the aftermarket component business, to lower the cost of vehicle repair and to maximize profit for the parties involved in the business.

An important distinction between aftermarket and OEM components is the technical rigor required of the manufacturer. OEM components are typically highly engineered to meet a long list of demanding specifications. Standards for aftermarket components are usually much lower. This means that the technical capabilities required from aftermarket components suppliers are lower than those required from OEM suppliers. In most cases, to be considered a supplier for a major OEM, a company must have capability in design engineering, validation testing, manufacturing engineering, and quality assurance. This is also true for subcontracted suppliers. Direct suppliers to the OEMs are referred to as Tier 1 suppliers, while the subcontracted suppliers are referred to as Tier 2, or Tier 3, depending on how many steps they are removed from the OEM). In the OEM components industry, each supplier is required to have the technical capability, experience, equipment, and systems to meet the exacting OEM specifications.

## **Full Service OEM Supplier**

In the past two decades, the demands of the OEM components industry have expanded significantly. Facing increased competition and cost pressure, OEMs, to reduce their costs, have pushed more and more responsibility onto suppliers. Now full-service suppliers are responsible not only for engineering, manufacturing and quality assurance of their components, but also, as inventory levels are reduced at OEM factories, for just-in-time logistics. This entails small, frequent deliveries to the customer and the ability to adjust deliveries and inventory levels very quickly. Packaging design, to very specific standards, is also the responsibility of the supplier. If a quality problem arises at an OEM customer's

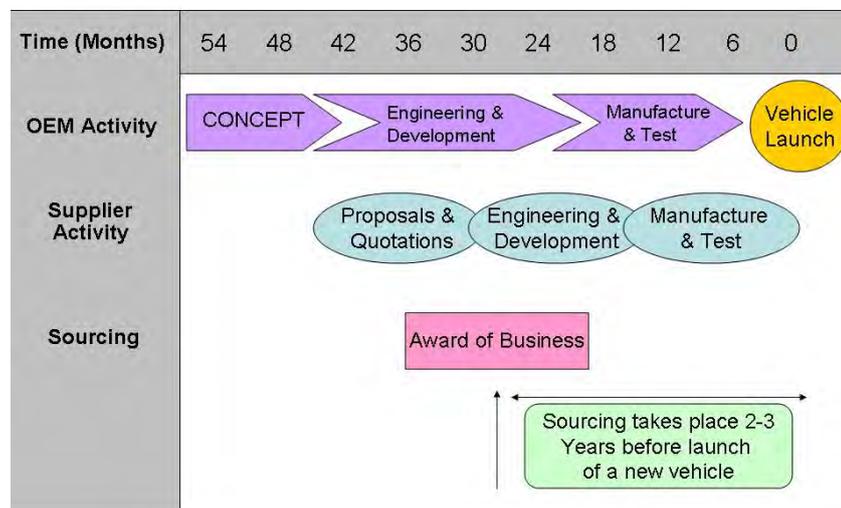
facility, the supplier must immediately contain the “suspect” inventory and replace it with certified “good” inventory. For a product launch, a supplier’s launch team must be in place at the OEM customer’s facility to address any issues that might arise with the supplier’s components. Full-service suppliers also must manage warranty systems so that parts that are returned under warranty can be analyzed, the cause of failure determined, and financial responsibility calculated. They must also provide service parts, which have their own unique logistics, packaging, and ordering systems. OEM component supply requires that suppliers provide support and expertise in many areas. Although these requirements are for Tier 1 suppliers, Tier 2 and Tier 3 suppliers face the same expectations to varying degrees.

## OEM Sourcing Cycles

Automotive OEMs follow patterns, or cycles, in buying components. These buying patterns reflect the development of new car models. The life cycle of a typical passenger car model is four to eight years. This is the time for which a vehicle is available for purchase before the vehicle undergoes a major model change. A major model change usually involves the development of many, if not all, of the major systems of the vehicle. These include the power train (engine and transmission), body, chassis, interior, and electrical systems.

