



Take Back Manufacturing 2019

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How Can Canada Take Back Manufacturing?

Globalized Manufacturing with efficient Supply Chains supported by liberalized free trade agreements have been the business norm.

But now, as we correctly predicted in past articles, we are witnessing a significant change in national economic policies.

Global Free trade is NOT working for everyone...

Global trade has increased at least 8 times since 1980 while GDP and prosperity in many western nations has seen a slow growth or has flatlined or worse.

Liberalized free trade may have reduced poverty in some 3rd world countries, but it has enabled uncontrolled corporate capitalism that has destroyed the delicate balance between capital and labor and allowed corporations to leverage unfair labor arbitrage. This has resulted in uncontrolled offshoring of jobs that has created duplicated resources, and a race to the bottom for labor wages for most of the workforce.

Further, significant "unpaid" intellectual property transfer has taken place between mature and emerging economies in the rush by corporations to access these "emerging markets"

For most western economies It has become a huge wealth transfer machine that has destroyed national prosperity and reduced citizen well-being, significantly increased inequality, and has generated substantial increase in all forms of debt.

Also, in that same timeframe we have seen a doubling of the global workforce that exceeds the demand for that labor and has led to uncontrolled human migration.

At the global level we have experienced significant increase in pollution due to globalized economic growth.

The Institutions of Global Multilateralism are stressed..

A growing number of experts now agree that liberalized global free trade is clearly unsustainable and NOT in the best long-term interests of citizens of most national economies.

Many western citizens have decided that firm action is needed, and their nations real goal must be economic and cultural sovereignty to better manage national interests, with many demanding a nations individual right to choose with who and how it trades..



This has reset the political leadership, and this is now forcing a move away from global free trade agreements driven by international multilateralism, toward a redefined national trade bloc model, with a strong focus on more balanced trade and far greater controls on capital transfers and borders. Also, where practical, a suppression of imports to avoid unfair labor arbitrage and force much more closed loop national trade and economic sustainability. It will also require much more restrictive trade agreements that focus on producing more and importing less of what is consumed as a nation.

This will encourage consumers to make much more of what they consume and will modify current globalized manufacturing supply chain decisions. It will force a rethink toward more balanced and local Sourcing, Reshoring, local manufacturing closer to the customers, greater job stability, improved inventory flexibility and more effective innovation in home markets.

Further.....Globalization and free trade has been warming up the planet

From global sustainability studies it has been determined that global trade utilizing long supply chains to support offshore trade attracts significant inventory, transportation and associated resource waste, and has a significant pollution footprint, and must be avoided if we are interested in a sustainable planet.

All the container ships and the associated transportation devices and logistics processes across the globe are calculated to pollute more than 6 times all the cars on the planet!

Also, 3rd world emerging economies that manufacture for mature economies operate far less efficient production systems and generate far greater resource waste and pollution and provide higher health risks and generate far higher safety issues.

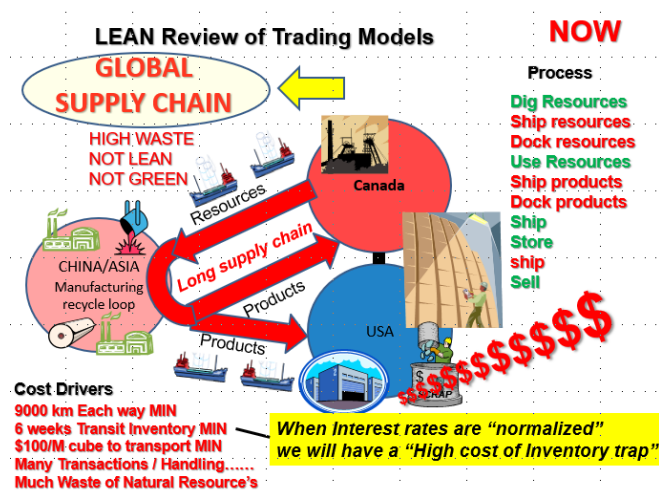
Further, as more of the rapidly expanding global population join this globalized workforce then globalization in its current uncontrolled form will generate a huge catalyst for global pollution, resource waste, rampant labor migration, and will significantly contribute to the global warming of the planet.

So, using these global sustainability calculations we can generate a strong argument against unnecessary global trade.

The Solution...

