



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.
- TMMC 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 (V2I), 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

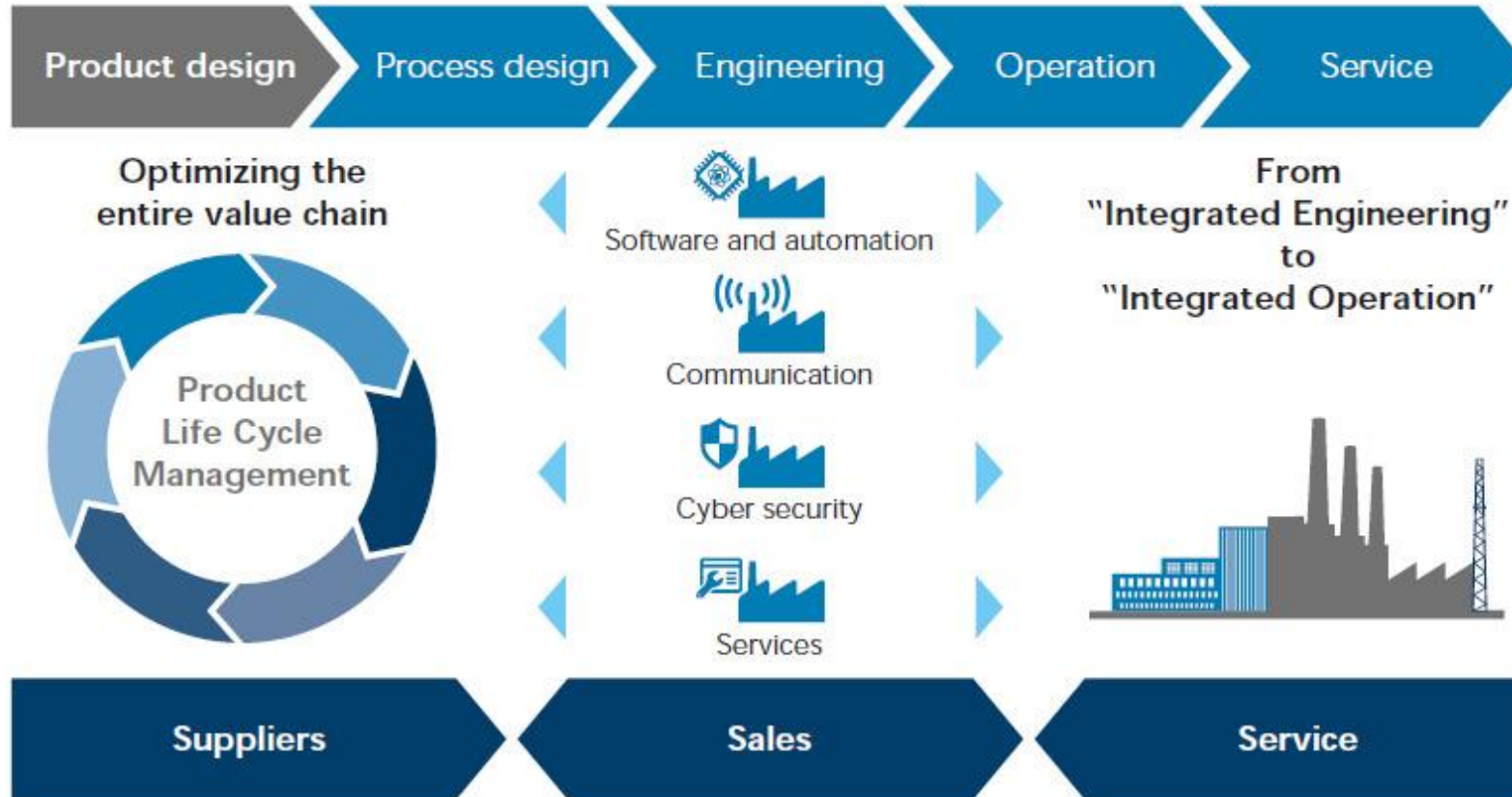


Emergence of autonomous vehicles

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