Launching a new vehicle model is complex. It involves coordinating the activities of many groups of people, including marketers, product planners, stylists, vehicle engineers, components suppliers, test engineers, and manufacturing engineers. The timing of vehicle development is intricate and must ensure that all the tasks are coordinated so that the vehicle launches on time. The sourcing of new components takes place in step with the development of the vehicle. Depending on the development lead time of the component (the time necessary to design, test, and manufacture a new part), most components are sourced between 24 and 36 months before the production of a new vehicle begins. Figure 3 gives an overview of the milestones in the development of a new vehicle, overlaid with the component sourcing.

Figure 3  
*Vehicle Development and Sourcing Timing*



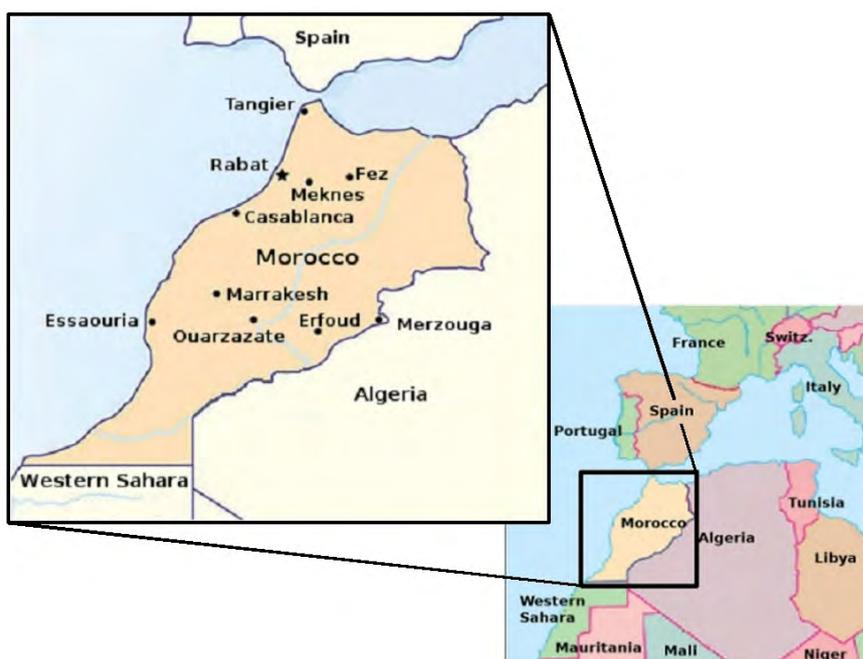
Tier 1 suppliers begin their sales activity to the OEMs a year or more before sourcing decisions are made. To have a reasonable chance of being awarded business, the supplier must have an ongoing dialogue with the OEM about the technical and commercial aspects of the components. This means that Tier 1 suppliers usually must begin sales work on new business three to four years before the program launches and revenues are generated. For Tier 2 and 3 suppliers this lead time is reduced, with the award of business usually occurring at least one year before production begins. These suppliers must begin sales activity at least 18 months before the launch of the program to have a chance of getting this business. Close communication with customers is necessary so that the supplier is aware of the customers' product and sourcing cycles and can be considered for a particular program. New suppliers that are not part of a customer's supply base require extra time to win potential customers' confidence. In most cases, winning and launching new business with North American OEM clients takes two to three years.

## MOROCCAN AUTO COMPONENTS INDUSTRY

### Facts about Morocco

Morocco is situated at the northwest corner of Africa, only about 9 miles from Spain across the Straits of Gibraltar (see the map of Morocco in Figure 4). It has coastline along both the Mediterranean Sea and the Atlantic Ocean. Morocco is slightly larger than the state of California and has a population of about 34 million people, slightly less than California's 38 million. Morocco has close cultural and historical ties with Europe. It was a protectorate of Spain and France until the late 1950s. Morocco has also had a long, friendly relationship with the United States, being one of the first countries to establish relations with the newly independent United States in the late 18th century. Morocco is considered a major non-NATO ally of the United States.

Figure 4  
*Map of Morocco*



Morocco's major religion is Islam; the government is a constitutional monarchy under the rule of King Mohammed VI. Politically, Morocco is a moderate and relatively progressive state in the Islamic world. The official language is Arabic. French is generally used as the language of business, government, and diplomacy. Spanish is widely spoken in the north of the country.

