

# MANUFACTURING INSIDER

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In This Issue:

Manufacturing Ecosystem

Current State Of The Manufacturing Industry

North American Automotive Production Forecast Summary - Q1 2016



## MANUFACTURING ECOSYSTEM

In order to compete in business today, you need to be competitive and make the most of every asset in your company's ecosystem. A 'business ecosystem' is defined as the network of organizations – including suppliers, distributors, customers, competitors, government agencies and so on – involved in the delivery of a specific product or service through both competition and cooperation.<sup>1</sup> But within a business ecosystem are a multitude of smaller ecosystems. In fact, each company on its own can be considered an ecosystem. A company is comprised of a network of areas that are essential for operation—

including the c-suite, manufacturing floor, finance, management, Gemba (the people doing the actual work), automated systems, processes, objectives, strategy, etc. All of these areas work together for the specific purpose of the delivery of a specific product or service with a basic goal in mind, to be competitive and profitable.

Today's manufacturing environment is very different from what it was ten years ago. Companies are expected to produce product more quickly than ever before, and the strong US dollar is taking a heavy toll on the manufacturing

trade. Manufacturing supports more than 17 million jobs, contributes \$2.09 trillion annually to the US economy, has the largest economic impact of any major sector, and accounts for more than three-quarters of all private-sector research and development<sup>2</sup>. Basically, manufacturing is the backbone in the US economy, which makes competition in the manufacturing ecosystem extremely fierce.

Economic stimuli changes the manufacturing landscape constantly; and when your processes are stagnant, they don't keep up with the changing landscape. If you can't scale production, over time, competitiveness dwindles and margins compress. These processes are not sustainable in the long term. How do you strengthen your ecosystem in order to stay competitive and profitable? You make the most of what you already have through sustainability programs that will have a positive effect on your ecosystem.

### **SUSTAINABILITY (NO, NOT THE GREEN KIND)**

Developing a sustainability program is the first step to keeping, developing and/or maintaining your competitive edge. While this is a discussion about ecosystems, sustainability in this context does not refer to a "green" program. There are many different definitions of sustainability, but

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*The next level  
of service*

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the most inclusive for manufacturing companies is: Sustainability is the conscious and proactive use of methods that do not harm people, planet or profit while also leaving a positive impact<sup>3</sup>. You often see programs such as waste reduction, material reuse and quality control. While these are needed in your ecosystem, programs that create value and help a company evolve are even more important as they engage the stakeholders and ensure a company adapts to changing environmental stimuli. These are the areas that will truly help you remain competitive.

You need to create a sustainable culture throughout your ecosystem with a mindset of continuous improvement, all the way down to the manufacturing floor. This sets a solid foundation for adapting to change so you can keep up with the ever fluctuating manufacturing environment. A well-designed sustainability program lets you drive continuous improvement by implementing solutions for current problems and creating processes to either eliminate future issues or enable you to quickly identify and address future issues before there is a significant impact. Your biggest asset when developing a sustainability program is your employees. People drive processes and companies, and by engaging people throughout your ecosystem you further maximize your investment. A key component to any sustainability program is an Optimal Performance Management System™ (OPMS™) that taps into the institutional knowledge and creativity of the ecosystem and sets into play behavioral routines where employees come to the table with solutions. What does an OPMS system look like?

<sup>1</sup> <http://www.investopedia.com/terms/b/business-ecosystem.asp>

<sup>2</sup> Annual Report 2014, [www.nam.org](http://www.nam.org)

<sup>3</sup> [http://www.sustainablebrands.com/news\\_and\\_views/communications/defining-sustainability-process-strategy-focus](http://www.sustainablebrands.com/news_and_views/communications/defining-sustainability-process-strategy-focus)

## **OPTIMAL PERFORMANCE MANAGEMENT SYSTEM (OPMS)**

A sustainability program with an Optimal Performance Management System

(OPMS) that instills employee passion and ownership is critical for improving competitiveness and profitability. Sustainability creates an environment to address competition through adding value and adaptation. By creating an environment for an employee to make changes, they become passionate about what they do and know 'why' they perform specific tasks. It goes from "we have always done it this way" or "this is the way I was taught" to a more impactful and meaningful "I do this because", which also fosters communication between areas of the ecosystem.

