



## Manufacturing our Future: Excellence in Global Value Chains

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Canadian Manufacturers & Exporters



## Background



- A whirlwind of change:
  - Intense competition.
  - More demanding customers.
  - The dollar ... China ... increasing business costs.
  - New business opportunities.
- Mounting concern among manufacturers about the future of their business in Canada.
- Challenges are driving change – Global trends in manufacturing are redefining the industry.
- Business-as-usual is not an option.
- New business strategies – mastering global value networks – are a necessity.



## Building Our Vision Of The Future



As Canadian manufacturers define their future in a global economy, they will also be defining the future of the Canadian economy itself.

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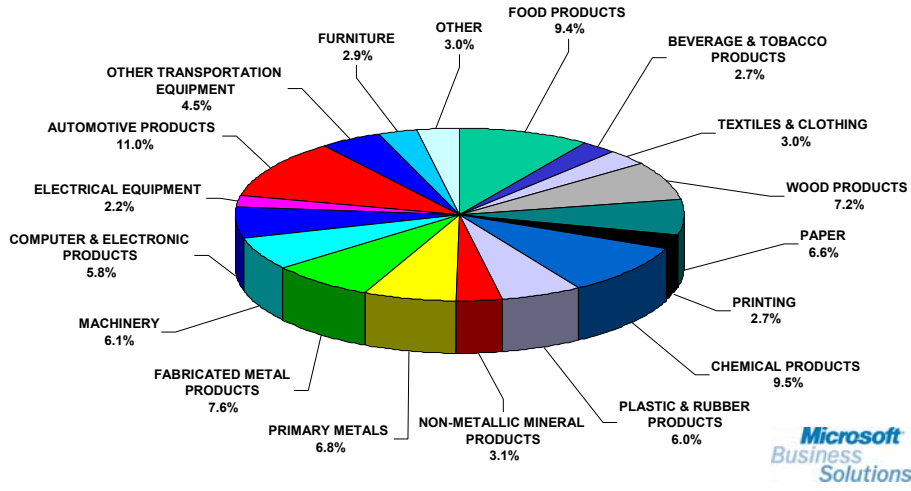
## The Importance Of Manufacturing In Canada



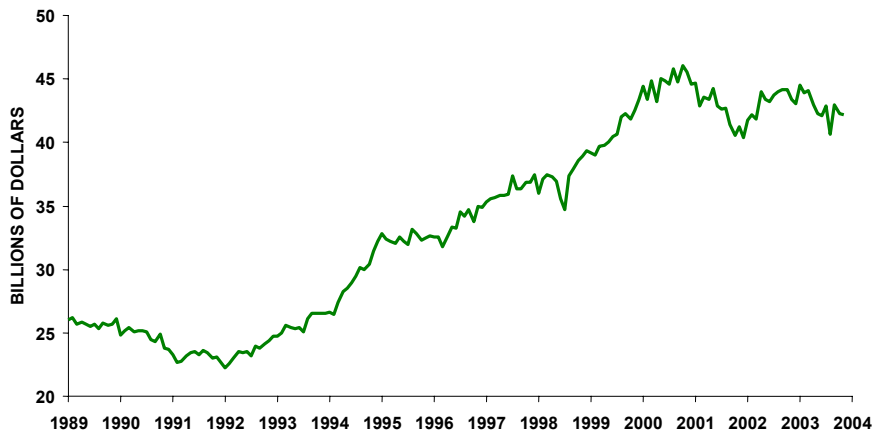
- Single largest business sector in Canada.
- Directly accounts for 18% of Canada's GDP.
- Every \$1 of manufacturing output generates \$3.05 in total economic activity – largest economic multiplier.
- \$546 billion in annual shipments (2003).
- 2.3 million Canadians employed in manufacturing.
- Wage levels 22% above national average.
- Accounts for 2/3 of Canada's goods & services exports = \$400 billion (2003)
- Accounts for 2/3 of private sector R&D in Canada.

