



MINISTRY OF INDUSTRY, COMMERCE,  
AGRICULTURE & FISHERIES

# National Five-Year Manufacturing Growth Strategy For Jamaica

An Initiative of the Jamaica Manufacturers' and  
Exporters' Association (JMEA), the Ministry of Industry,  
Commerce, Agriculture and Fisheries (MICA); and the  
Jamaica Promotions Corporation (JAMPRO)

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## Section 1: Executive Summary

- Over the last few decades, while the manufacturing sector has grown, its contribution to global GDP has seen some decline. Global players have been progressively repositioning the industry as part of efforts to remain competitive, particularly through increased innovation and value chain development.
- Jamaica's Manufacturing Sector has been one of the country's longstanding contributors to its economic development. Its impact on job creation, capital investment, and GDP as well as linkages among the various other productive sectors of the country is well recorded and established, but its contribution to GDP has decreased in recent years.
- Currently, the main challenge facing the sector is that the level of efficiency and competitiveness has been decreasing against a backdrop of rising operational costs due to, *inter alia*, workforce productivity, cost competitiveness, market access, as well as rapid innovations within the global market.
- Notwithstanding, some key industry segments have been identified as being critical to advancing the impact of the manufacturing sector, by virtue of their growth potential and global demand.
- This Five Year Strategy has been developed to focus attention on the environment necessary to grow and expand Jamaica's manufacturing industry and increase the industry's contribution to the country's economic development projections.
- Specifically, the Strategy puts forward a set of strategic initiatives (Figure 1) geared towards growing the contribution of the manufacturing sector to GDP by December 2025, resulting in manufacturing **output of J\$81 bn**.
- It is expected that in addition to the initiatives identified, which will primarily be driven by the Government, the private sector will also play a significant role in the expansion of the industry. This includes: capacity building programmes; cluster development; execute strategic partnership; promote industry competitiveness; market access and penetration; domestic linkages and public-private discussions and interactions.

Figure 1: Strategic Initiatives Required to Boost Manufacturing in Jamaica



## Section 2: Situational Context of Industry

In its simplest form, the manufacturing sector refers to those industries that involve the process of converting raw materials, components or parts into finished goods or intermediate goods that can be used for sale to customers for final consumption or further value-added production purposes. Notwithstanding, there are various forms of manufacturing and a diverse range of processes involved. Various countries also use a mix of definitions for manufacturing for fiscal or statistical purposes.<sup>1</sup>

While the global manufacturing sector has seen absolute growth of the past few decades, as a percentage of global GDP the industry has been in general decline since the 1960s when industrialism was at its peak. Moreover, as the global marketplace recovers from the economic crisis of 2008, it is widely agreed that the global manufacturing sector is in a state of transition. The Chartered Institute of Management Accountants (CIMA) reports that the manufacturing sector is growing in emerging economies, while in advanced economies the sector is shrinking and simultaneously becoming more productive.<sup>2</sup>

New manufacturing giants leverage low wage economies and tend to compete on cost, while established players prefer to move up the value chain to compete on technology and innovation. “Lean” manufacturing techniques, which provides tools and processes that eliminate or minimize waste from the manufacturing process is

<sup>1</sup> For the purposes of this document the simple definition, used globally, will be inferred, unless otherwise stated.

<sup>2</sup> Chartered Institute of Management Accountants: The Global Manufacturing Report. August 2010

pervasive within the sector and has significant impact on cost control and quality.

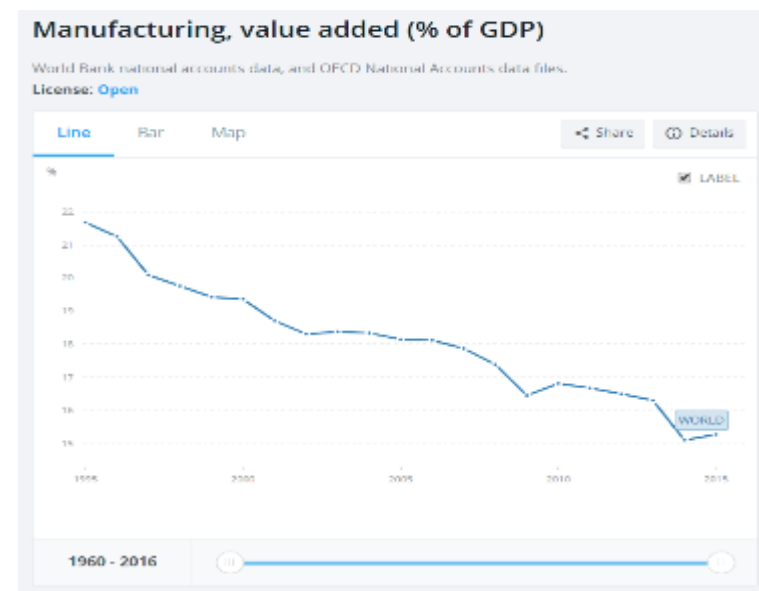


Figure 2: Value-added Manufacturing as a % of Global GDP 1960-2016

On the demand side, the global demand for manufactured products is growing at a snail's pace. Despite the projection of the International Monetary Fund (IMF) that global output is expected to increase just 3.4 per cent in 2017, the United Nations Industrial Development Organization (UNIDO) reports growth of manufacturing value-added (MVA) in industrialized economies dropped to less than 1.0 per cent in 2016. The MVA growth rate of China, the largest manufacturer in the world, dropped to 6.7 per cent in 2016, compared to 7.1 per cent in 2015. The combined



growth of MVA of other emerging and developing economies was low, at 2.5 percent in 2016, particularly as a result of a production downturn in Latin American countries.<sup>3</sup>

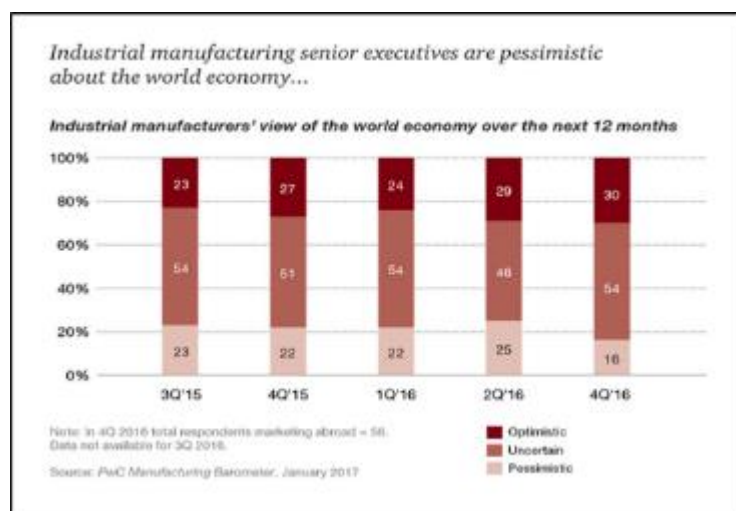


Figure 3: PwC's Projections for Manufacturing

### International Foreign Policy

One of the key factors at play that significantly impact the success of a country's manufacturing sector is the current international foreign policy environment which over the last two years has seen significant turns in the international policies shaped by the new governments of world-leading countries such as the United States (US) and United Kingdom (UK).

The potential impact on established world trade arrangements as a result of the United Kingdom's referendum on membership of the

European Union and the presidential election in the United States have prompted considerable economic uncertainty in the world market. Additionally, in the United States, the new "America First" approach is threatening to further undermine the free flow of goods by potentially impacting free trade regimes, creating even more uncertainty and constraints upon manufacturing growth. The ripple effects of any attempts to reset trade agreements would be felt in the industrial manufacturing sector in particular.

This economic uncertainty is mirrored within the global manufacturing sector as major industry leaders are uneasy and hesitant to make investments, resulting in the weakening of manufacturing growth prospects worldwide. This is reflected in PwC's projections that manufacturing senior executives are predominately uncertain and pessimistic of the sector over the upcoming quarters.

The overall worldwide downward trend in manufacturing as a percentage of GDP can also be attributed in part to the advent of the fourth industrial revolution, which is enabling dramatically higher efficiencies, lower manufacturing costs and therefore lower costs of goods, leading to lower effective value-added.

### Post-Financial Crisis Recovery

Another key component is the rate of recovery of the sector in the aftermath of the financial crisis of 2008, which delivered a massive blow to the global manufacturing sector. While advanced countries have recovered since then, the Caribbean region, and in particular Jamaica is still in a state of recovery. In 2016 and 2017, global growth averaged 3.1 per cent supported by investments in advanced economies along with continued recovery in commodity-exporting

<sup>3</sup> International Yearbook of Industrial Statistics 2017. Retrieved from [www.stats.unido.org](http://www.stats.unido.org)

by emerging and developing economies, and robust growth in importing economies.<sup>4</sup>

Rebound from the economic crisis has been mixed, and while countries such as the US and the UK have surpassed 2007 levels, the deficit created by the financial crisis has remained in others. The crisis had a significant negative effect on manufacturing in the region. In Jamaica, the decline in capital flow resulted in a decline in the National International Reserves (NIR) and sharp depreciation in the exchange rate. Given that the USA is Jamaica's dominant trading partner, depreciation in the dollar significantly reduced capital expenditure and stalled production. The recovery and repositioning of manufacturing are considered a key component of the solution to rebalance economies and reduce sector dependencies in the wake of the crisis.<sup>5</sup>

### **Manufacturing Contribution to GDP**

Manufacturing in 2012 accounted for approximately 16% of global GDP and 14% of employment.<sup>6</sup> In the United States, Manufacturing is ranked as second among key sectors where manufacturers in 2015 contributed \$2.09 trillion directly to the economy, providing 17 million jobs and accounts for 12% of the nation's GDP.<sup>7</sup> In North America, manufacturing production maintained relatively higher growth, primarily as USA manufacturing production rose at a higher pace of 3.1 per cent in 2018, compared to 1.8 in 2017<sup>8</sup>.

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<sup>4</sup> Global Economic Prospects (World Bank), June 2018

<sup>5</sup> Chartered Institute of Management Accountants: The Global Manufacturing Report. August 2010

<sup>6</sup> Manufacturing the future: The next era of global growth and innovation. McKinsey Global Institute. November 2012

<sup>7</sup> The 5 Industries Driving the US Economy. Deutsch. A, (April 2015) Retrieved from [www.investopedia.com](http://www.investopedia.com)

<sup>8</sup> The United Nations Industrial Development Organization (2018 Statistics Yearbook) Retrieved from [www.unido.org](http://www.unido.org)

Similarly, emerging markets, especially those in Asia can attribute their growth to their thriving manufacturing sector along with their strength of price competitiveness. The backward linkage (or multiplier effect) shows how much additional output is generated by a dollar's worth of final demand for each industry. For the US, every dollar in final sales of manufactured products supports \$1.33 in output from other sectors—this is the largest multiplier of any sector.<sup>9</sup>

Notably, a review of most literature suggests that with the declining share of manufacturing within the global economy, there has been a trend of deindustrialization over the past few decades. However, in a recent UNIDO study, this notion has been countered on the basis that consumers have tended toward manufactured goods that have become cheaper due to innovation and the greater use of technology within manufacturing firms globally. In fact, when assessed from the perspective of the consumer, the importance of manufacturing can be seen as increasing while manufacturing as a percentage of global GDP has been decreasing.<sup>10</sup>

### **Need for Innovation**

For advanced economies, manufacturing has become a vital source of innovation and competitiveness, making outsized contributions to research and development, exports, and productivity growth. Manufacturing has spilled-over to service inputs in areas such as logistics, construction among others. In some manufacturing industries, more than half of all employees work in service roles, such as research and development engineers and office support staff.

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<sup>9</sup> Manufacturing's Multiplier Effect is Stronger than Other Sectors'. Retrieved from [www.themanufacturinginstitute.org](http://www.themanufacturinginstitute.org)

<sup>10</sup> Industrial Development Report, 2018, UNIDO ([https://www.unido.org/sites/default/files/files/2017-11/IDR2018\\_FULL%20REPORT.pdf](https://www.unido.org/sites/default/files/files/2017-11/IDR2018_FULL%20REPORT.pdf))

Innovation is the trend for the future of the manufacturing sector. Within the advanced countries, there is a shift from basic manufacturing towards technology-based on value-added production, which has encouraged manufacturers to reconsider how they operate and what they offer customers.

