

# Global Supply Chain: A Perspective

Goran Kopic

November 1, 2018



**Ownership:** Public (Listed on the TSX: LNR)

**Founded:** August 17, 1966

**Headquarters:** Guelph, Ontario, Canada

**Manufacturing:** 60 Facilities Worldwide

**Employees:** 28,600+

Management Depth: Average length of service for management-15 years

Diversity: 54 first languages spoken at Linamar (Canada and US)

**2017 Sales:** \$6.5 Billion (CAD)

**Profile:**



Linamar Corporation is a diversified global manufacturing company of highly engineered products powering vehicles, motion, work and lives.



Linamar's Skyjack division is a leading global producer of mobile products to the access industry.



Linamar's MacDon division is known for harvesting performance in the agriculture industry with industry-leading equipment such as the FlexDraper®.

## MACHINING & ASSEMBLY



- CNC Expertise
- Complex Assemblies
- Advanced Automation & Robotics
- Hydroforming
- Heat Treatment

## FORGING



- Hatebur High Speed Hot Horizontal Forging
- Conventional Vertical Forging
- Cold Forming
- Ring Rolling
- Radial Forging

## LIGHT METAL CASTING



- Gravity & Low Pressure Aluminum Die Casting
- High Pressure Aluminum & Magnesium Die Casting

## METAL FORMING



- Laser cutting
- Metal Forming
- Stamping
- Painting
- Robotic Welding
- Assembly