Companies who implement an OPMS are able to transform the ecosystem culture to achieve desired corporate objectives. It creates or strengthens alignment between strategy and execution through setting and communicating clearly defined expectations. By promoting ownership and empowerment, you create accountability and instill disciplined processes. When functional silos are broken down and all areas of your ecosystem work together, success can be tracked and there can be further alignment of people, objectives, and processes. One large cable company who implemented an OPMS reduced waste by \$3.6 million and working capital by \$16 million—a direct impact to their bottom line, and this is only one example.

Creating an OPMS takes dedication, a desire to improve, and buy-in and input from all levels. There are five critical steps to develop an OPMS within your ecosystem.

### **1. Measure**

To make sure there is alignment with corporate goals and strategies, manufacturing companies need to develop effective measures by asking the right questions in the beginning, such as: "What are our KPIs?," "What are they intended to measure?," and "What do we want to improve by tracking this?" What gets measured, gets done. Data provides key indicators to help pinpoint when there is a problem, which ultimately translates to profitability. Many companies mistakenly don't invest in

automation and robust ERP systems as part of their ecosystem. Adding people is often the solution to a problem rather than identifying the root cause through measuring data. Millions of dollars in savings have been identified by extracting data and measuring KPIs around processes. Looking at the data regularly can help pinpoint issues quickly, as soon as they arise. Fewer issues with a faster resolution translates to increased profit.

### **2. Empower**

Remember the definition of sustainability? You want to create value for your customers as well as engage your stakeholders and employees. By empowering employees and involving the people close to the Gemba, problems can be solved and not just covered up with a workaround. Data is provided by the employees and visual examples make it easy to track. Engaged employees set the stage for change. If they buy-in from the beginning, change will happen quickly and smoothly. You will also be able to utilize improvement ideas from the people who are actually doing the work. They see things in the ecosystem that others don't and can often make immediate changes that have a positive effect on processes, people and profitability.

### **3. Publish**

If you can't see the big picture, it's difficult to make meaningful changes that will have a positive impact on the ecosystem. With an OPMS, visual boards are the ideal solution in that they communicate goals to the floor, identify problems while there is still time to make a difference, help instill production discipline, and keep everyone informed. Daily control and monitoring of departmental-wide measures provides trending data to highlight systematic issues. If something is out of sight, it is usually out of mind as well. Keep the information in front of your employees, and you will see positive changes. One company recently implemented daily control and monitoring of departmental-wide measures. This company created visual boards to display collected data and posted the information with no explanation. The employees viewed the data, and using their collective

knowledge of their ecosystem, discovered the root cause of the issue. The group self-implemented a solution, and reduced waste by 80%. This is a huge improvement for any company and a true testament to the results a company can quickly attain by empowering employees to provide information and make changes.

**4. Communicate**

Timely communication is key when it comes to sustainability. Holding a daily accountability meeting that lasts anywhere from 15-30 minutes allows time to address the previous day's sub-optimal performance as well as set expectations for any potential disruptions in today's operations. With a quick daily meeting, issues are addressed in real time which initiates and expedites the root cause analysis process. In this meeting you will also assign actionable corrective measures and identify future continuous improvement opportunities.

Participation from all ecosystem areas and appropriate levels is necessary to enhance communication horizontally and vertically.

**5. Celebrate**

To keep employees engaged and passionate about what they do within the ecosystem, celebrate the wins. This is easily accomplished through employee appreciation and peer recognition. The little things count: small spot awards like Starbucks gift cards or an extra couple of hours in paid time off can make all the difference. Listen to your employees as they are the ones who drive the ecosystem. Ask them "If you had a magic wand, what would you do?" It says to the employees, "my ideas mean something," and what's a better motivator than seeing your own ideas put into action. It inspires people to go forth and do good things!

