



Manufacturing Growth, Innovation and Prosperity for Canada



Manufacturiers et
Exportateurs du
Canada



Who We Are

About Canadian Manufacturers & Exporters

Since 1871, we have made a difference for Canada's manufacturing and exporting communities. Fighting for their future. Saving them money. Helping them grow.

The association directly represents more than 2,500 leading companies nationwide. More than 85 per cent of CME's members are small and medium-sized enterprises. As Canada's leading business network, CME, through various initiatives including the establishment of the Canadian Manufacturing Coalition, touches more than 100,000 companies from coast to coast, engaged in manufacturing, global business and service-related industries.

CME's membership network accounts for an estimated 82 per cent of total manufacturing production and 90 per cent of Canada's exports.

cme-mec.ca

About The Canadian Manufacturing Coalition

The Canadian Manufacturing Coalition is comprised of more than 50 major industry groups, united by a common vision for a world-class manufacturing sector in Canada.

The Coalition speaks with one voice on priority issues affecting manufacturers, and what must be done to ensure all Canadians continue to enjoy economic growth, high-value outputs and high-paying jobs. The Canadian Manufacturing Coalition's member organizations represent roughly 100,000 companies through their collective networks.

manufacturingourfuture.ca

Strategic Partners

Our strategic partners have helped CME throughout this process by defining the agenda and supporting the research and consultation exercise. Like CME, they believe that a strong Canada can and must have a strong manufacturing sector at its heart. From business associations to manufacturers to key service providers, these groups have been instrumental in creating this action plan and in supporting the growth of manufacturing in Canada. A special thanks to BDO, RBC, Food and Consumer Products of Canada (FCPC), KPMG, Export Development Canada (EDC), Salesforce, Bombardier, Tenaris, ArcelorMittal, Dofasco, and Xerox.

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Summary

Manufacturing is the heart of Canada's economy.

Every individual and every business in Canada is directly supported by manufactured goods. A full 28 per cent of all economic activity across the country is tied to manufacturing. So too is 27 per cent of total employment.

Manufacturing Innovation

Canadian manufacturers are creating new technologies, services and products in a wide range of critical segments including transportation, communication, health care, clean tech, natural resources, food, and electronics. They are selling those products in Canada and around the world. Last year, Canadian manufacturers exported nearly \$350 billion in value-added goods – accounting for a full two-thirds of Canada's total international sales.

In spite of its critical importance to our economic well-being, Canada's manufacturing sector is often misunderstood and at risk of being taken for granted. Canadians do not realize the full value of manufacturing and the products, technologies and services that it creates for customers around the world. Government policies focus on innovation, exports, or economic development and diversification, but often ignore manufacturing, thinking it to be from a bygone era, with no role to play in advancing those priorities.

In fact, manufacturers drive research and development in Canada. They turn ideas into innovative new products capable of solving our most daunting economic and social challenges. They are often the first users of new technologies. In short, manufacturers are both the driver of, and the market for, a Canadian innovation agenda.

Canada's manufacturing sector is being overlooked at the very time that the world of manufacturing is transforming – a transformation that brings with it tremendous opportunities as well as risks. New technologies are changing both customer demands and manufacturing processes. Advances in new technologies are creating new products and solutions that are allowing manufacturers to help tackle the world's great problems. Growing global competition is disrupting established markets and trade routes. Labour-intensive manufacturing countries like China are rapidly moving up the value-added chain, while advanced manufacturing countries like Germany are pressing farther ahead, employing even more advanced technologies and production methods to stay ahead of the curve.

Declining Competitiveness

At the same time, the cost of doing business in Canada is rising. Manufacturers are moving to more competitive jurisdictions and foreign investment is passing Canada by. These trends are threatening not only the long-term sustainability of manufacturing, but the millions of middle-class Canadians whose livelihoods are directly and indirectly tied to the sector. Policies that focus on middle-class growth and innovation need to recognize that it is manufacturing that drives innovation and creates middle-class jobs. Without that underlying economic driver, Canadians and their governments cannot achieve their desired policy outcomes.

The need for more supportive policies for manufacturers and exporters is evident in many of the key indicators that determine global success in the sector. Manufacturing productivity rates are falling behind those of our global competitors. Investment in new capital equipment and technologies is declining. The business climate is deteriorating as the regulatory and tax burden increases. Companies are investing less in innovation, resulting in the creation of fewer new products. Canada is importing more value-added goods than it is exporting, dramatically reducing sales and growth opportunities. Canada is falling behind – at risk of becoming too high cost and not technically advanced or innovative enough to compete in the global market.

The Solution

Canada has two choices for how to respond. We can either continue to watch our manufacturing capacity and competitiveness erode, or we can embrace a national strategy that reinvigorates our manufacturing sector by leveraging advanced technologies and decisively addressing our longstanding domestic challenges.

We choose the latter. This is why the Industrie 2030 initiative is so important. Canadian Manufacturers & Exporters' (CME's) goal, which we share with our many partner organizations, was to shine a bright light on the manufacturing sector in Canada: to better understand where we stand today; to identify its challenges; and to chart a plan for growth.

The report that follows outlines this plan for growth. This plan and its recommendations stem directly from the input of over 1250 Canadian manufacturers and exporters of all sizes from all corners of the country. While there is some regional and sectoral variation, the core priorities and recommendations are consistent. To tackle Canada's challenge and double manufacturing output and value-added exports by 2030, Industrie 2030 participants recommended that public and private sector stakeholders focus their efforts on:

- Strengthening the existing and future skilled workforce, including at the management level
- Increasing rates of adoption of advanced manufacturing technologies
- Encouraging more new product development and commercialization
- Improving the business climate for investment
- Expanding access to domestic and foreign markets

The Industrie 2030 consultations, the research, this paper, and the supporting detailed reports are only the start of this process. CME and our partners will now set out to affect change, to reshape and to grow manufacturing in Canada. We will work aggressively to reach our end goal of doubling manufacturing output and value-added exports by 2030. We have developed key performance indicators to monitor our progress.

We invite all manufacturers, Canadians and governments to get involved, to manufacture growth, innovation and prosperity For Canada. Together, we can manufacture change!



Mathew Wilson
Senior Vice President
Canadian Manufacturers & Exporters

Sommaire

Le secteur manufacturier est au cœur même de l'économie canadienne.

Au Canada, chaque citoyen et chaque entreprise bénéficie directement de l'activité du secteur des produits manufacturés. De fait, 28 % de l'ensemble de l'activité économique canadienne dépend de ce secteur, qui regroupe 27 % de tous les emplois au pays.

Le manufacturier innovant

Les manufacturiers canadiens créent de nouvelles technologies, de nouveaux produits et de nouveaux services, pour une grande variété de segments essentiels comprenant les transports, les communications, la santé, les technologies vertes, les ressources naturelles et l'alimentation. Ils vendent ces produits au Canada et aux quatre coins du globe. L'an dernier, les manufacturiers canadiens ont exporté près de 350 milliards de dollars en produits à valeur ajoutée, ce qui représente les deux tiers des exportations totales du Canada.

En dépit de son importance cruciale dans la santé économique du pays, souvent, le secteur manufacturier canadien est mal compris et risque d'être tenu pour acquis. Les Canadiens ne réalisent pas la véritable valeur générée par le secteur manufacturier, qui crée des produits, des technologies et des services pour les consommateurs du monde entier. Les politiques gouvernementales se concentrent sur l'innovation, sur les exportations ou sur le développement et la diversification économique, mais ignorent souvent le secteur manufacturier, pensant qu'il est dépassé et qu'il n'a aucun rôle à jouer pour faire progresser ces priorités.

En fait, ce sont les manufacturiers qui soutiennent principalement les activités de recherche et de développement au Canada. Ils transforment les idées en produits novateurs qui contribuent à résoudre nos problèmes économiques et sociaux les plus graves. Le secteur manufacturier est souvent le premier à adopter les nouvelles technologies. En résumé, les manufacturiers sont aussi bien les chefs de file qui encouragent l'élaboration d'un programme canadien d'innovation, que les utilisateurs finaux de ces innovations.

On néglige le secteur manufacturier du Canada au moment même où il se transforme. Sa mutation, qui offre des perspectives prometteuses, comporte aussi son lot de risques. L'avènement des nouvelles technologies contribue à changer à la fois la demande des consommateurs et les procédés manufacturiers. La croissance de la concurrence mondiale perturbe les marchés et les routes commerciales établis. Les pays dont le secteur manufacturier exige une main-d'œuvre importante, comme la Chine, occupent une place de plus en plus importante dans la chaîne de création de la valeur, tandis que des pays dont le secteur manufacturier est technologiquement avancé, comme l'Allemagne, continuent de progresser, utilisant des méthodes de production sans cesse plus sophistiquées pour maintenir leur position de tête.

Le coût d'exploitation

Parallèlement à cela, il en coûte de plus en plus cher aux entreprises pour mener leurs affaires au Canada. Or, les manufacturiers décident souvent de poursuivre leurs activités commerciales dans des régions où les coûts d'exploitation sont moindres, de sorte que les investisseurs étrangers négligent le Canada. Ces tendances menacent non seulement la viabilité à long terme de notre secteur manufacturier, mais aussi des millions de Canadiens de la classe moyenne dont le gagne-pain est directement ou indirectement lié à ce secteur. Les politiques qui visent à assurer la croissance de la classe moyenne et de l'innovation doivent reconnaître que c'est le secteur manufacturier qui stimule l'innovation et qui crée de l'emploi pour ce segment de la population. Sans ce moteur économique, les Canadiens et les gouvernements provinciaux et fédéraux ne peuvent pas espérer atteindre les résultats prévus par leurs politiques.

La nécessité d'adopter des politiques qui appuient davantage les manufacturiers et les exportateurs saute aux yeux lorsqu'on examine plusieurs des principaux indicateurs de réussite économique du Canada. D'abord, les taux de productivité du secteur manufacturier canadien sont inférieurs à ceux de nos concurrents mondiaux. Ensuite, les investissements dans de nouveaux équipements et dans de nouvelles technologies sont en baisse, sans compter que le climat économique se détériore et que le nombre d'exigences réglementaires et fiscales augmente. Enfin, les entreprises investissent moins dans l'innovation, ce qui entraîne une baisse du nombre de nouveaux produits créés, et le Canada importe plus de produits à valeur ajoutée qu'il n'en exporte, ce qui réduit considérablement le potentiel de vente et de croissance des entreprises.