The search for operational excellence is ongoing and many firms are moving towards lean manufacturing methodologies to achieve their best performance. This will require them to increase their focus on eliminating waste or non-value-added processes within their production systems, which is also driving a trend for the creation of peripheral industries where one company's waste may be input into another company's production processes. Applying this concept removes all non-value-added activities and focus only on enhancing customer value. It also helps in achieving cost reduction as the non-value-added activities are removed or channelled into new product lines.

The challenge is to move up the value chain where the returns are much higher. Innovation, whether it is through investing in research and development to develop new products or processes, or enhanced technologies, more efficient back-office processes, or improved sales and marketing operations, must be incorporated within the manufacturing sector to achieve the level of growth desired.

Regional manufacturers may be constrained by financial challenges to implement the innovation required to compete with advanced economies. Nonetheless, they are encouraged to invest in research and development (R&D) to move up the value chain of their current operational level as well as incorporate environmentally friendly practices.



Figure 4: Role of R&D (Innovation) in the Process Flow for the Manufacturing Industry

### Section 3: Global Perspective and Considerations on Manufacturing-Led Development

A review of a World Bank publication “*Trouble in The Making? The Future of Manufacturing-Led Development*” (2017) outlines several critical considerations for governments when positioning the manufacturing sector as a key driver for economic development. Key among such considerations are:

- The impact of manufacturing can be viewed via five (5) characteristics, i.e.:
  - *‘Trade’ in international markets*, which refer to the export-to-output ratio
  - *The extent of innovation*, that speaks to the ratio of R&D to value-added
  - *Employment*, referring specifically to the total employment sector
  - *Share of unskilled labour*, i.e. the share of ‘blue collar workers’ within a sector
  - *Level of value-added*, regarding the output per worker.
- Due to changes in globalization patterns and the impact of labour-saving technologies, the role export-led manufacturing plays and will continue to play in economic development will be less impactful than what obtained in previous generations.
- The opportunities for countries less involved in global manufacturing are affected by changes in the global trade environment and emerging technologies that are creating new product lines and transforming production processes. The COVID-19 global pandemic of 2020 and the resulting economic fallout has further underscored the evolution of business practices and transformation in product development during the post recovery period. Therefore, strategies that seek to foster a more resilient manufacturing industry are being given greater attention.
- Low to middle-income countries will be impacted by the use of new technologies that will disrupt and change the ‘conventional patterns of comparative advantage’. Additionally, the competitive advantage that cheap labour had provided the manufacturing sectors in such countries will be further eroded due to more ‘demanding ecosystems requirements’. Factors such as the relative magnitude of automation, export concentration and services intensity will inform the feasibility of manufacturing.

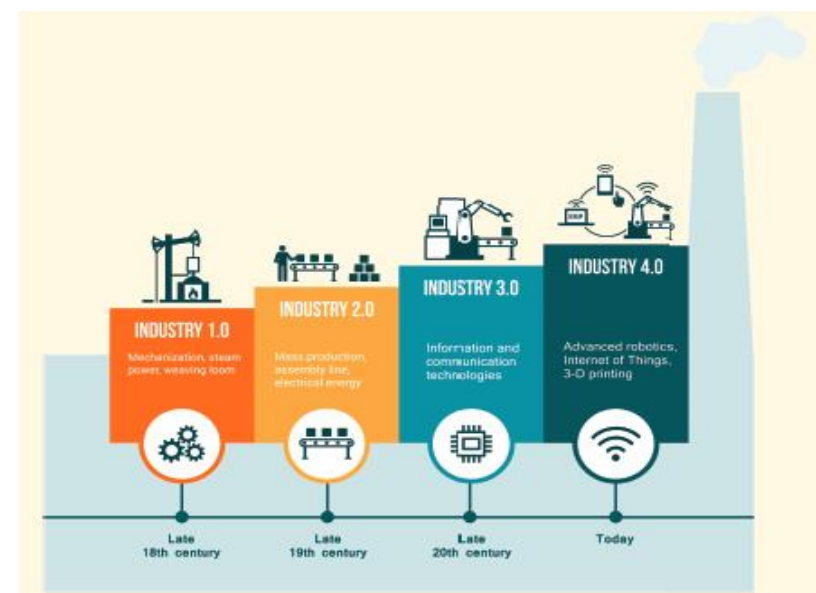


Figure 5: Industrial revolutions and shifts in manufacturing specialization, late 18th century – present (Source: *Trouble in the Making? The Future of Manufacturing-Led Development*)



## National Five-Year Strategy to Grow Manufacturing Sector in Jamaica

- Countries that are not very involved in global trade and whose manufacturing sectors are not very automated are considered low-skill employers, e.g. food processing, wood & paper products, basic metals, nonmetallic mineral products, coke & refined petroleum and chemical products. The figures below illustrate several characteristics that shape the profile and impact on the manufacturing sector within countries.

The report outlines policy recommendations for countries ranked according to their levels of competitiveness, capabilities and connectedness (the 3Cs). In general, these elements are influenced by the use of labour saving technologies, the level of concentration in global trade and the rise of services complementary to manufacturing.

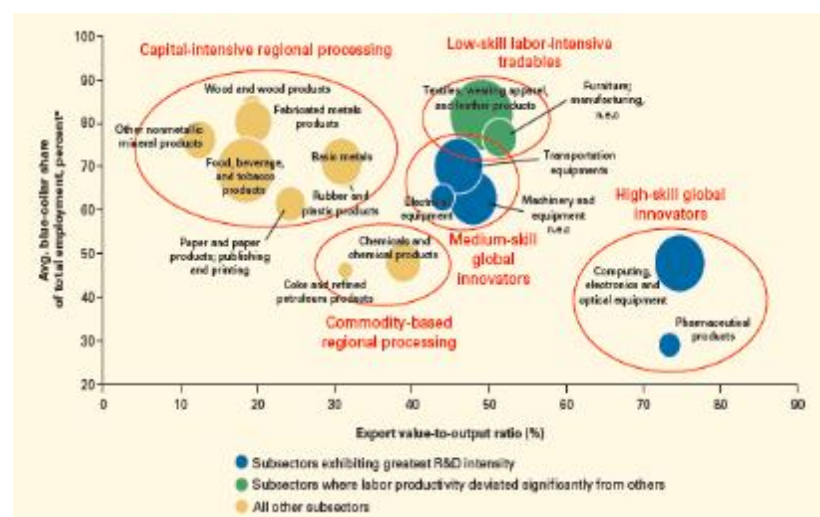


Figure 6: Manufacturing Subsectors, Grouped by Pro-Development Characteristics, 2013 (Source: *Trouble in the Making? The Future of Manufacturing-Led Development*)

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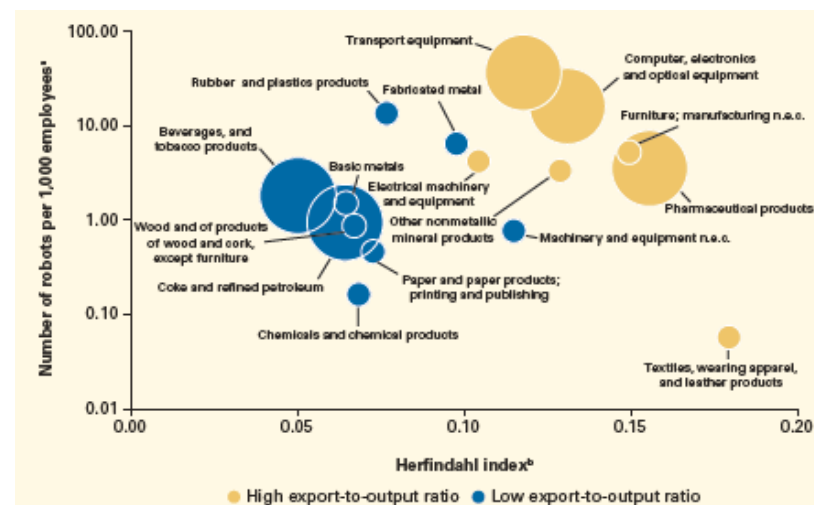


Figure 7: Manufacturing subsector, grouped by export concentration, degree of automation, services intensity and tradeness, circa 2011-2015 (Source: *Trouble in the Making? The Future of Manufacturing-Led Development*)

*Policy priorities to strengthen manufacturing-led development, by country's level of competitiveness, capabilities, and connectedness*

Dimension	Priorities for countries currently "lower" on this dimension	Priorities for countries currently, or aiming soon to be, "higher" on this dimension
Competitiveness	Strengthen the business environment Promote flexible labor markets Liberalize backbone services critical to supporting manufacturing  <i>Develop mobile finance to facilitate use of embodied and embedded services</i>	Facilitate firm entry and exit, and the reallocation of capital and workers; improve bankruptcy procedures and universal coverage of social protection to facilitate worker mobility and to lower costs of disruption  <i>Set competition policy framework for network platforms; adjust regulations for new business forms</i>  <i>Facilitate contracting, to enable greater use of sharing economy on production side</i>
Capabilities	Prioritize literacy, numeracy, basic ICT, and socioeconomic skills, but also invest in the development of advanced skills for people with access to higher education  Improve basic management skills and processes Develop certification of quality standards	<i>Develop programs to strengthen more-advanced skills, creativity</i>  <i>Emphasize the use of data and data processes within production</i> <i>Support the development of a data ecosystem (access to ICT, policies on localization, network security, IPR)</i>
Connectedness	Reduce restrictions on trade in goods, particularly inputs (lower tariffs and NTBs, support trade facilitation)  Strengthen basic logistics	Further facilitate trade in services, including removing restrictions on FDI  <i>Support IoT logistics systems</i> <i>Develop regulatory frameworks to support cross-border data flow</i>

*Note:* Traditional agenda items of rising urgency are set in roman. Items that relate more specifically to new technologies are set in italics within blue shading. ICT – Information and communication technology. IoT – Internet of Things. IPR – Intellectual property rights. FDI – foreign direct investment. NTB – nontariff barriers.

Figure 8: Policy priorities to strengthen manufacturing-led development, by country's level of competitiveness, capabilities and connectedness (Source: *Trouble in the Making? The Future of Manufacturing-Led Development*)

## Section 4: Status of Manufacturing in Jamaica

Jamaica has a fairly diversified manufacturing sector, comprising two main categories – traditional and non-traditional. Traditional manufactured goods include sugar, molasses and rum, while non-traditional goods include non-metallic products, chemicals and petroleum products.<sup>11</sup>

A review of Figure 5, reveals that the description of the “Industry 2.0” best characterizes the manufacturing sector in Jamaica, at present. In large part, the country’s manufacturing sector employs mass production based on the division of labour and powered by electrical energy. The sector, nevertheless, has seen the growth of relatively large and successful manufacturing conglomerates over the past 3 – 4 decades.

***“A dynamic, vibrant, market led manufacturing sector making high value-added world class products desired by consumers everywhere, using appropriate technologies and environmentally sustainable processes, linked to other sectors, with motivated, productive employees, within an enabling business and regulatory environment”***

- Jamaica’s Vision 2030, Manufacturing

The sector has been identified as a key area for growth by the Government and is one of the main pillars of the prominent National Development Plan of the country, Vision 2030. The key policy initiatives for the sector are guided by the Ministry of Industry, Commerce, Agriculture and Fisheries (MICAFA), and its commitment

to revise the National Industrial Policy, the National Foreign Trade Policy which falls under the remit of the Ministry of Foreign Affairs and Foreign Trade as well as by the 2018 promulgation of the Micro, Small and Medium Enterprises (MSME) Policy.

It is also important to note that the Global Logistics Hub Initiative Master Plan; the Science, Technology and Innovation Policy; the Climate Change Policy Framework; and the proposed National Investment Policy are all in alignment with the Manufacturing Strategy. Notably, the synergies among the Strategy and these documents reflect the commitment of the government to drive growth within the manufacturing industry.