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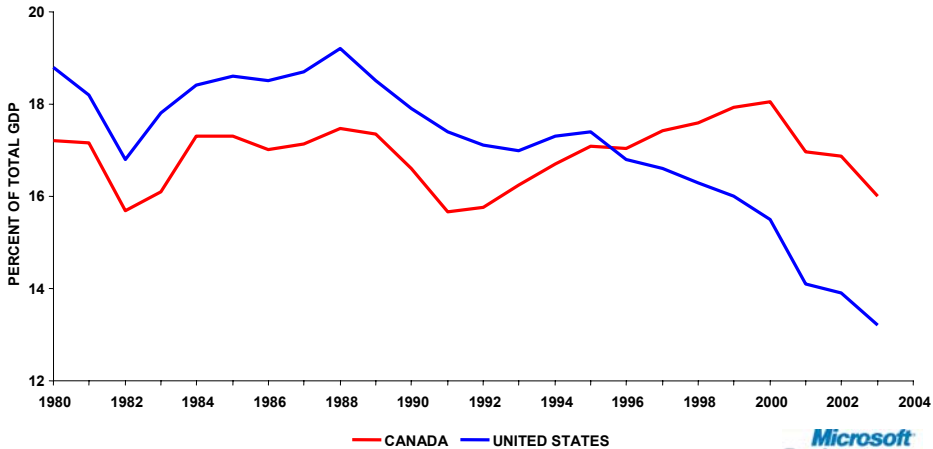
# Manufacturing In Canada (By Value Added)



# Canada: Manufacturing Shipments



## The Direct Economic Contribution Of Manufacturing In Canada & The USA



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## Challenges For Canadian Manufacturers



- Higher dollar.
- International competition – China!
- More exacting customer demands.
- Rapid pace of technological change & innovation.
- Global markets – global sourcing.
- Competition for product mandates.
- Erosion of U.S. manufacturing base.
- Loss of advantage – Energy, Infrastructure, Skills & Education.
- Intense downward price pressures.
- Escalating business costs.
- Squeeze on cash flow, margins, & investment.

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## The Cost Squeeze - Update

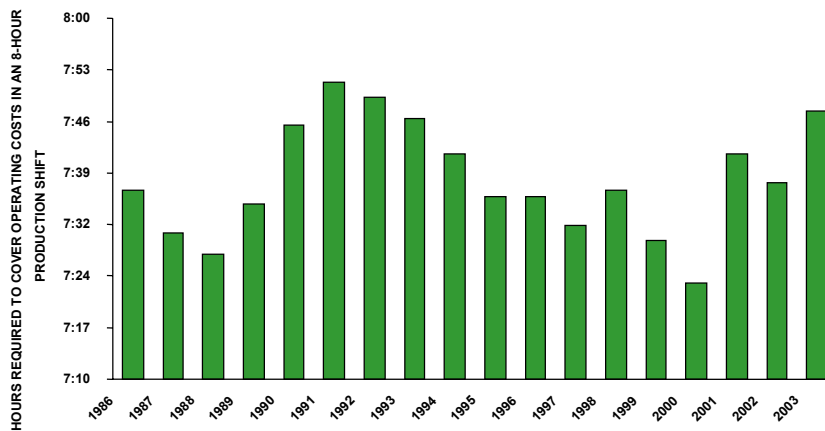


1st Qtr 2000 – 2nd Qtr 2003:

- **Selling Prices** -4.9%
- **Wage Rates** +10.2%
- **Raw Materials** +12.4%
- **Payroll Taxes & Benefits** +15.5%
- **Electricity** +21.4%
- **Industrial Fuel** +78.6%

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## Breakeven Time



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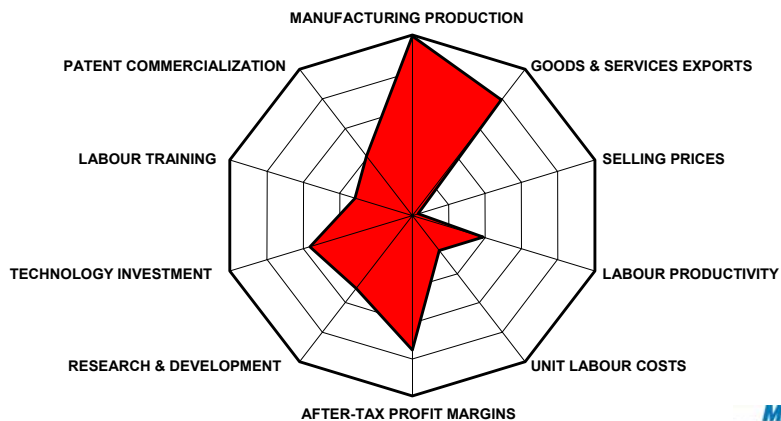
## Manufacturing Is Restructuring