La solution

Le Canada peut répondre à ces défis de deux façons. Nous pouvons continuer de laisser s'éroder notre capacité manufacturière et notre compétitivité ou nous pouvons adopter une stratégie nationale destinée à revitaliser notre secteur manufacturier en tirant profit des dernières avancées technologiques et en nous attaquant de façon décisive à des obstacles persistants à l'échelle nationale.

Nous, Manufacturiers et exportateurs du Canada (MEC), choisissons la deuxième voie. Voilà pourquoi l'initiative Industrie 2030 est si importante. Les objectifs que nous partageons avec nos nombreuses entreprises partenaires visent à mettre en lumière les besoins du secteur manufacturier canadien, à mieux comprendre son état actuel, à déterminer les défis qu'il doit relever et à lui préparer un plan de croissance.

Le rapport qui suit décrit ce plan de croissance. Le plan et les recommandations qui l'accompagnent découlent directement des commentaires recueillis auprès de plus de 1 250 manufacturiers et exportateurs canadiens de toutes tailles établis aux quatre coins du pays. Bien que l'on constate certaines divergences régionales et sectorielles, les principales priorités et recommandations dégagées durant les consultations abondent dans le même sens. Afin d'être en mesure d'aborder les défis qui attendent le Canada et pour doubler la production manufacturière ainsi que les exportations, les participants d'Industrie 2030 ont recommandé aux intervenants des secteurs public et privé de concentrer leurs efforts sur les points suivants :

- l'amélioration des compétences de la main-d'œuvre qualifiée actuelle et future, y compris l'offre de formation en gestion ;
- l'augmentation du taux d'adoption des technologies de production avancées ;
- l'instauration d'un climat propice au développement et à la commercialisation de produits ;
- l'amélioration du climat économique pour stimuler les investissements ;
- l'amélioration de l'accès aux marchés domestique et étranger.

Les consultations menées dans le cadre de l'initiative Industrie 2030, les recherches, le présent document, ainsi que les rapports détaillés complémentaires ne sont que la première étape de ce processus. Manufacturiers et exportateurs du Canada et ses partenaires tenteront ensuite de faire adopter des changements, de redéfinir le secteur manufacturier canadien et de stimuler sa croissance. Nous travaillerons avec acharnement afin d'atteindre notre but ultime : doubler la production manufacturière et les exportations d'ici 2030. Nous avons défini un ensemble d'indicateurs de rendement clé pour suivre les progrès réalisés à ce chapitre.

Nous invitons tous les manufacturiers, tous les citoyens canadiens et tous les gouvernements du pays à se joindre à nous et à collaborer les uns avec les autres pour favoriser la croissance et la prospérité du secteur manufacturier canadien ainsi que l'innovation à l'échelle nationale. Ensemble, nous pouvons produire du changement !



Mathew Wilson
Senior Vice President
Canadian Manufacturers & Exporters

About Industrie 2030

Industrie 2030 began with a bold question: What would it take to double manufacturing output and value-added exports from Canada by the year 2030?

From there, we identified a series of business outcomes needed to reach those targets. Businesses need to be dynamic, profitable, productive, innovative and growing. They must invest in their facilities, processes and products, and they must find new customers in Canada and around the world.

The next step was broad-based direct consultation with manufacturers themselves. We wanted to hear about the issues, challenges and opportunities they see every day while running their businesses. We wanted to know what would help them grow their operations, output and sales at home and internationally. CME and our partners held about 55 moderated roundtable discussions across Canada from April through October 2016. Over 750 manufacturing leaders attended. To add quantitative support to that qualitative feedback, we leveraged our bi-annual *Management Issues Survey* (MIS) to focus more closely on specific Industrie 2030 themes and issues. We received 553 responses to the survey.

This report is the result of that process expanding. It analyzes Canada's manufacturing sector in a global context and highlights many of the key trends for the sector. With those trends in mind, it summarizes the key challenges to growth that we heard directly from participants throughout our consultations. It then provides a summary of the core recommendations that will be critical to help address these challenges. Finally, this report outlines what we believe are the core performance measures that need to improve for Canada to achieve long-term growth in manufacturing. Progress on these measures will indicate success in addressing manufacturers' challenges and set us on a path to doubling manufacturing output and value-added exports by 2030.

In addition, CME and our partner organizations are issuing a series of detailed reports and analysis that stem directly from the Industrie 2030 objectives and support this summary report. Those reports will be available on the Industrie 2030 website at www.industrie2030.ca as they are released. They include:

Roadmap to 2030: A path towards doubling manufacturing output and exports (April 2016)

Management Issues Survey 2016 (October 2016)

Industrie 2030: A National Strategy for Canadian Manufacturing in the Digital Age (October 2016)

Manufacturing and Exporting in Canada (October 2016)

Detailed Issue Reports (October – November 2016):

- *Building a Strong Labour Pool and Skilled Workforce*
- *Accelerating Adoption of Advanced Manufacturing Technologies*
- *Fostering Innovation, Commercialization and New Product Development*
- *Creating a Competitive Business Environment in Canada*
- *Increasing Access to Domestic and Foreign Markets*

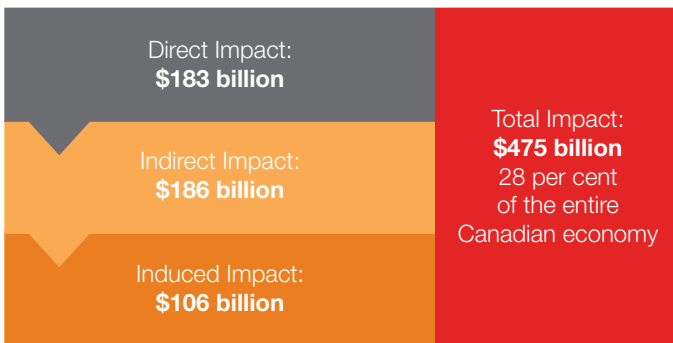
Collectively, these reports will constitute the complete research and recommendations into what it will take to double manufacturing output and value-added exports by 2030.

But words alone are not enough. It is now time to put those words into action. CME will be working with its strategic partners and members to implement the recommendations contained in these reports. This will not happen overnight and course corrections may be necessary. However, we are firm in our commitment to meet our goal: doubling manufacturing output and value-added exports by 2030.

Economic Impact of Manufacturing in Canada

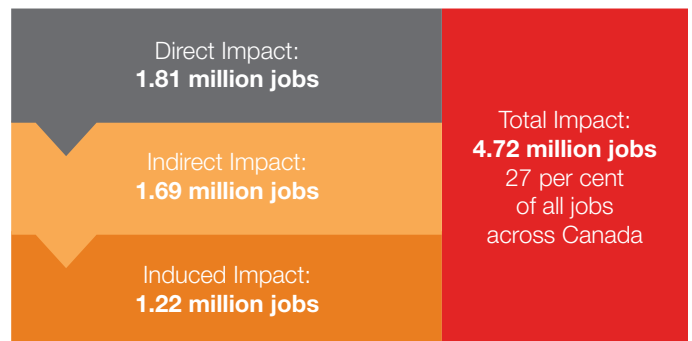
Manufacturing is a vital contributor to the Canadian economy and to the living standards of all Canadians. It is the single largest business sector in Canada and the source of two thirds of Canada's exports around the world. It directly employs 1.81 million Canadians and generates close to 11 per cent of GDP nation-wide.¹

However, these numbers only tell part of the story. Every manufactured good produced in Canada creates demand for raw materials, semi-finished inputs, transportation and a host of other goods and services. That demand, in turn, sparks additional purchases all the way up the production stream.



Along the way, jobs are created, income is generated, and taxes are collected. The wages and salaries that Canadians earn from these direct and indirect effects are then spent on other goods and services, generating another round of induced effects.

These indirect and induced spinoff effects create an additional \$292 billion in value-added output in Canada. As such, the total direct, indirect and induced impact on Canadian GDP – \$475 billion – is equivalent to 28 per cent of the entire size of the Canadian economy. In other words, close to three of every 10 dollars in wealth created in Canada can be traced back to the manufacturing sector.



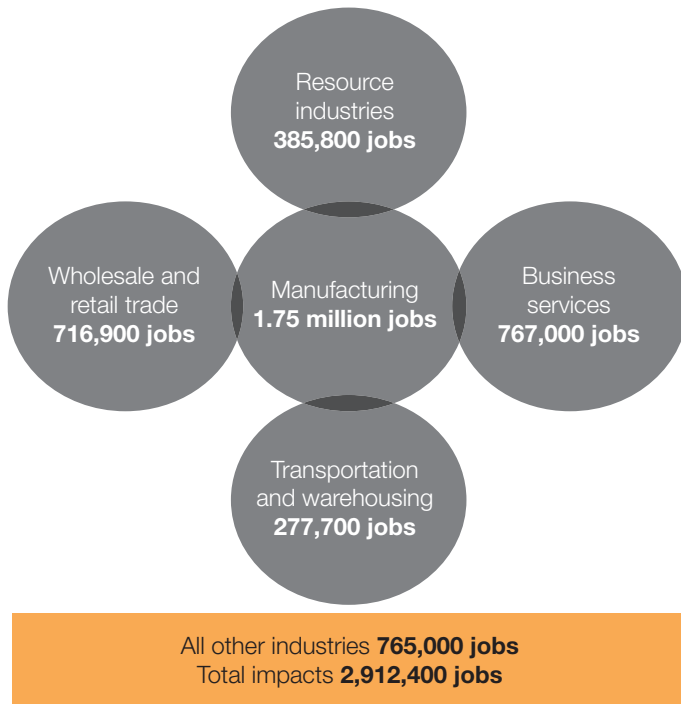
These spinoff impacts reach every corner of the Canadian economy. The greatest impact is in the resource sector – industries that rely on Canadian manufacturers to buy their goods as inputs and raw materials in their production processes. In industries like forestry and logging, as much as 60 per cent of total production feeds directly into Canadian manufacturing.

¹ Labour force data suggests that manufacturing employment totalled 1.7 million in 2015. This higher figure (1.81 million) is taken directly from the results of the input-output model which is based on 2012 data and calculated using different methodology.