## **Economy**

Morocco is the fifth-largest economy in Africa, with a GDP of about US\$58 billion. Per capita GDP is about \$4,600 (in comparison, Mexico's per capita GDP is about \$10,000). The largest industries are agriculture and textiles. Manufacturing represents about 17 percent of GDP and is growing at a 4–5 percent annual rate. Morocco offers an abundant and inexpensive labor force and a large pool of educated professionals. College-educated engineers and administrative staff are readily available. Although Arabic and French are the common languages, many college graduates also speak English.

The macroeconomic picture is stable, with inflation at 3.3 percent and unemployment at 7.7 percent. An estimated 19 percent of Moroccans live under the poverty line. Morocco has free trade agreements with the European Union and the United States, as well as with several Islamic countries. Foreign trade is dominated by business with Europe. Many electronics and automotive companies have relocated wiring and electronic components manufacturing to Morocco. Major foreign investors in Morocco include Renault, Daewoo, Thompson, Microsoft, Oracle, HP, GSK, Boeing, P&G, Pfizer, and Motorola. Historically, most of the industry has been located in the Casablanca area on the west coast of Morocco. In recent years, however, more development and investment have been directed to the Tangier area in the north because of its proximity to Europe and the incentives offered for foreign investment.

The United States entered a free trade agreement with Morocco in 2006 under which 95 percent of goods became duty free. In the first year after the signing of this FTA, trade between the United States and Morocco increased by 40 percent.

## **Automotive**

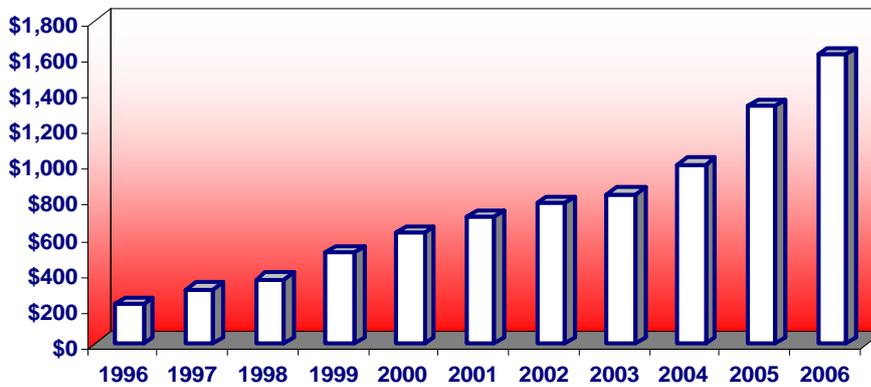
The automotive industry in Morocco has total annual revenue of \$2.3 billion, or about 5 percent of GDP. About 300 automotive-related companies operate in the country. Renault is the largest passenger vehicle manufacturer. A joint venture named SOMACA between the Moroccan government and Renault was established in 1966. SOMACA manufactures about 30,000 passenger vehicles annually for Renault, Citroen, and Peugeot. Renault has the largest market share in the country, with about 33 percent of passenger vehicles. Heavy vehicles are also assembled in Morocco, by Isuzu, Mercedes Benz, Mitsubishi, Nissan, and Volvo.

In the past 10 years, investment in the Moroccan automotive industry has surged, driven by significant incentives offered to foreign companies and Morocco's position as a close and convenient LCC source for European customers.

## Automotive Components

The revenue generated by the automotive components business in Morocco is approximately \$1.8 billion annually, of which about US\$1.5 billion is in exports. See Figure 5 for the export growth of Moroccan automotive components.

Figure 5  
*Moroccan Auto Parts Exports*



Source Moroccan Association of Automotive Industry and Trade

The components export business is experiencing growth of more than 25 percent annually. Approximately 60 component manufacturers employ about 28,000 people. In addition to locally owned Moroccan suppliers, many international companies have established facilities in the country, especially in high value-added components, such as wiring systems and automotive textiles. Table 1 lists the multinational automotive suppliers operating in Morocco.