- **Efficiency: Cost Control**
  - Reduce Overhead
  - Lean Production
  - Flexible Automation
  - Outsourcing
- **Investment: Add Value**
  - Specialization
  - Customization
  - Service
  - Niche Markets
- **Innovation = Efficiency + Investment  
= Productivity Improvement**

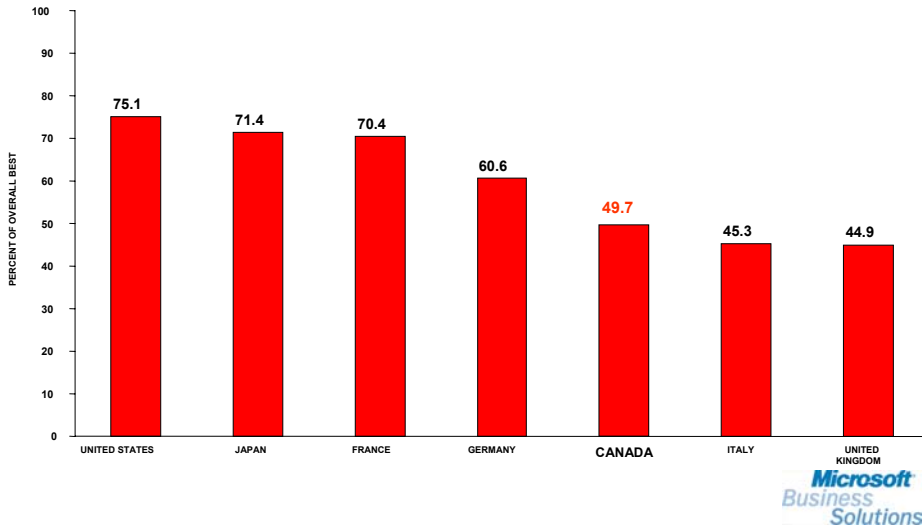
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## Canada's Excellence Gap



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## G7 Competitiveness Rankings



## What Is Manufacturing Today?



- A business system for adding customer value in tangible goods.
- It includes:
  - Product Development.
  - Marketing, Design, Engineering.
  - Production Systems & Maintenance.
  - Innovation, Continuous Improvement & Quality Control.
  - Sales & Service.
  - Market development.
  - Product financing.
- Business Networks – Extending around the World.

## Manufacturing Is Changing



### Old Paradigm

- Volume drives growth.
- Production systems.
- Domestic/North American markets & competition.
- Companies compete.
- Integrated businesses.
- Local sourcing.
- Mass production.
- Compete on cost.
- Manual & technical skills.
- Stand-alone equipment.
- Value based on quality.

### New Paradigm

- Innovation drives growth.
- Global business systems.
- Global markets & competition.
- Supply chains compete.
- Modular businesses & outsourcing.
- Global sourcing.
- Mass customization.
- Knowledge skills.
- Integrated automation systems.
- Value based on quality, customer needs, & time.

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## Competing In World Markets



- Global markets – Global competition.
- Competitors, partners, & customers from around the world.
- Global access to knowledge & new technologies.
- Accelerating pace of technological change.
- New and more exacting customer expectations.
- Competitiveness now determined by more than cost, quality, & timely delivery.
- Innovation is a precondition for business success.

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## The Future Of Manufacturing In North America



- Continued “hollowing out” of uncompetitive companies.
- Global operations & competing global supply chains.
- Focus on Lean = customer success & peak efficiency.
- Automation of production systems.
- Rapid pace of product & process innovation.
- Value will be in services, design, customization, product differentiation.
- Competitive advantage in agility, logistics, lead times.
- Being close to the customer will count.
- Integration of IT, nano-, bio-, and other enabling technologies.
- Objective: “The Competitive Batch of One”.

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## Canada’s Competitive Advantage?



- Future competitive advantage in manufacturing will be built on:
  - Mastering Global supply chains.
  - Innovation – Continuous commercialization of new and improved products & processes.
    - New technologies & automation systems.
    - New business models and global value networks.
    - New market opportunities.
  - Flexibility.
  - Total delivered Cost, Quality, Customization.
  - Customer Value – Design, Engineering, Service, Financing.
  - Time – Product Development to Customer Delivery.
- What value-adding activities will remain in Canada?