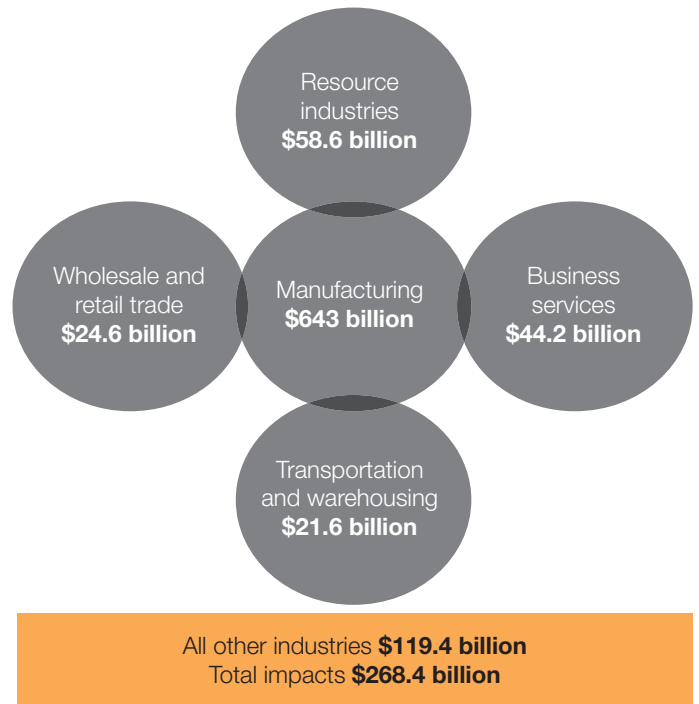
Manufacturing is also a major creator of jobs. The 1.81 million jobs in manufacturing represent about 10 per cent of the total employed labour force. The spinoff effects from manufacturing activities, including the businesses and their employing purchasing goods and services in the broader economy, create an additional 2.9 million jobs in Canada, bringing total employment attributable to manufacturing up to 4.7 million – about 27 per cent of all jobs across the country.

In contrast to industrial output, most of these jobs are in services industries – wholesale trade, finance, professional and technical services and so on. Over 15 per cent of all transportation and warehousing activity in Canada is the result of demand from manufacturers. The same is true of 10 per cent of all wholesale trade output.

MANUFACTURING IMPACT ON EMPLOYMENT



MANUFACTURING IMPACT ON SECTOR OUTPUT

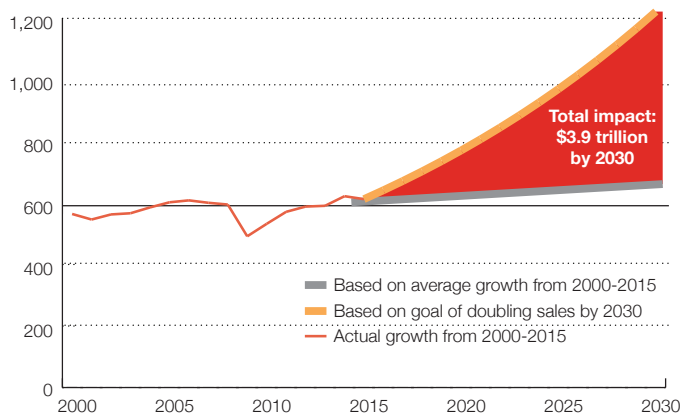


The Impact of Doubling Manufacturing Output and Value-Added Exports by 2030

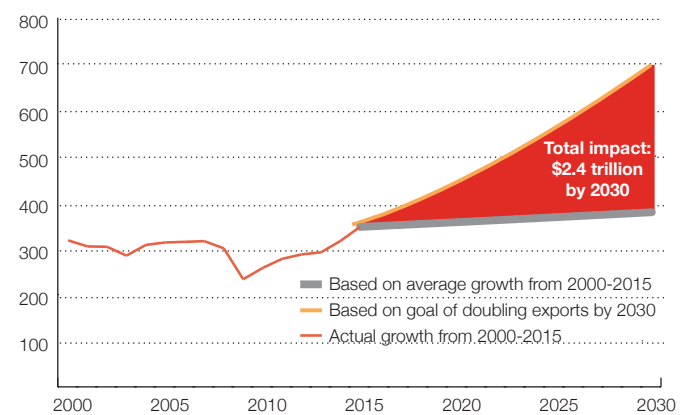
In 2015, manufacturing sales across Canada were valued at \$610 billion and exports of manufactured goods were worth \$348 billion. Doubling these numbers requires sustaining an average annual growth rate of about 4.7 per cent. It sets a target of \$1.2 trillion in total manufacturing output and of \$696 billion in manufactured goods exports in just 15 years.

These additional sales would have tremendous spinoff effects across the Canadian economy. Doubling manufacturing output would add an estimated \$459 billion in GDP to the Canadian economy through direct, indirect and induced effects. It would also create 4.1 million additional new jobs by 2030 – 1.5 million jobs directly in manufacturing and 2.6 million across the economy through indirect and induced effects.²

DOUBLING MANUFACTURING OUTPUT BY 2030
(Projected sales, in \$billions)



DOUBLING MANUFACTURING EXPORTS BY 2030
(Projected exports, in \$billions)



As great a challenge as reaching this target may be, the potential rewards are even greater. Compared to baseline expectations that growth continues at its 15-year average of 0.6 per cent, doubling manufacturing sales and value-added exports would generate \$3,941 billion in total new manufacturing sales and \$2,235 billion in total new exports by 2030.

² These figures are calculated using the most recent data available from Statistics Canada's input/output model. It is important to note that this model is based on current linkages across industries. Since these linkages evolve over time, multiplier numbers grow less reliable the further into the future projections are made.

SUMMARY OF IMPACTS

Direct Impact on Manufacturing Sales:

- Manufacturing sales would rise from \$610 billion in 2015 to \$1.2 trillion by 2030.
- Based on annual growth rates over the last 15 years, sales would otherwise only rise to \$662 billion.
- By 2030, sales would be \$557 billion higher than under baseline growth assumptions.
- Doubling manufacturing output would generate \$3,941 billion in cumulative additional sales from 2015 through 2030.

Direct Impact on Manufacturing Exports:

- Exports of manufactured goods would rise from \$348 billion in 2015 to \$696 billion by 2030.
- Based on annual growth rates over the last 15 years, exports would otherwise only rise to \$380 billion.
- By 2030, exports would be \$316 billion higher than under baseline growth assumptions.
- Doubling manufacturing exports would generate \$2,235 billion in cumulative additional sales from 2015 through 2030.

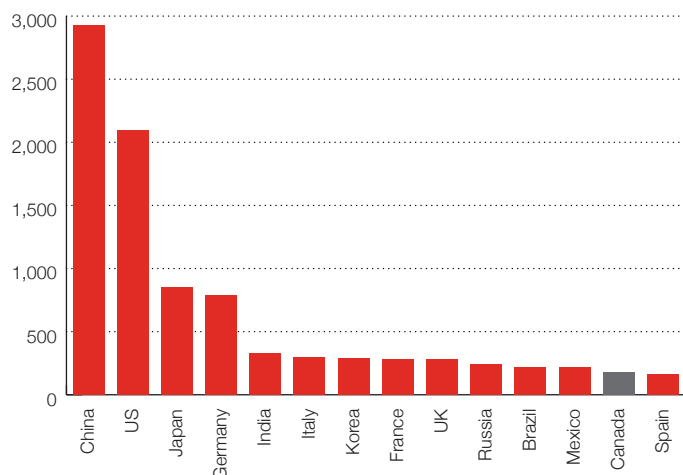
Spinoff effects:

- An estimated \$459 billion in additional GDP to the Canadian economy through direct, indirect and induced impacts.
 - \$459 billion is about equivalent to the present-day size of the Quebec and Saskatchewan economies combined.
 - The economic spinoffs would lift the projected GDP growth rate in Canada from 2.0 per cent per year to 3.3 per cent from 2015 through 2030.
- An estimated 4.2 million additional jobs by 2030 – 1.5 million directly in manufacturing and 2.7 million spinoff jobs across the Canadian economy.
 - Those jobs would increase the projected employment growth rate in Canada from 1.3 per cent per year to 2.5 per cent from 2015 through 2030.
 - 4.2 million jobs would take Canada from 17.9 million jobs in 2015 to 22.1 million by 2030, assuming no other employment growth took place anywhere else in the Canadian economy.
 - 4.2 million people is about the size of the entire workforce in Quebec in 2015.

Canadian Manufacturing in a Global Context

Global manufacturing output is dominated by two countries: China and the United States. Together, they account for close to 42 per cent of all manufactured goods produced around the world. Japan and Germany are the next largest at 7.1 per cent and 6.5 per cent of global production, respectively.

MANUFACTURING OUTPUT BY COUNTRY – 2014
(In \$US billions)



By comparison, Canada is a relatively small player, accounting for a little less than 1.5 per cent of total production, which is down from 2.5 per cent just 15 years ago. More concerning, however, is that Canadian manufacturers are losing ground to their overseas competitors. In 1984, Canada was the eighth-largest manufacturing country in the world, producing more than current manufacturing powerhouses like South Korea, Russia, Mexico and India. By 2014, Canada was ranked 14th in the world and had been passed by all four of those countries.

Initially, this trend was the result of the offshoring of low-skill, labour intensive activity to countries like China where labour costs were too low for Canada to compete.

However, that is no longer the case. China and other developing nations are rapidly moving up the value chain. Meanwhile, advanced economies like the United States and Germany are embracing new advanced manufacturing technologies to create new innovative products, and to improve productivity, quality, speed and flexibly in their processes to create a competitive edge in high-value production.

Global leaders in manufacturing output

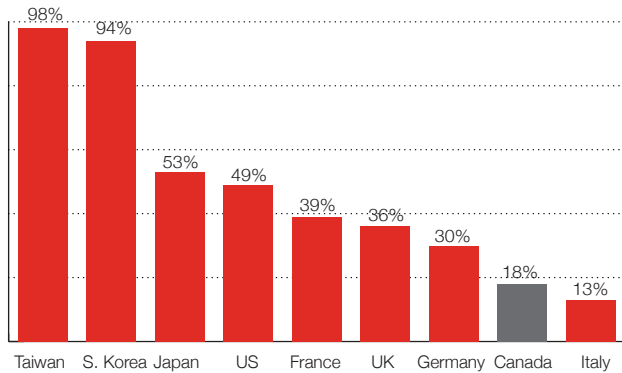
Rank	1984	1994	2004	2014
1	US	US	US	China
2	Japan	Japan	Japan	US
3	Fmr USSR	Germany	China	Japan
4	Germany	Italy	Germany	Germany
5	Italy	France	Italy	South Korea
6	France	UK	France	India
7	UK	Brazil	UK	Italy
8	Canada	South Korea	South Korea	France
9	Brazil	Canada	UK	Spain
10	Mexico	Russia	Canada	Russia
11	India	Spain	Mexico	Brazil
12	Spain	Mexico	India	Mexico
13	Australia	India	Brazil	Indonesia
14	Argentina	Switzerland	Russia	Canada
15	Poland	Netherlands	Netherlands	Spain

Source: United Nations

Note: data for China are not available before 2004

Here too, Canada is losing ground. Domestic growth in labour productivity rates between 2002 and 2014 is less than half of that of the US and only one-fifth that of the world leaders in Taiwan and South Korea.