Table 1  
*Multinational Automotive Suppliers in Morocco*

Company	Country of Ownership	Products Manufactured in Morocco
Valeo	France	Wiring systems
Yazaki	Japan	Wiring systems
Delphi	United States	Wiring systems
Sumitomo	Japan	Wiring systems
Lear	United States	Wiring systems
Anotlin	Spain	Interior components

Source Moroccan Association of Automotive Industry and Trade

## Incentives Spur Growth

Foreign companies receive a number of incentives to invest in Morocco. The Moroccan government subsidizes land and construction costs for international companies setting up facilities. Subsidies are also available for training and infrastructure development, and a number of tax abatement programs are offered. Companies investing in the Tangier Free Zone (a special economic district at the northern tip of the country) receive even greater incentives, including tax exemptions. Companies operating in the Tangier Free Zone are also exempt from any type of import or trade duty or tax.

## Tangier Free Zone

Tangier is the closest of Morocco's regions to Europe, with Spain just 9 miles across the Strait of Gibraltar. The Tangier Free Zone is essentially to Europe what the *maquiladoras* in Mexico are to U.S. manufacturers. In other words, logistically Morocco is the closest LCC source to the large Western European countries. Material can flow into Morocco from Europe duty free, be processed or assembled, and be exported, duty and tax free, back to Europe. Morocco's Free Trade Agreement with the European Union, in combination with the Tangier Free Zone, allows this trade to happen, as NAFTA allows the *maquiladoras* to operate.

## Tangier Mediterranean Port

Another important aspect of the Moroccan automotive export economy is the Tangier Mediterranean Port project. This major port and industrial complex facility began operation in July 2007 and is scheduled for completion in 2011. It includes a deep sea port, terminals for various types of cargo, and infrastructure links for both road and rail. This port will provide efficient and cost-effective links for the Tangier Free Zone and shipping to Europe and North America. Until now, shipments from Morocco to North America were transshipped through Europe. With the Tangier Med Port, however, cargo will ship directly to North America on Mediterranean routes. This will significantly reduce the cost and time necessary to ship goods to North America. For example, the transit time for goods from Morocco to the central United States with European transshipment is approximately four weeks. With the direct shipping routes available from the Tangier Med Port, this time is expected to be reduced to 2.5 weeks. A direct shipping line that could reach the U.S. East Coast within one week is anticipated.

## Renault/Nissan Tangier Project

In September 2007, Renault/Nissan announced that it would invest €1 billion in a new plant in the Tangier Free Zone. This plant will manufacture the Logan, Renault/Nissan's answer to the ultra low-cost segment, which is the fastest growing vehicle segment globally. This vehicle sells for as little as \$7,000 in Europe. Renault/Nissan has chosen Morocco as the strategic export base to supply Europe with this vehicle (90 percent of the vehicles manufactured in Morocco will be exported). It is forecast that 200,000 units will be manufactured annually by 2010 and that annual production will eventually reach 400,000 units. According to Renault/Nissan, the new operation will create 6,000 direct jobs and 30,000 indirect jobs. Morocco has huge logistics and communications advantages over Asia because of its proximity to Europe and because French is widely spoken. Morocco also offers both a large, low-cost labor supply and the ability to easily import components from Europe, where Renault/Nissan has operations. The company has stated that production in Morocco will be less expensive than in Romania and Turkey, and "at least as inexpensive" as China.

The Renault/Nissan project will provide tremendous stimulus to the Moroccan automotive industry. Production of the Logan will raise Morocco's automotive production capacity to many times its current level. At this same time it will force the rapid development of a larger-scale, more capable supply-base.

## LCC Comparison

In terms of potentially supplying North America, Morocco is competitive with other major LCC countries. In terms of direct labor cost, Morocco is at least 50 percent less costly than Mexico. Morocco's direct labor costs, however, are about 25 percent higher than China's. Table 2 shows a comparison of cost and other factors for Morocco and China. The cost of land and construction in Morocco is similar to that in China. Shipping costs and time from Morocco, however, present a significant advantage over costs and time from China. The cost of shipping a 40-ft. container from a Chinese port city to a destination in the central United States is approximately \$6,000. From the Tangier Med Port the cost is estimated to be \$3,500. In addition, the shipping time from Morocco to the central United States is expected to be about half the shipping time from China, which is a significant advantage. In summary, Morocco offers some substantial benefits over other current major LCC suppliers to the United States.