Crisis

|| 1890-1930

1930

1990's

2008-2011

Before Cars

Globalization

TOYODA FAMILY COVENANTS

TOYOTA BEFORE CARS

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



TOYOTA MOTOR CORPORATION



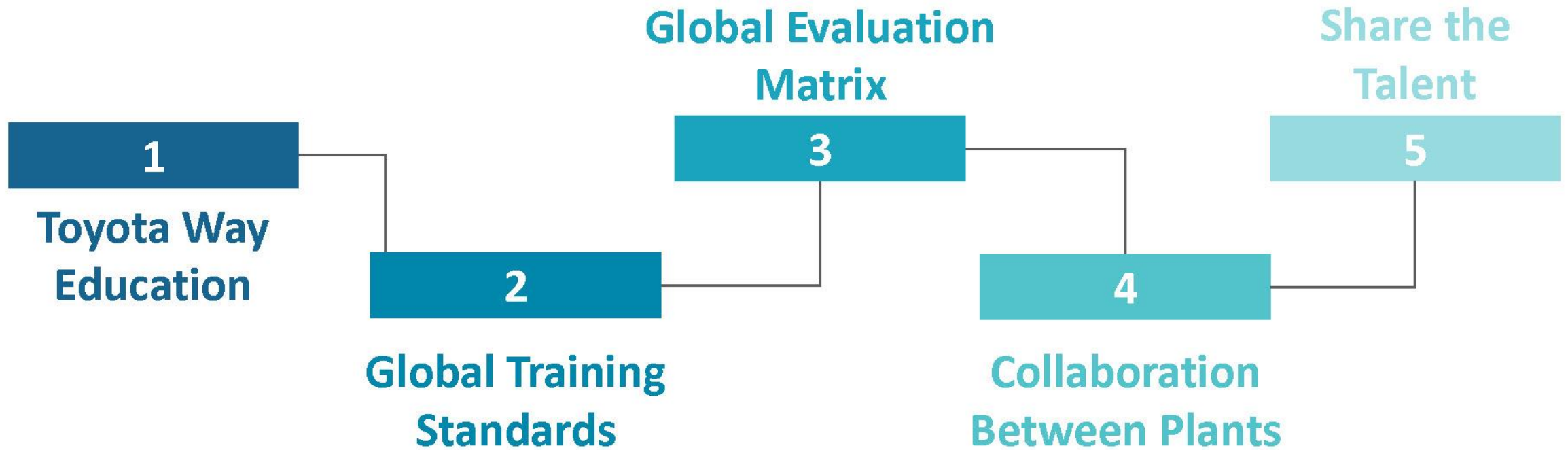
From making cars to 1950s crisis,
TPS is born.

Secret?

