



## Innovation and Commercialization

### A Key Strategy to Take Back Manufacturing

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1



## State of the Canadian Economy



- Manufacturing is under stress.
- In Canada, more than one in seven manufacturing jobs disappeared between 2004 and 2008. This was nearly 322,000 jobs.
- In the automotive sector, the job picture looks like this:
 

1991	146,948
2001	199,218
2010	123,829

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2

## Solutions Being Advocated

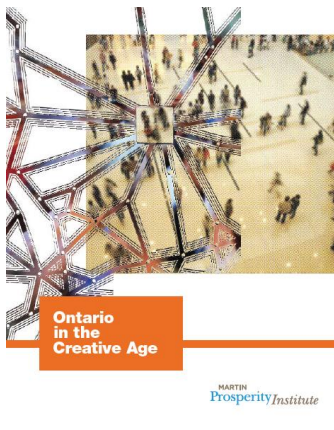


- Improve Productivity by becoming Lean
  - Lean is not the Finish Line, IT'S THE STARTING LINE!
  - Lean and productive factories are being closed.
  - Lean is now a commodity. Don't expect to be rewarded for being a Lean Manufacturer.
  - Like your ISO designation, if you are not Lean, you're not even in consideration for the job.

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3

## Solutions Being Advocated



- Innovate!
- Support Organizations
  - MaRS
  - ISCM (Markham)
  - RIC (Mississauga)
  - Boards of Trade
  - Martin Prosperity Centre
  - Office of Small and Medium Enterprises (OSME)
- Reports
  - Ontario in the Creative Age

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4

## The Problem



Uncommercialized creative ideas and innovation and \$4.50 will get you a Latte at Starbucks.

We need pragmatic solutions at the “company level”.

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5

## The Importance of Start ups



## To Create Jobs, Nurture Start-Ups

New York Times  
September 11, 2010

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6

## My Inspiration



If this tiny nation can do it, why can't we?

Canada needs to become Entrepreneurial

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7

## Our Objectives



- To generate lessons learned from innovators and entrepreneurs who are at various stages in the journey from innovation to invoice.
- To identify a possible business model based on the lessons learned.
  - Designers, Innovators, Inventors, Entrepreneurs
  - Small to Medium Manufacturers
- To answer the question: Could I make this approach work for my company?
- If not, what can I do instead?

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8



# Design

## The New Competitive Advantage?

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9

## Three Activities of the Manufacturer



- Design the Product
- Make the Product.
- Sell the Product.

Masaaki Imai  
Gemba Kaizen

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10

## New Production Cycle



- Design the Product
- Market and (Pre)Sell the Product
  - Perhaps even get the cash up front?
- Make the Product (to Order)
- Deliver the Product

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11

## In Other Words . . . .



- Retailers and distributors are **marketing and selling products that do not exist**, using Design to attract customers, building only to existing orders, and eliminating inventory entirely.

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12

## Beyond Lean: Nimble Manufacturing



- Design is the new competitive advantage.
  - Small to mid-sized manufacturers must either establish internal design capability, or partner with designers, inventors, innovators and other creative individuals and organizations to drive new product through their factories and remain in business.
- Manufacturers must become “nimble”.
  - Learn to move quickly to build low volumes of bespoke products and deliver to customers on time, while doing so profitably.

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13

## A Critical Partnership



Designers  
Entrepreneurs  
Innovators  
Inventors



Manufacturers

Manufacturers need to develop a “Design Capability”, either by establishing a Design Engineering department, or by partnering with Design experts.

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14



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15



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**Case Study: The Backbone™ for Reach Trucks**

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16



## Lakeport Metalcraft & Welding



- Founded 1967
- Based in Port Credit, ON
- Founder: Steve Nopper
- Original Focus: Metal fabrication
- Change in Stewardship: Roland Nopper, 1995
- Change in Focus:
  - Maintenance & Repair of Material Handling Equipment
  - Material Handling Equipment After Market Parts
    - Ad hoc