Table 2  
*Morocco China Comparison*

Cost Factor	Morocco	China
Land and building construction (net of all incentives) cost	US\$350 per sq. meter	US\$300 per sq. meter
Direct labor cost	US\$200 per month	US\$150 per month
Shipping container (40 ft.) delivery cost to central United States	US\$3,500	US\$6,000
Shipping time to central United States	2.5–3 weeks	5-6 weeks

*Note* Morocco shipping data is projected for the Tangier Med Port, which will be operational in the third quarter of 2008.

*Source* American Chamber of Commerce in Morocco, Moroccan industry experts, the author

## INTERVIEWS WITH U.S. AUTOMOTIVE EXECUTIVES

### Methodology

To understand the potential for Moroccan suppliers in the United States and to highlight Morocco as a supplier of OEM automotive components to the North American market, we interviewed 10 U.S. automotive executives in November 2007. The executives were located in the central United States and held a wide range of positions and responsibility levels. They were given basic facts about the Moroccan automotive industry and the purpose of the project and were asked about the potential for Moroccan suppliers to sell automotive components to North American customers. Table 3 lists the subjects interviewed.

Table 3  
*Subjects Interviewed*

Position	Company
Purchasing Director	General Motors
Senior Buyer	Grupo Antolin
Purchasing Manager 1	Ford Motor Co.
Purchasing Manager 2	Ford Motor Co.
Vice President of Sales	Jay Industries (Tier 2 Stamping Supplier)
Director of Trade and External Policy	Motor and Equipment Manufacturers Association
Sales Manager	Siemens Automotive
Buyer	Faurecia
North Africa Region Manager	DHL
Program Manager	Visteon

### Excerpt Quotes

- “I don’t know much about Morocco at all and suspect we don’t currently buy anything from this area.”—Director, General Motors Purchasing
- “I don’t know about Moroccan suppliers but I have no issues with sourcing from Morocco if the components meet our requirements. After all, we are using parts from India and China, why not Morocco?”—Buyer, Grupo Antolin
- “In Europe, most of our LCC sourcing is going to Eastern Europe or Turkey, but we are not bring much material from that region to NA because of the weak US\$. In NA we are shifting more of our production and sourcing to Mexico.”—Buyer, Faurecia North America
- “If Morocco can beat Mexican prices and has quality, engineering, and logistics capabilities, they can supply North America.”—Ford, Purchasing Manager 1
- “Morocco is an unknown. I would not know who to talk to or how to get started.”—Vice President, Jay Industries
- “Moroccan companies would need to have local representation to manage the commercial and engineering issues. Communication/languages could be a problem. I manage suppliers in China and these are major issues.”—Ford, Purchasing Manager 2
- “A Moroccan delegation came to Apex (auto components trade show) in 2004 but as far as I know there has been no activity since then. Moroccan suppliers breaking into the North American market is a long term play.”—Director of International Trade, MEMA
- “Morocco would have to go through the typical process that new LCC countries go through: developing capable suppliers, promoting this in the United States, focusing on a few key products and customers, breaking into the market, then growing from there.”—Sales Manager, Siemens Automotive
- “I have heard that the Tangier Med Port is good. It means that Morocco will have access to a lot of shipping to North America. But it is so new that we do not have any experience with that port yet.”—Manager, DHL Central Region

- “The *maquiladora* logistics routes from Mexico are hard to beat. The material moves from the plants in Mexico through customs and into the Texas warehouses in a few hours. From there it is only two to three days to anywhere in the United States or Canada.”—Program Manager, Visteon Corporation