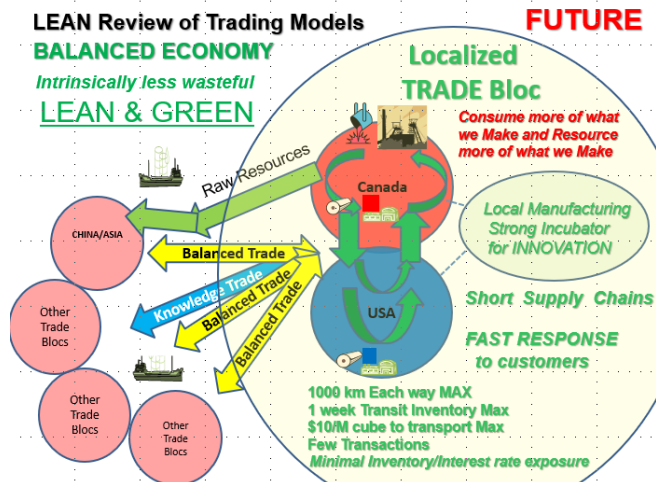
The future solution will depend upon generating far more sustainable localized economies organized into trade blocs.

Our experts have conducted a LEAN review of the current global supply chains and we are horrified at just how unsustainable they are in both a business and ecological sense.



The current globalized manufacturing trade model is far from LEAN and uses long supply chains and attracts significant non value adding process steps and inflated costs drivers, and in many ways depends on ultra-low interest rates to enable long distance manufacturing activities that are inventory intensive and highly unsustainable.

The future alternative is more balanced economies using localized trade blocs with far shorter supply chains that are inherently LEANER and GREENER with less process steps and a much more effective cost and carbon footprint. They must utilize local manufacturing closer to the consumers, enabling faster and more flexible response to demand and employ less process steps and wasteful inventory. This means trade will be



far less sensitive to inventory waste so that interest rates can be normalized upwards to better drive investment and prosperity.

This will involve curbing the current over indulgence in unnecessary global trade and population migration and start to build smaller and more inclusive more localized trade blocs that will enable the national populations to make much more of what they consume and utilize more of their local resources as much as practical to make their future local economies and habitats far more sustainable.

When we investigate the feasibility of such localized trade blocs we find that for example a North American trade bloc that followed this sustainability agenda would

need to import very little from outside its trading bloc zone. It would only need to import a very small number of goods or resources that could not be provided in any other way in the local economy.

If this model were applied as much as practical on a global basis it would offer a significantly better balance of economic and ecological sustainability as it would force economies to better manage the pollution they create “in their own backyard” as they extract grow and make and service their own economies and citizens.

Also, the local increased demand for the value-added effort to achieve this, will generate increased GDP and wealth within an economy that would reduce wasteful labor arbitrage and the harmful free flow of capital between economies, and further force economies to be in far better balance as far as import & exports are concerned.

The outcome will be more balanced and accountable national economies that will still need to global trade but as an option of last resort, rather than the duplicitous, redundant, wasteful and destructive free for all we see now.

We must remain realistic but resolved..

It is not being proposed that global trade should not exist, but due to the consideration mentioned above it must be considered more as an option of last resort, and if undertaken it must be much more value adding rationalized, balanced and waste free.

It's also now clear that globalized manufacturing is far less sustainable due to the realization that off-shoring is getting much more expensive, with the landed cost tipping point between low cost countries and onshore sources now moving toward or at parity.