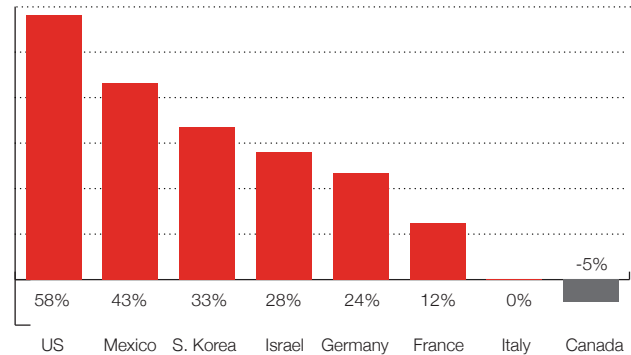
LABOUR PRODUCTIVITY GROWTH IN MANUFACTURING: 2002-2014



Much of a country's labour productivity rates are directly tied to investment in capital equipment and advanced technologies – the basis of the Fourth Industrial Revolution – and are critical for global competitiveness today. Unfortunately, once again Canada is heading in the wrong direction. By comparison, in the United States, manufacturing investment in machinery and equipment has risen by 58 per cent since 2009. In Canada it has fallen by nearly five percent and hit a 30-year low in 2014. Few industrialized countries have a worse record than Canada on this matter.

Investment decisions by companies are made for a variety of reasons, including access to customers (domestically or internationally), supporting infrastructure (finance, education, etc.) and the general investment climate. Most Canadian companies have good access to customers at home or in international markets through a variety of free trade agreements. Our supporting infrastructure is often world class, especially our banking and education systems. However, the investment climate in Canada for manufacturing is worsening. According to CME's 2016 *Management Issues Survey*, nearly half of businesses believe the federal government does not support investment and growth in their company. That share rises to 60 per cent for provincial governments. And these results are getting worse. Half of MIS respondents think that federal government has grown less supportive over the past three years while 58 per cent felt the same about provincial governments. Industrie 2030 participants identified a wide range of issues to substantiate these claims including tax increases, the regulatory burden, rising energy costs and lack of investment support mechanisms.

GLOBAL GROWTH IN MANUFACTURING MACHINERY AND EQUIPMENT INVESTMENT: 2002-2014



This negative investment climate in Canada is having a direct impact on the ability of manufacturers to research and commercialize new products. Simply put, to meet their customers' constantly changing expectations, manufacturers must be continuously innovating – investing in research and development that leads to new product commercialization. However, manufacturers in Canada are struggling in this regard. Industrial research and development spending in manufacturing is falling and businesses are introducing fewer new innovations. From 2007 to 2009, 48.6 per cent of manufacturers produced at least one product innovation. By 2012 to 2014, that share had fallen to 43.9 per cent. Meanwhile, the share of companies reporting no innovations of any kind rose from 18.8 per cent to 38.8 per cent over that time.

Commercializing new products is essential to attracting production mandates which, in turn, generate investment, jobs and economic growth. This growth can be seen through expanded sales at home and abroad. While Canada obviously has many successful examples in this regard, in general we are not competitive globally. On the export side, Canadian firms accounted for 3.7 per cent of global manufactured goods exports in 2000, but by 2015 that share had fallen to just 1.8 per cent. From a domestic standpoint, in 1990 about 55 per cent of Canadian domestic demand for manufactured goods was filled by domestic producers. That share has fallen to only 38 per cent today. These realities show themselves directly in Canada's overall trade balance in manufactured goods. In fact, since 2000 this trade balance ballooned from nearly break-even to a deficit of roughly \$122 billion by 2015.

These trends on productivity, capital investment, investment climate, commercialization and sales clearly point to a sector that is under performing and risking falling out of a global race for competitiveness and innovation. As a result, Canada is in danger of being caught in the middle: too advanced to be a low-cost producer, but not advanced enough to keep up with those at the forefront of technology and innovation.

Barriers to Growth

Why are Canadian manufacturers losing ground to their international competitors? What do we need to do to reverse this trend, leverage the opportunities of the Fourth Industrial Revolution, and create an attractive climate for investment and growth in Canadian manufacturing?

These questions formed the core of the Industrie 2030 consultations. Through our roundtable discussions and the 2016 *Management Issues Survey*, Canadian businesses gave clear answers and strategic direction for what needs to be done and where Canada needs to go. The issues raised at our roundtables were reinforced and confirmed by the survey results.

There were four specific questions in the *Management Issues Survey* that captured the essence of the challenges facing manufacturers and what steps need to be taken.

Perhaps the most important of these questions was: what are the most important pressing challenges facing your company today? Topping the list of issues was access to labour and workers with the right skills. A full 35 per cent of respondents stated that attracting or retaining skilled labour was one of their three most pressing issues. On a related vein, ten per cent also pointed to the cost of labour as one of their largest concerns.

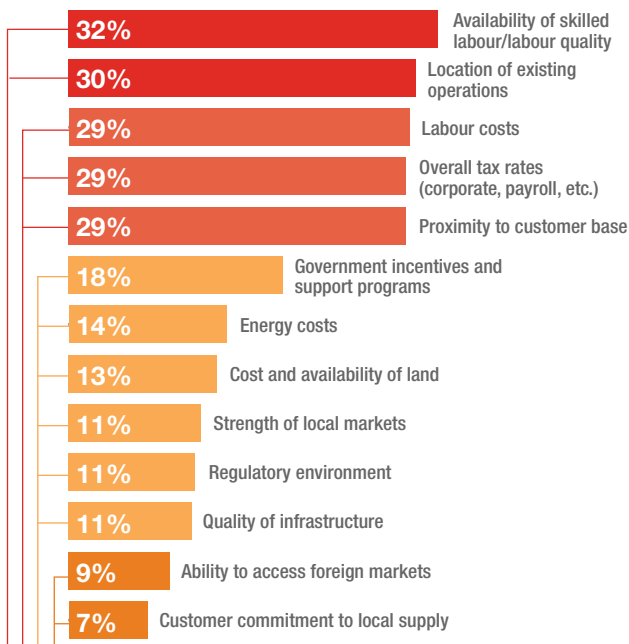
The second most important issue was finding new clients or business partners, followed by developing new markets outside Canada. Manufacturers also pointed to the need to implement digital technologies into their production processes, the tax and regulatory burden and commercialization of new products.

WHAT ARE THE MOST PRESSING CHALLENGES FACING YOUR COMPANY TODAY?



Attracting investment and promoting growth is key to a revival of Canadian manufacturing. For that reason, we also asked businesses about the most important factors they consider when making investment decisions. Access to skilled labour once again topped the list, while labour costs was the third most common response. Businesses also stressed the importance of proximity to their customer base and existing operations, as well as the tax and regulatory burden, availability of government incentives, infrastructure and a range of cost considerations.

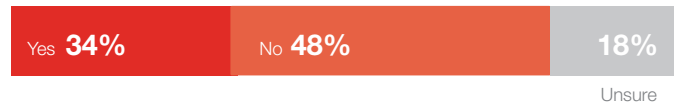
WHAT ARE THE MOST IMPORTANT FACTORS YOUR BUSINESS CONSIDERS WHEN DECIDING WHERE IN CANADA TO INVEST?



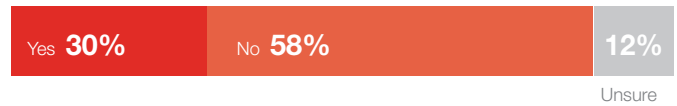
Manufacturers do not operate in a vacuum. Governments play a vital role in establishing the economic and policy environment in which businesses must work. However, businesses were clear that more needs to be done. As noted above, nearly half of MIS respondents believe that the federal government is not adequately supporting their investment and growth strategies. Moreover, manufacturers feel that government tax and regulatory policies were getting worse, not better. Again, close to half of survey respondents think that the federal government has grown less supportive over the past three years. Only 13 per cent of respondents felt things have improved.

DO YOU BELIEVE THAT GOVERNMENTS ARE SUPPORTING INVESTMENTS IN, AND GROWTH OF, YOUR COMPANY?

Federal Government



Provincial Government



Municipal Government



Given that a large part of the role of government is to support economic growth and wealth creation in society, these again are concerning trends. The range of issues manufacturers identified through the consultation process where they felt the federal government negatively impacted their growth was fairly broad, but tended to focus around such issues as regulatory management and inefficiencies, tax creep, trade infrastructure and investment supports. One of the most frequently-cited examples raised by manufacturers during the roundtable discussions was the changes to the Scientific Research and Experimental Development (SR&ED) program and the loss of support for capital equipment and the tightening rules for claims eligibility. Many companies had simply given up trying to use the program.

The cause for concern is even greater at the provincial level. Close to 60 per cent of respondents were clear that provincial governments were growing less supportive over time. The specific issues raised in Industrie 2030 consultations in support of those findings tended to vary depending on the sector and province.

While not applicable in all provinces, the rising cost of energy and the growing unreliability of the system was the most oft-raised issue, followed closely by regulatory inefficiencies and costs. In several provinces, manufacturers noted a three-fold increase in electricity costs over the past five years and doubling in brown-outs and power outages.

On the regulatory side, companies complained about a constant stream of new and updated regulatory requirements for their products and operations. In many cases, the issue is not the regulations themselves, but the overzealous way in which they are being applied by inspectors. This is adding costs, uncertainty, and delays in investment.

