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Lean Seminar



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Housekeeping



- Fire Alarm
- Toilets
- Photography
- Phones
- Smoking/Vaping
- Slides/Workbooks



@ Toyota Lean Management Centre

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Safety Commitment

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Our Safety Commitment

To leave here today in the same safe condition that you arrived.

“With a bit more Knowledge”



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TOYOTA LEAN MANAGEMENT CENTRE

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Deeside, North Wales

Burnaston, Derbyshire



Nick Pearn – Section Manager

- 2005
- Euro Parts
- Japan Parts
- Planning
- Projects
- TLMC



Julian Ball – Section Manager (Std in)

- 1998
- Body RCU
- Body Conveyance
- Body Quality
- Projects
- TPS
- TLMC



Mark Siddall – Group Leader Senior

- 1998
- Assembly
- Casting
- Projects
- TLMC



Kenny Barlow – Group Leader Senior

- 1998
- Assembly
- Hot Test
- Machining
- Projects
- TLMC



John Prince – Group Leader Senior

- 1998
- Logistics
- Assembly
- Pilot
- Projects
- TLMC



Paul Blahyj – Group Leader Senior

- 1997
- Assembly
- Pilot
- Projects
- BRC
- TLMC



Gary Norgrove – Group Leader

- 2003
- Machining
- Casting
- Projects
- TLMC



Ian Spencer – Group Leader Senior

- 1995
- Logistics TMUK-B
- Logistics TMUK-D
- Projects
- TLMC



Steve Nelson – Group Leader

- 1995
- Assembly
- Chassis
- Trim
- Repair
- Projects
- TLMC



Matt Hadfield – Team Leader

- 1995
- Weld
- Body Accuracy
- Pilot
- Circle G
- Engineering
- TLMC

273 Years Toyota Manufacturing Experience



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Introductions

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Name
Role
Lean Experience



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Feedback

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Course Title: _____ Date: _____

Workshop Feedback Evaluation

Please complete form to enable us to continually improve the workshop

Please use the scale below to answer the following questions

Poor	Adequate	Excellent
1	2	3

Q.1 How would you describe workshop materials?

Q.2 How would you describe effectiveness of the instructors?

Q.3 How applicable was the subject content to your work environment?

Q.4 Describe the amount of interaction you were encouraged to provide.

Please use the scale below to answer the following questions

Totally Inappropriate	Appropriate	Excellent
1	2	3

Q.5 Was the workshop challenging enough for your current needs?

Q.6 How appropriate was the length of the course?

Please use the scale below to answer the following questions

Not At All Likely	Neutral	Extremely Likely
1	2	3

Q.7. Would you recommend this course to a colleague or friend?

The team at TLMC are constantly looking to develop and improve the workshop. To do this we value our clients input.

What was good about the workshop.

What we could do to improve.

Thank You

Please complete throughout the workshop.

Honest

Support TLMC PDCA



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Lean Seminar Agenda

Time		Item	Location	Presenter	Duration
07:50	08:15	Registration, Coffee & Introductions	Rhuddlan		25
08:15	09:00	Toyota Deeside Overview	Rhuddlan		45
09:00	09:30	Assy Gemba	Dojo		30
09:30	10:15	Innovation Street & H2	Shop floor		45
10:15	10:25	Coffee Break	Rhuddlan		10
10:25	10:50	Dojo Gemba	Dojo		25
10:50	11:10	QCC Gemba	Atrium	-	20
11:10	11:50	Kaizen Simulation	Rhuddlan		40
11:50	12:00	Q & A	Rhuddlan	-	10



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Toyota Plants in Europe

Investment over €9 billion



TMUK-D Engines



TMUK-B Corolla Hybrid



TMMP-J Engines



TMMP-W Engines & Transmissions



Toyota Caetano Portugal – Land Cruiser, Caetano Bus



TMMF Yaris & Yaris Hybrid/ Yaris Cross



TMCP Aygo X, Yaris



TMMT C-HR (Hybrid) & Corolla Sedan

“Around two-thirds of Toyota’s sold in Europe are made in Europe by Europeans”



