2018 CANADIAN LEAN CONFERENCE

Réal (Ray) Tanguay, C.M.
Former head of Toyota Motor Manufacturing Canada (TMMC)

Bob Magee
Chairman, The Woodbridge Group
Réal (Ray) Tanguay, C.M.

- After 19 years in electronics, joined Toyota Motor Manufacturing Canada in 1991 and held several executive positions, including President and Chairman from 2002 to 2015. As well, he was:
  - Senior Vice President of Toyota Motor America,
  - Chief Risk Officer and Chief Quality Officer for Toyota North America,
  - Became a Managing Officer of Toyota Motor Corporation in 2005,
  - First non-Japanese to become a Senior Managing Officer in 2011.
- TMMCC was recognized with 14 J.D. Power IQS awards, only one plant in Japan has more. These include global best Platinum Awards in 2011 and 2014.
- Was instrumental in bringing the first Lexus manufacturing plant outside of Japan to Ontario.
- Crafted the company’s Global Vision, providing a framework for a sustainable future.
- Named the Automotive Advisor to the Governments of Ontario and Canada in June 2015.
WHICH ONE IS BETTER:

(1 X 1000) OR (1000 X 1)?
MAJOR TECHNOLOGY Shifts

Maturing Powertrain Technologies
Battery and fuel-cell electric vehicles offer higher energy efficiency, lower emissions, greater energy diversity, and new vehicle designs.

Lightweight Materials
Stronger and lighter materials are reducing vehicle weight without sacrificing passenger safety.

Rapid advances in connected vehicles
New vehicles are being outfitted with vehicle-to-vehicle (V2V), vehicle to vehicle (V2V), and communications technologies, so every car can know precisely where every other car on the road is.

Shifts in mobility preferences
Younger generations are leading the way toward pay-per-use mobility in place of owning a car; nearly 50% of Gen Y consumers like using a smartphone app for transport and already plan travel so they can multitask.

Emergence of autonomous vehicles
Autonomous-drive technology is no longer a case of science fiction, the question is when and how will it become more mainstream and widely adopted?
INDUSTRY 4.0

Refers to the use of digital technologies to make manufacturing more agile, flexible, and responsive to customers – creating a SMART factory.
TOYOTA JOURNEY & DEVELOPMENT OF TPS

Start of Toyota Motor Corporation → Crisis

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<th>1890-1930</th>
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<th>1990’s</th>
<th>2008-2011</th>
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<tr>
<td>Before Cars</td>
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<td>Globalization</td>
<td>Crisis</td>
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01 Always be faithful to your culture, contributing to the company, and overall good

02 Always be studious, striving to stay ahead of the times

03 Always be practical and avoid frivolousness

04 Always strive to build home life atmosphere at work that is warm and friendly

05 Always have respect for spiritual matters and remember to be grateful at all times
From making cars to 1950s crisis, TPS is born.

Secret?
Empower employees to manage TPS and processes
CRISIS
2008-2011

17M $\rightarrow$ 10M (Equivalent of 35 plants)

North American Market Crash

- Recall crisis
- Tsunami (Japan) + Floods (Thailand)

No layoffs – stayed true to our values
Global Vision
“LIFE OR DEATH”

**Toyota Named Most Valuable Car Brand For Sixth Year In A Row**

Motor 1 – May 2018

**Toyota is Still the Most Valuable Car Brand**

By Steven Symes
Published on May 31, 2018

Insider Car News – May 2018

**Toyota lifts profit forecast to record 2.4 trillion yen**

Financial Post – February 2018

**Toyota Motor : posts record group net profit of 2.49 tril. yen in FY 2017**

4-Traders – May 2018

**SURVEY: TOYOTA RETAINS SPOT AS THE MOST VALUABLE CAR BRAND IN THE WORLD**

Top Speed – June 2018
TOYOTA MOTOR MANUFACTURING CANADA

Back to Basics

Innovation

Lexus
(only plant to make Lexus outside of Japan; 2003-2015)

Woodstock – Greenfield Plant

From smallest to the greatest
BASIC PRINCIPLES OF LEAN

1. Eliminate
2. Streamline
3. Automate

“Engage all workers in this transformation process.”
TPS – LEAN MANAGEMENT

1. Culture is the Glue (Toyota Way)
2. Understanding the System e.g. GIT, Visual Management, etc.
3. Training is Continuous “from basics to takumi”
4. Good Process = Good Products “ji koutei kanketsu”
5. Celebrate Achievements
INDUSTRY 4.0 – 5.0