At the municipal level, only 19 per cent of respondents to the survey believed their government was supporting investment and less than 4 per cent thought that support had improved over the last three years. Much of the problem at this level of government relates to a steady rise in user fees, taxes and other special charges. Several businesses also pointed to bureaucratic ineptitude. One specific example is worth repeating; a small manufacturer in a small city was looking to do a one-million-dollar expansion and hire 75 new employees, which would have made it amongst the largest employers in a struggling region. Plans were drawn up for expansion and submitted to the municipality for approvals, however the process for approval took close to a year to complete, which delayed the investment and the company lost the market opportunity. No investment. No jobs. No growth.

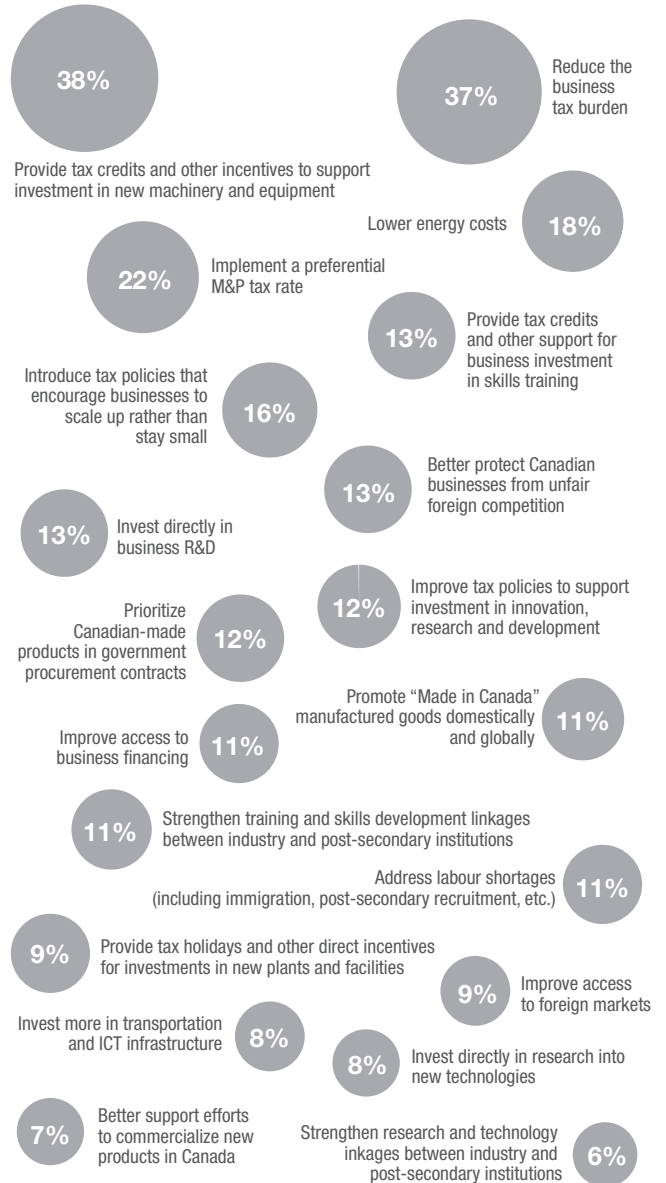
Manufacturers were just as clear on what governments need to do better. In a nutshell, they want to keep more of their money to invest in their own future; and they want governments to help them invest in making themselves better.

When asked about what more governments could do to support manufacturing and attract more manufacturing investment, the top response was: provide better incentives to support investments in new machinery and equipment. The second most common response was to lower the overall business tax burden.

Other popular responses followed a similar theme. Introducing a special manufacturing & processing tax rate and lowering energy costs both speak to the need for businesses to retain more of their own income to invest in their future. Tax policies to encourage growth; support business investment in skills training; and direct investment in business research and development all speak to the fact that businesses know they need to do better to compete and they want governments to help them along the way.

In fact this last point might be the most critical. There needs to be a shift in attitude in government and business in Canada. Governments and industry often talk publicly about partnering to foster economic growth, wealth and prosperity for all Canadians. And there are many good examples of these words being put to action. However what we heard more often was that there is growing frustration in the business community and a deterioration in the working relationship between business and government. Manufacturers reported increasing tension and less cooperation, even in cases where the goals of government and those of industry were seemingly identical. This needs to change if Canada is going to reverse its long-term trends on economic growth and manufacturing sector global competitiveness.

WHAT MORE SHOULD GOVERNMENTS DO TO SUPPORT MANUFACTURING IN CANADA AND ATTRACT MANUFACTURING INVESTMENT TO THE COUNTRY?



Industrie 2030 Strategy for Growth

Survey results and roundtable consultations point to a clear path forward for achieving our goal of doubling manufacturing output and value-added exports by 2030.

First, there are specific business conditions that need to be in place for this goal to be achieved. Manufacturers need to be dynamic, profitable, productive, innovative and growing. Profitability is the centerpiece of these conditions. Without profit, growth, innovation, expansion or investment in technologies is not possible.

Productive manufacturers can compete with anyone in the world in any market. Productive companies invest in new technologies. A productive workforce attracts new investment to Canada.

Innovative businesses develop and commercialize new products and can adapt quickly to changing customer demands and foreign competition. They are early adopters of new technologies and maintain a smart, well-trained workforce.

Growing businesses are successful businesses. Growth requires investment and creates new jobs and production capacity. Large businesses can take advantage of economies of scale and lower per-unit production costs to enhance their competitiveness in Canadian and foreign markets.

These four necessary conditions feed directly into the desired business outcomes – the four pillars of Industrie 2030 that were set out in our initial discussion paper, *Roadmap to 2030*. Only through making meaningful progress in these four areas can manufacturing in Canada grow. The four Industrie 2030 pillars are:

- **Retain and attract investment to expand manufacturing capacity.** Expanding manufacturing capacity in Canada is critical. Over the past decade, manufacturing capacity has decreased significantly and existing facilities are running at or near peak capacity. Canada needs new capital investment from domestic and foreign sources that both increases the capacity of existing facilities and adds new capacity as well.

- **Manufacture more products and technologies in Canada.**

Developing, commercializing and manufacturing new products in Canada leads to new investment and new opportunities to service customers around the world. Canada has a strong history of developing and commercializing new innovative products, but we must accelerate these processes to expand demand for Canadian made products.

- **Accelerate adoption of new technologies and processes.**

The adoption of new advanced manufacturing technologies can dramatically improve operational efficiency and flexibility while reducing production costs, and improving environmental performance. In this way, new technologies are critical to improving the competitiveness of Canadian manufacturing. They create new opportunities to manufacture more products in Canada and sell them to the world.

- **Sell more to customers in Canada and around the world.**

Canadian companies must expand their customer bases both in traditional markets and beyond. The development of innovative products will accelerate market demand, as will the opening of new markets around the world through free and fair trade liberalization agreements. In addition, Canada must be better at recognizing the value of goods “made in Canada” and promote and celebrate those products that are designed, engineered and manufactured right here.

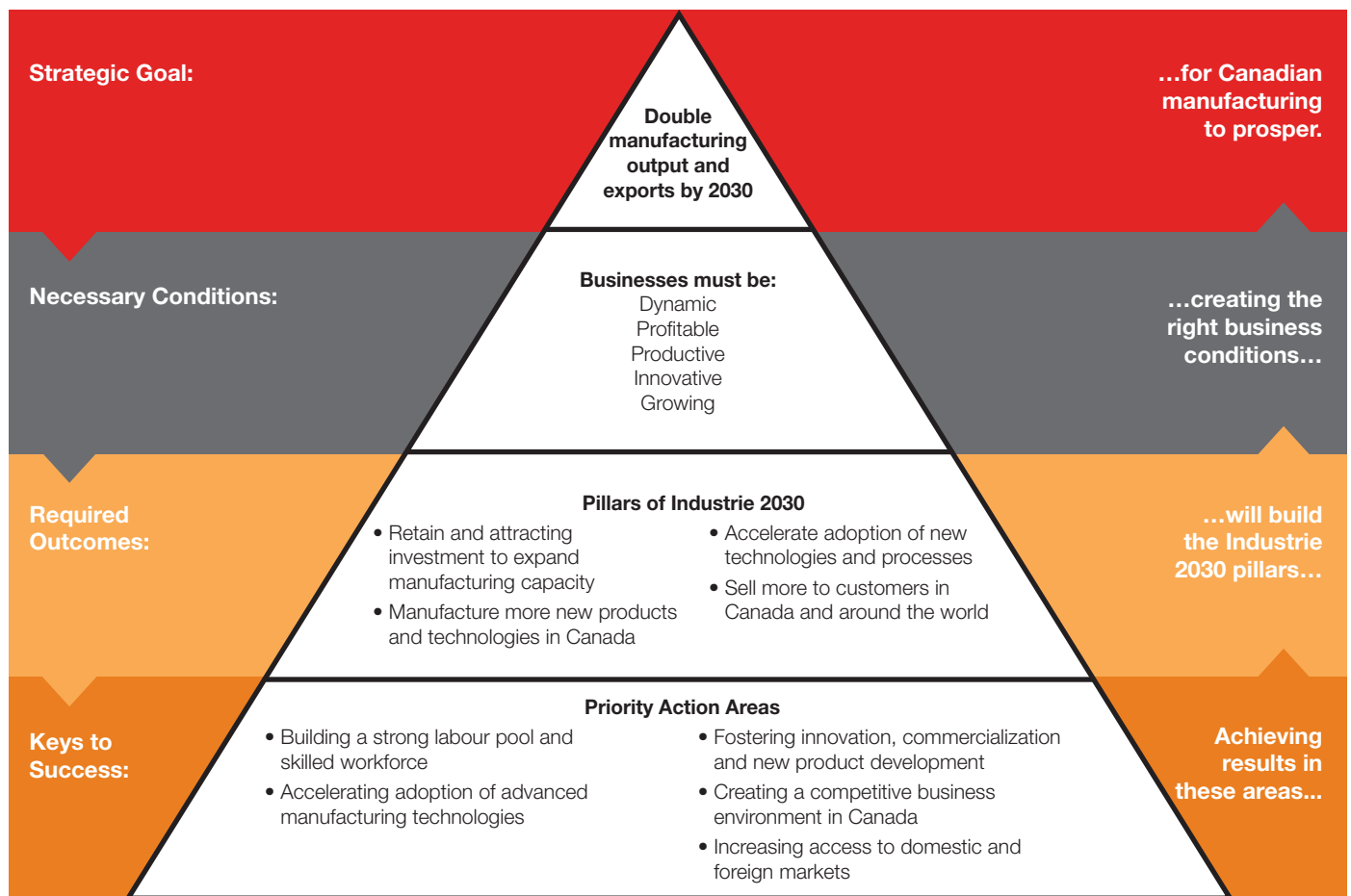
The purpose of the Industrie 2030 process was to identify the programming and policy requirements needed to accomplish these four goals. Through our extensive cross-country consultations, five keys to success were identified:

1. Building a strong labour pool and skilled workforce;
2. Accelerating adoption of advanced manufacturing technologies;
3. Fostering innovation, commercialization and new product development;
4. Creating a competitive business environment in Canada; and
5. Increasing access to domestic and foreign markets

Taking decisive and effective action in these five areas is the foundation of the Industrie 2030 strategy moving forward. Stemming from our extensive consultations and survey results, CME identified a number of key issues, themes and recommendations for action within each priority area. This summary paper includes an overview of these recommendations. They will be further supported by detailed reports in each priority area. Those reports will be released in the fall of 2016.