### Manufacturing and the GDP

The contribution of the manufacturing sector, by virtue of its contribution to GDP had a high of 21.5% in 1986. Despite the decline over the past three decades, the manufacturing sector has

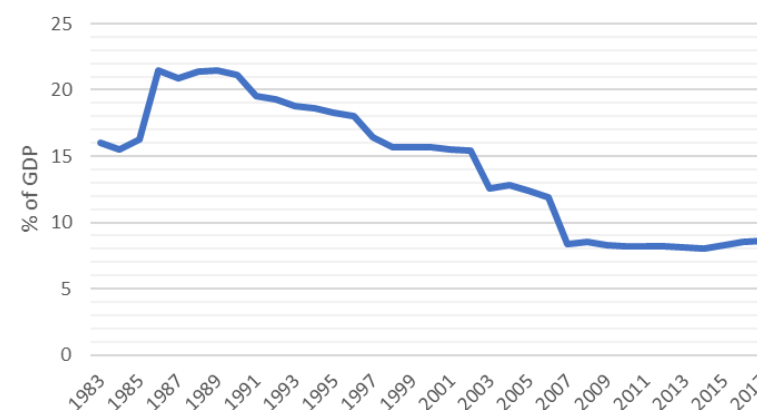


Figure 9: Manufacturing as a % of GDP 1983-2017 (Source: PIOJ/STATIN)

<sup>11</sup> Economic and Social Survey of Jamaica, 2016 (Planning Institute of Jamaica)

remained very vital to the economy through the production and exports of high-quality products.

The real value-added for the manufacturing sector increased by 0.6% in 2018 owing primarily to the growth of the Food, Beverages and Tobacco and other sub-industry (which grew by 2.3%).<sup>12</sup>

Manufacturing outputs have remained relatively constant at an estimated J\$60-65 billion over the last five (5) years making the sector the largest contributors to the GDP of all goods-producing industries. The dominance of agro-processing and light manufacturing is further confirmed in their contribution to the country's GDP.

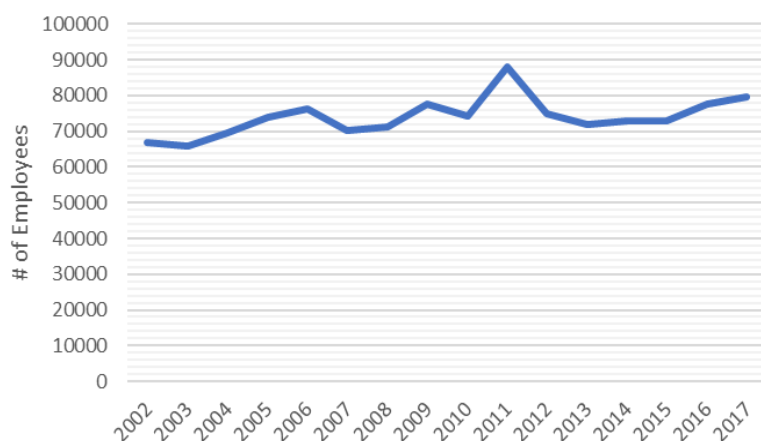


Figure 10: Number of Employees in the Jamaican Manufacturing Sector 2002-2016  
(Source: STATIN)

Employment in the sector expanded during 2018 with the number of persons employed in the sector on average moving from 79,425 in 2017 to 79,600.

Notable as well is the fact that the sector contributed J\$55.9 billion to the government tax revenue base for 2015/2016, making it the second largest taxpayer in the country.<sup>13</sup>

The PIOJ predicts that in 2019, the Real Value-added for the Manufacturing industry is expected to increase with higher output from Food, Beverages & Tobacco and other Manufacturing sub-industries. It is anticipated that these will materialize as a result of improvements made in the production equipment, greater demand and growth in available financing options for the industry.

### Manufacturing and Trade

The manufacturing sector offers several opportunities to impact Jamaica's growth. In addition to GDP and employment, the sector contributes to exports, provides opportunities for import substitution, and deepens inter-sectoral linkages to other vital economic sectors such as tourism, agriculture, distribution, and transport.

In 2018, manufacturing exports were valued at US\$624.6 million, an 8.5% growth over the 2017 performance of manufacturing exports, continued recovery from the previous few years where the decline of sugar, ethanol, beverages and minerals negatively affected the performance of the sector. Processed foods, beverages and tobacco are at the forefront of this recovery.

<sup>12</sup> Economic and Social Survey of Jamaica, 2018 (Planning Institute of Jamaica)

<sup>13</sup> Data produced by the Tax Administration of Jamaica

Export of manufactured items has primarily penetrated markets in the United States of America, Canada, United Kingdom, CARICOM and Netherlands. Most recently, there has been some level of penetration in emerging economies such as Slovenia and Georgia.

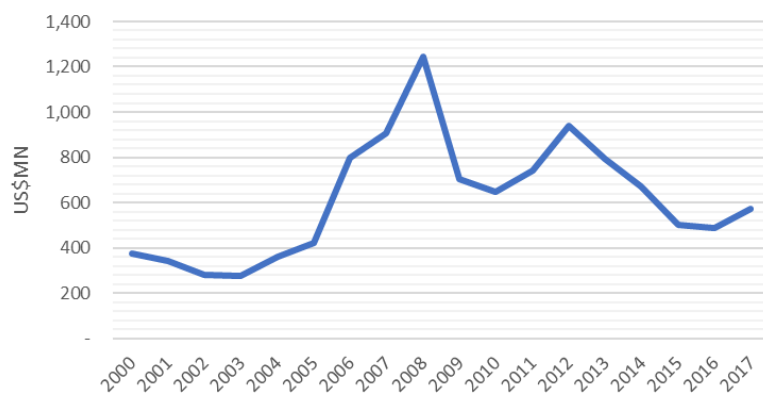


Figure 11: Manufacturing Exports 2000-2017 (Source: PIOJ/STATIN)

The Economic & Social Survey of Jamaica (ESSJ) 2018, when considering the exports of the manufacturing sector, categorizes the twelve (12) sub-industries into two main groups: traditional and non-traditional. Table 1 outlines the manufacturing sub-industries and their 2018 exports.

Jamaica's National Export Strategy (NES), which was developed in 2015, has identified Light Manufacturing and Agro-Processing as priority areas for the country. The NES targeted a **25% per annum growth in exports** and a **US\$2.5 million export target for light manufacturing export levels by 2019**. It has also established a **US\$560 million export** and the **creation of an additional 8,000 job target for agro-processing by 2019**.

Based on a preliminary review of the Strategy, these targets were not met due to a lack of focus on the industry over the last five years covered by the NES.

Table 1: 2017 Exports of Manufacturing Sub-Industries

Manufacturing Sub-Industries	2018 Exports US\$'000	% Change (2018/2017)
<b>TRADITIONAL</b>	<b>63,128</b>	<b>4.5</b>
- Sugar	13,346	-7.1
- Other Products	4,111	-17.2
- Rum	45,671	11.1
<b>NON-TRADITIONAL</b>	<b>561,437</b>	<b>9</b>
- Processed Foods	139,450	-1.9
- Beverages & Tobacco (excl. Rum)	66,232	-5.5
- Crude Materials	23,936	-2.1
- Mineral Fuels	279,023	19.6
- Animal & Vegetable Oils & Fats	321	9.2
- Chemicals (incl. Ethanol)	37,963	56.9
- Manufactured Goods	6,576	-40.1
- Machinery & Transport Equipment	1,497	-41.1
- Other	6,439	-10.00
<b>TOTAL</b>	<b>624,565</b>	<b>8.5</b>

Light manufacturing includes electrical, metal, paper, chemical products and building tools, whereas agro-processing includes the manufacture of food-based products. The National Export Strategy



(NES) defines light manufacturing as those activities which are less capital intensive than heavy manufacturing<sup>14</sup>, and is more consumer-oriented than business-oriented (i.e., most light manufacturing products are produced for end-users rather than as intermediates for use by other industries)<sup>15</sup>.

- **Agro-Processing:** The area of agro-processing (sugar, rum, processed foods, beverages & tobacco, etc.) contributed 42% to both areas of manufacturing exports in 2018.
- **Light Manufacturing:** At the same time in 2018, the light manufacturing industries saw a decline, particularly in the sub-industries of chemicals, machinery and transport equipment.

Some of the key products that have been positively impacting the country's trade balance have been rum, other alcoholic beverages, chemicals and sugar.

### Focus Industries for Manufacturing

As noted before, Jamaica's manufacturing sector has always been closely linked to the country-vibrant MSME sector, which reflects the diversity in the product groups that are manufactured across the island. The range of such products continues to grow, e.g. the craft and bamboo industries.

<sup>14</sup> Segments involving steel production, production of industrial chemicals, heavy equipment and machinery typically found in the manufacturing industry are not under consideration in the context of the National Export Strategy.

<sup>15</sup> This is comprised of products classified as electrical, optical, plastics, rubber, tools, soaps, furniture and lighting, clocks and watches, paper and paperboard, printed books (to include newspapers, pictures, and other printed products), glass and glassware.

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Nevertheless, following consultations, six key product segments for focus have been identified under this Strategy, based on the country's competitive advantage and its ability to create niche products in these areas.

Figure 12 outlines the six (6) target areas so identified based on the core selection criteria, including the:

- The ability to drive export volumes,
- significant opportunity for import replacement in the domestic market as well.



**Agro-Processing** adds value to the agriculture sector creating new or value added products. The sector is laden with potential for product diversification and market penetration opportunities based on innovation and leveraging our culture.



**Light Manufacturing** is the production of small consumer goods that uses moderate amounts of partially processed materials to produce items of relatively higher value. In Jamaica, electronics and medical devices is identified as the key target sub-industry of light manufacturing.



Jamaica's **cosmetics** industry is now emerging to take advantage of a global cosmetic market estimated to reach 675 billion USD by 2020 growing at a rate of 6.4%.



The **furniture** industry is a priority given its high consumer demand and global market value. In Jamaica, the industry consists of mainly SMEs capable of supplying the local and international markets with customized products.



Jamaica has a strong **pharmaceutical** manufacturing base for both over the counter (OTC) products and ethical products (prescription); in addition to a cadre of distributors for international drug houses.



**Packaging** refers to the visual and protective barrier / containment of a product, which is a marketing tool required for export competitiveness. In Jamaica, there is a greater demand for such companies to add value to manufacturers..

Figure 12: Jamaica's Focus Segments for Manufacturing

It must be noted that having regard to the above outlined definitions of agro-processing and light manufacturing, certain segments within the light manufacturing industry have been identified as targets due to their significant impact on the core selection criteria. It will be noted that these manufacturing subsectors reveal the Strategy's objective of firmly securing its competitive advantages within the sector.

As the country's manufacturing sector evolves, it is expected that it will both deepen these current segments, as well as, create new technologically and culturally-driven segments to increase the country's global competitiveness in manufacturing. In other words, the profile of the Jamaican manufacturing sector would be transformed to embrace more medium-skill & high-skill global innovators, as per Figure 5.

In respect of agro-processing in particular, mention must be made of the fact that given the current profile of the manufacturing industry in Jamaica, which comprises almost 50% of agro-processing companies, some attention and priority will also be needed for the agriculture industry in Jamaica. The importance of the value chain in ensuring the viability of this manufacturing segment cannot be understated. As a result, significant work must be undertaken to identify the value chain issues at the point where they transition from agriculture outputs to agro-processing inputs, if the agro-processing segment of manufacturing is to grow and thrive.

### Rationale for a National Strategy for Manufacturing

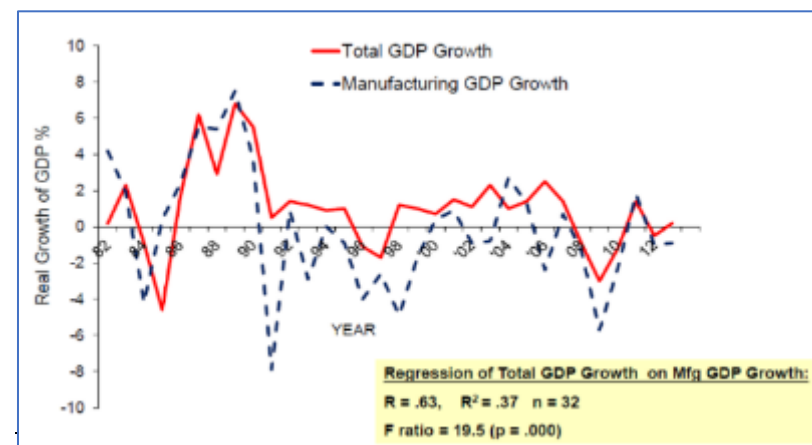
The 2016 Global Manufacturing Competitiveness Index (GMCI), published by Deloitte succinctly outlines the value of the manufacturing sector to an economy, and reinforces the position

that 'a strong manufacturing sector creates a clear path toward economic prosperity'.<sup>16</sup> It does so through:

- its influence on infrastructure development;
- contribution towards job creation;
- its contribution to gross domestic product (GDP) on both an overall and per capita basis; and
- contribution towards foreign exchange earnings through exports

The contribution of Jamaica's manufacturing sector to GDP, Exports and Government tax revenue has been mentioned previously. Interesting to note however, is that in the publication, *Business Renewal and Performance in Jamaica* (2015) by Dr. William Lawrence, it shows that **over 40 per cent of the movement in Real GDP Growth for Jamaica could be attributed to changes in the performance of the manufacturing sector**. In other words, a thriving manufacturing sector is key to stimulating growth in Jamaica.