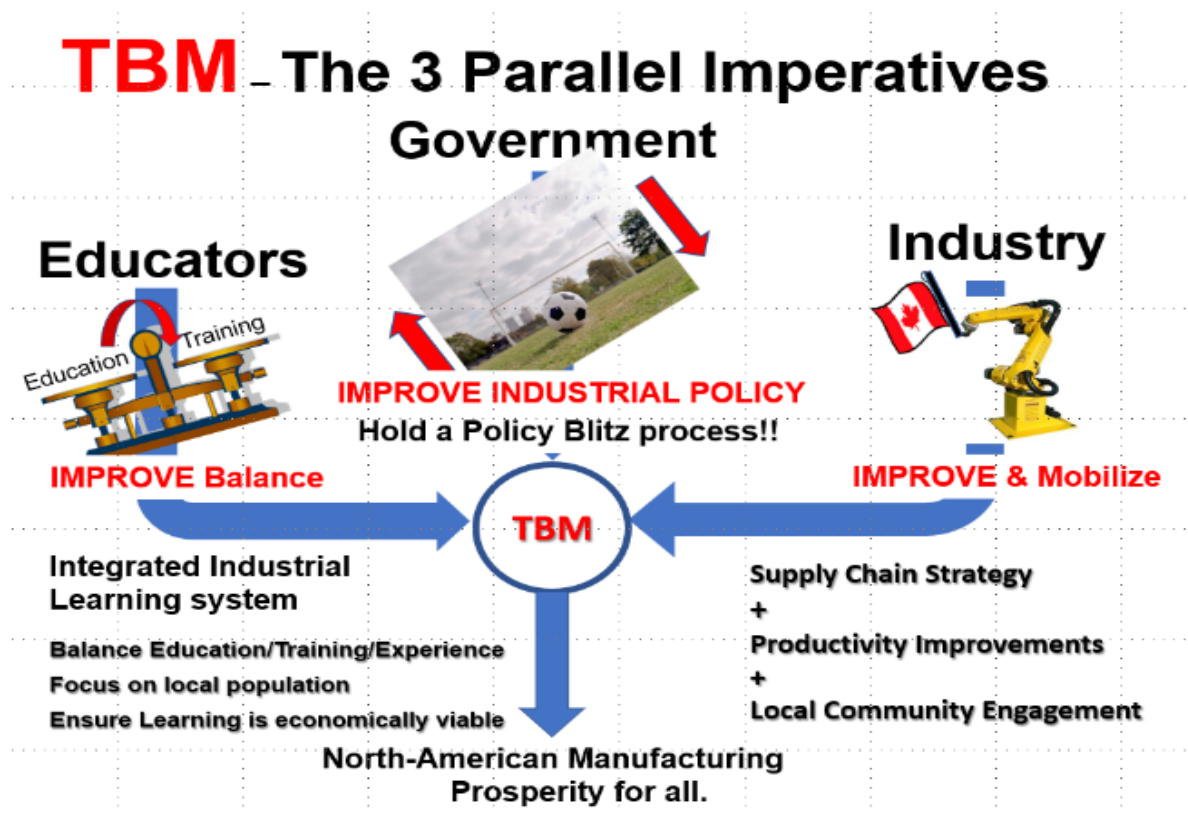
Manufacturing in the future will also have to utilize far more sustainable supply chains with a far lower carbon footprint to satisfy escalating ecological concerns. We cannot continue to move wasteful, dirty and environmentally destructive container ships around the world to chase a transient labor advantage in countries that are ill equipped to manufacture in a safe and ecologically compliant manner.

Manufacturing organizations who want to compete in mature markets, and probably all markets in the future, must focus on a different productivity plan. They should move away from utilizing labor in so called low cost labor countries using long and unsustainable

supply chains and focus on gaining productivity closer to the customers through LEAN Business practices in all forms that will include recapitalizing using new disruptive technologies.

Taking Back Manufacturing (TBM) in Canada... The 3 Major Imperatives

For those that wish or need to manufacture in Canada we define 3 major imperatives for Canada to Take Back Manufacturing and this will demand government, the educational organizations, and industry work much closer together to develop a combined roadmap to make it happen.



1st TBM Imperative... Government Industrial policies to assist manufacturing

Canada's government/s at all levels must take stock of this new economic balanced trade model and realize that although we have an abundance of natural resources, we must have a balanced economy of resources, services and manufacturing so that we make things more locally rather than continue to import them. They must also realize we won't get rich on services, or just shipping raw resources out of our economy without adding value to these resources.

Currently Canada lacks the correct political will and focus to develop such a balanced economy.

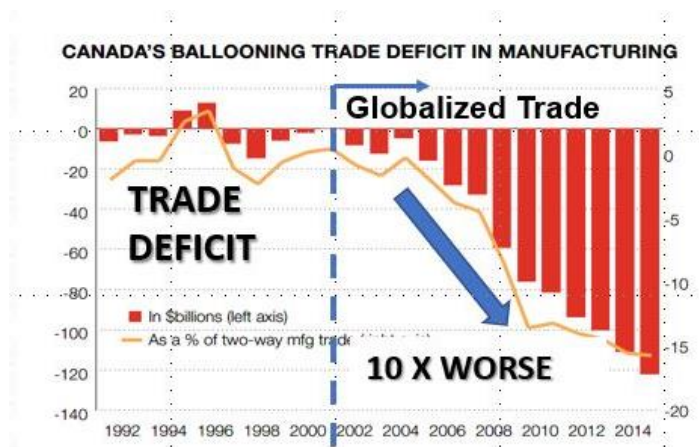
We lack strong federal government direction and planning to recover an ailing, under managed resource sector, and this is illustrated by the lack of planning and direction in building pipelines to get the product to markets.