Addressing these issues through meaningful programming and policy action will build the four pillars of Industrie 2030. These, in turn, will create the business conditions that are needed if Canada is to double manufacturing output and value-added exports by 2030.

THE INDUSTRIE 2030 STRATEGIC PLAN



1. Building a Strong Labour Pool and Skilled Workforce

According to CME's 2016 *Management Issues Survey*, skills and labour shortages rank as the most important issue for business executives. This theme repeated itself throughout the in-person Industrie 2030 consultations. Manufacturing executives are deeply concerned both about the availability of workers as well as the skill level of existing and future employees at all levels of the organization.

Today, Canadian manufacturers directly employ 1.7 million people throughout their domestic operations. This workforce ranges from general labourers, to skilled tradespeople, to designers to sales and service representatives, to management. However these skills sets are constantly being redefined as technology and business opportunity reshape the business of manufacturing.

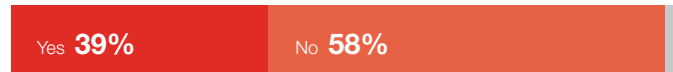
Technology is changing both the type of workers being used – a shift from general labour to specialized work – and the type of skills that are needed – from single-skilled and repetitive to multi-skilled and flexible. Technology is also impacting the type of products and services being offered, as well as how manufacturers operate; instead of merely building and selling a product in a local or regional market, businesses are now offering a range of customer services that are anchored around a manufactured product. Jobs are becoming more specialized, and they are growing more valuable and less interchangeable. As a result, workers are becoming more difficult to find and harder to replace.

At present, however, Canadian manufacturers are facing real and significant labour shortages. Roughly 40 per cent of businesses face labour and skills shortages today. Five years from now, close to 60 per cent anticipate such shortages. These shortages stem from three primary sources. First: an inability to attract youth into skilled trades relevant to manufacturing. Second: a disconnection between the formal training system and industry needs. Third: an aging workforce.

These shortages are driving up costs and eroding our global competitiveness. This is causing businesses to forego production opportunities, and delay investment. In some cases, shortages of skilled workers are causing companies to consider relocation of production to sustain production. It is also causing companies to under-invest in a range of advanced manufacturing technologies and is limiting the use of those technologies to their fullest potential.

DOES YOUR COMPANY FACE IMMEDIATE LABOUR AND/OR SKILLS SHORTAGES TODAY? DO YOU ANTICIPATE SUCH SHORTAGES TO ARISE WITHIN THE NEXT FIVE YEARS?

Today



Unsure

Within 5 years



Unsure

Simply put, a lack of a sufficiently-sized and skilled labour pool is directly impacting the growth of manufacturing in Canada today, and will continue to restrict growth moving forward if substantial changes are not made.

Another issue repeatedly arose in the Industrie 2030 consultations: the deficit of manufacturing leadership in Canada. While Canada does create great leaders, there are not enough of them. Leadership gets to the heart of manufacturing strategy and entrepreneurship. It affects how companies operate, how they invest, how they create new products and open new markets. It also affects how manufacturers train and develop their workforce. While Canada has a range of excellent business schools we lack capacity in training the next generation of innovative manufacturing leaders which is directly impacting our long-term growth and prosperity.

Throughout the consultations, many recommendations were put forward for how to solve the twin problems of skilled-worker and leadership training. However, unlike many other challenges that were raised, the solutions in this area can vary widely from sector to sector and region to region, depending on many local conditions. As a result, the recommendations also cover a wider range of potential solutions to support the building of a stronger skilled workforce in Canada. Furthermore, the solutions require substantial partnership between industry, government and a range of supporting partners, including labour and post-secondary institutions.

To support the building of a stronger skilled workforce in Canada, Industry 2030 recommendations are:

1. Improve engagement youth and under-represented in manufacturing careers to grow the domestic skilled labour pool.

This must include better education and information about careers in manufacturing, better detailing career paths and opportunities, and strengthening education in science, technology, engineering and math (STEM) fields.

2. Improve linkages between industry and post-secondary institutions to improve the skills of existing and future workers as well as to strengthen industrial innovation. This must include addressing curriculum gaps to ensure students are taught current skills and trends in manufacturing. It must also include more opportunities for Work Integrated Learning to facilitate student engagement and helping young people find a job sooner.

3. Expand supports for business led training and management leadership. Including expanding and strengthening the Canada Jobs Grant and developing national training for manufacturing leadership that can begin to change our culture of manufacturing and exporting.

4. Improve access for foreign trained skilled workers through the immigration system and access to temporary skilled workers when required.

These recommendations are not aimed at any one group. They are in fact a collective responsibility that we must all tackle. However it is industry itself that must be supported to increase its responsibility in this area to ensure the future workforce it needs to thrive.

2. Accelerating Adoption of Advanced Manufacturing Technologies

A wide range of advanced technologies are changing the face of modern manufacturing and providing new opportunities and challenges in Canada and around the world. Technologies such as 3-D printing are changing how products are prototyped, how original equipment manufacturers (OEMs) are interacting with their supply chains, and the speed of new product development and commercialization. The Internet of Things is allowing manufacturers to control and monitor their operations from anywhere in the world to ensure maximum efficiency, and to connect with and serve their customers continuously. Advanced robots are working side by side with humans to assist in the assembly process. These are on top of a range of what are now commonplace advanced technologies such as multi-axis computer numerical control (CNC) machines and a wide range of automated processes and robotics.

These new technologies are driving modern manufacturing by lowering production costs, increasing productivity, quality and agility, while allowing for the creation of new innovative products. It is also driving a manufacturing renaissance in many jurisdictions around the world which were once thought to be too high-cost to be competitive.

For Canadian manufacturers to prosper, they need to be at the forefront of this change, investing in new machinery and equipment, and incorporating new digital technologies and advanced manufacturing capabilities into their operations.

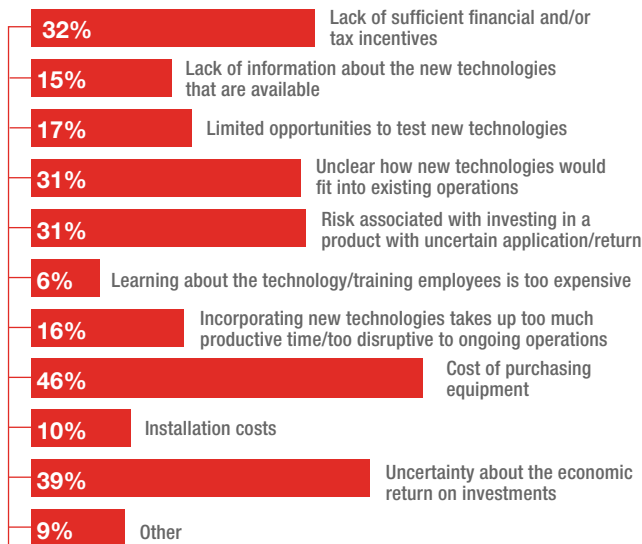
Unfortunately, Canadian manufacturers are moving in the wrong direction. In the United States, manufacturing investment in machinery and equipment has risen by 58 per cent since 2009. In Canada it has fallen by nearly five percent and hit a 30-year low in 2014. Few industrialized countries have a worse record than Canada on this matter.

These trends are having a predictable effect on productivity. Manufacturing productivity in Canada has risen by 18 per cent since 2002. In the US, it has risen by 49 per cent. In South Korea: 94 per cent.

Advanced technologies are the future of manufacturing. Canadian manufacturers need to improve their record on capital investment and technological adoption if they are to grow and remain globally competitive. In addition to these economic impacts, adopting advanced technologies have the added benefit of reducing energy costs and the environmental footprint of manufacturing operations.

However, Canadian manufacturers are slow adopters of the more modern advanced manufacturing technologies. According to the results of the *Management Issues Survey*, more than 60 per cent of businesses do not presently use them in their operations. Based on the Industrie 2030 consultations, there are several significant factors that impact this reality. First, the cost of purchasing new machinery and equipment is the single biggest obstacle that Canadian manufacturers face in their efforts to adopt new technologies. The drop in the value of the Canadian dollar since 2014 has dramatically increased the price of these goods. Second, there is significant risk in adoption given the quick change in technologies, the length of time required for integration, and the uncertainty of the impact. Finally, financial support is not always available from the public or private sector.

WHAT ARE THE MAIN OBSTACLES YOUR COMPANY FACES IN ADOPTING NEW TECHNOLOGIES IN YOUR OPERATIONS?



Given the importance of technology adoption for the long-term competitiveness of Canadian manufacturing, for reducing the environmental footprint, and how far Canadian firms in general lag their competitors in this area, it is critical that government and the private sector work together to accelerate the adoption of a range of advanced manufacturing technologies.

The Industrie 2030 recommendations to achieve this objective are:

1. **Enhance the depreciation rates for advanced manufacturing technologies** to help offset the rising costs of new machinery and equipment and to reduce the risks associated with technology adoption.
2. **Establish manufacturing hubs and technology demonstration centres to showcase and test new advanced manufacturing technologies.** Companies that have the opportunity to examine and learn about new technologies are able to make more informed decisions about new investments and are more likely to adopt those technologies. These would also allow for smaller companies to partner with larger companies to leverage existing technologies and support networks for product commercialization.
3. **Expand all regional manufacturing technology investment support programs across the country.** Manufacturers across Canada should have access to the same types of support programs regardless of where they are physically located, including a wide range of training and investment supports that are available through Canada's federal regional economic development agencies.
4. **Reinvest all federal and provincial carbon-pricing revenues back into offsetting the cost of purchasing new technologies and M&E.** Investment in new technologies is critical to reducing the environmental footprint of manufacturing as well as improving productivity.