Empower employees to
manage TPS and processes

GLOBALIZATION

1990s



CRISIS 2008-2011

17M → 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

CORPORATE / FINANCIAL

m > Toyota > News

Motor 1 – May 2018

CAR MANUFACTURER NEWS

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

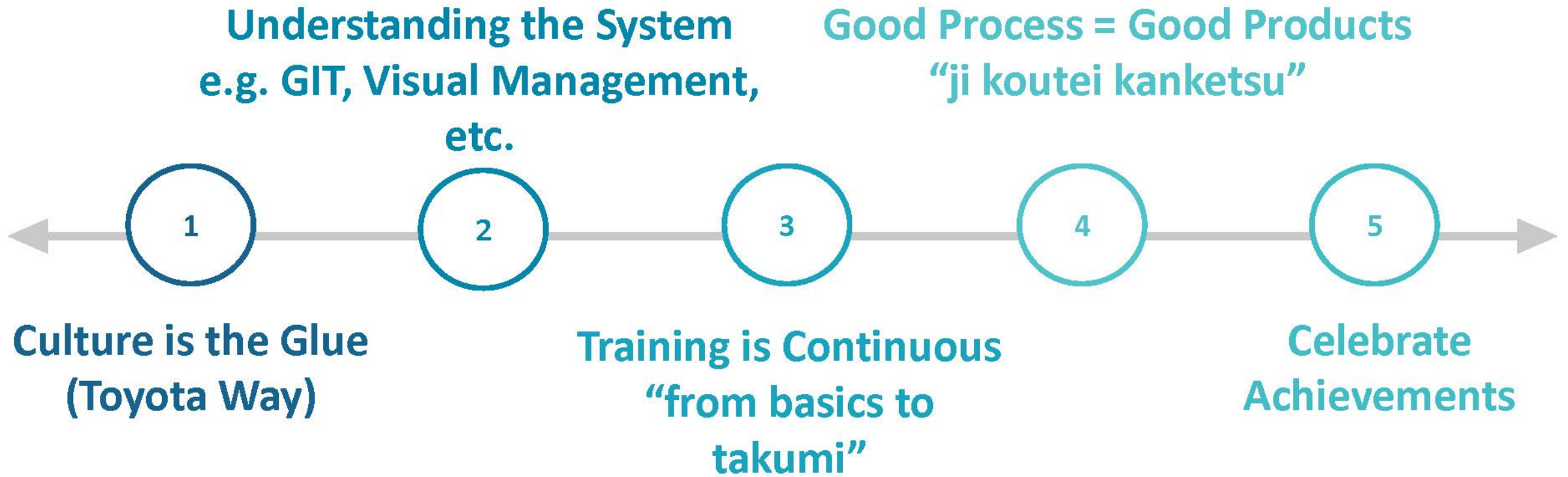
Streamline

3

Automate

“Engage all workers in this transformation process.”