## Key Interview Findings

- ***Lack of awareness.*** Most of the people interviewed were unaware of Morocco as a potential LCC automotive component supply base.
- ***Regional players.*** Those that were aware of Morocco as a components supplier saw it as purely a regional scenario for Europe. The person interviewed from Grupo Antolin (who was from Spain) knew that Antolin manufactures trim components in Morocco, but in spite of this had never considered Morocco as an LCC supply base for North America.
- ***LCC sourcing is an open field,*** and components are imported to North America from all over the globe. Mexico and China are major players, but material is also coming in from Southeast Asia, South America, Central America, and Eastern Europe. In other words, if Moroccan suppliers have the required cost, quality, delivery, technical capability, and logistics systems, they absolutely can enter the North American market.
- ***The LCC landscape is evolving*** as costs and capabilities change. For example, wire harnesses for the U.S. market were previously sourced almost exclusively in Mexico, but as Mexican labor costs have risen some of this business has moved to Honduras and China.
- ***Much LCC sourcing for the United States is done from Mexico.*** The logistics infrastructure of bringing material in from Mexico is well established, fast, and convenient. In addition to sourcing from Mexico, North American companies (OEMs and suppliers) are moving their plants to Mexico. This is an ongoing trend.
- ***Some are concerned about traveling to Morocco.*** One of the purchasing managers from Ford said that the company forbids travel to Morocco. Others held different views of the security situation in Morocco. Another person (from Spain) has vacationed in Morocco several times and has no concerns about traveling there.
- ***A local presence in the United States is required.*** Because of the demanding nature of OEM automotive components, frequent face-to-face communication is necessary. Knowledge of the language, culture, and automotive industry practice in North America is a prerequisite.
- ***Government assistance is necessary.*** For individual suppliers from a small country, entering the North American market on their own will be a daunting task. Other countries, such as Korea and China, have government-sponsored trade missions and representative offices established to promote trade and investment and help native companies establish business in the United States.

## ANALYSIS AND FINDINGS

### Regional and Global LCC Suppliers

Morocco is already a significant LCC supplier of automotive components. In fact, a comparison of the growth of components exports from Morocco (Figure 5) and India (Figure 2) shows very similar levels of export and growth rates. Both countries are already well established as LCC suppliers. There is an important difference, however, between the two countries. Morocco is a regional LCC supply country, focused almost entirely on Europe. International companies have set up manufacturing plants in Morocco to serve the European market. This is made possible by the Morocco–Europe Free Trade Agreement, incentives offered to foreign companies by the Moroccan government, and the geographic and logistical proximity of Morocco to Europe. This is analogous to the supply relationship between Mexico and the United States through *maquiladoras*. In both situations, free trade agreements and government incentives have resulted in effective regional LCC sourcing arrangements. Just as almost all Mexican auto parts exports go to the United States, almost all of Morocco’s exports go to Europe.

In contrast to regional LCC supply is global LCC supply, which is not specific to a particular country or region. India and China, for example, are global LCC suppliers, exporting components to North America, Europe, and Asia. For Morocco, therefore, the task of establishing automotive business with the United States amounts to transitioning from a regional LCC supplier to a global LCC supplier.

### Multinational and Local Suppliers

There are two distinct groups of automotive suppliers in Morocco, multinational and local. Foreign, or international, companies operate out of Morocco primarily to supply parts to Europe. Such companies are responsible for a high proportion of auto components exports from Morocco. Many of the largest global automotive suppliers operate in Morocco (Valeo, Yazaki, Delphi, Sumitomo, Lear) manufacturing wiring systems. They possess the highest capabilities in engineering, manufacturing, quality, supply chain management, and logistics. These companies do business with most of the major global automotive OEMs and are familiar with their systems and requirements.

The multinational suppliers have global strategies for LCC sourcing. This often involves regional LCC sourcing and can result in multiple LCC sources for a single component. Automotive wire harnesses, for example are often manufactured in Mexico for use in the United States, in China for use in Japan, and in Morocco for use in Europe.

The second group of suppliers—locally owned Moroccan companies—have a different level of capability and experience than international companies, according to automotive industry experts in Morocco. The local companies have limited exposure to global customers and standards. Although some Moroccan suppliers have attained the ISO 9001 quality certification, industry insiders state that only about 15 to 20 Moroccan companies can manufacture components to meet international standards. Industry experts also state that almost all of the tooling used to manufacture automotive components in Morocco is imported from abroad. Tooling design and manufacturing capability are core skills required to develop a robust automotive components industry. The lack of this capability

in Morocco indicates that the local Moroccan supply base is immature and will require time to achieve the levels of quality and manufacturing expected by global customers.