3. Fostering Innovation, Commercialization and New Product Development

Innovation is turning an idea into a product or service. Successful innovation is creating commercial and social benefits out of those products and services.

Consumers are growing ever more demanding as rapid advances in technology reshape their expectations. To meet these expectations, manufacturers must be continuously innovating – investing in research and development that leads to new product commercialization. Commercializing new products is essential to attracting production mandates which, in turn, generate investment, jobs and economic growth.

Canada – our people, society and businesses – is full of ideas. However, in general the country struggles to turn those ideas into new products or services. Our post-secondary institutions have more peer-reviewed articles per capita than anywhere else in the world. Similarly our government research labs regularly turn out a range of intellectual property (IP) and patents each year. However, despite all of this primary research and tens of billions of dollars in annual federal government funding, and billions more from provincial governments, neither of these groups leverage these ideas into commercial success on a regular basis. It is not their job or focus to do so.

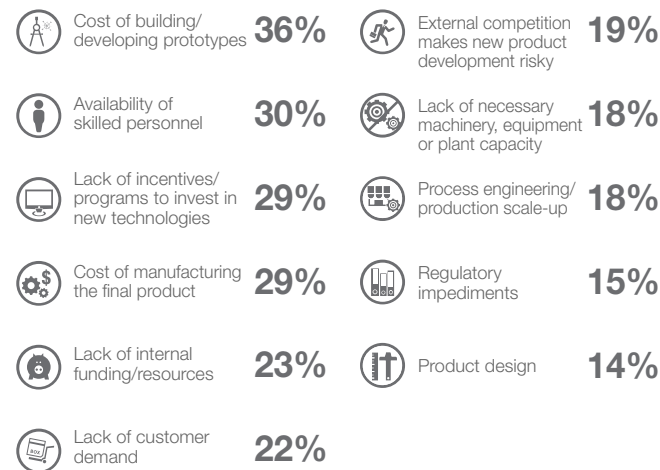
Manufacturers in Canada are also struggling with product and process innovation and commercialization. While Canadian manufacturers are known for creation of innovative, customized, niche solutions, we are falling behind our international competitors. Industrial research and development spending in manufacturing is declining and businesses are introducing fewer new innovations. From 2007 to 2009, 48.6 per cent of manufacturers produced at least one product innovation. By 2012 to 2014, that share had fallen to 43.9 per cent. Meanwhile, the share of companies reporting no innovations of any kind rose from 18.8 per cent to 38.8 per cent over that time.

Why does this matter? Manufacturers in Canada are directly responsible for over 42 per cent of all private sector research and development. Their development of new products, technologies and processes drive the growth of their business and the wealth creation of the broader Canadian society. If Canada is going to be a more innovative society, Canadian manufacturers will play a central role.

According to the 2016 *Management Issues Survey*, the biggest obstacle that manufacturers face in developing and commercializing new products is the cost and difficulty in building prototypes. New advanced manufacturing technologies like 3-D printers can dramatically lower these costs, but many Canadian businesses are slow adopters of these technologies – something we must clearly overcome.

While technology may offer some advantages to industry for prototyping, it is only a small part of the manufacturing innovation and commercialization story. Repeatedly throughout the Industrie 2030 consultations, companies spoke about Canada’s overall support environment for innovation, from initial stages of product development through commercialization. While there are some positives, most companies were simply frustrated at the level of support offered, including the current state of Canada’s SR&ED program, the poor linkages and support from post-secondary institutions, and the lack of government risk sharing support in most sectors.

WHAT ARE THE MOST SIGNIFICANT CHALLENGES YOUR COMPANY FACES WHEN BRINGING NEW PRODUCTS OR SERVICES TO MARKET?



To bridge the gap in supporting manufacturing innovation, commercialization and product development, Industrie 2030 participants had a wide range of recommendations, including to:

- 1. Conduct a complete review and modernization of the SR&ED program.** Cuts to SR&ED have reduced business uptake of this program. Furthermore, administration of the program often leads to finding ways to reduce spending, rather than supporting growth. It needs to be refocused to support its original intention – economic growth through innovation and commercialization of products and processes.
- 2. Implement a Patent Box system to reward commercialization and production of products in Canada.** This program would provide relief from corporate tax on income generated from certain types of qualifying intellectual property, when those products are commercialized and manufactured in Canada. It will help close the gap between Canada's strong track record on invention and its weaker record on commercialization.
- 3. Create a manufacturing commercialization investment fund that would that would be repayable based on commercial success of the product.** This fund would address one of the biggest challenges in new product commercialization: development costs can be significant and the economic return far from guaranteed. It would fill an important gap in Canada's support for the commercialization of research by providing a risk-sharing facility between the government and industry.

- 4. Expand funding for industry-driven programs aimed at post-secondary partnerships in R&D and commercialization.** Post-secondary institutions have strong research capacity, but linkages to the entrepreneurialism of the private sector are underdeveloped. Closer ties are needed to support industry-driven research at post-secondary institutions, and publicly-funded intellectual property should be made freely available to Canadian industry.
- 5. Leverage government procurement to foster R&D and new product development.** Governments spend billions of dollars on public procurement every year, but very little is used to help companies invest in new product development and commercialization. A small share of this funding should be placed in an innovation fund to finance private-sector-led research into specific areas of strategic benefit to the Canadian economy. Governments should also introduce a "first-buyer" principle for new technologies and products to expand and support scale up and production.

Much of the focus in these recommendations is naturally on the government and related public-sector institutions to foster innovation and commercialization. However, in our Industrie 2030 consultations, there was also tremendous emphasis on how smaller companies can and should leverage global assets and the supply chains of larger multi-national enterprises to facilitate commercialization of new technologies, services and products. How this could be more broadly implanted will also need to be explored further.

4. Creating a Competitive Business Environment in Canada

Investment in operations is critical to the health and long-term success of manufacturing in Canada. Businesses need machinery and equipment and new technologies to remain competitive. They need to engage more in new product development to secure new customers and market share. They need to invest to maximize the skills of their workforce. Without this ongoing investment, output will not grow, factories will become less competitive, businesses will not develop product leadership and innovation, and growth opportunities will be lost. Simply put, investment drives competitiveness.

Global competition to attract new investment in manufacturing is fierce. Companies decide where in the world to locate their operations based on where the economic return will be highest. They look for specific factors in assessing that return: accessibility of markets; profitability; and net input advantage – the combination of access to raw materials, human resources and other local attributes like transportation infrastructure and logistics.

Among those attributes is the prevailing tax and regulatory burden. If this burden is too high in Canada, investment will pass us by and migrate to another location.

Unfortunately, the business climate in Canada is getting worse, not better. As noted earlier, nearly half of all respondents to the 2016 *Management Issues Survey* believe the federal government does not support investment and growth in their company. That share rises to 60 per cent for provincial governments. Most respondents also felt that government support has grown worse, not better over the past three years.

Industrie 2030 participants identified a wide range of tax increases and government policy changes that are making it more difficult and costly to do business in Canada and are eroding our global competitiveness. Payroll taxes are rising, carbon taxes and other levies are being introduced, and the corporate tax rate is going up in several provinces. Renewable energy policies are also driving up energy costs for manufacturers, eliminating what was once a core competitive advantage for the sector. The regulatory burden continues to intensify as governments are seeking certifications, approvals, requirements that cover all aspects of operations and products.

While no single one of these changes is significant enough to drive investment away, in aggregate they are death by a thousand cuts. And they are increasingly putting Canada out of step with its international competitors.

For example, Canada is competing for business with countries like the United States which offer tax holidays, free land, refurbished facilities, direct investment incentives and a range of other supports to locate in their jurisdiction. These are not random, sporadic, or sector-specific offers. US governments are aggressively recruiting manufacturers away from Canada by cold calls from government officials trying to sell them on moving to their state, offering concierge services and a range of significant incentives. Unfortunately, Canadian businesses are not turning these offers down.

The impact of the widening gap between Canada's investment climate and that of its international peers has been predictable. From 2009 to 2014, foreign investment in manufacturing in the US grew by 134 per cent. In Canada, it grew by less than 7 per cent. Even domestic manufacturers are investing less in Canada. Planned capital construction in manufacturing fell to \$4.2 billion in 2016 – its lowest level in six years.

Clearly if manufacturing is going to grow in Canada we need to reverse these trends and build a much more competitive manufacturing investment business climate. Achieving this objective requires taking the following steps:

- 1. Create a globally-competitive business tax structure in Canada that supports growth.** Tax competitiveness is a key factor businesses consider when deciding where in the world to invest. Canada needs an attractive tax climate that rewards companies for growing, rather than simply for being small.
- 2. Establish government investment concierge services.** Governments in other jurisdictions are in the business of helping businesses succeed. Meanwhile, manufacturers in Canada are often unaware of the range of government programs and services available to them.
- 3. Establish a Regulatory Bill of Rights that will increase transparency and predictability of regulatory processes.** A clear, simple and stable regulatory system attracts investment and growth. In Canada, businesses are struggling with lengthy regulatory delays and uncertainty about what future regulations may be on the way.
- 4. Increase investment in economic and trade-related infrastructure, including physical, energy and electronic infrastructure.** Having top-quality infrastructure is critical to maximizing economic efficiency and helping manufacturers reach new markets. Transportation costs and delays can be the difference between making and losing a sale.

5. Increasing Access to Domestic and Foreign Markets

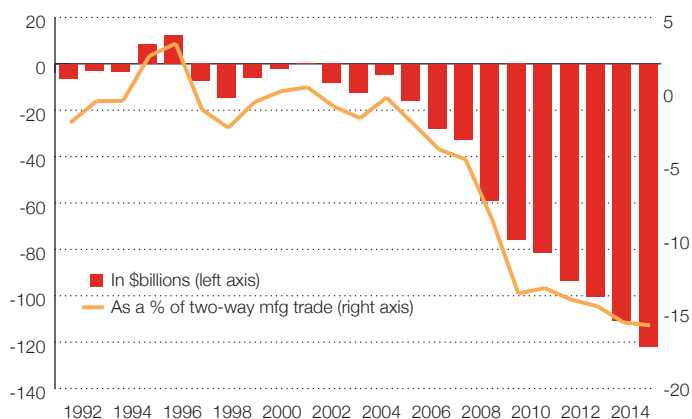
Customers, both existing and future, drive business decisions. From investment in operations, to the types of products that are offered, manufacturers' decisions revolve around servicing their customer base and attempting to expand that base.