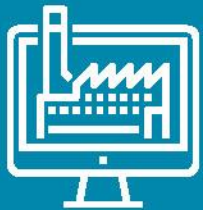
TPS – LEAN MANAGEMENT



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

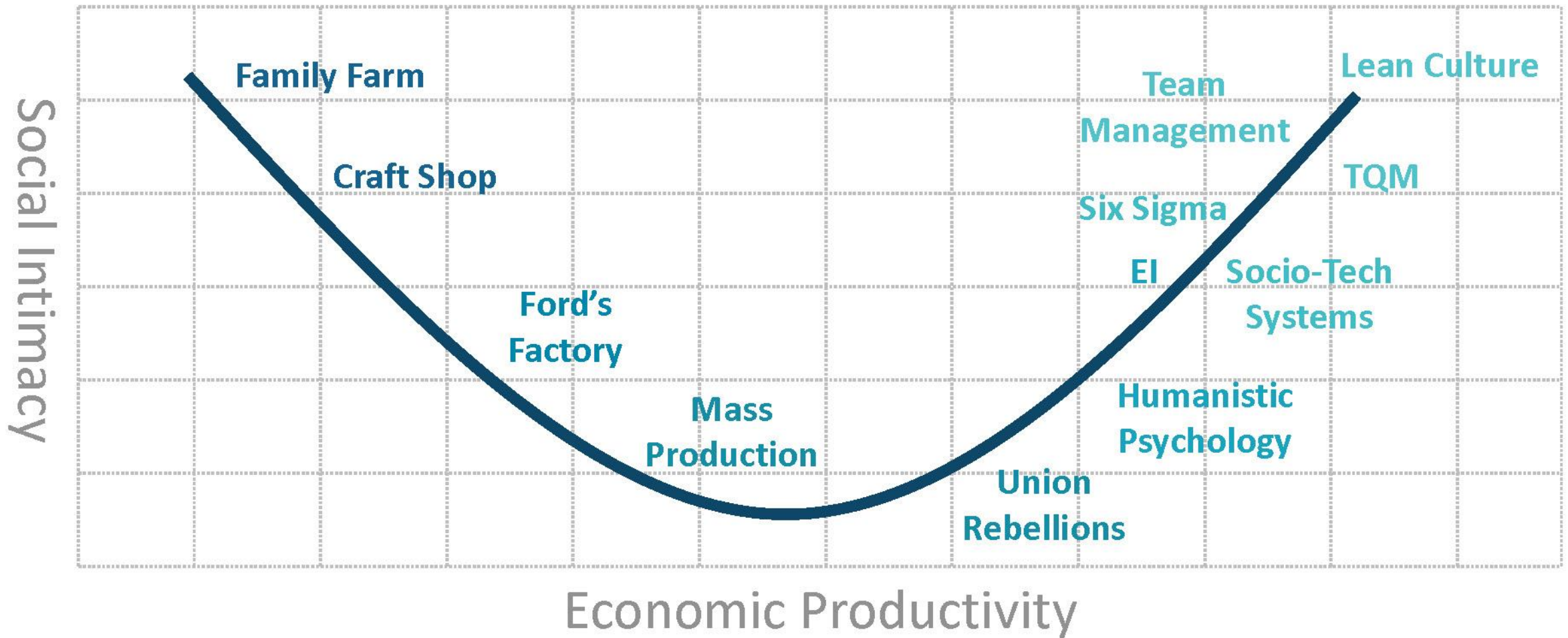
Chairman, The Woodbridge Group

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



MASS PRODUCTION

24 X 7

Amazingly High Volume

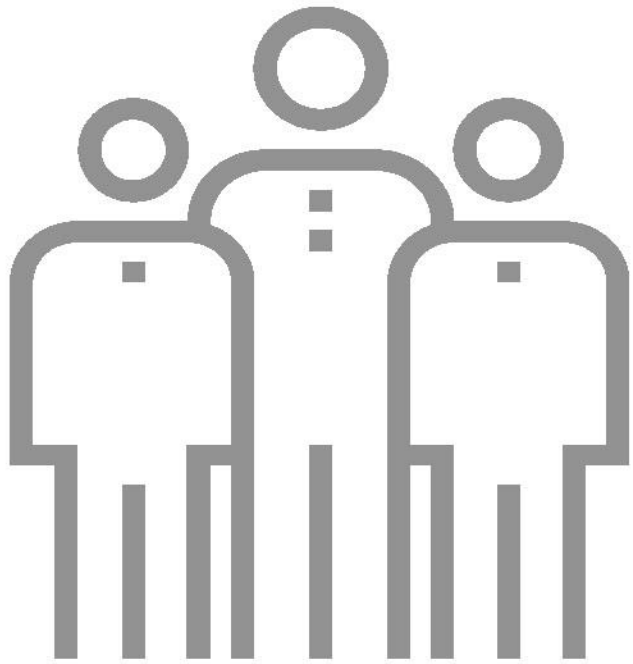
Line Paced

Physical Jobs

Unionized Mindset

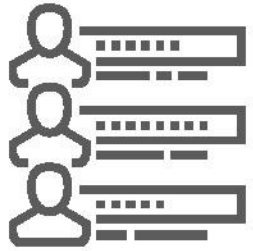


PEOPLE ARE PEOPLE



- Diversity
- Hard Working Nature
- Intelligent
- Decent
- Bad Apples

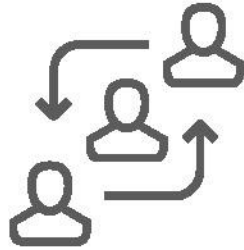
INSPIRING AND NOT SO INSPIRING LEADERSHIP



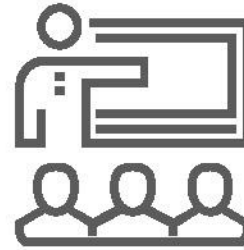
All Levels



Soft Style



The Bully



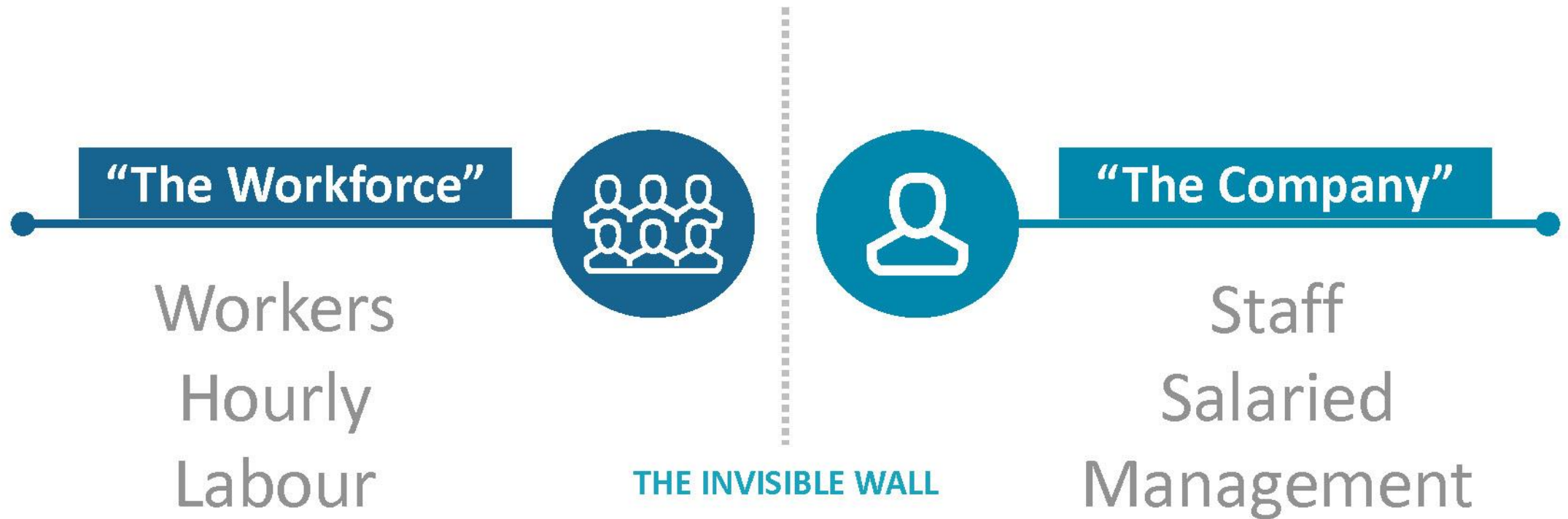
Shift Foreman