## Transportation

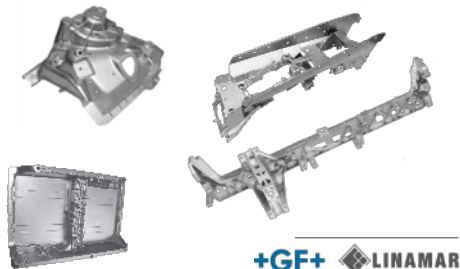
### Engine



### Transmission



### Body & Structural



### Driveline



## Industrial

### SKYJACK



### MacDon





AUTOMOTIVE



COMMERCIAL  
VEHICLE



OFF-HIGHWAY



ENERGY



AGRICULTURAL



AERIAL WORKS  
PLATFORM

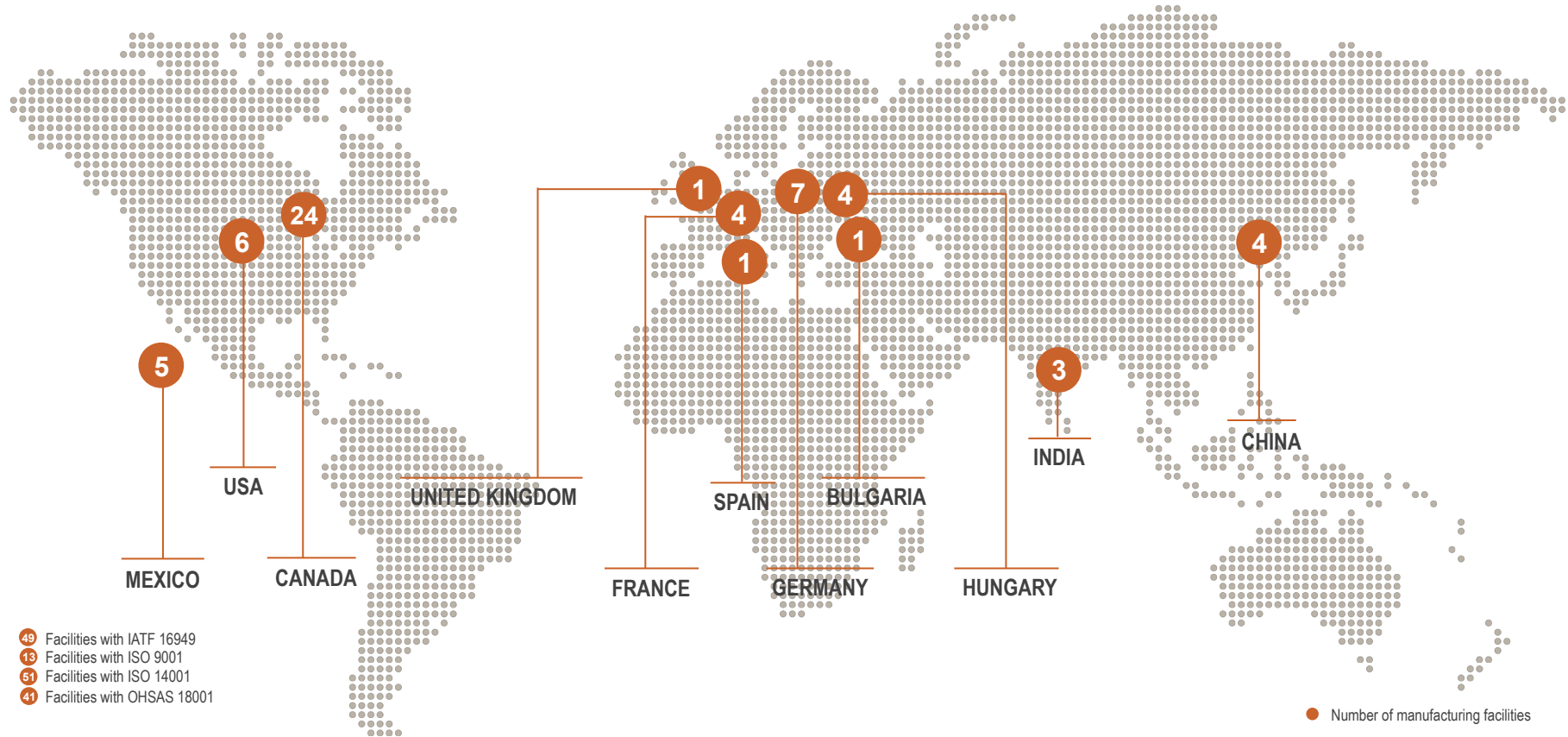


INDUSTRIAL



MARINE &  
RECREATION

# Global Presence



Manufacturing (60)

Sales Representation (15)

Development Centres (8)

Support Facilities (4)

# Operating Structure





Certain information regarding Linamar set forth in this presentation and oral summary, including management's assessment of the Company's future plans and operations may constitute forward-looking statements. This information is based on current expectations that are subject to significant risks and uncertainties that are difficult to predict. Actual results may differ materially from these anticipated in the forward-looking statements due to factors such as customer demand and timing of buying decisions, product mix, competitive products and pricing pressure. In addition, uncertainties and difficulties in domestic and foreign financial markets and economies could adversely affect demand from customers. These factors, as well as general economic and political conditions, may in turn have a material adverse effect on the Company's financial results. The Company assumes no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those reflected in the forward-looking statements.