However, while manufacturing has made significant contribution to



16 Figure 13: Regression Analysis of Real GDP Growth vs. Manufacturing Growth (UWI)

infrastructure development in the country over the past decades, in Jamaica, the contribution of the sector to the country's infrastructural potential is not as pervasive or direct as it is with other sectors, such as tourism. This highlights the fact that there is still significant work to be done to realize the potential of the industry.

It therefore represents an opportunity for the Government of Jamaica to identify and implement targeted interventions to drive exponential growth in the country's manufacturing sector, informed by the global trends outlined Section 3 above. While there are instances where ICT-led industries (such as those covered under "Industry 3.0" technologies)<sup>17</sup> are involved in the manufacturing activity, a number of companies within the sector are characterized by the assembly line production. Furthermore, the country's value proposition has been based on its approach to compete on price, with low labour costs being a key determinant of success. However, production processes that utilize "Industry 4.0" technologies are in a position to leverage their use of advanced robotics, 3-D printing and the Internet-of-Things (I-o-T) to produce higher quality items at lower costs.

One advantage Jamaica has is that the size of its services sector can be leveraged to better support the manufacturing sector, in keeping with the global trend of increased services-oriented manufacturing. This phenomenon embraces the relationship between manufacturing and services as more than one-third of the value of gross manufacturers' exports come from the value-added of

embodied services (e.g. design, marketing, distribution, logistics services, e-commerce platforms)<sup>18</sup>.

The Global Competitiveness Index (GCI) also provides a guide regarding the factors necessary to achieve productivity and prosperity. It assesses the competitiveness landscape of over 138 countries, providing unique insights on their current economic standing. There are twelve indicators of the GCI, and Jamaica – which is ranked at 79<sup>th</sup> out of 140 countries in 2018 – requires enhancement in all twelve (12) areas. For the manufacturing sector, chief among them to be addressed by the Government of Jamaica are strategic sector policies, innovation policy, infrastructure, financing and talent development.

The insight provided by Deloitte's GMCI is useful in assessing and confirming the priority competitiveness factors for Jamaica. While the factors and their rankings put forward by Deloitte best suit the profile of the more advanced economies that have made significant investments in their manufacturing sectors, it is important to note that they reflect the priorities of Global CEOs who lead companies that Jamaica would wish to attract for investment in Jamaica. It is therefore imperative that they form a basis for the country's sector development if the country is to see investments, or if local companies are to be competitive in the global marketplace.

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<sup>17</sup> Reference made here to Figure 5

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<sup>18</sup> Trouble in Making? The Future Manufacturing-Led Development



Source: Deloitte Touche Tohmatsu Limited and US Council on Competitiveness, 2016 Global Manufacturing Competitiveness Index

Figure 14: Drivers of Global Manufacturing Competitiveness

Indeed, the application of these rankings to the Jamaican reality requires some level of adjustment and reorganization to best reflect the immediate priorities of the sector versus those factors that are more long-term. For example, before strategies related to 'talent' (as referred by the Index as 'highly skilled, well-educated workers') can be implemented, in Jamaica, significant work would need to be done in respect of Workforce Productivity, which is largely agreed as being the most problematic area for the sector.

Similarly, the second most problematic area for Jamaica is the cost of doing business in Jamaica, which includes the cost of bureaucracy, as well as energy costs and other factor costs such as crime and

corruption. In order of priority, the next three most problematic areas for Jamaica would be:

- Physical infrastructure
- Supplier Network
- Legislative and regulatory framework.

With the implementation of these strategies, it is expected that where the ecosystem improves, priority could then be given to the other factors in the ascribed priority sequence to further develop the sector. Addressing these factors and developing strategies to improve the country's performance will immediately and drastically improve the tangible and intangible contribution of the sector to the national economy. The recommendations outlined in this Strategy will therefore, focus on the six key areas indicated as being premised on Jamaica's realities.

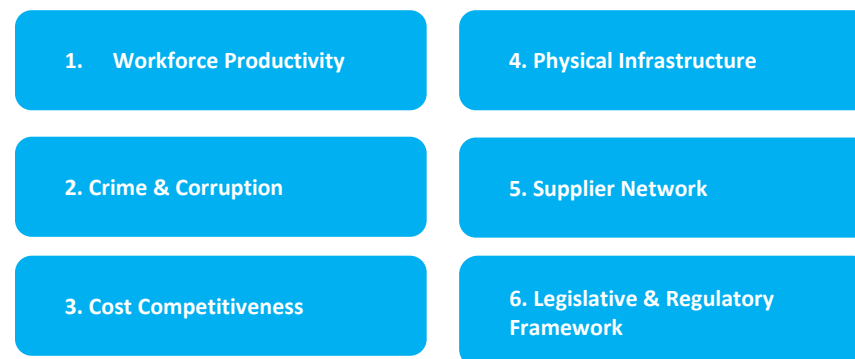


Figure 15: Jamaica's Suggested Ranking of Drivers of Competitiveness

### SWOT Analysis for Manufacturing

Jamaica as a country offers a number of strengths and opportunities such that the manufacturing sector can maintain its significance as

one of the major engines of economic growth, job creation, and prosperity in the country.

By developing deliberate strategies that can leverage the country's strengths to capitalise on its opportunities, Jamaica may be able to boost its manufacturing sector and increase its level of contribution to the economy. Similarly, strategies must be put in place to minimise threats and mitigate against inherent weaknesses in the industry, if the sector is to grow.

An understanding of Jamaica's current SWOT can position the sector stakeholders to ensure that this happens.

The Appendix shows the SWOT for the six focus sectors of the Strategy, exploring the sector-specific strengths, weaknesses, opportunities and threats for each.

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>• Good road infrastructure/connectivity</li> <li>• Increased collaboration/ linkages among government agencies and other economic sectors including tourism, telecommunication, education etc.</li> <li>• Port telecommunications infrastructure</li> <li>• Stable macroeconomic outlook</li> <li>• Established manufacturing industry</li> <li>• Strong industry association</li> <li>• Competitive labour costs</li> <li>• Access to skilled &amp; semi-skilled labour pool</li> <li>• Access to raw material for production</li> <li>• Access to international markets</li> <li>• Sophisticated Special Economic Zone regime</li> <li>• Strong export promotions agency</li> <li>• Existing intellectual property legislative framework</li> <li>• Responsive and flexible standards development process</li> </ul>	<p><b>WEAKNESS</b></p> <ul style="list-style-type: none"> <li>• Lower labour productivity</li> <li>• High production costs</li> <li>• Weak supply chain</li> <li>• Lack of high skilled labour</li> <li>• Poor access to financing &amp; working capital</li> <li>• High import dependency</li> <li>• Manufacturing technologies are outdated</li> <li>• Lack of diversity in niche products</li> <li>• Poor production standards framework</li> <li>• High cost energy supply</li> <li>• Insufficient industry standards for production</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>• Framework for build out and diversification of the energy base</li> <li>• Strategic geographical position</li> <li>• Shifts in global manufacturing patterns</li> <li>• Access to large network of existing preferential trade agreements and other markets</li> <li>• Access to scalable markets large consumer base</li> <li>• Development of emerging Technologies</li> <li>• Access to existing trade agreements</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>• Limited local economies of scale</li> <li>• Lack of focused incentives for key development areas in manufacturing (e.g. R&amp;D)</li> <li>• Bureaucratic banking and government systems</li> <li>• High crime and corruption rate</li> <li>• Strong regional competitors innovating at a faster rate</li> <li>• Changing international trading regimes</li> <li>• Large informal sector</li> </ul>

Table 2: Jamaica's SWOT Analysis for the Manufacturing Sector



## Section 5: Objectives, Impact and Assumptions of the Strategy

Having regard to the global trends in the role of manufacturing in economic development, and given the potential that the sector's development and expansion can have on Jamaica's economic growth plans, this strategy is being developed to establish a partnership framework between the Government and the private sector in creating the ecosystem necessary for manufacturers to invest, expand, export and positively impact the growth of the Jamaican economy. Specifically, the national strategy is expected to:

- Articulate the challenges and opportunities for growth in the local manufacturing industry
- Outline the initiatives that are essential to propelling the manufacturing industry into realizing greater growth and national impact
- Create a national action plan to grow the local manufacturing industry over the next 5 years.

With this in mind, it is therefore expected that once the strategies and action plan have been implemented, the following results will be realized:

- Increased jobs in the manufacturing industry
- Increased foreign and local direct investment in the manufacturing industry comprising new and expanded businesses
- Increased attractiveness of Jamaica as a location for manufacturing as evidenced through key global location reports
- Increased income to the Government of Jamaica through tax payments
- Increased ability for local manufacturers to supply products into the domestic market thereby reducing the level of the country's imports

- Increased export sales of manufactured goods thereby increasing the level of foreign exchange earnings for the country

The key expected impact of the Strategy, therefore, will be **to grow the manufacturing sector's contribution to GDP moving manufacturing output from J\$66 bn in 2018<sup>19</sup> to J\$81 bn by December 2025<sup>20</sup>**. This growth will be achieved through an aggressive target annual growth rate of 3% per year, which will place employment at approximately 97,898 and export levels at US\$531 million. This level of growth is above the global projected growth rate of 1.6-2% per annum over the period.

Key Assumptions

While the strategies outlined in the next section, are designed specifically to impact manufacturing, it is assumed that other critical initiatives will be implemented in parallel in order for these results to be met. These assumptions include:

- Implementation of the MSME and Entrepreneurship Policy, with a focus on the expansion of productive activity in Jamaica, particularly based on the idiosyncrasies of each sub-sector.
- Reform of the country's Business Environment and other competitiveness issues in respect of the ease of doing business in the country. The work of the National Competitiveness Council (NCC) is noted as it drives the country's full implementation of the Business Environment Reform Agenda that outlines the critical initiatives across the government that work in concert to improve the country's competitiveness.

<sup>19</sup> As at 2018 output level (ESSJ 2018, PIOJ)

<sup>20</sup> This assumes that FY 2020/2021 will be Year 1 of the Strategy.

- Concurrent development within the Services Sector, particularly the areas that support the manufacturing sector.
- Ongoing reforms to significantly reduce the cost of electricity, which is a major pillar in the success of the industry

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- Implementation of a National Crime Plan to allay investor fears of crime and theft in the country, particularly in respect of larceny, which continues to stymie agriculture and the availability/use of local inputs in the manufacturing industry.

## Section 6: Jamaica's Ecosystem for Manufacturing

The current profile of the ecosystem for the manufacturing sector in Jamaica is best understood and appreciated within the context of the support infrastructure that the Government has provided throughout the years. A review of the following elements outlines the key influences impacting the sector's development to date:

### 1. Workforce Training

At present, there is no standard curriculum and training programme dedicated to the manufacturing industry in Jamaica. There are courses and training modules that address the general disciplines and skills required for manufacturing, such as engineering, technology applications, production management, and these are taught across the various tertiary and vocational training institutions in Jamaica and the region.

In addition, the STEM (Science, Technology, Engineering & Mathematics) disciplines, in particular, have emerged as being most relevant to the manufacturing process. The Global Manufacturing Competitiveness Index (GMCI) recognizes that a nation's ability to become competitive is dependent on the ability to attract, develop and retain top science and engineering talent to drive world class innovation and R& D. This extends to education systems that equip students with advanced STEM skills, creative problem-solving skills, entrepreneurial training and leadership skills. The report reinforces also that the key to a nation's greater manufacturing competitiveness is a workforce that is equipped with science and mathematics grounds<sup>21</sup>.

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<sup>21</sup> 2016 Global Manufacturing Competitiveness Index

In fact, China's ranking as the most competitive manufacturing country in the GMCI is credited to several factors, key among which is its focus on its innovation infrastructure as reflected in its high level of STEM graduates. Over the 2012-2017 period, the enrolment of students in the STEM-related programmes at UWI Mona recording 39% in 2012/2013 and 41.5% in 2016/2017<sup>22</sup>. Non-STEM programmes – such as those in the Social Sciences – continue to dominate the preferred choice of the UWI student pool.

If the industry is to grow, a more deliberate effort must be made to create relevant programmes and drive an increase in their enrolment levels. Additional promotion of the Industrial Arts and other such technical vocations, all STEM-based, may be considered.