### **Lack of Near-Term Opportunity for North America**

It is believed for a number of reasons, that there is a good potential for the export of Moroccan automotive components to North America. Attractive LCC costs, extensive experience in Europe, the U.S.-Morocco FTA, and logistics advantages over Asia make Morocco an attractive future supplier of OEM automotive components to the United States. Significant obstacles must be overcome, however, before Morocco can break into this market. As the interviews with U.S. automotive executives demonstrate, there is no awareness of Morocco as a supplier of automotive components in North America. Raising awareness of Morocco as a country with a vibrant automotive industry offering advantages as an LCC supplier is therefore the first task.

The time required to generate sales of OEM automotive components is also an important issue. The automotive sourcing cycle dictates that business is awarded to suppliers two to three years before production and sales begin. This means that Moroccan suppliers must expect to invest at least two to three years of time and resources before sales will occur. Because awareness must be raised and sales activity must occur before business is awarded, the total time required to achieve sales will be at least three to four years.

## **STRATEGIC RECOMMENDATIONS**

### **Short-term Strategy—Raise Awareness of Morocco as an Automotive Supplier**

As the interviews conducted in this study suggest, there is very little awareness of Morocco as a manufacturer of automotive components. The first step toward creating business opportunities in the United States for Moroccan suppliers therefore is to put Morocco on the map. Moroccan suppliers already have established business in Europe; this demonstrates Morocco's viability as an LCC source to major global automotive manufacturers and suppliers. This message should be developed and broadcast in ways that will reach U.S. auto executives. One tactic to convey this message is to induce Morocco's European customer base to carry this message on Morocco's behalf. For example, now that Renault has announced the Logan project in Tangier, Renault will have the opportunity to communicate with the media and its partners about Morocco and its capabilities. In fact, this process began the day the project was announced. Several articles published in the *Wall Street Journal* and elsewhere about the project have included many positive references about Morocco. These articles are a step toward getting Morocco on the map in the United States. If Renault and Nissan executives can be convinced to deliver specific, positive messages about Morocco as an automotive manufacturing location, these messages will be heard clearly in the United States.

It may also be advantageous for Morocco to retain a public relations or marketing consultant to develop and place the message about Morocco as an LCC supplier for North America. This communications campaign could be carried out in various venues frequented by U.S. automotive companies, including trade shows, advertising in trade publications, press releases, and websites.

In the United States, there are several opportunities for raising awareness of Morocco as an LCC supply base. Some LCC countries have opened trade offices in the United States to promote trade and investment. These offices also assist companies from the home country in establishing business in the United States. Korea, for example, has set up a trade office in Detroit for this purpose. Other countries, such as China, send frequent trade delegations to the United States. These groups bring experts from industry, academia, and government and tour several cities promoting trade with China. Several major automotive industry trade shows are held each year, the largest being the Society of Automotive Engineers held in Detroit in April every year. In recent years this show has featured suppliers from LCCs such as Mexico, Korea, and China. This event gives Tier 1, 2, and 3 companies good exposure to a broad range of representatives from OEMs and gives a sense of the product offerings from the wider automotive market, including other LCC suppliers.

### **Long-term Strategy 1—Train Local Suppliers**

Because most auto components manufactured in Morocco are for European customers, penetrating the North American market will require training and development of the supply base. European standards, although similar to North American standards, have important differences. Quality certifications, or the systems used by customers to evaluate the capability of suppliers, for example, are different. Most Moroccan suppliers are not familiar with or certified in North American standards (TS16949), which means the suppliers would have to go through training and auditing before they could be considered as suppliers to U.S. customers.

This training of Moroccan suppliers should involve all areas of the business, including design engineering, manufacturing, tooling, quality systems, supply chain management, and information technology. Training and development should be coordinated in a systematic fashion by an organization such as the Moroccan Association for Automotive Trade and Industry (AMICA) or the Moroccan government. It may also be beneficial to use a U.S. automotive consulting company to design and set up a supplier development program to target U.S. industry requirements.