The current Canadian federal government, after a struggle, eventually closed a new USMCA trade agreement. But, they must ensure that the future trade relationship with the USA is far more aligned on trade ideology. This is a must, so that we benefit from the reshoring efforts happening in our closest and largest trading bloc partner, who has an economy 10 times our size.

The Canadian manufacturing sectors continue to decline and the trade deficit in manufacturing continues to grow. Since 1980 it has increased 10 times to more than \$100 Billion. Since 2000, more than 25% of the manufacturing workforce (about 500,000 citizens) have been displaced into lower paying or more precarious employment due to globalized manufacturing.

Many products are now and will be reshoring back to local manufacturing supply chains to support the consumer base within the new NAFTA 2.0 (USMCA) trade agreement, but many experts do not consider Canada a logical and typical reshoring destination within this new trade bloc.

The reasons for “why not Canada?” are many. We are a relatively high-cost destination with a very questionable political will to set a consistent, national industrial policy in hopes of convincing business leaders to invest, but often, Canada presents a comparatively small consumer base with flat growth, an unpredictable resource-driven exchange rate, high overall energy costs, non-competitive transportation and border transactions, as well as high labor expenses and punitive safety and environmental legislations.



The federal government has done little to assure business leaders that the Canadian dollar will never again get over inflated by resource growth as we experienced in the last few decades.

The adoption of a carbon tax will make this competitive footprint worse.

Our advantage of a lower corporate tax rate is now diminished due to the US lowering their rate.

Although strong in the past, our skilled workforce is diminishing and is not being

maintained.

The expert prediction is that the decline in the manufacturing sectors will continue to happen due to a total lack of overall government focus on effective industrial policies, legislations, and ineffectiveness in addressing national competitive factors such as exchange, taxation, tariffs and minimum wage rates etc.

Our governments, manufacturing sectors and our educational support organizations must respond to these challenges, and work more cohesively to reverse this outlook.

Local Governments must focus on industry support including upgrades and maintenance of energy, logistics and communication infrastructure. They must improve regulatory efficiency and remove waste from product and process compliance requirements and better assist business “Entitlement funding”.

New technology development plans must be far better planned and must be driven by industry, and better integrated into local academic centers to jointly undertake R&D projects.

Small business needs a less complicated method for access to development funding and talent needed to take the industry sectors to the next level of performance.

What also concerns many citizens is that the federal government agenda appears to be far more focused on “who we are” in terms of our social image to the rest of the world than “how we as citizens are doing”

So, we need government to communicate and align with our major trade partner/s and undertake a compatible and winning trade policy as well as improve the support for industry to restore of manufacturing sectors.

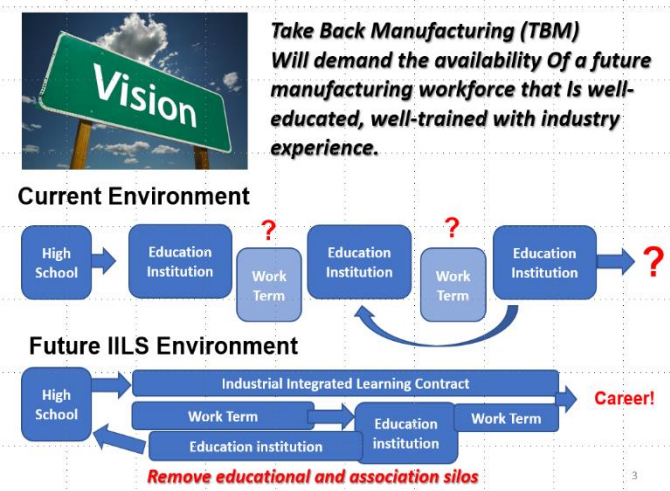
2nd TBM Imperative.... A New Industrial Learning system

We have national unemployment measured using a real job value index well above 12% with about one million of our young people under or un-employed and unable to follow their career goals and are struggling to find a place as equitable consumers. And yet due to uncertainty for investing and maintaining learning in manufacturing at all levels of our society it should be no surprise we now have a critical skill shortage in manufacturing and related industries.