For an ecosystem to thrive, it needs to be sustainable. If you do nothing else, put

an OPMS in place. An OPMS empowers employees and fosters a culture where employees think like owners, and when employees think like owners, productivity improves, waste declines, and complexity is kept to a minimum via continuous monitoring. These improvements are noticeable and contribute significantly to the bottom line. When incorporated into an ecosystem, the employees themselves become a competitive advantage in the marketplace. By creating a culture of continuous improvement throughout your ecosystem, you can optimize performance by breaking free from the "we have always done it this way" mentality.

Cynthia K. Hannafey, Principal (Atlanta, GA)

**CURRENT STATE OF THE MANUFACTURING INDUSTRY**

According to a new Standard & Poor's report there are two key indicators that will tell you what kind of shape the manufacturing industry is in. The first is the Institute for Supply Management's manufacturing purchasing managers index and the second is the Federal Reserve's Capacity Utilization Index for motor vehicles and parts. A reading above 50 percent for the ISM index indicates that manufacturing is expanding

in the US, and below 50 means that it is contracting. History shows that each time since 1983 that the index fell below 43 percent "speculative grade" automotive companies began to panic. Similarly any time the Fed's utilization rate dropped below 72 percent during that period, it caused stress to automotive companies. Let's take a look at where we stand as of March 2016.