DC Electric Scissor Lifts



Mast Lifts



RT Scissor Lifts



Telescopic Booms



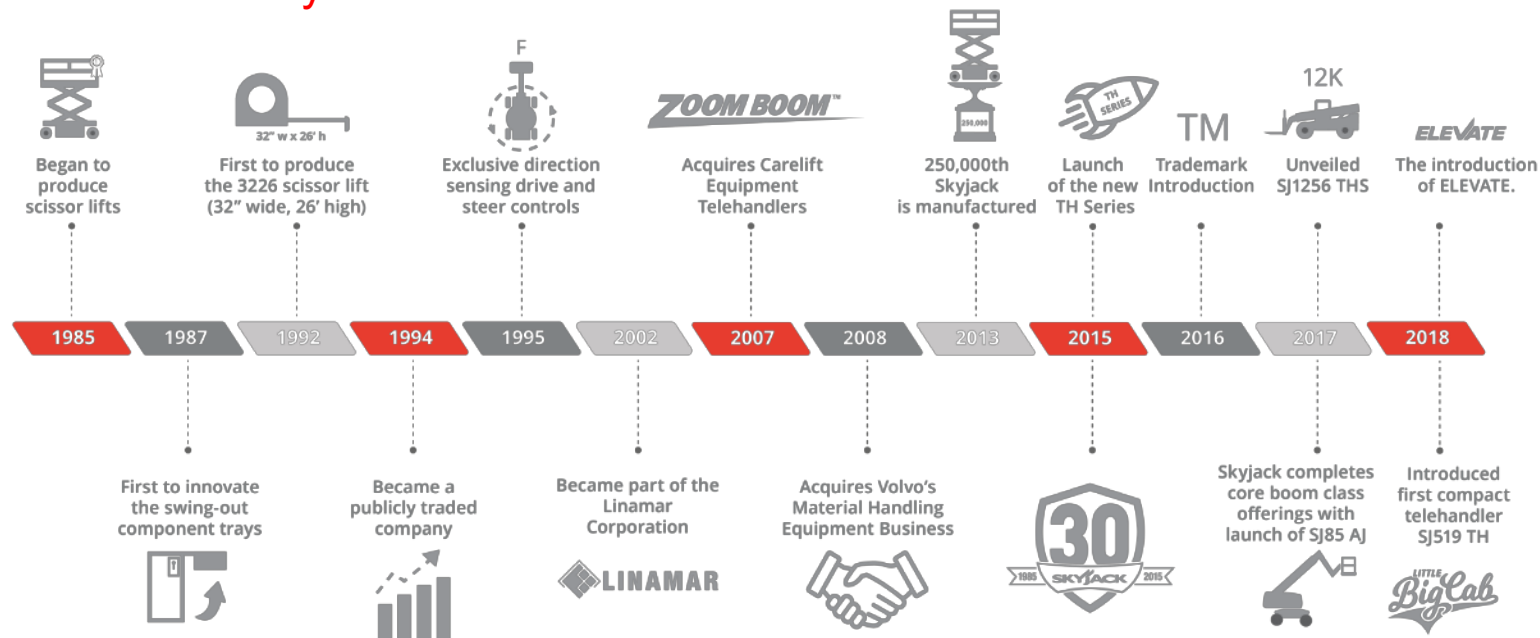
Articulating Booms



Telehandlers



## History Timeline



**MacDon<sup>®</sup>**  
*The Harvesting Specialists.*

# Product Portfolio

## Draper Headers

- Attached to a self-propelled windrower or combine
- Used to cut and process crops through combine feeder house or left in field for further curing
- Predominantly used for harvesting soybeans, wheat, canola, rice, oats, dry edible beans and flax seed



## Self-Propelled Windrowers

- Self-propelled harvesting machinery used with a header to cut and lay crop in the field
- Popular in hay and forage, cereal grains, canola, and regions where growing seasons are short and crops are harvested while damp



## Aftermarket Parts

- Primarily maintenance and replacement parts for the Company's large installed base
- Bolstered by acquisition of Westward Parts in 2012



## Pick-Ups

- Attached to front of a combine
- Used to pick-up crop that has previously been "windrowed"
- MacDon pick-ups renowned for functionality and durability
- PW8 fits multi brands with face plate (increases resale value)



## Hay Products

- Includes: Auger Headers and Rotary Disc Headers for Self-Propelled Windrowers, and two types of Pull-Type Mower Conditioners





# History

1949

MacDon begins as Killbery Industries Ltd., specializing in mounted sprayers and other farm implements.



Killbery produces one of North America's first self-propelled windrowers under the Grain-Saver brand name.

1951

1971

Joe MacDonald purchased Killbery Industries Ltd., the name was changed to MacDon Industries Ltd. in 1975.



MacDon establishes a US Dealer Network.

1986

1988

The MacDon Harvest Header is introduced to the market, this is the first MacDon Draper for combines.



1996

On November 1<sup>st</sup>, MacDon celebrates its 100,000<sup>th</sup> machine off the assembly line, a MacDon 9300 self-propelled windrower tractor. MacDon, Inc. opens in Kansas City, Missouri, U.S.A.



2008

MacDon Australia Pty. Ltd. opens in Melbourne, Australia.



2003

MacDon introduces the FlexDraper® to the market. It is the first flexible draper header for combines.



LLC MacDon Russia Ltd. opens in Moscow, Russia.

2012

MacDon acquires Westward Parts Services Ltd.



Opening of MacDon Brasil Agribusiness Ltda. Office in Curitiba, Paraná, Brazil.

2015

MacDon Enterprises, Inc. opens in Madison, Wisconsin, U.S.A. Parts Distribution Centre opens in Winnipeg, Manitoba. Opening of MacDon Australia Parts Distribution Centre.



MacDon Europe GmbH established in Frankfurt, Germany.

2014

2017



Acquired in 1992, Linamar Hungary's Oros division has been involved with Ag implement design, manufacturing and sales since the 1960s