Finding new customers is critical to a thriving manufacturing sector. It increases domestic output and generates the need for continuing investment in existing and new facilities. New investment leads to higher production, more jobs, and additional economic growth.

However, recent trends in domestic and international markets are pointing in the wrong direction for a sustainable and healthy manufacturing sector in Canada. On the export side, Canada is losing ground to its competitors. Canada accounted for 3.7 per cent of global manufactured goods exports in 2000. By 2015, that share had fallen to just 1.8 per cent. From a domestic standpoint, Canadian manufacturers are similarly losing to international competitors. Imports from China and other low-cost jurisdictions have eaten into Canadian manufacturers' share of the domestic market over the past twenty-five years. In 1990, about 55 per cent of Canadian domestic demand for manufactured goods was filled by domestic producers. That share has fallen to only 38 per cent today.

These realities show themselves directly in Canada's overall trade balance in manufactured goods. Since 2000, this trade balance ballooned from nearly break-even to a deficit of roughly \$122 billion by 2015.

CANADA'S BALLOONING TRADE DEFICIT IN MANUFACTURING



These trends are not sustainable for Canada's manufacturing sector, or for the economy as a whole. This decline is directly causing slower economic growth, lower investment, and job losses. Progress is urgently needed if we are to reverse the gradual erosion of Canada's global manufacturing presence and increase wealth generation at home.

Canada has a great opportunity to reverse these trends by leveraging our current and traditional strengths and targeting our efforts on solving the major challenges facing the world. These strengths include our natural resource base, our inherent competitive capabilities and the mindset of our workforce. These advantages can be leveraged even further by linking Canadian companies into global supply chains to support resource development globally. Clean, safe and sustainable food production, rooted in our strong agricultural and seafood sectors, can feed the world. Canada has some of the best software engineers on the planet. The technology companies where they work, can and should be integrating their solutions into global industrial operations, creating safe, reliable, and productive workplaces. Similar stories exist in many other manufacturing and related service sectors where Canada has natural and historical advantages including health care, education, transportation and communications.

However, Canadian companies, especially the small and mid-sized companies that dominate manufacturing, struggle to understand the market opportunities that exist. They are restricted from accessing many of those markets, and they often face a range of market-access challenges that benefit their global competitors. And unlike other countries, Canada lacks a national strategy to leverage our natural expertise and resources to support domestic and international market growth opportunities.

Sales almost always start at home before expanding internationally. Unlike their competitors in other parts of the world, Canadian manufacturers receive little assistance from governments and other support networks for selling their products in the domestic market. There are no "Buy-Canada" promotional campaigns that celebrate what technologies, services, and products are made here. Neither do we promote these products well around the world. There are no strategies to leverage domestic public and private procurement to foster product development, innovation and increase sales. Supply chains linking Canadian manufacturers to our extractive industries are underdeveloped, which represents a failure to capture the full value-added potential from our non-renewable resources.

From an international perspective, there are two core components to increasing sales. First, the manner and extent to which Canadian governments support industry in going global. And second, whether or not trade is taking place on fair and reciprocal terms. On the former point, while the federal government is doing its job in opening new markets for manufacturers through negotiating and implementing free trade agreements, the reality is that most manufacturers are simply not taking advantage of those opportunities because they lack the knowledge or internal capacity to do so. It is clear from the results of the *Management Issues Survey* that most Canadian companies are neither aware of, nor are they using, the vast array of government support programs available to them. In fact, most of Canada's smaller manufacturers report that they lack information about market opportunities, how to navigate the rules and regulations in foreign countries and how to find customers and local partners. One potential explanation for this apparent contradiction is that trade advice is often focused on how to access a specific foreign market, rather than how to access global supply chains of larger companies operating in those markets.

On the latter point, Canadian manufacturers are gravely concerned about unbalanced trade. To be clear, this is not an anti-trade sentiment. Manufacturers understand that Canada's market is too small and they need access to foreign markets for growth opportunities. However, manufacturers often face a wide range of tariff and non-tariff barriers, such as constantly shifting regulations that effectively block access to foreign markets. Meanwhile, some sectors here at home are being significantly harmed by foreign competitors that are not abiding by the terms of trade agreements or who are artificially manipulating prices by dumping their goods and other illegal trade tactics.

Throughout the Industrie 2030 consultations, participants offered a number of solutions to help them address these challenges and find new customers in domestic and international markets, including to:

1. **Create promotional campaign celebrating Canadian-made products** to increase awareness in Canada of our manufacturing successes and to improve international recognition of Canadian innovation, expertise and quality.
2. **Leverage Canada's domestic procurement system to foster new product development, innovation and local production.** Canadian manufacturing supply chains into both government and private-sector procurement opportunities are underdeveloped.
3. **Negotiate Free and Fair Trade Agreements with reciprocal access for manufactured goods and strong trade enforcement mechanisms.** Unless trade agreements give Canadian manufacturers the same access to foreign markets as their competitors have in Canada, they will put our businesses at a permanent disadvantage. Strong trade rules, including anti-dumping, dispute resolution, currency manipulation and trade remedy mechanisms are needed to ensure all parties comply with the spirit of these trade agreements.
4. **Improve export support programs.** Programs need to be better-funded and have more flexibility around the application timeframes and duration of the funding agreement. They should not favour certain products or markets over others.

Affecting and Measuring Change

It is now time to put words into action. CME and our partner organizations have no interest in simply consulting and producing a large paper to sit, unread, gathering dust on a shelf.

To ensure that we are making progress towards our ultimate goal of doubling manufacturing output and value-added exports by 2030, we have developed a series of performance metrics to guide our efforts. These measures have been distilled from the five keys to success that make up the foundation of our Industrie 2030 Strategic Plan and from the overall global economic trends that are impacting manufacturing in Canada.

Success at **building a strong labour pool and skilled workforce** is measured by the share of manufacturing businesses reporting labour and skills shortages in CME's biannual *Management Issues Survey*. If fewer manufacturers report such shortages, then more are able to find the workers they need, when they need them. Companies with the right workers in place will take on more business, engage in more new product development and invest in their own growth.

Manufacturing investment in new machinery equipment and technologies is well below levels seen in the mid-2000s. **Accelerating adoption of advanced manufacturing technologies** means that more manufacturing businesses are investing in new machinery and equipment. As investment equipment rises, manufacturers will become more productive, innovative and competitive.

Fostering innovation, commercialization and new product development is critical to meeting customer expectations. Innovative companies leverage R&D and new ideas to improve existing products and create more new ones. Companies that report new innovations also commercialize new goods and attract production mandates. That, in turn, leads to new market opportunities, growth and productivity improvements.

Creating a competitive business environment in Canada is vital if we are to attract foreign and domestic investment. Countries with low tax rates, a speedy, effective and efficient regulatory system and a government interested in fostering business investment and growth are those to which global capital is drawn. Canada needs to have one of the most competitive business tax regimes in the OECD to compete with countries that are offering manufacturers lucrative incentives to locate in their jurisdictions.

Increasing access to domestic and foreign markets is a measure of a successful, globally-competitive manufacturing sector. When businesses are able to export around the world and expand their presence in domestic supply chains, it means that more manufacturing activity is taking place in Canada – a signal that productivity, investment and innovation levels are all high. A country with a strong manufacturing sector is one where imports and exports are in close balance.

With this in mind, we have identified the following key performance indicators that we will use to measure progress towards achieving our ultimate goal. They are:

Key Performance Measures

- The share of businesses reporting labour and skills shortages in CME's biannual *Management Issues Survey* will fall by 2 per cent every two years from the current 34 per cent to 20 per cent by 2030.
- Annual investment in manufacturing machinery & equipment in Canada will rise by 5 per cent per year to reach \$24.5 billion by 2030.
- The share of manufacturers reporting that governments support the growth of their company in the biannual *Management Issues Survey* will improve at each level of government by 4 percentage points every two years. By 2030, it will rise to 62 per cent for the federal government, 58 per cent for provincial governments and 47 per cent for municipal governments.
- Canada will be among the top two G7 countries for manufacturing productivity growth in every five-year period ending in 2020, 2025 and 2030.
- The share of manufacturing businesses in Canada reporting product innovations will rise by 4 per cent every two years to reach 60 per cent by 2028-2030.
- Canada's position in the World Bank's annual Ease of Doing Business ranking rises from 14th in 2016 to 11th by 2020, 8th by 2025 and 5th by 2030.
- Canada's trade deficit in manufactured goods will fall by an average of \$5 billion per year to reach \$47 billion by 2030.

Conclusion and Next Steps

Industrie 2030 started out with the bold objective to double Canadian manufacturing output and value-added exports within 15 years. This objective was chosen for one simple reason; it was essential to reset the dialogue on the future of manufacturing in Canada given the rapidly-transforming global manufacturing environment – a transformation driven by a combination of the Fourth Industrial Revolution and changes in consumer and societal demands.

We believe that Canada has a choice: we can do nothing and watch manufacturing continue to stagnate while investment and production continues to go to other jurisdictions; or we can act decisively to once again make Canada a preferred location for manufacturing. When 28 per cent of the economy is linked to the manufacturing sector, this should not be a difficult choice to make.

We also believe that Canada has a great opportunity. Within our country we have the people, the natural resources, the supporting infrastructure and the technology to accelerate growth in Canada's manufacturing sector. Canada's issue is that we need to focus on a coordinated national plan that will manufacture growth, innovation and prosperity for Canada.

The easy part is done. This report and the related economic and research analysis stemming from the Industrie 2030 consultation sets the framework for growth. CME will be working with its partners to implement the recommendations contained in these reports. We will create industry working groups to refine those recommendations into specific priority areas for action. We will partner with government and the supporting service sectors to develop implementation strategies and put those plans into action. We will measure success based on our progress in meeting the performance metrics outlined above.

Ensuring success in this process requires a sustained focus for our organization, partners and members. Reaching our goals will require additional research and consultations, developing new programs, focusing our advocacy efforts, creating new partnerships and improving existing ones. We look forward to working together on the key changes needed to dramatically reinvigorate manufacturing in Canada and materially improve the economic well being of all Canadians.

Together we can manufacture change.

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