ISM Purchasing Managers Index: 51.8% 

Fed.Capacity Utilization Rate: 76.1% 

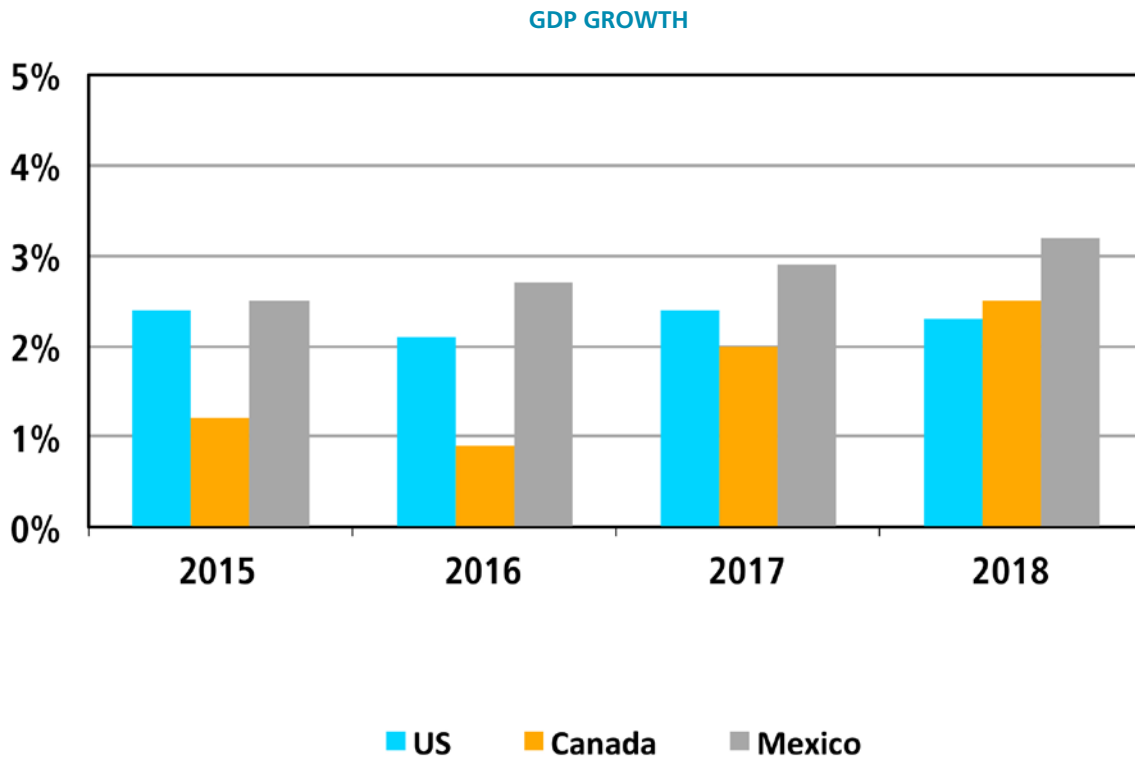


## NORTH AMERICAN AUTOMOTIVE PRODUCTION FORECAST SUMMARY - Q1 2016

Summary includes economic outlook, light vehicle sales outlook, current production drivers, production capacity and long-term trend, model launches and investments.

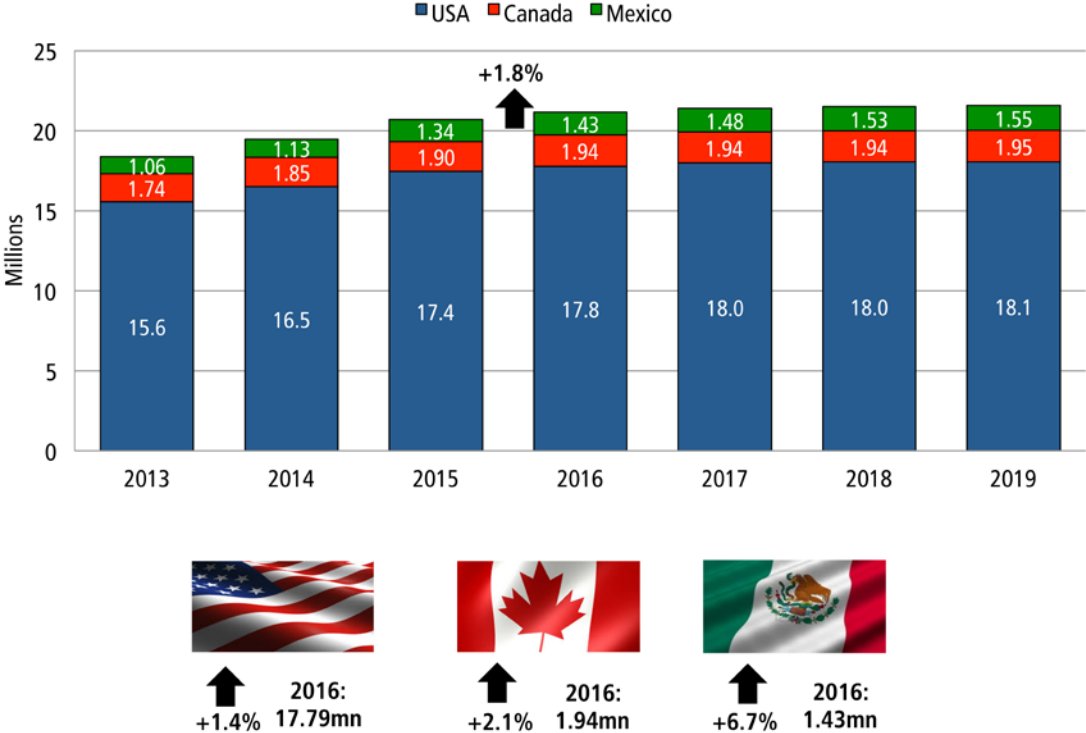
### NORTH AMERICA ECONOMIC OUTLOOK

- **US** – Risks to the US economy are slightly tilted to the downside. Domestic fundamentals look very strong, but international headwinds and reduced oil & gas capex will constrain growth to around 2.5% in the next couple of years.
- **Canada** – Canada’s economy surprised to the upside in Q4 2015 as real GDP grew by 0.8% annualized. However, the details of the report are not inspiring. The positive growth rate came largely from a collapse in imports, which, although supportive of headline real GDP, signals weak domestic demand.
- **Mexico** - The longer-term outlook in Mexico remains just below, or at, the 3.0% level. Much of the current expectation rides on the outlook for the US economy, a key partner for trade