### 2. Infrastructure Development

Factory Space: The Government, through the Factories Corporation of Jamaica (FCJ), provides industrial and factory space to the manufacturing sector. The state agency has, in some instances, provided subsidies to assist the manufacturing sector, via concessionary rates for example. The challenge facing the FCJ, however, is the concern regarding the quality and location of the space.

Road Network: Over the past 10 years, the government has undertaken extensive investments in upgrading the road infrastructure to improve the movement between the commercial urban centres and the rural communities thus allowing for easier transportation of goods across the country. This opens up the

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<sup>22</sup> UWI Statistical Digest 2012/13 to 2016/2017

country to other manufacturing facilities across the country rather than a concentrated few in areas close to the ports.

Port Development: The divestment of the ports will allow for significant improvements that enhance the ability to move goods in and out of the country. Coupled with the introduction of improved technologies at the Customs Agency with the introduction of the Automated System for Customs Data (ASYCUDA) and the development of the port community system (PCS), trade in manufactured goods will benefit.

Energy: The issue of the cost of energy has remained a challenge for manufacturers. Renewable energy is actively being explored to support not only a lower cost, but a more diversified energy sector. Most recent investments in the sector saw the introduction of an LNG facility that provides cheaper energy to the Jamaica Public Service Company (JPSCo). Also, the JPSCo is investing in the upgrade of its facilities, as well as the build-out of additional megawattage.

Navigating Cross Border Competition: Increased use of the trade remedies infrastructure will help to improve business performance, employment and stimulate investment as consumers switch expenditure to locally produced goods. Trade remedies are defence measures that result in additional duties on imports deemed, after investigation, to be the result of unfair trading practices and or increased volumes of imports that erode any competitive advantage that domestic manufacturers may have had. The sub-sectors identified for growth are ones in which there are considerable competing imports in Jamaica and also in export markets. Any strategy to grow manufacturing must have trade remedies defence as a key component as this helps to head off competition from imports that cause or threaten to cause injury and allow for

breathing space to make investments that result in more modern efficient operations.

### 3. Cost Competitiveness

Financing: The profile of the traditional commercial banking sector has remained largely unchanged over the past few decades in respect of its support to the manufacturing sector. Manufacturers continue to face challenges in securing competitive loans to support their business operations, despite the efforts of the government, as it works particularly through the National Export-Import (EXIM) Bank and the Development Bank of Jamaica (DBJ).

Between both institutions, manufacturers can access short, medium and long-term financing at competitive rates. The EXIM Bank provides financial support for a range of activities including working capital, equipment acquisition, retooling/upgrading of facilities, pre-shipment financing, receivables financing, market research and debt refinancing. The DBJ offers its support via Approved Financial Institutions (AFIs) for similar activities as the EXIM in addition to also providing financing to address the issue of reducing high energy costs. The DBJ also provides partial guarantees via its Credit Enhancement Facility that will support accessing financing from the traditional financial community. One additional DBJ product offering is the voucher system through which manufacturers can access technical assistance to improve their technical capacity.

The potential benefits of the DBJ's product offering are, however, challenged by how the Bank facilitates loans and grants. The traditional financial institutions, which serve as the AFIs, have been reluctant to offer the DBJ packages since they have themselves developed competing programmes for the manufacturers. The manufacturers are therefore presented with the commercial banks' products and only where the companies make a specific request, is

the information on the DBJ packages shared. The likely outcome is the inaccurate conclusion that there is little interest in the DBJ packages.

The government also introduced the secured transaction regime under the Secured Interest in Personal Property Act (SIPPA), which has also not yet fully realized its expected benefits. The ability to leverage non-traditional forms of collateral in order to secure loans has been challenged in part by a) the guidelines issued by the Bank of Jamaica which limit what the commercial banks can accept as collateral and b) the weak efforts by the lending institutions to design instruments that will accept movable assets as collateral which would increase access to finance for MSMEs.

*Fiscal Incentives:* At the close of 2013, the government revised its fiscal incentives regime in an effort to make the benefits commensurate with a company's (and by extension, the industry's) contribution towards the economy. The result was the Omnibus Incentives Regime comprising five (5) pieces of individual legislation and offering a range of fiscal benefits for manufacturing firms including a Productive Input Relief system. In general, the Regime allows for:

- Relief from Common External Tariff (CET)
- Relief from Advanced General Consumption Tax (GCT)
- Relief from Additional Stamp Duty
- 50% Discount on the Customs Administrative Fee (CAF)
- Deferment of Standard GCT
- Employment Tax Credit (ETC)

The challenge with the current construct of the fiscal incentives regime for the manufacturers is that in order to access these benefits a company must first meet the definition of 'manufacturing' under the Fiscal Incentives Act; a process which requires greater

consistency in how it is applied. Additionally, the benefits are not all consistent as for example, not all items can benefit from the relief on the CET, as local and CARICOM rules preclude some goods from such relief. In some instances, the rationale for their inclusion no longer stands but the process to remove them from the list is tedious and protracted as it involves a series of interactions with the CARICOM Secretariat and its organs.

The Special Economic Zone (SEZ) Act offers an additional option for fiscal incentives for the manufacturers. At this time, the eligibility criterion for the SEZ precludes existing Jamaican companies from accessing the benefits (key among which is a reduced Corporate Income Tax (CIT) rate and the relief of the GCT upon importation). Given the size of most manufacturing companies, they would qualify as an MSME operator within the SEZ, thus benefitting from various concessions.

#### **4. Trade Agreements Framework**

Jamaica is party to twelve (12) trading arrangements; at both the multilateral and regional levels. These arrangements establish a framework within which Jamaican manufacturers are able to export their products to the other parties of the agreements on a preferential basis.

It must be noted however that while these trading agreements/arrangements are in force; in many instances Jamaica is not in a position to take proper advantage of their provisions. The primary reason for this is due to the supply-side constraints, as well as practical obstacles/barriers imposed by the target State, which curtails Jamaica's ability to access the relevant markets in actuality.

It is therefore envisioned that the implementation of the National Foreign Trade Policy will increase penetration into existing markets, acquire new markets and fully utilize market access in order to



address existing challenges that would otherwise hinder trade. In so doing this will strengthen the communication and response mechanisms in respect of constraints to competitiveness and market access identified by the private sector. The Policy recognizes the need for additional financing, technical assistance, institutional strengthening, and capacity-building to implement these agreements and to overcome existing supply-side constraints in order to make effective use of trade agreements/arrangements.

These factors can be further alleviated by encouraging and building national capacity to encourage and stimulate export supply from the private sector to exploit existing market access agreements; and enhancing and streamlining, as necessary, the institutional support services available for existing and potential exporters, especially MSMEs, to building national capacity to exploit existing trade agreements, making maximum use of market access opportunities.

Table 3 below outlines the status of Jamaica's various trading arrangements.

*Table 3: Status of Jamaica's Trading Arrangements*

Jamaica's Trading Arrangement	Status
The World Trade Organization (WTO) Most Favoured Nation (MFN) Treatment Principle	In force
UNCTAD Generalized System of Preferences (GSP) -	In force
The Caribbean Basin Initiative (CBI) Duty Free Access to the US market	In force
The Commonwealth Caribbean/Canada Trade Agreement (CARIBCAN) Duty Free Access to the Canadian Market	In force
Revised Treaty of Chaguaramas: CARICOM Single Market (CSM) Duty Free Treatment	In force
CARIFORUM - European Community (EC) Economic Partnership Agreement (EPA)	In force

Jamaica's Trading Arrangement	Status
CARICOM - Dominican Republic Free Trade Agreement	In force
CARICOM – Colombia Free Trade Agreement	In force
CARICOM – Venezuela Free Trade Agreement	In force
CARICOM - Costa Rica Free Trade Agreement	In force
CARICOM – Cuba Free Trade Agreement	In force
Petro Caribe Trade Compensation Mechanism	In force

### Strategic Initiatives to Boost Manufacturing

Using the drivers outlined by the Global Manufacturing Index and the recommended strategies outlined for the sector within the National Development Plan: Vision 2030, the strategic initiatives that are needed to boost Jamaica's manufacturing sector are outlined below. The relevant implementing agencies are also named. These agencies would also require the support of their individual portfolio Ministries in effecting the recommendations required.

Additionally, it is important to note that the Strategy's development is informed by the varying needs of the Micro, Small and Medium Enterprises (MSME), in so much as it seeks to address critical factors relevant to the MSME sector. The cross-cutting nature of the Strategy will address the general idiosyncrasies among the various segments of the MSME. Ultimately it is expected that one key outcome of implementation will be the sector's transition from primarily non-productive activity into core manufacturing operations, thus immediately expanding the size of Jamaica's Manufacturing sector.

Enhance Workforce Productivity	Expected Impact
<p><b>A. Develop an Apprenticeship Programme for Manufacturing</b></p> <p>One of the key lessons highlighted from the experience of Germany by the Global Manufacturing Report is its deliberate strategy of pairing the vocational training with the traditional classroom training, recognizing the importance of practical experience to reinforce the more theoretical approach to learning. Presently, the Ministry of Education is the largest consumer of furniture. The repair of the furniture is facilitated through students under an apprenticeship programme and certificates of participation are issued at the end of the engagement.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Establish and institute an apprenticeship programme across all tertiary and vocational training institutions</b>, giving priority to the graduates of STEM programmes (including those within the Industrial Arts programmes) from either secondary or tertiary levels. The objective of this approach is to create greater balance within the labour pool between the STEM and non-STEM skills set, as at the present Jamaica's work force is predominantly characterized by a non-STEM labour profile. Partners in this venture would include both government and private companies that utilize the disciplines in manufacturing or manufacturing-related institutions and companies. To ensure transfer of knowledge, the programme could commence at the penultimate year of study. Specifically, one immediate solution is for the:</li> <li>• <b>Establishment a partnership between HEART/NTA, the Ministry of Education &amp; the JMEA</b> to formally structure and align the expansion of the Ministry's apprenticeship programme with the secondary students along with the joint efforts of the JMEA and HEART (via a MOU). The resulting outcome would be the creation of an institutionalized</li> </ul>	<ul style="list-style-type: none"> <li>• Highly skilled and specialized labour force</li> <li>• Higher income for manufacturing workers</li> <li>• Increased ability to attract more complex manufacturing investments into Jamaica</li> </ul>

Enhance Workforce Productivity	Expected Impact
<p>apprenticeship programme that would offer skills certificates to the participants (<i>see related recommendation below</i>).</p> <ul style="list-style-type: none"> <li>• <b>Promote the diversity of career specialization for STEM graduates</b>, which includes a range of professions ranging from fabricators, machinists, field service engineers, senior plant engineer, material engineers, economists and nutritionists, to jobs within the life sciences, robotics, big data analytics, mechatronics and social media game development industries.</li> <li>• <b>Build capacity in knowledge and use of trade remedies by manufacturers</b>. This will include delivering certified training programs in trade remedies.</li> </ul> <p>[Implementing Entity: Anti-Dumping and Subsidies Commission (ADSC), HEART Trust, MOE, JMEA]</p>	
<p><b>B. Develop Core Training Curriculum for Manufacturing</b></p> <p>Despite the wide scope of productive activities within the industries that comprise the manufacturing sector, there is no set base of skills defined for entry into the manufacturing sector that would begin to frame the profile and scope of the Jamaican manufacturing sector. The objective would not be to develop prescriptive steps to manufacturing, but to establish fundamental core competencies across the many industries within the manufacturing sector.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>• <b>Create and implement a manufacturing certification programme</b> that focuses on the core skills that would characterize the labour pool within the manufacturing sector. Essentially, the country would adopt an approach similar to what has been done with the outsourcing industry, where HEART/NTA has developed a basic training curriculum that all graduates must undergo that provides the fundamental skillset of the industry. Work with industries leaders will be critical to understanding the core fundamentals and ensure that the quality and relevance of the training will achieve the desired impact. [Implementing Entity: HEART Trust, NCTVET]</li> <li>• <b>Align and standardize the Apprenticeship Skills Certification programme</b> among the relevant stakeholders such as the Ministry of Education (MOE), HEART &amp; JMEA. This effort would also result in the development of a MOU between the JMEA and MOE to broaden the range of students currently included in their established arrangement to now include additional disciplines, based on industry demand, e.g. furniture, fashion and design. This should also include MCGES which is currently exploring programmes for creative-based manufacturing companies. Recommendations have also been made by MFAFT that this could be further expanded to include apprenticeship/vocational training through existing and proposed bilateral cooperation programmes. [Implementing Entity: HEART Trust, MOE, JMEA, MCGES, MFAFT]</li> </ul>	