## ***OROS CORNADO***



## ***OROS<sup>3</sup> HSA***



## ***OROS SUN+CHOP***



## ***OROS SUN***



# Linamar-Global Customer Base



## Light & Commercial Vehicle



## Off-Highway, Industrial & Energy



## Aerial Work Platform



## Agricultural & Recreational

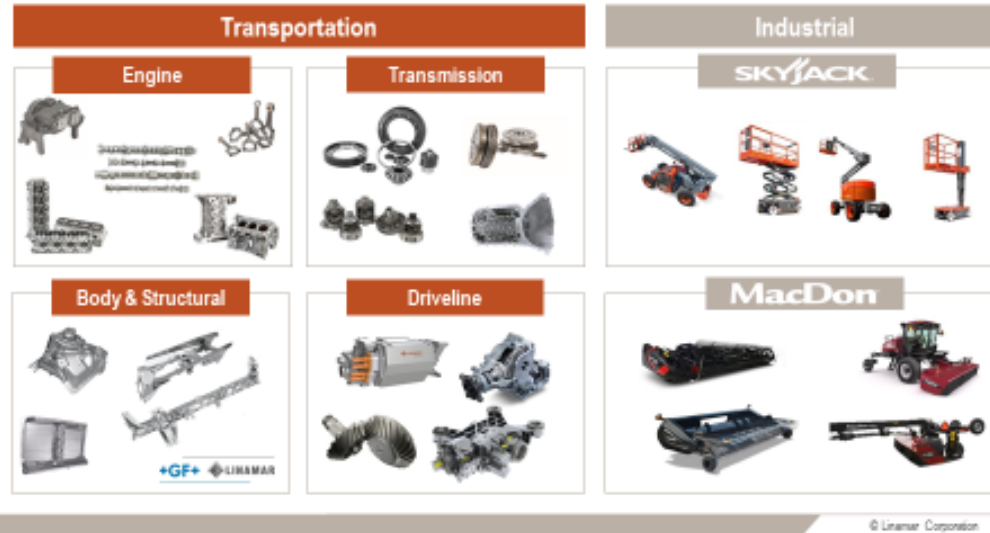




# Quick Re-cap:

## Key Products

- What we sell:



- What we buy:
  - castings, forgings, axles, engines, tires, hydraulic systems, joysticks, glass, cowlings, electrical boxes, telematics solutions, A/C units, batteries, motors, frames, counterweights, freight, welding wire, lubricants, data management.....

- Where do we buy?



- Continuously evolving
  - The only constant is change
  - Formula 1 Pit Stops
- Effects on supply chain:
  - Technology
  - Innovation
  - Emerging markets
  - Geopolitical situation
  - Globalization??

## NUMBER OF YEARS IT TOOK FOR EACH PRODUCT TO GAIN 50 MILLION USERS:

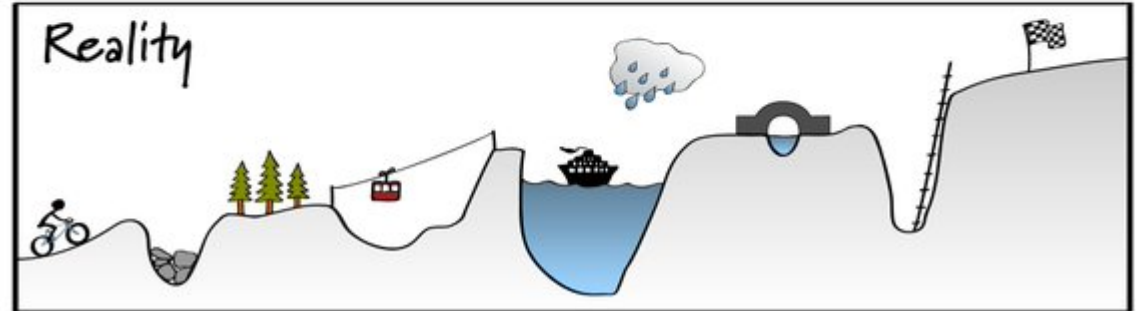
Airlines	Automobiles	Telephone	Electricity	Credit Card	Television	ATM	
							
68yrs	62yrs	50yrs	46yrs	28yrs	22yrs	18yrs	
							
Computer	Cell Phone	Internet	iPods	Youtube	Facebook	Twitter	Pokémon Go
							
14yrs	12yrs	7yrs	4yrs	4yrs	3yrs	2yrs	19 days

- 
- Local Procurement
  - Offshore procurement
    - Low cost sourcing (Technology vs. Labour cost), myth or truth?
    - Tax incentives
    - Fx rates,
  - Brexit
  - Tariffs/Countermeasures
  - NAFTA Renegotiation (USMCA)



Challenge	Outcome	Mitigation
Global Capacity	Allocations, Cost Implications	Transparency, Communication, Secondary Sourcing, Compatible Options/ Substitutions
Trade Regulations	Tariffs US: Sec 232,301.... CA: Notice 18-08, Safeguard Measures	Remissions, Drawbacks, Rerouting, 3PL Warehousing, Global Supplier Locations/ Options, Consortium approach to buying
Opportunistic Pricing	Cost increases, inability to absorb or pass through, loss of market share, capital heavy project delays,	Awareness, Data Accuracy and Integrity, External Analytics and 2 <sup>nd</sup> Tier negotiations (Fx, Should costing)

- Organizations' Role:
  - Awareness
  - Flexibility
  - Agility
  - Optimization
  - Accountability & Social Responsibility



# Lessons Learned

(...and still learning....)