**Plant Manager
Extraordinaire**

THE GREAT INDUSTRIAL DIVIDE

Not Just Words!



MY TURN TO LEAD

1

Better make some \$

2

Communication

3

Scoreboarding

4

Best Methods

5

TQM

6

3S

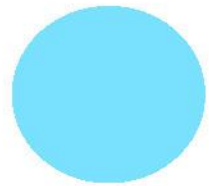
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Vision of Engagement

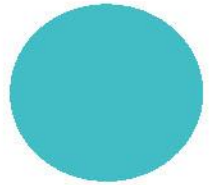
8

Tried One Plant

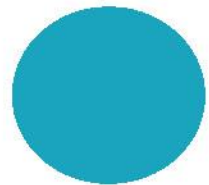
DISCOVERING RAY TANGUAY



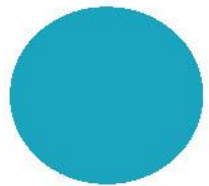
Powerful Believer



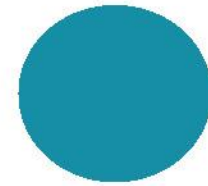
TPS – The Toyota Way



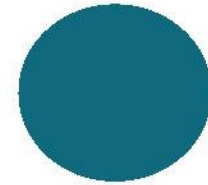
Involvement



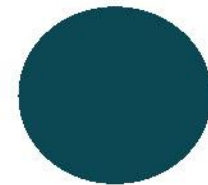
Measurement



Manageable Pieces



Complete Process



Discovered the
“Treasure Map”