### **Long-term Strategy 2—Encourage Local Sourcing**

Another recommended method to improve the capability of Moroccan suppliers is to require that foreign companies operating in Morocco use a certain proportion of locally manufactured goods in their products. In that sense, policymakers in Morocco have tools to influence the extent to which the capabilities of Moroccan companies are developed. By obligating foreign companies operating in Morocco to use a certain percentage of locally made content in their products, training and development of local suppliers will be stimulated. China now requires that foreign automotive manufacturers purchase at least 40 percent of the material used on vehicles produced in China from Chinese suppliers (not imported). If this requirement is not met, the foreign manufacturer is subject to higher import taxes. Local content requirements, therefore, encourage foreign manufacturers to educate and mentor local suppliers. Moroccan-based suppliers would certainly benefit from this type of local content rule not only in terms of business generated but also from the supplier training and development that would result.

### **Long-term Strategy 3—Target Select Customers**

Direct business development and a sales activity are crucial to winning business in the United States. Targeting U.S. and European customers that already do business with Moroccan suppliers in Europe could be an advantage. It is always easier for an OEM or Tier 1 supplier to award business to a supplier that is already in its supply base (even in another region) than it is to start doing business with a completely unknown supplier. For that reason, by approaching the companies in the United States with which they have established business in Europe will mean the Moroccan suppliers already have “one foot in the door.” The Moroccan supplier can request an introduction to the U.S. contacts from the customer responsible for those products. A personal introduction is much more meaningful and has a higher chance of success than a cold call. Furthermore, if the supplier gives European customers an added incentive, such as lower pricing based on higher volume if the U.S. business is successful, the European customer will have a vested interest in the success of the project.

Furthermore, each automotive customer in the United States has its own particular characteristics and operating style. For suppliers in the automotive industry, this means that different strategies are necessary for different customers. The Japanese OEMs, for example, place a high priority on long-term relationships and are very reluctant to add new suppliers. They are risk averse and conduct thorough supplier audits to become very familiar with a supplier’s capabilities before considering awarding business to a supplier. The U.S. domestic automakers, however, are more driven by price and are less concerned about long-term relationships. They are willing to take risks on new suppliers if a significant price reduction is offered.

Finally, supplying components directly to an OEM puts a heavy burden on a supplier in terms of customer support. This includes on-site engineering, electronic data transfer, plant support, quality documentation, warranty systems, and service parts requirements. Tier suppliers (Tier 1, 2, 3) usually require less support in these areas than OEMs and are therefore less burdensome to work with. In terms of targeting initial North American customers, therefore, it makes sense for Moroccan suppliers to focus on tier suppliers such as Johnson Controls, Lear, Valeo, Magna, Antolin, Delphi, Faurecia, and Visteon.

### **Long-term Strategy 4—Set up Local Representation**

To succeed in business development in the United States, local representation is recommended. Because of the intensive communication and information exchange (both technical and commercial) required during the product development process, most automotive OEM and Tier 1 and 2 customers require local representation. The interaction required with these customers cannot be fulfilled from outside North America. This is particularly true after business is awarded. There are almost daily technical meetings and commercial reviews during the 18- to 24-month development period before a new product launch. Experienced North American automotive professionals must be hired for these positions because knowledge of the customer’s technical, commercial, and logistics systems is essential. Successful LCC suppliers in North America have either hired their own local staff or contracted with manufacturers’ representatives to perform these tasks.

## **CONCLUSION**

After an exploration of the potential for supplying Moroccan OEM auto components to the United States, the final analysis shows that there is substantial opportunity for Morocco to enter this market. Significant time and resources will be required, however. Breaking into the U.S. OEM components market will take three to four years, and the initial focus must be to create awareness in the United States of Morocco as automotive supplier. After this awareness is achieved, the sales process to U.S.-based customers can begin. By training local suppliers, encouraging local sourcing, targeting the right customers, and setting up representation in the United States, Moroccan auto components manufacturers will increase their chances of success in penetrating the U.S. market.