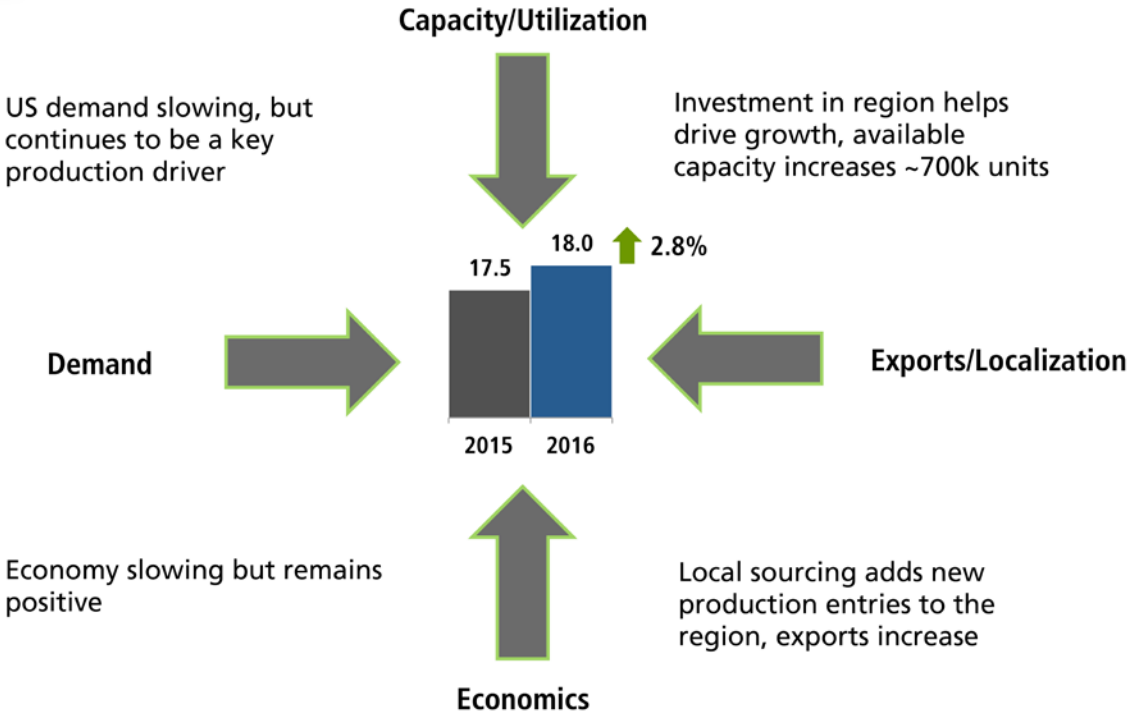


		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
United States	GDP Growth	1.5%	2.4%	2.4%	2.1%	2.4%	2.3%	2.1%	2.1%	2.0%	1.9%	1.9%
	Consumer Spending Growth	1.7%	2.7%	3.1%	2.7%	2.5%	2.3%	2.1%	2.1%	2.0%	1.9%	1.8%
	Short-term Interest Rate	0.3%	0.2%	0.3%	0.8%	1.6%	2.4%	3.0%	3.3%	3.5%	3.5%	3.5%
	Unemployment Level	7.4%	6.2%	5.3%	4.8%	4.7%	4.7%	4.8%	4.8%	4.8%	4.8%	4.8%
Canada	GDP Growth	2.0%	2.5%	1.2%	0.9%	2.0%	2.5%	2.6%	2.4%	2.2%	2.2%	2.2%
	Consumer Spending Growth	2.5%	2.5%	1.9%	1.1%	1.8%	2.5%	2.5%	2.4%	2.2%	2.1%	2.1%
Mexico	GDP Growth	1.6%	2.3%	2.5%	2.7%	2.9%	3.2%	2.9%	2.9%	3.0%	3.0%	3.0%
	Consumer Spending Growth	2.6%	1.8%	2.9%	3.0%	2.7%	2.8%	2.9%	3.1%	3.1%	3.1%	3.1%