## ■ DO

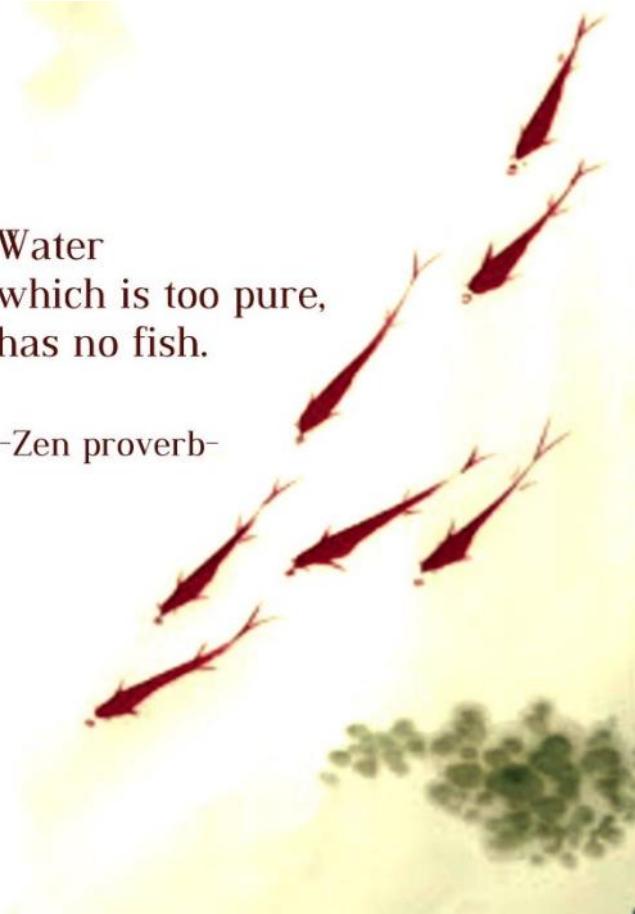
### ■ Be Informed

- Know what you are buying
- Dual source when possible; make suppliers aware
  - Look at different geographic regions
- Consider political and environmental risks
- Develop “what effects my commodity” tool
- Provide candor and transparency within legal and ethical boundaries-it will go a long way
- Keep learning and motivate innovation
  - Note: innovation is NOT creativity

## ■ DON'T

### ■ Assume anything

- Don't “push” one parameter of supply chain (cost)
  - You do need profitable suppliers
- Don't ignore offers of help/assistance
  - Supplier expertise is crucial
- Don't settle for “status quo”
  - Things WILL change
- Don't try to reach perfection
  - You will be at high risk of developing insanity



Water  
which is too pure,  
has no fish.

-Zen proverb-

Soil with a lot of manure in it  
produces abundant crops; water that  
is too clear has no fish. Therefore,  
enlightened people should maintain  
the capacity to accept impurities and  
should not be solitary perfectionists.

Zicheng Hong

---



# Vision 2100 – Building an Action Plan for the Future

Manufacturing and Materials Development to Support all Markets



Advanced Manufacturing  
Artificial Intelligence/Machine Learning  
Material Development



Transportation

Global Addressable Markets:  
Automotive  
Commercial Vehicle  
Off Highway Vehicles  
Marine/Personal Trans/Rail



Infrastructure

Global Addressable Markets:  
Scissors, Booms, Telehandlers  
Hydraulics



Food

Global Addressable Market:  
Agriculture Harvesting, Seeding, &  
Tillage Equipment



Power

Global Addressable Markets:  
Electrical products, systems & services  
Energy Markets – Oil/Gas, Solar, Wind  
Energy Storage & Generation



Age

Global Addressable Market:  
Medical Devices  
Healthcare & Mobility  
Home Care Technology  
Wearable Technology



Water

Global Addressable Markets:  
Irrigation Market  
Water infrastructure  
Access, Storage, Cleaning



# Thank You

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

🐦 @linamarcorp

📷 @linamarcorp

📘 Linamar Corporation  
in Linamar Corporation