So, we need to rebuild the workforce and install a solid Industrial Learning system for our manufacturing Industries like those now being installed in the UK and already in place in Germany.

We need one central government organizing body for joint industry education and training that will engage our citizen students while they are still in school and propel them through an integrated learning process to create trade, engineering, and management skills. This must place them into a stable career journey early in the process with progressive companies that will embed ongoing education and training into the career plans.

Integrated Industrial Learning System



We also must take significant action to attract young people to manufacturing careers to combat the increasing skill shortages. It's clear that the public image of manufacturing needs work, it's still perceived as dark dirty and dangerous and risky and unstable employment, etc.

The next generation must see manufacturing as sexy and something to build their future upon.

To achieve this, we must deploy knowledgeable industrialists into our school system to re-educate everyone, including the front-line educators who may not have a good grasp of manufacturing as a career... This is a must, and we are talking a culture change in our society about the value and respect for manufacturing.

3rd TBM Imperative.... Industry improvement

Our Industry leaders need to ensure their management teams "run the numbers" and do balanced sourcing reviews within their sectors to consider the sourcing strategy for the next generation of products.

They need to better understand that the global supply chain is far less effective and in many cases far less cost effective than a more localized trade bloc.

We are witnessing a significant reshoring planning and execution activity being undertaken in the USA by at least 50 percent of the large corporations, and our Canadian businesses need to understand how they align and leverage this supply chain evolution.

The products that will return will not be the products that were off-shored, they will have new technology in both the products and the manufacturing process, and will demand new facilities, capital, knowledge and skills to undertake this journey.

Industry must also be ready for action with a reinstalled mindset for Continuous improvement and LEAN thinking which many experts agree we have lost due to the distractions of an offshoring focus over many years.

Typically, Lean business thinking and sustained continuous improvement in all facets of the business tends to be a business cultural advantage and should breed not only strong operating performance, but also a more robust innovative environment that will attract capital and growth investment. This requires a very stable and visionary management capability, and this is where strong business leadership can make the difference.

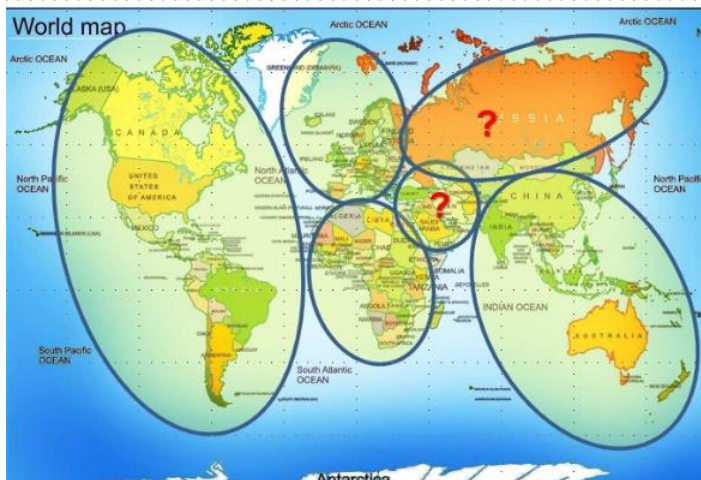
There are three LEAN business strategies that should be followed...

1. Use lean thinking to eliminate the waste in the non-value-adding parts of the overall business process and reach a simplified and much leaner version of the new business process, including re-developing a supply base organized in a close geographical cluster that will feed local manufacturing and distribution loops.
2. Undertake a formal review of what new disruptive technology and science can be applied to this business model and new products using innovation strategies.
3. Apply automation in all forms to the output of the two strategies above. Recapitalize to automate the latest disruptive technologies into the remaining value-adding business processes to support the most advanced and integrated product set. This approach will possibly make the business the benchmark in the industry. A strong knowledge of the INDUSTRY 4.0 concept will be required by Canadian industrial management to correctly target the degree of effort to achieve a competitive edge.

The new future vision of global manufacturing...

It's clear that unplanned globalized trade using long supply chains is going to diminish and be replaced with more localized trade blocs. Such trade bloc planning such as NAFTA 2.0, The New Silk Road and the Three Seas Initiatives are just some examples of many ongoing attempts to tie trade into regional sub groups or blocs, but distance and sustainability constraints will impose limits. Many predictions exist, and we include one global wide vision here with many unknowns apparent.

Far Future....Regionalized Trade Blocs?