TEAMMATES



Inclusive

Take down the wall

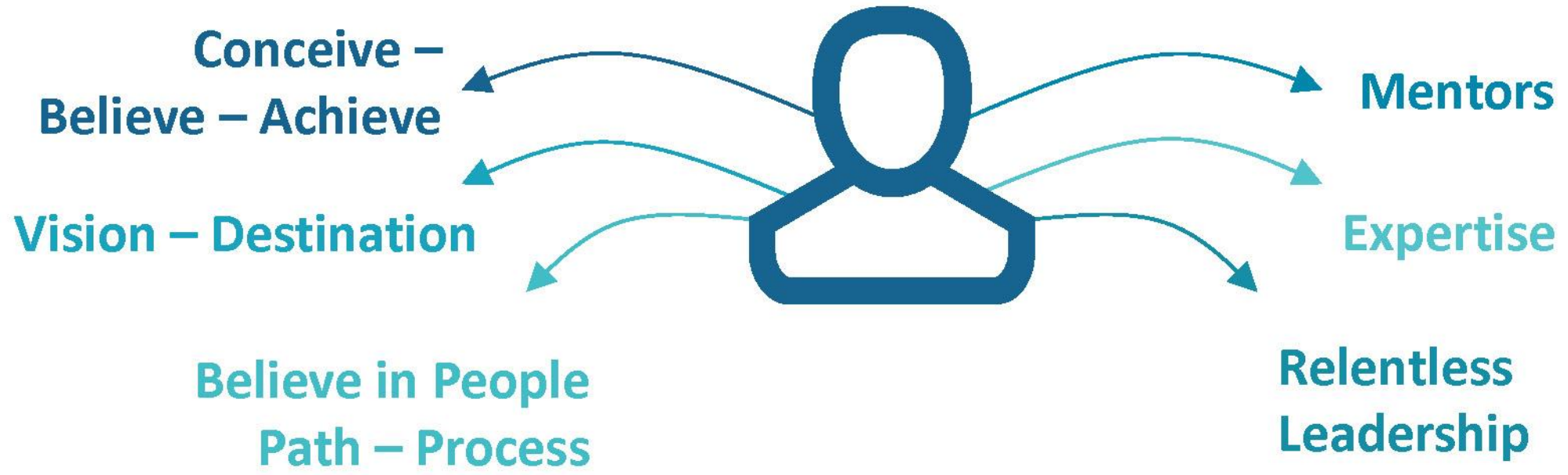
The power of...