Enhance Workforce Productivity	Expected Impact
<p><b>C. Expand the STEM Programme</b></p> <p>The Government has been working with the Labour Reform Commission, whose report outlines, <i>inter alia</i>, recommendations for priority attention to imparting training in the STEM disciplines. JAMPRO, itself developed recommendations, which also highlights the critical importance to developing and expanding the STEM disciplines and inculcating a culture of innovation.<sup>23</sup> All the top 5 countries ranked by the GMCI have extensive programmes within their education systems focused on the STEM disciplines. In 2017, the Ministry of Education reported that the pass rate for mathematics was 47.7% (a 14.3-point decrease compared to 2015)<sup>24</sup>. It is appreciated that in the immediate, e.g. during the 5-year period addressed by this Strategy document, there may not be a sharp rise in the number of opportunities for the higher skilled labour pool, e.g. engineers, but rather for those individuals in the Industrial Arts. Nevertheless, it is expected that as the sector begins to grow and diversify, it will begin to attract increased numbers of highly technically skilled individuals.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>• <b><i>Increase the level of coordination among the primary and secondary school curricula to place increased priority on the STEM disciplines.</i></b> Strong performance in the STEM disciplines is not a dominant characteristic of the Jamaican primary and secondary education profile. A committed focus on the introduction and advancement of mandatory STEM subjects within both the primary and secondary school system will create a sustainable solution to the challenge of producing the quality of students for enrollment at the tertiary levels. This approach will also have a positive and reverse impact on the tertiary enrollment in STEM programmes, bearing in mind for example, the decline in the number engineering enrollments at UWI during the 2009 – 2014 period. Ultimately, Jamaica’s ability to effectively compete for global investments based on its talent base would be guaranteed. <b>[Implementing Entity: Ministry of Education (MoE)]</b></li> <li>• <b><i>Incentivize student enrolment in tertiary STEM programmes</i></b> by directing the Student Loan Bureau to prioritize such programmes in the granting of loans and grants for tertiary education. <b>[Implementing Entities: MoE &amp; Students’ Loan Bureau (SLB)]</b></li> </ul>	

<sup>23</sup> Growth Agenda’s Training Strategy for a Better Economy (GATSBE)

<sup>24</sup> <http://www.moe.gov.jm/education-ministry-address-decline-csec-math-passes>

Improve Cost Competitiveness	Expected Impact
<p><b>A. Provide Cost Competitive/Innovative Financing Options</b></p> <p>While the challenges and original rationale for the DBJ to move away from direct lending are understood, the JMEA has argued that the changing landscape and profile of the manufacturing industry may be the reason for the policy to be reconsidered as it is their experience that the practice of the AFIs has undermined the efforts at supporting the productive industries.</p> <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> <li>• <b>Explore the feasibility of a dedicated line of credit, directly through the DBJ or EXIM, for qualifying manufacturing activities</b>, as identified by government policy, to provide avenues to boost expansion of the sector. The lines of credit should be at lower interest rates and could consider the inclusion of moratoriums for certain categories of loans. [Implementing Entity: Ministry of Economic Growth &amp; Job Creation (MEGJC) through Development Bank of Jamaica (DBJ), MICAFA through the Exim Bank]</li> <li>• <b>Expand the programmes of both the DBJ and EXIM Bank focused on retooling</b> so as to address one of the issues facing the more established manufacturing companies, where access to financing has hindered their ability to innovate in respect of their facilities and equipment. [Implementing Entities: MEGJC through DBJ, MICAFA through EXIM Bank]</li> <li>• <b>Increase the government's promotional efforts regarding the energy audit services provided</b> and in so doing sensitize companies to the cost savings to be derived from implementing energy audit recommendations. Such a campaign will educate the industry of the energy efficient measures that can increase cash flow to other areas that allow for expansion and that energy audits are currently offered by the Jamaica Productivity Centre (JPC) and the Petroleum Cooperation of Jamaica (PCJ), as well as energy service companies (ESCOs). It should be noted that DBJ's Energy Audit Grant allows for financing of the implementation of energy efficiency programmes that will support this thrust. [Implementing Entities: MICAFA, MSET, JPC &amp; PCJ]</li> <li>• <b>Create grant schemes to support investment in the R&amp;D</b> activities of the companies. Working through the SRC continues to prove beneficial, but they are limited in the support that they can give, or the number of companies that can benefit from their services. An expansion of this activity, to include working with private and other research bodies could significantly change the profile of the manufacturing sector. [Implementing Entity: DBJ]</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced and diversified financing options for reinvestment and working capital</li> <li>• Ability to lower costs of production – through energy savings etc.</li> <li>• Establish and incentivize R&amp;D as a channel for business growth and diversification</li> <li>• Reduce bureaucracy and increase factor (labour) productivity</li> <li>• Increased formality of industry players</li> </ul>



Improve Cost Competitiveness	Expected Impact
<p><b>B. Refine the Fiscal Incentives Structure</b></p> <p>The use of the negative approach to defining manufacturing has led to greater levels of uncertainty for both the administrators of the policy and the beneficiaries.<sup>25</sup></p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b><i>Expedite the establishment of the Fiscal Linkages Committee and develop Technical Guidance</i></b> in keeping with the Fiscal Incentives Act. The policy makers, in anticipating the challenges in administering the Productive Input Relief (PIR) scheme within the omnibus incentive regime, had recommended the establishment of an objective committee that would give technical guidance on interpretation issues. Additionally, to ensure transparency and increase the level of accountability among all stakeholders, Technical Guidance Notes should be routinely developed and published by the TAJ on the nuances of the fiscal incentive regime. <b>[Implementing Entity: MoFPS, Customs with technical support from MICAF]</b></li> <li>• <b><i>Expedite the finalization of the Large Projects &amp; Pioneer Industries Act (LPPIA)</i></b> which would provide additional incentives for manufacturers to more fully embrace innovation and dynamism within their productive practices. Coupled with the R&amp;D grants that would address the costs of R&amp;D, the LPPIA would advance those efforts by providing support for the commercialization of the R&amp;R results. <b>[Implementing Entity: Ministry of Finance and Public Service (MoFPS)]</b></li> <li>• <b><i>Establish a Linkages Tax Credit scheme</i></b>, to encourage both foreign and larger local firms to establish business linkages with manufacturing companies and source their materials from the local supply network. The administration of the credit would be based on an established list of qualifying MSMEs and investors/larger local companies. The scheme would further boost and complement the development and expansion of the supplier network of the local manufacturing sector. <b>[Implementing Entity: MoFPS]</b></li> </ul>	
<p><b>C. Expedite Full Implementation of the National Energy Policy</b></p> <p>The cost of energy directly impacts the competitiveness of the manufacturing sector.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b><i>Expedite the implementation of the energy policy in its entirety</i></b> (from types of vehicles allowed into the country to the roll out of the Renewable Energies Plan) would directly influence the reduction in energy costs. <b>[Implementing Entity: MSET]</b></li> </ul>	

<sup>25</sup> The negative approach definition focuses on what is NOT manufacturing rather than what is, leaving no room for emerging activities that may not clearly fit on the list.

Improve Cost Competitiveness	Expected Impact
<ul style="list-style-type: none"> <li>• <b><i>Expedite the implementation of Integrated Resource Plan (IRP)</i></b>, which will facilitate the development of the energy industry and provide cheaper alternative energy sources for all manufacturers. The OUR needs to define and issue tenders for additional MW in short order. [Implementing Entity: MSET and OUR]</li> </ul> <p><b>D. Rationalization of Government Permits, Licenses and Authorisations</b></p> <p>The Trade Facilitation Agreement represents the government commitment to transform the experience at the border when attempting to import and export items into and from the country. The reforms and resulting projects, when fully implemented, will immediately improve the competitiveness of the manufacturing sector as they source their inputs and trade their products throughout the world. One key output is the government's reduction in the number of permits and licenses required that serve as a disincentive to do business.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b><i>Fast track the efforts of the Trade Facilitation Task Force</i></b>, in efforts to reduce the borders costs and those that impact the movement of manufactured goods to include permits, certifications and border costs. [Implementing Entity: MICAF, MoFPS, Trade Board]. Specifically, immediate attention should be placed on:</li> <li>• <b>Assess and rationalize the number of permits, licenses and authorizations given across government</b> with a view to accommodate either removal or consolidation of these Government approvals. Once the list has been rationalized, the following must be prioritized:             <ul style="list-style-type: none"> <li>○ <b><i>Rationalize and reorganize border agencies and their requirements</i></b> [Implementing Entity: Ministry of industry, Commerce, Agriculture and Fisheries (MICAF)]</li> <li>○ <b><i>Expedite the required legislative changes</i></b> [Implementing Entities: Relevant Ministry(ies) and the Office of the Chief Parliamentary Counsel (CPC)]</li> <li>○ Where no legislative change is required, <b><i>the administrative steps to reduce the permits or the process around them must be under taken.</i></b> [Implementing Entities: As identified by process review]</li> </ul> </li> <li>• <b><i>Implement a National Business Portal</i></b>, and in so doing, facilitate the full roll-out of the intended services under the Gov.JM platform. The national platform was designed to provide a web-based interface for all government services, of which the business services are key. Full implementation of the Business Portal will simplify the business environment and will aid the facilitation of critical business approvals, thus reducing the cost of doing business in Jamaica. This would require that an audit of the various efforts already underway in partnership with Cabinet Office. This would help to improve government transparency and efficiency through which the business community would benefit. Accountability within the public sector would also be an additional outcome. [Implementing Entities: MSET, Cabinet Office, eGov Ja and JAMPRO]</li> </ul>	

Expand Infrastructure	Expected Impact
<p><b>A. Provision of Suitable Factory Space</b></p> <p>While the Jamaica Manufacturers' and Exporters Association (JMEA) has conducted research into the factory square footage required by its membership, a more comprehensive audit would be useful in assisting the government to develop policies and strategies to address the space gap on a national level.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Create special lease facilities for manufacturing space.</b> Mobilize the Factories Corporation of Jamaica and other state agencies to provide affordable space for manufacturing entities that meet specific criteria. Such a programme would be put forward within the context of greater non-fiscal incentives for the industry. A necessary step would be to complete a comprehensive audit of available factory space for the sector vis-à-vis how much space is required, including projections for the growth of the manufacturing sector [Implementing Entity: Factories Corporation of Jamaica (FCJ)]</li> <li>• <b>Development of modern factory space.</b> The creation of new factory space needs to take into consideration the direction of the industry and be retrofitted to support the emergence of varying modes of manufacturing. One approach could be to create 'shell' spaces and then be prepared to retrofit to specifications based on the requirements of a tenant based on a long-term lease agreement. [Implementing Entity: Factories Corporation of Jamaica (FCJ)]</li> <li>• <b>Provide incubators for small and medium manufacturers.</b> The creation of small incubator spaces is of paramount importance to allow manufacturers to test their products in the market making a decision to invest fully in an enterprise. This incubator phase will also allow for proof of concept to financiers that may wish to invest in a more established space. [Implementing Entity: Factories Corporation of Jamaica (FCJ)]</li> </ul>	<ul style="list-style-type: none"> <li>• Diversified and more cost-effective offering of factory space</li> <li>• Lower cost of transportation</li> <li>• Ability to attract more diversified manufacturing investment interest</li> <li>• Increase the number of manufacturers in the industry</li> <li>• Enhanced ability for manufacturers to expand their businesses</li> </ul>
<p><b>B. Address the Challenges in Transportation Logistics</b></p> <p>The traditional means of transporting goods along parochial roadway is an impediment to the efficient movement of goods from the business operation to their varied destinations.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Introduce fiscal incentives to support investment in critical assets,</b> e.g. refrigerated trucks. At present the fiscal incentive regime does not accommodate relief related to motor vehicles for the manufacturing sector. The considerations made to accommodate the Tourism and Agricultural sectors should also be brought to bear in this specific instance to the manufacturing sector.</li> </ul>	