Although in some cases the importing and exporting of physical products and components and raw materials from one trade bloc to another over long supply chains will continue for quite some time to come, it's fair to say that based on trends already mentioned the future global trade slogan may eventually become...

“Future products will be transmitted more than transported”

This looks like a future vision some technologists share about where emerging Additive Manufacturing technologies using such devices as 3D printers will provide the dream of consumer level push button manufacturing at the point of use, in the same way we order coffee from a dispenser or download a movie.... It's taking local manufacturing

to the limit, but it does show a LEAN vision that we should start toward, with the reshoring and balanced sourcing journey early new steps toward waste free customer focused manufacturing that is more sustainable in a world demanding more responsibility for its environment.

This may force the need to franchise or license new manufacturing centers into new markets across the globe to meet the requirements of trade blocs and be closer to customers. The goal will be to avoid wasteful transportation and use more portable and transferable manufacturing technologies and better developed and far more equitable IP and technology transfer systems via global partnerships.

The challenge for the manufactures, exporters, investors and the many support agencies and groups will be to combine efforts to adjust to this future change and challenging trend and learn how to reinvigorate and in some cases, reinstall local manufacturing capability that will be highly portable and transferable, yet IP equitable and competitive and comply with new trading blocs.

The Big Dichotomy Multilateralism and Global Sustainability....

The dichotomy between multilateralism and global sustainability has never been more apparent.

Many economists and political leaders still preach broad based multilateralism, and still hold an almost religious fanaticism for global free trade, even if the facts no longer justify such commitment. In the last 3 decades we have all become conditioned to believe that global free trade is the only solution, and a god given right for one nation to expect from another. This is nonsense, each nation must have the right to choose with who and how it trades, and its real goal is its own sustainability.

We must move away from a “global free for all” and reinstate national controls via well-organized trade blocs to minimize wasteful global trade, resource waste and environmental pollution and reach a better level of overall global sustainability.

Many now firmly believe the current global free trade approach is NOT in the best long-term interests of citizens of most national economies and is highly unsustainable!

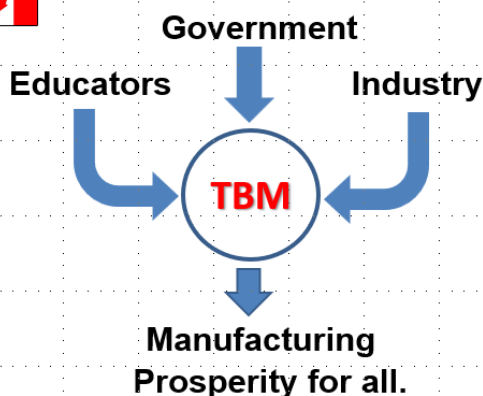
Many now believe President Trump is at least conceptually correct in his strategy to better manage the US trade balance, and through more restrictive trade agreements focus on producing more and import less of what the USA consumes as a nation.

In history we have had great leaders who also got it right.... Abraham Lincoln was once advised to buy cheap iron rails from Britain to finish the railroad across the USA He replied, "It seems to me that if we buy the rails from England, then we've got the rails and they've got the money. ...But if we build rails here, we've got our rails and we've got our money." ... you said it Abel!

Summary and after-word

To ensure we can Take Back Manufacturing in Canada we will need Government, Educators and Industry to follow a common roadmap to support these Three TBM Imperatives.

The 3 Parallel Imperatives



We will need an industrial policy and plans that are far better aligned and coordinated with our main trade bloc partner/s, so we move away from a “global free for all” and minimize wasteful global trade, resource waste and environmental pollution and develop a strong balanced economy, and therefore a better level of overall global sustainability.

We need a much more integrated and less duplicitous approach for both planning and executing such a TBM vision within the government, Industry and learning establishment support groups within Canada.

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Take Back Manufacturing.

Nigel Southway is an independent business consultant and the Author of CYCLE TIME MANAGMENT ...Fast Track to Time Based Productivity Improvement A LEAN Thinking Textbook.

He consults and educates worldwide on Business Productivity Improvement LEAN Business Improvement Initiatives, Joint Ventures, New Product Introduction Systems, Global Technology Transfer projects, Advanced Manufacturing Engineering and Global Sustainability.

He is past chair of the Society of Manufacturing Engineers and the leading advocate for the Take Back Manufacturing Forum and the North American Reshoring initiative in Canada.