New culture of respect

A signal of change

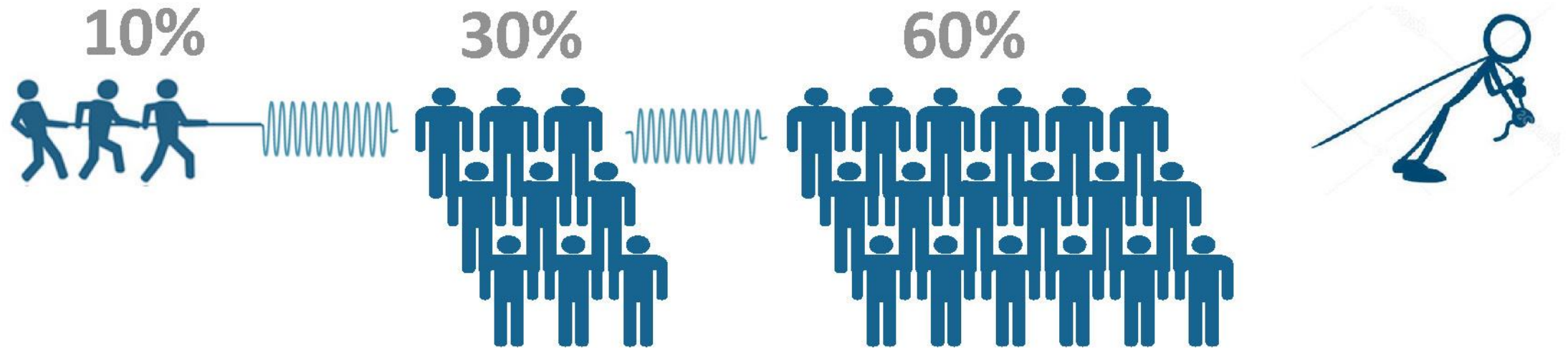
Engagement

OUR COO / CEO



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



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

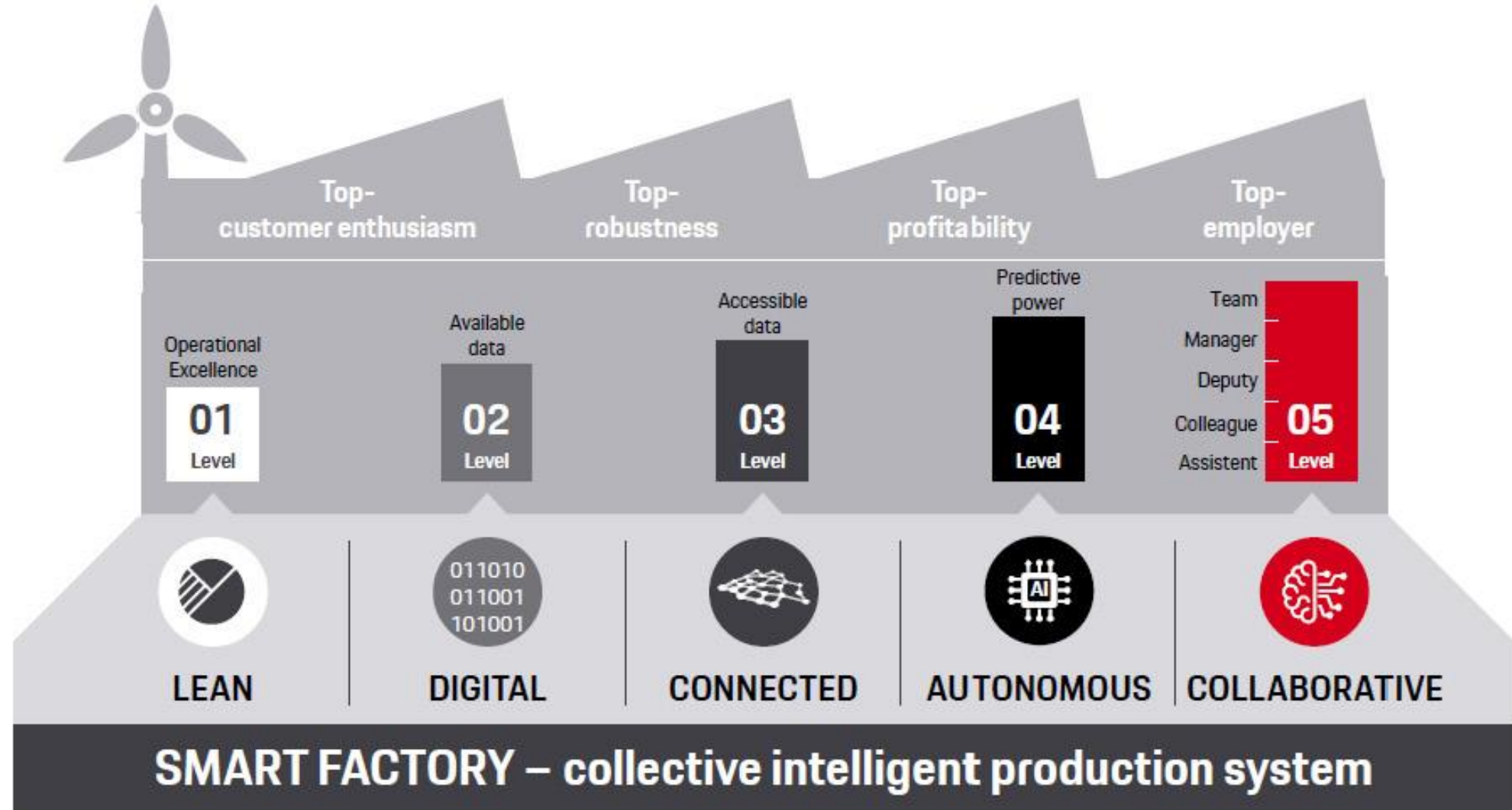
Woodbridge
2018
Kaizen
Competition

People are
asking for
Lean advice

CAPC
Objectives

Working
with
Ray Tanguay

SMART FACTORY | STRATEGIC COMPETITIVE ADVANTAGE THROUGH PRODUCTION AND INTELLIGENT COLLABORATION





**WHAT IS THE MEANING OF
(1 X 1000) AND (1000 X 1)?**

WHAT IS THE RIGHT ANSWER?

THANK YOU