Facilitate Market Expansion	Expected Impact
<p><b>A. Promote and Maintain Local Suppliers' Directory</b></p> <p>The expansion of the suppliers' network is predicated on potential buyers being able to find the suppliers. Support must be provided to development of such a directory that can be made available to both local and foreign buyers.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Expand and promote the suppliers' directory</b> for the entire manufacturing sector. This includes identifying innovative ways to connect the suppliers with buyers whether through existing networks or diversifying the ways in which products are featured in the directory. The management of the directory by the Ministry of Industry, Commerce, Agriculture and Fisheries and the JMEA would ensure comprehensive updating and the widest circulation. [Implementing Entities: MOT, JMEA, MICAF and the Tourism Linkages Council/Ministry of Tourism, DBJ, EXIM]</li> </ul>	<ul style="list-style-type: none"> <li>• Increased awareness of local manufactured goods</li> <li>• Increased access to global markets</li> <li>• Increased awareness of Brand Jamaica in global markets</li> <li>• Increased access to GoJ as a purchaser</li> </ul>
<p><b>B. Establish Accountability Frameworks for Government Set-Aside Policy</b></p> <p>The government has taken all the steps necessary to fully implement its commitment to establishing a set-aside within the public procurement process for local manufacturers. Ministerial Orders have been signed, thus effecting the regulations to the Government Procurement legislation which seeks to support the manufacturing sector, and in particular the MSMEs. Specifically, the Regulations provide for:</p> <ul style="list-style-type: none"> <li>- 20% set aside in the government's annual procurement plans for small and micro enterprises</li> <li>- 20% margin of preference for domestic producers when bidding for government projects</li> <li>- 100% government procurement within targeted industries, including drapery, uniforms, printing, furniture and other industries identified as critical by the government.</li> </ul> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Expedite the adoption and implementation of the regulations for the Public Procurement Act</b> that provides the administrative and operational framework for the implementation of the legislation, in which the government's set aside policy is outlined. [Implementing Entity: MoFPS]</li> <li>• <b>Establishment of a robust and dedicated monitoring and evaluation plan</b> to track and analyze the performance of the various MDAs vis-à-vis the objectives of the government's set-aside policy [Implementing Entity: MOFPS, MICAF and JMEA]</li> <li>• <b>Expedite and expand the training of the government's procurement officers</b> to the new paradigm created by the legislation and new regulatory framework. [Implementing Entity: MoFPS]</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced opportunities for investment and export growth</li> </ul>

Facilitate Market Expansion	Expected Impact
<p><b>C. Accelerate Promotional Initiatives to Increase Market Share Globally</b></p> <p>Continued support for the export promotion of locally manufactured goods is critical to the expansion of the supplier network. Positioning JAMPRO to expand its services to an increased number of manufacturers in its promotional activities is to the advantage of the sector.</p> <p><b>Recommendation:</b></p> <ul style="list-style-type: none"> <li>• Develop and implement a comprehensive Sales and Promotion Strategy for the Sector [Implementing Entity: JAMPRO]</li> <li>• Encourage joint promotional activities between JAMPRO and the JMEA and other interested parties [Implementing Entities: JAMPRO &amp; JMEA]</li> </ul>	
<p><b>D. Diversify the Brand Jamaica Product Offering</b></p> <p>Jamaica is traditionally known as a country of samples with minimal diversification across product types and brand, most having the same commonalities. As a result, the market is saturated with products having the same unique selling point which weakens Jamaica's Brand position in the market.</p> <p><b>Recommendation:</b></p> <ul style="list-style-type: none"> <li>• <i>Develop a Nation Branding Strategy</i> that will outline the approach to be taken to leverage the strength of the manufacturing sector in Jamaica while also introducing innovative means by which to identify and promote new products and services [Implementing Entity: JAMPRO]</li> </ul>	
<p><b>E. Use of the Trade Remedies Infrastructure</b></p> <p>Identification of special opportunities in external markets as a result of trade remedies training and knowledge.</p> <p><b>Recommendation:</b></p> <ul style="list-style-type: none"> <li>• <i>Analyse trade remedies activities in export markets and competitors' markets;</i> knowledgeable exporters may exploit the opportunities in overseas markets where there are trade remedy measures. [Implementing Entity: ADSC]</li> </ul>	
<p><b>F. Expand the Online/Web-Based Interface</b></p> <p>The competitiveness of the manufacturing sector will be immediately improved where it fully embraces the reach of web-based interfaces, beyond websites and social media platforms. There is an increasing demand for online</p>	

Facilitate Market Expansion	Expected Impact
<p>purchasing and more consumers are opting to e-stores as their preferred purchasing option. Statistics indicate that 43% of B2B buyers prefer to buy a product directly from the brand that manufactures it, rather than the distributor that sells it, and 20% of them are willing to pay slightly more for the opportunity to do so (Forrester Research, 2017). In the US, more than 60% of people are purchasing goods online from the comfort of their home and this figure is increasing constantly.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Implement training &amp; capacity building programmes</b> to train new and existing manufacturers on how to build out an e-commerce arm of their operations. This includes engaging financial institutions and the Jamaica Bankers Association who can educate and sensitize them to the costs associated with this service. [Implementing Entities: JMEA and JBDC, MICAF]</li> <li>• <b>Consult with the banking community to develop innovative systems to facilitate easier access to e-commerce solutions</b> as thus identifying means through which issues, such as the hidden costs associated with these activities, can be removed and the process of e-commerce made simpler for both financial institutions and the merchants. [Implementing Entities: JMEA and JBDC, MICAF]</li> </ul>	

Incorporate Innovation Strategies	Expected Impact
<p><b>A. Establish Network of Innovators</b></p> <p>As Jamaica works at strengthening its foundation as a manufacturing sector by addressing the training &amp; skills development needs, emphasizing the use of data &amp; a data ecosystem, as well as establish frameworks to facilitate the 'servicification' of manufacturing, efforts are also required to advance the sector's use and profile as an innovator within the local and even regional economy. The first step in the sector's journey towards achieving the Industry 4.0 status is to start a dialogue within the country about the desired outcome and its transformational impact on the country's economy. This dialogue should leverage the expertise of both public (e.g. the Scientific Research Council (SRC)) and private sector stakeholders who are mandated and driven to introduce innovative and revolutionary technologies and processes to the productive sector.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Create a clear communications plan</b> for the entire manufacturing sector to highlight the benefits to be derived from this approach and seek to establish a mechanism that support capacity development in the industry. [Implementing Entity: JMEA and JAMPRO]</li> <li>• <b>Enter in partnerships with local and foreign manufacturing think tanks</b> that can help to identify and develop</li> </ul>	<ul style="list-style-type: none"> <li>• Diversified manufacturing products</li> <li>• Increased IP protection for Jamaican products</li> <li>• Increased income from IP earnings</li> </ul>



Incorporate Innovation Strategies	Expected Impact
<p>innovation driven concepts for the local manufacturing sector, informed by the work of the SRC. The expansion of the STEM education and labour pool will provide the ideal resource upon which to develop this initiative. [Implementing Entity: MICAFA, SRC and JMEA]</p> <ul style="list-style-type: none"> <li>• <b>Expand the IGNITE Programme</b> by DBJ to address resource requirements for participants to allow them to better assess the viability of their products. Such support should be supplemented by the SRC's expansion of testing lab facilities to support the development of the product from conceptualization to distribution. This includes assessing the products for feasibility once it enters the market. [Implementing Entity: DBJ and SRC]</li> </ul> <p><b>B. Establish Comprehensive Intellectual Property Rights (IPR) Framework</b></p> <p>Establishing a culture of innovation presupposes the existence of culture and system that protects the creative process. Intellectual property protection rose toward the top of competitive advantages in the United States and Europe. New inventions and discoveries which may realize higher profits require a solid IP infrastructure to protect the rights within such works. Accession to the Madrid Protocol has been a protracted exercise. This will extend to the overall modernization of Jamaica's IP regime supported by a similar thrust across the region which will seek to protect Jamaica's products and services.</p> <p><u>Recommendation:</u></p> <ul style="list-style-type: none"> <li>• <b>Accede to the Madrid Protocol</b>, which will include expediting the passage of the legislation and any regulations to ensure Jamaica's accession to the Protocol. This will facilitate the international registration of trademarks. A similar thrust is required in relation to patents. This will also assist in facilitating e-commerce for Jamaican products. [Implementing Entity: MICAFA and JIPO]</li> </ul>	

## Section 7: Private Sector Support for Manufacturing

The manufacturing sector has been supported by a very robust and strong private sector since its inception as an industry before Jamaica's independence. The industry comprises of over nine hundred (900) micro, small, medium and large enterprises including start-ups and longstanding companies, which have played a key role in building Jamaica's brand recognition as a place to do business and producer and exporter of quality products. This has resulted over the years in large investments by family owned, other local businesses as well as regional and multi-national companies in manufacturing.

The Jamaica Manufacturers' and Exporters Association (JMEA) was the leading representative body for the sector for seventy (70) years. Recently, the Association merged with the Jamaica Exporters' Association to form the Jamaica Manufacturers' and Exporters' Association (JMEA), but their focus, mandate and commitment to serve the manufacturing industry have not changed or diminished.

Generally, the Association provides a range of services to the industry, including government lobby and advocacy, market research and training and mentorship of its members. Historically, the JMEA worked closely with JAMPRO and other Government Ministries and Agencies including the Ministry of Industry, Commerce, Agriculture and Fisheries, Ministry of Tourism and Jamaica Business Development Corporation as well as other private sector bodies such as the Jamaica Exporters' Association, the Private Sector Organization of Jamaica, and the Chamber of Commerce in championing the cause of the industry. As a merged entity, the new JMEA is committed to and is aggressively broadening its support for the sector and in executing the strategy. Specifically, the private sector will support in the following ways:

- **Capacity Building Programmes:** to promote and encourage training programmes within the industry designed to provide knowledgeable personnel to meet the needs of the industry. Training will be conducted in areas such as standards and quality, market intelligence, productivity among others. In addition, capacity support will be provided by the JMEA as a partner for the DBJ's VTA Programme in areas such as Mentorship and Coaching, Business Plan, Account Management and Marketing and Promotional Plan development.
- **Cluster Development Programmes:** to develop and manage clusters as a model for growth, in sectors such as the castor, agro-processing industry and light manufacturing.
- **Execute Strategic Partnerships:** to partner with key government agencies and private sector to drive skills development, competitive financing and factory space allocation for the industry. The Association will continue to develop partnerships with financial institutions for tailored banking products/solutions for the manufacturing sector.

- **Promote Industry Competitiveness:** encourage private sector investments in renewable energy and other efficient and modern technologies, among other initiatives such as contract manufacturing, advanced manufacturing, standards development and innovation.
- **Market Access and Penetration:** to promote and conduct industrial trade shows and inward missions as well as gather market intelligence data to increase local and international sales of Jamaican goods through initiatives such as Buy Jamaican Campaign, Expo Jamaica, Jamaica International Exhibition (JIE) and development of Market Profiles.
- **Domestic Linkages:** to promote the linkages between manufacturing, agriculture, tourism and the creative industry through participation on the Tourism Linkages Network executing events such as Speed Networking, Christmas In July and Suppliers Directory. Additionally, executing matchmaking events between the manufacturing sector and the distributive trade to promote import substitution.
- **Public-Private Discussions and Interactions:** to continue dialogue and provide key personnel and industrial players to serve on committee(s) developed for the implementation of the strategy and other areas of growth to ensure that industry issues remain relevant and are addressed at the firm, national, regional and international level.
- **Proactive Efficiency in Energy Use:** as a part of the energy conservation efforts manufacturers should perform energy audits as a precautionary approach to enhancing their efficiency of production costs. In this, the Jamaica Manufacturers' and Exporters' Association (JMEA) should implement a programme to promote energy saving practices amongst its members.

**Section 8: Way Forward/Next Steps**

The value of the manufacturing sector to Jamaica is undoubted and continues to be proven by virtue of its job creation, tax revenue and overarching contribution towards the GDP of the country. The impact of the sector can be far greater and, as outlined in the very ambitious national targets that have been set, the country has committed to creating the framework within which they can be met.

It is within this context that the role of agro-processing and light manufacturing, in particular, must be fully appreciated and all effort be made by both government and the private sector to fully and expeditiously implement the recommended strategies and initiatives outlined within this document. The critical success factors required to transform this sector to propel the national economy towards its 2025 growth target and beyond can therefore be summarized in Figure 8 above.