Manufacturing will evolve and should stay ahead of the times

Digitization is happening

Deep machine learning and artificial intelligence will change how we make things
BENEFITS

Lean can improve operations by 25-45%

Industry 4.0, if done properly, can save 10-15%

Lean and Industry 4.0 will help us stay in business
Remember...
Through the process of making things, we develop people and contribute to the prosperity of our communities.
Bob Magee
Chairman, The Woodbridge Group
Robert (Bob) Magee, P.Eng

- Bob has spent 40 years in manufacturing with The Woodbridge Group of companies.
- Started as a co-op student on the factory floor, moving his way up to CEO and now currently as Chairman.
- He has held positions such as labourer, machine operator, process engineer, manufacturing manager, Director of Technology, and President of Global Operations.
- Bob was part of a team that was fundamental in growing Woodbridge from one plant in Woodbridge, Ontario to 62 plants in 17 countries.
- Bob has participated in many outside efforts such as the Canadian Automotive Partnership Council (CAPC) and Next Generation Manufacturing (NGM) to improve technical education and manufacturing productivity evolution.
THE EVOLUTION OF INVOLVEMENT

Social Intimacy vs. Economic Productivity

- Family Farm
- Craft Shop
- Ford's Factory
- Mass Production
- Lean Culture
- Team Management
- Six Sigma
- EL
- TQM
- Socio-Tech Systems
- Humanistic Psychology
- Union Rebellions

SOURCE: Lawrence M. Miller “Lean Culture Engagement”
MASS PRODUCTION
24 X 7
Amazingly High Volume
Line Paced
Physical Jobs
Unionized Mindset
PEOPLE ARE PEOPLE

- Diversity
- Hard Working Nature
- Intelligent
- Decent
- Bad Apples
INSPIRING AND NOT SO INSPIRING LEADERSHIP

- All Levels
- Soft Style
- The Bully
- Shift Foreman
- Plant Manager Extraordinaire
THE GREAT INDUSTRIAL DIVIDE
Not Just Words!

"The Workforce"
Workers
Hourly
Labour

"The Company"
Staff
Salaried
Management

THE INVISIBLE WALL
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DISCOVERING RAY TANGUAY

- Powerful Believer
- TPS – The Toyota Way
- Involvement
- Measurement
- Manageable Pieces
- Complete Process
- Discovered the “Treasure Map”
TEAMMATES

Inclusive
Take down the wall
The power of...
New culture of respect
A signal of change
Engagement
ELASTICITY OF LEAN JOURNEY LEADERSHIP
IT’S LONELY

- Leader sells & pulls
- Takes time while the elastic stretches but eventually the group moves
- Don’t stop
- Don’t let go
Hurdles of a Lean Journey

- Vision and Belief
  1000 X 1

- Leadership will be Tested
  Elasticity

- Low Early Returns
  5S

- Early Spending
  Training

- Additional Resources
  Whirlwind

- Exactly where are you taking me?
  Mentor Example
EARLY POSITIVES

- Payback from Standardization
- “Ah-Ha” Moments - Value Stream Mapping
- 7 Waste Training provides new glasses
- Kaizen Counting → Contest
- More leaders that get it!
- When they look to hire Lean experience
DREAMS COME TRUE

Woodbridge 2018 Kaizen Competition
People are asking for Lean advice
CAPC Objectives
Working with Ray Tanguay
SMART FACTORY | STRATEGIC COMPETITIVE
ADVANTAGE THROUGH PRODUCTION AND INTELLIGENT COLLABORATION

Operational Excellence

Top-customer enthusiasm

Available data

Operational excellence

01 Level

Top-robustness

Accessible data

02 Level

Top-profitability

Predictive power

03 Level

Top-employer

Team manager deputy colleague assistant

04 Level

05 Level

LEAN

DIGITAL

CONNECTED

AUTONOMOUS

COLLABORATIVE

SMART FACTORY – collective intelligent production system

SOURCE: Forth Consulting, MAU
WHAT IS THE MEANING OF (1 X 1000) AND (1000 X 1)?

WHAT IS THE RIGHT ANSWER?

THANK YOU