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17

## Innovation: Safety Bar for Reach Trucks



Overhead Guard

Racking

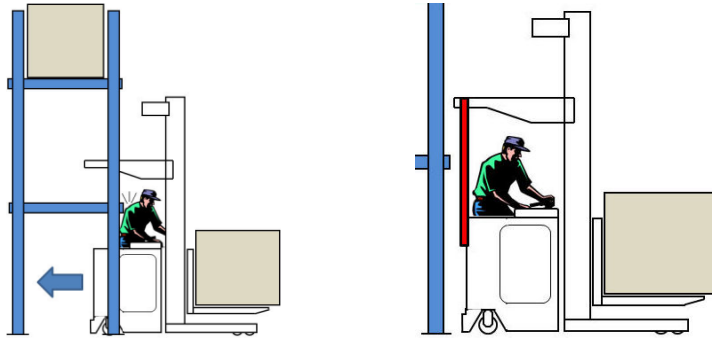
Truck Body

- The Problem
  - The “Operator Cabin” is open.
  - Potential for a crush injury.
  - Obvious solution: attach or weld a bar from the truck body to the overhead guard.
    - And for years, Lakeport did exactly that.
  - BUT: Safety regulations now stipulate that you cannot weld, bolt or permanently attach anything to the overhead guard.
  - Any vertical safety bar must not interfere with the behaviour of the overhead guard.

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18

## Reach Truck Hazard



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19

## Innovation: Safety Bar for Reach Trucks



- The Solution
  - Create a vertical Safety Bar that attaches to the overhead guard but will not interfere with the protective capability of the overhead guard.
  - Hold the Safety Bar firmly in place, without welding or drilling.

[Video](#)

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20

## What is Commercialization?



A disciplined process or set of steps to bring a new idea, concept or invention to market, and to find or create that market which generates a sufficient profit to make the venture worthwhile.

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21

## Commercialization: Different from Sales



- Sales is the exchange of a product or service for money, or the action of selling something.
- It implies that there already is a market for this exchange to take place, or that we have a willing buyer to whom we can sell.
- Sales is *an element* in the commercialization process.

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22

## Speed Along the Adoption Process



### Awareness > Interest > Evaluation > Trial > Adoption

- Awareness: Individuals are merely conscious that the innovation exists.
- Interest: Individuals seek information about the innovation, and begin wondering if and how it can help them.
- Evaluation: Individuals examine the innovation with information they have gathered to determine whether it will impact their lives positively.
- Trial: Individuals test the innovation – hands on – to determine if it matches their expectations and will satisfy their needs.
- Adoption: Individuals like the innovation and incorporate it into their lives.

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23

## Steps to Commercialization



- Proof of Technical Concept:
  - Will the innovation do what we say and promise it will do? Will it do what is required from a legal or regulatory standpoint?
- Proof of Manufacturability:
  - Can we produce this innovation in our Universe? (Remember, we cannot change the Laws of Physics!)
- Proof of Commercial Concept:
  - Is there a customer? Will users adopt our innovation? How soon? Can we produce a cash flow? Can we make sufficient profit to make this venture worthwhile?

### Shouldn't Proof of Commercial Concept come FIRST?

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24

## Steps to Commercialization



- Protecting your Intellectual Property (IP).
  - “If you don’t own the property, you’re a peon.”
    - Robert Evans, former President, Paramount Pictures
  - First and Best source of IP protection: Confidentiality
    - It’s FREE!
  - The Backbone™ for Reach Trucks and Stand – up Counterbalance Trucks
    - Patents Pending – US12/980,596 and foreign (Under License)
    - © Lakeport Metalcraft and Welding (CA) (Under License)
    - We have placed TM in the name.
- Recruiting Financial Capital.
- Recruiting Human Capital.

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25

## Other Considerations



- Do I have what it takes to be an entrepreneur?
  - Are you ready for the emotional rollercoaster?
- Avoid “Carpet baggers”
  - To become successful, you have to keep what you build.
- Avoid Management by Barfly
  - Don’t look for sound business advice from your drinking buddies.
  - Don’t make your venture “gossip fodder”.
  - PEOPLE STEAL!

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26

## Status of The Backbone™



In North America, you may order The Backbone from LiftTruck.com, either by visiting their website, email, phone or fax:

[www.LiftTruck.com](http://www.LiftTruck.com)

sales@liftruck.com

Ph: 1-800-242-6670

Fax: 1-800-242-6685

For sales inquiries outside North America, email:

sales@liftruck.com

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27

## Lessons Learned



- Innovation doesn't mean inventing "sliced bread".
  - It involves solving a problem.
- Protection of IP is CRITICAL!
- You need learn to rely on experts to help you.
  - Trust?
  - Paradox: How do I protect my IP, yet trust?

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28



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29