Figure 16: Jamaica's Manufacturing Sectors' Competitiveness

Implementing Entity		Requires Action/Milestones	Activity Launch (Required Timelines)
Lead	Support		
HEART/NTA	MOE, Private Sector	❖ Establish and institute an apprenticeship programme across all tertiary and vocational training institutions	<2 years
		❖ Create and implement a manufacturing certification programme	<1 year
MOE	-	❖ Promote the diversity of career specialization for STEM graduates	<0 – 3 months
	HEART, JMEA, MFAFT	❖ Increase the level of coordination among the primary and secondary school curricula to place increased priority on the STEM disciplines	<0 – 3 months
		❖ Alignment of the apprenticeship programmes	<0 – 3 months
SLB	MOE	❖ Incentivize student enrolment in tertiary STEM programmes	<6 – 9 months
MEGJC & MICA (through EXIM & DBJ)	MOFPS	❖ Explore the feasibility of a dedicated line of credit for qualifying manufacturing activities	<1 year
		❖ Expand the programmes of both the DBJ and EXIM Bank focused on retooling	<6 – 9 months
MEGJC through DBJ	MOFPS	❖ Create grant schemes to support investment in the R&D	<2 years
	SRC	❖ Expand the IGNITE programme	<3- 6 months
MEGJC through FCJ	-	❖ Create affordable lease facilities for manufacturing space	<0 – 3 months

Implementing Entity		Requires Action/Milestones	Activity Launch (Required Timelines)
Lead	Support		
MICAF through JAMPRO	eGov, Cab. Office	❖ Implement a National Business Portal	<1 year
	Private Sector, MICAF	❖ Develop and implement a comprehensive Sales and Promotion Strategy for the Sector	<3 months
		❖ Encourage joint promotional activities	<3 – 6 months
	JMEA	❖ Create a clear communications plan	<1 year
		❖ Develop Nation Branding Strategy	<1 year
MICAF	JIPO	❖ Expedite passage of the legislation and any regulations to ensure Jamaica's accession to the Madrid Protocol.	<0 – 3 months
	TFTF	❖ Assess and rationalize the number of permits, licenses and authorizations given across government related the sector	<1 year
	-	❖ Enter in partnerships with local and foreign manufacturing think tanks	<3 – 6 months
	JMEA	❖ Consult with banking community re e-commerce solutions	<0 – 3 months
	JMEA	❖ Develop PR to encourage energy audits among manufacturers	<0 – 3 months
	ADSC	❖ Amendments to legislation that result in greater clarity and ability of manufacturers to use the legislation	<2 years
		❖ Full operationalization of an industry help desk. This desk would prepare applications on behalf of domestic manufacturers for trade remedy against imports that cause or threaten to cause injury whether due to unfair trading practices or increase in import volumes. Trade remedy analysis of overseas competitors activities would contribute to better ability to compete where there is dumping or subsidisation	<1 year
MOT	JMEA, MICAF, Tourism Linkages Council/Ministry of Tourism, MFAFT, DBJ, EXIM	Expand the suppliers' directory. Despite lead responsibility by MOT, MFAFT and their consulate offices would have this directory within their Brand Jamaica marketing toolpack (including Consulates). Other key stakeholders such as partnering financial institutions would also be leveraged to promote this directory on their digital platforms in one unified approach.	<0 – 3 months
MOFPS	TAJ	❖ Expedite the establishment of the Fiscal Linkages Committee and developed Technical Guidance Notes	<0 – 3 months
		❖ Expedite the finalization of the Large Projects & Pioneer Industries Act (LPPIA)	<0 – 3 months
		❖ Establish a Linkages Tax Credit scheme	<6 – 9 months

Implementing Entity		Requires Action/Milestones	Activity Launch (Required Timelines)
Lead	Support		
	JMEA	❖ Establishment of a robust and dedicated monitoring and evaluation plan for the Government's Set Aside Policy	3 – 6 months
	MICAF	❖ Expedite a Pilot Project for the Government Set-Aside Orders to inform full implementation across the GOJ	<0 – 3 months
		❖ Expedite and expand the training of the government's procurement officers to implement the Government's Set Aside Policy	<0 – 3 months
	-	❖ Establish incentives for refrigerated trucks (etc)	<0 – 3 months
MSET	-	❖ Increase the government's promotional efforts regarding the energy audit services provided	<0 – 3 months
	-	❖ Expedite the implementation of the energy policy in its entirety	<0 – 3 months
	-	❖ Expedite implementation of Jamaica's Integrated Resource Plan (IRP)	<0 – 3 months
Private Sector	MICAF	❖ Establish capacity development programmes	3 – 6 months
	MICAF, MEGJC	❖ Establish cluster development programmes	3 – 6 months
		❖ Establish strategic partnerships	<0 – 3 months
	JAMPRO, MOT	❖ Promote domestic linkages	<0 – 3 months
	JAMPRO, MICAF	❖ Support market access penetration initiatives	<0 – 3 months



**Appendix: Focus Sector SWOT****PACKAGING**

<b>Strengths</b> <ul style="list-style-type: none"> <li>• Growing number of manufacturers</li> <li>• Existing fiscal incentives</li> <li>• Technical support of JBDC's Design House</li> <li>• BSJ Packaging Lab</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Development of new technologies</li> <li>• Growing global market (2.9% by 2022)<sup>26</sup></li> <li>• 3-D printing of packaging solutions</li> <li>• Training programmes available to build expertise</li> </ul>
<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Limited range of available options</li> <li>• Limited access to financing</li> <li>• Lack of innovative financing solutions</li> <li>• High energy costs</li> <li>• Low emphasis on competitive, high quality labelling and packaging materials</li> <li>• Widespread non-compliance with minimum labelling standards</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Cost of new technology</li> <li>• Growing concern re environmental impact</li> <li>• Increase in cost due to new government regulations</li> <li>• Low levels of investment in the industry</li> </ul>

**PHARMACEUTICAL<sup>27</sup>**

<b>Strengths</b> <ul style="list-style-type: none"> <li>• Presence of international players able to make high quality products</li> <li>• Presence of industry competition to drive performance</li> <li>• Well regulated industry</li> <li>• Growing number of dispensaries</li> <li>• Promotional strength of JAMPRO</li> <li>• Established niche markets</li> <li>• Technical guidance of the FTC<sup>28</sup></li> <li>• Growing cohort of pharmaceutical graduates (&amp; related studies) at the tertiary levels</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Development and accessibility of new technology</li> <li>• Growing trend to offer related customer service beyond the sale of the drugs</li> <li>• 3-D printing of drugs</li> <li>• Research and Development support is available</li> <li>• Proximity to main export market (USA)</li> <li>• Growth in potential linkage industries such as health and wellness</li> <li>• National focus on development of cannabis industry</li> </ul>
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<sup>26</sup> <https://www.smitherspira.com/industry-market-reports/packaging/the-future-of-global-packaging-to-2022>

<sup>27</sup> [http://www.paho.org/hq/index.php?option=com\\_docman&task=doc\\_view&gid=19301&Itemid=270&lang=en](http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=19301&Itemid=270&lang=en)

<sup>28</sup> <http://ifc.gov.jm/wp-content/uploads/2017/09/Assessment-on-Impediments-to-Competition-in-the-Pharmaceutical-Sector.pdf>

<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Slow pace of registering new products</li> <li>• High input costs</li> <li>• High energy costs</li> <li>• Small percentage of trained cohort involved in manufacturing pharmaceuticals</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Cost of new technology</li> <li>• Violation of geographic indicators by foreign products</li> <li>• Increasing number of international and local regulations</li> <li>• Low levels of investment in the industry</li> </ul>
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**FURNITURE<sup>29</sup>**

<b>Strengths</b> <ul style="list-style-type: none"> <li>• Vocational training programmes at secondary schools &amp; HEART</li> <li>• Preferential market access in target markets</li> <li>• Growth in demand from among local middle &amp; upper class</li> <li>• Rapid growth in townhouse construction</li> <li>• Large number of small entrepreneurs</li> <li>• Growth in hotel room count</li> <li>• Technical support provided by JBDC and BSJ</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Few local manufacturers have global experience</li> <li>• Development of 3-D furniture solutions</li> <li>• Growth of millennials purchasing furniture<sup>30</sup></li> <li>• Strong demand for unique, but functional designs</li> <li>• Growth of online retailing</li> <li>• Emergence of Internet Of Things (IoT) solutions</li> <li>• Stronger linkages with the tourism sector</li> <li>• Training programmes available to build expertise</li> </ul> Proximity to main export market (USA)
<b>Weaknesses<sup>31,32</sup></b> <ul style="list-style-type: none"> <li>• High propensity of consumers to prefer cheaper imports</li> <li>• Existence of largely a cost-based model</li> <li>• Weak linkages with regional players</li> <li>• Need for greater use of design &amp; use of computer aided design &amp; manufacturing (CAD/CAM)</li> <li>• Lack of product differentiation</li> <li>• Lack of access to bamboo raw material</li> <li>• Weak branding of locally produced items</li> <li>• Perception of low-tech, low income industry</li> <li>• High cost of locally produced items not competitive</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Speed of technological change</li> <li>• Erosion of preferential market access in target markets</li> <li>• Weather conditions impact raw material supply</li> <li>• Fast evolving product designs in competing countries</li> <li>• Low growth in the domestic market</li> </ul>

<sup>29</sup> <http://jamaica-gleaner.com/gleaner/20110220/focus/focus8.html>

<sup>30</sup> <https://www.cmtc.com/blog/furniture-manufacturing-challenges-trends-2016>

<sup>31</sup> <http://jamaica-gleaner.com/gleaner/20110220/focus/focus8.html>

<sup>32</sup> <http://jamaica-gleaner.com/gleaner/20110213/focus/focus7.html>

**COSMETICS**

<b>Strengths</b> <ul style="list-style-type: none"> <li>• Growing number of local players with export experience</li> <li>• High demand for local raw materials e.g. Jamaican black castor oil</li> <li>• Established niche markets</li> <li>• Promotional strength of JAMPRO</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Growth in potential linkage industries such as film, and fashion</li> <li>• High demand for natural ingredients in skincare and haircare products</li> <li>• Growth in global cannabis market that can drive new product development</li> <li>• Growth of online retailing</li> <li>• Research and development support available</li> </ul>
<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Slow pace of registering new products</li> <li>• High input costs</li> <li>• High energy costs</li> <li>• Weak export focus of potential or existing players</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Inability to penetrate markets where there is strong brand loyalty</li> <li>• New product development in competing countries</li> <li>• Increasing number of international and local health and safety regulations</li> <li>• Low levels of investment in the industry</li> </ul>

**LIGHT MANUFACTURING**

<b>Strength</b> <ul style="list-style-type: none"> <li>• Vocational training programmes at secondary schools &amp; HEART</li> <li>• Growing number of small entrepreneurs</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Jamaica's Special Economic Zones</li> <li>• Proximity to main export market (USA)</li> </ul>
<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• High propensity to import</li> <li>• Perception of low-tech, low income industry</li> <li>• Few local manufacturers have global experience</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Speed of technological change</li> <li>• Low levels of investment in the industry</li> <li>• Economies of scale in India and China with large domestic markets</li> </ul>

**AGRO-PROCESSING**

<b>Strengths</b> <ul style="list-style-type: none"> <li>• Streamlined fiscal incentive regime and strong utilization of incentive offerings</li> <li>• Established niche markets, brands, and products</li> <li>• Growing number of small entrepreneurs</li> <li>• World Class enterprises within the industry</li> </ul>	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Growing demand for organic food items</li> <li>• Strong demand for Jamaican products</li> <li>• Stronger linkages with the tourism sector</li> <li>• Training programmes available</li> <li>• Growth of online retailing</li> </ul>
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<ul style="list-style-type: none"> <li>• Strong international brand</li> <li>• Export oriented; diverse product range</li> <li>• Promotional strength of JAMPRO</li> <li>• Support programmes in place for the industry</li> <li>• Presence of industry competition to drive performance</li> </ul>	<ul style="list-style-type: none"> <li>• Research and development support available</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Poor road network between farm &amp; manufacturer</li> <li>• High propensity to import</li> <li>• Weak linkages with regional players</li> <li>• Inadequate linkages in the supply chain</li> <li>• Weak branding of the majority of locally produced items</li> <li>• Inconsistent supply and quality of raw materials</li> <li>• High Cost of Inputs</li> <li>• High energy cost</li> <li>• Inadequate IP protection in place</li> <li>• Uncompetitive marketing efforts within the industry</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Speed of technological change</li> <li>• Inability to penetrate markets where there is strong brand loyalty (threat or weakness)</li> <li>• New product development in competing countries</li> <li>• Weather conditions impact raw material supply</li> <li>• Increasing security costs</li> <li>• Increasing energy costs</li> <li>• Low levels of investment in the industry</li> </ul>