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## Excellence in Global Value Chains



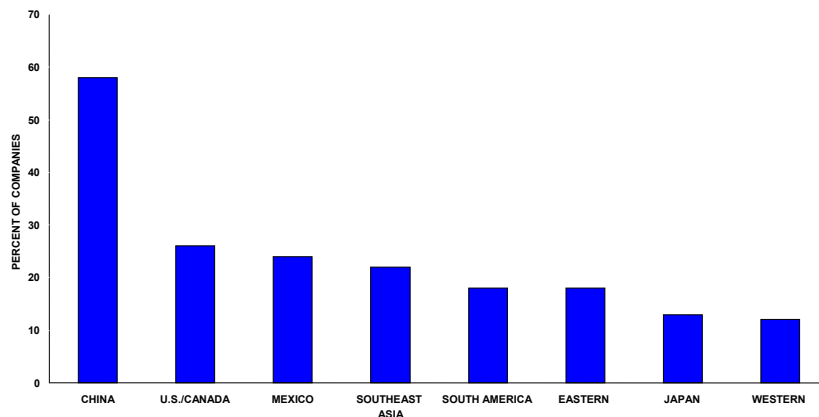
- In a more integrated global market, the competition is not among companies but among global supply chains & business networks.

*In a world where your competitor is but one mouse-click away  
On the desktop of your customers' computer!!*

- Focus on customer success.
- Value chain alignment behind customer pull systems.
- Lean principles throughout the value chain.
  - Focus on customer value.
  - Eliminate waste (non-value-adding activities).

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## Future Sourcing Locations For North American Manufacturers



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## Strategic Issues



- Understanding customer value.
- Value-stream mapping.
- Synchronizing within and across processes throughout the value chain.
- Collaboration with customers & suppliers
- Flexibility
- Visibility
- Information Systems
- Risk management
- Continuous round-the-world improvement
- Simplicity

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## Collaboration



- Strategic planning
- Forecasting & demand planning
- Design
- Production processes
- Process management
- Development of new materials/components
- Inventory management
- Transportation & logistics
- Quality assurance
- Cost reduction
- Marketing, services, financing

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## Flexibility



- Speedy response
- Capacity to meet changing requirements
- Changes in production volumes
- Product modification
- Product mix
- Make/Buy decisions
- Customization
- Reconfigure supply chains & business networks

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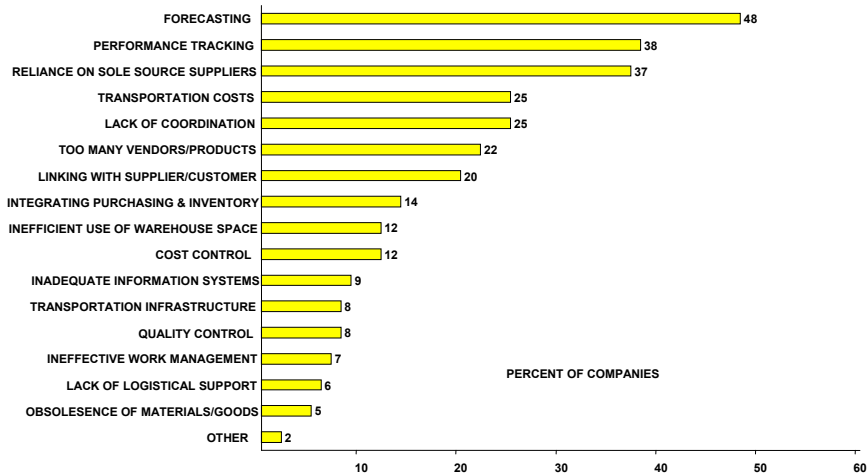
## Information Systems



- Logistics management
- Trading exchanges
- E-Sourcing & E-Procurement
- Customer relationship management
- Warehouse management
- Planning & scheduling
- Electronic data interchange
- Forecasting & demand planning
- Product date – life cycle management
- Quality management systems
- Resource planning

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## Supply Chain Challenges



## The Future ...



- Global markets
- Global sourcing
- Global operations
- Global competition
- Global value chains
- Time is the currency of the 21<sup>st</sup> century
- Effective & efficient information systems are key to competitive success.