**NORTH AMERICA LIGHT VEHICLE SALES OUTLOOK**

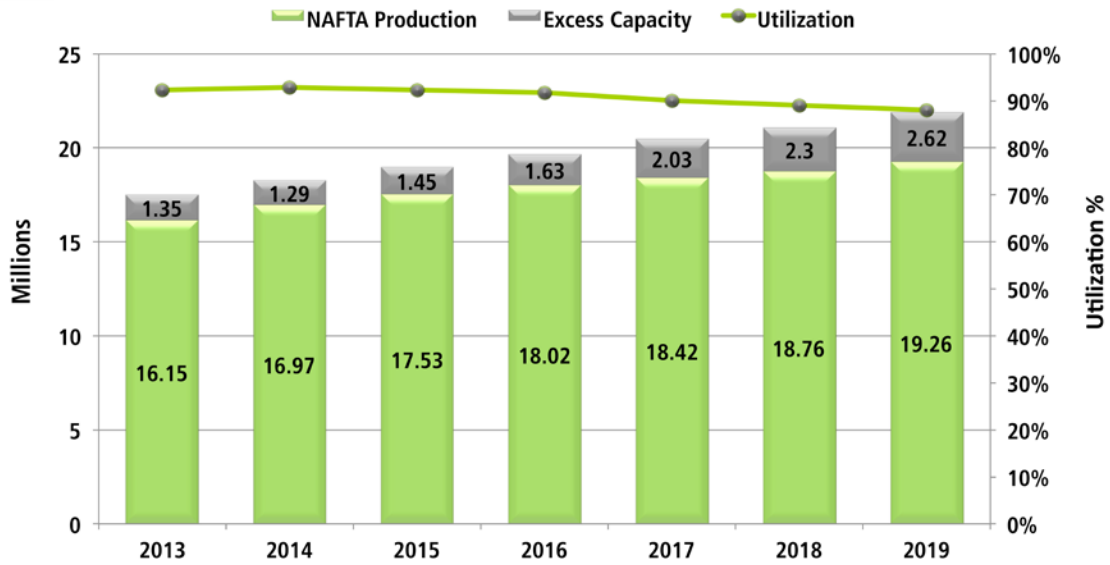


**CURRENT NA PRODUCTION DRIVERS**



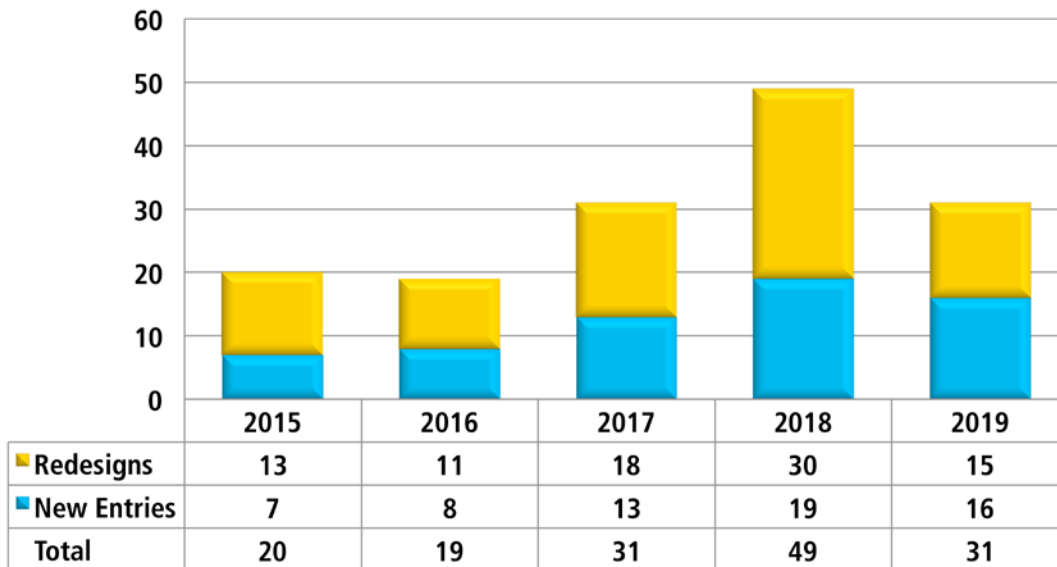
Source: LMC Automotive

NA PRODUCTION AND CAPACITY LONG-TERM TREND

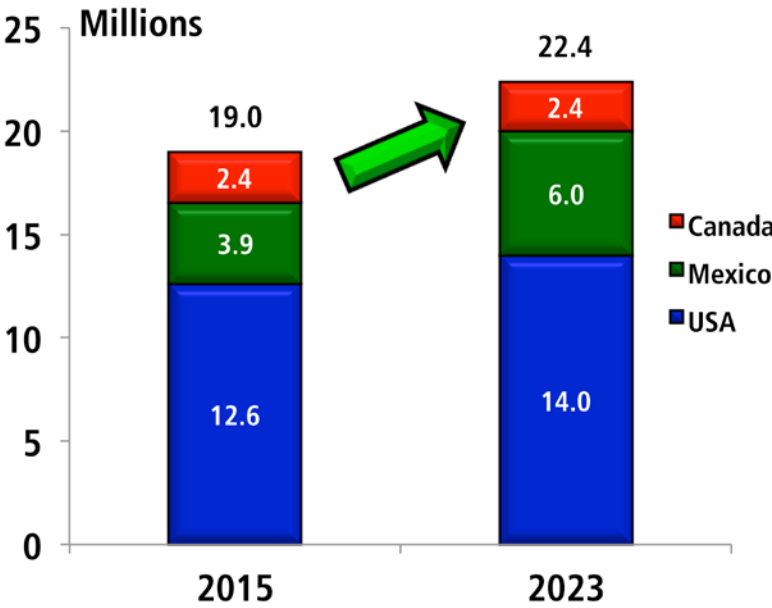


- Demand driven growth adds stability layer
- Localization and exports drive production expansion - utilization remains 90%

NORTH AMERICA PRODUCTION – MODEL LAUNCHES



**INVESTMENT POURS INTO NORTH AMERICA**



**2015 - 2023**

	$\Delta$ 1000s	Growth % $\Delta$
<b>Canada</b>	-50	-2%
<b>Mexico</b>	2,075	53%
<b>USA</b>	1,368	11%
<b>Total Capacity</b>	<b>3,393</b>	<b>18%</b>

**Investment in Mexico:**

- BMW – San Luis Potosi
- Daimler – Aguascalientes (COMPAS) w/ Renault-Nissan
- FCA – Toluca
- Ford – Cuautitlan, San Luis Potosi
- Hyundai – Monterrey
- Mazda – Salamanca
- Renault-Nissan – Aguascalientes 2 & COMPAS
- Toyota – Guanajuato
- Volkswagen – San Jose Chiapa

**Investment in the US:**

- BMW – Spartanburg
- Daimler – North Charleston (DG) 2
- Faraday Future – FF USA
- FCA – Belvidere, Toledo North
- Fuji Heavy – Lafayette
- Geely – Ridgeville
- GM – Fort Wayne Truck, GM Van, Hamtramck, Lansing Grand River, Spring Hill
- Honda – Greensburg
- Hyundai – Montgomery
- Tesla – Fremont (Tesla)
- Toyota – Georgetown 3, Tupelo
- Volkswagen – Chattanooga

Source: LMC Automotive

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- Aerospace & Defense
- Distribution
- Automotive Suppliers
- Industrial Manufacturing
- Consumer Products

Our professionals are leaders in the industry and take the steps necessary to ensure our client's future success by identifying and addressing new trends, accounting requirements and regulations.

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