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Overview

DEESIDE,
NORTH WALES

BURNASTON,
DERBYSHIRE

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Engine manufacturing
September 1992
581 employees

Vehicle manufacturing
December 1992
2,375 employees

Most experienced plants in Europe

DEESIDE BURNASTON



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Deeside Customers

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ZR Engine

- UK
- Turkey
- South Africa
- Japan



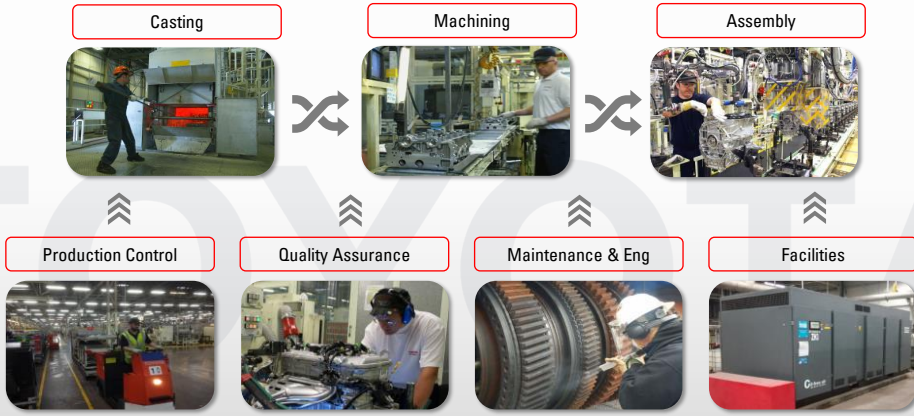
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Scale of our operations - Deeside plant: Engine Mfg



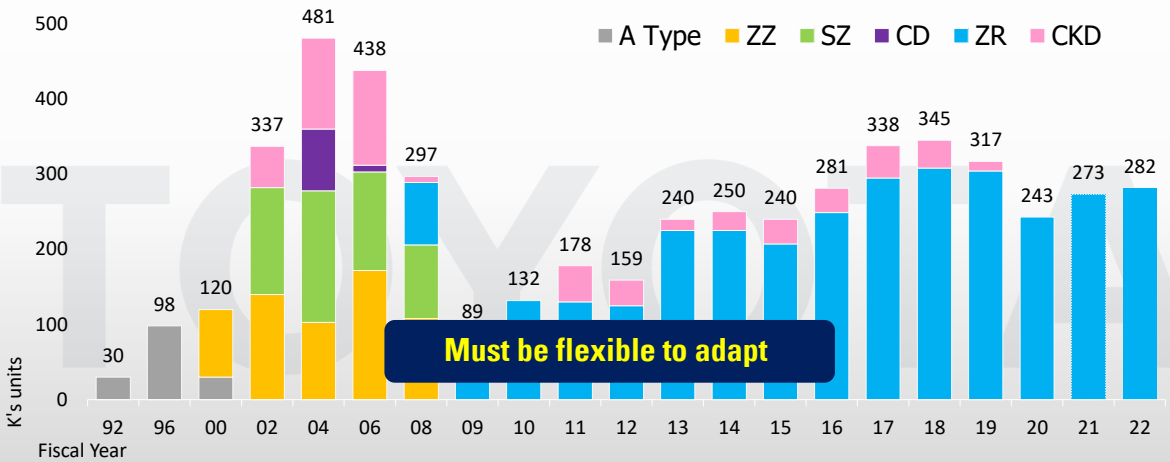
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Business situation constantly changes

TMUK-D production Volumes



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TPS

Toyota Production System



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Toyota Production System

- ☑ Benchmark for Manufacturing Best Practice
- ☑ Replicated in Toyota Plants Worldwide
- ☑ Ensures Safety, Quality & Productivity is built in
- ☑ **Admired, copied, but never bettered as we improve it daily**



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Customers demand:

- Best possible product
- As soon as possible
- Lowest possible price



Customer Driven Organisation



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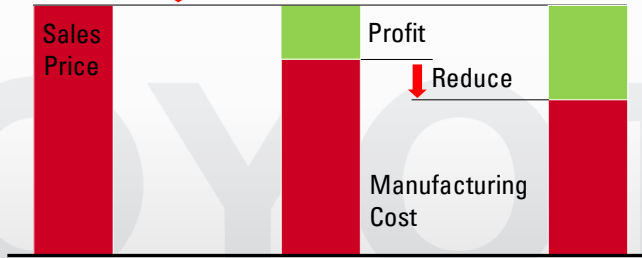
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Cost Reduction Principle

Lowest Possible Price

Market Forces



To maximise profits, reduce Manufacturing Costs



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Improved efficiency of equipment, materials & people

A Process with Least Waste = Lowest Cost

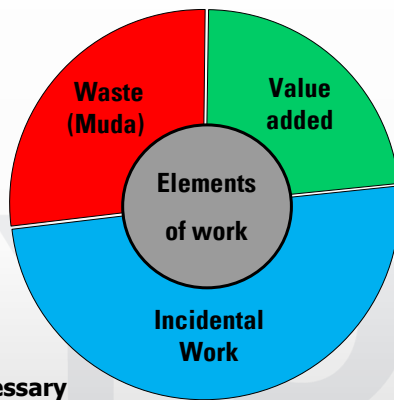
Elimination of:

- **Mura** (Unevenness) } Management Actions
- **Muri** (Overburden) } Management Actions
- **Muda** (Waste) } Member's Actions

All Members Focus on Waste not Cost

Waste Exists In All Processes

Waste
Motions that have no customer value and are not necessary for work



Value-adding work Motions that add customer value to the product

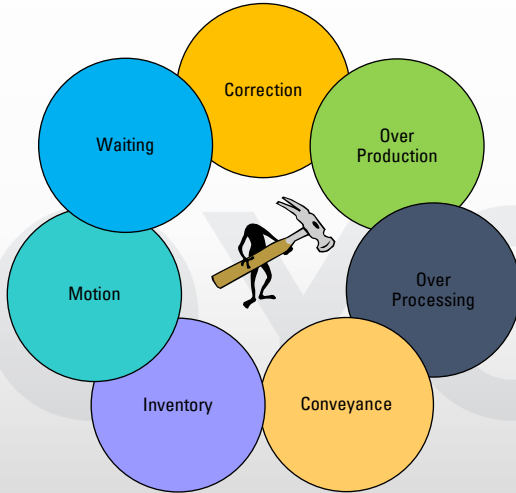
Incidental work
Motions that are necessary but do not add any value to the product at the present work stage

Eliminate Non-Value added by Kaizen

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Toyota 7 forms of Waste

Any Part of the Business that does not **Add Value**



What is the most serious waste?

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Members are responsible for Kaizen on their Process using PDCA

Plan 1 Members understand the Problem and discuss the solution



... then trial **Do** 2



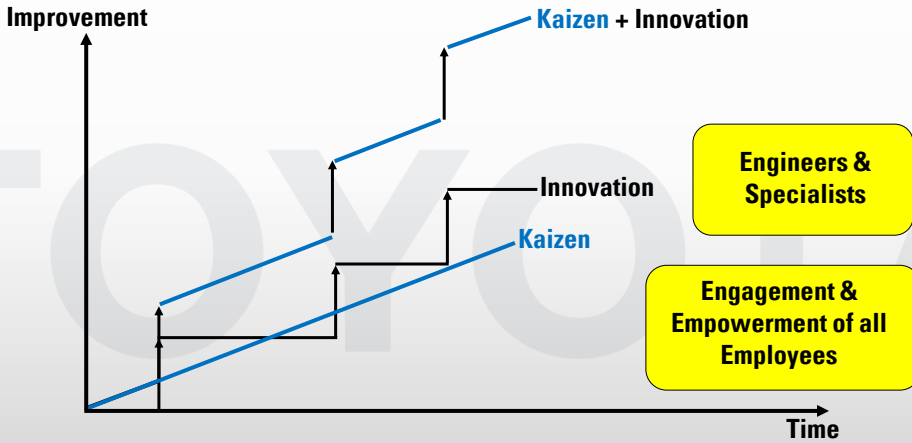
Check 3 Members review their Kaizen

... and then Standardise **Act** 4

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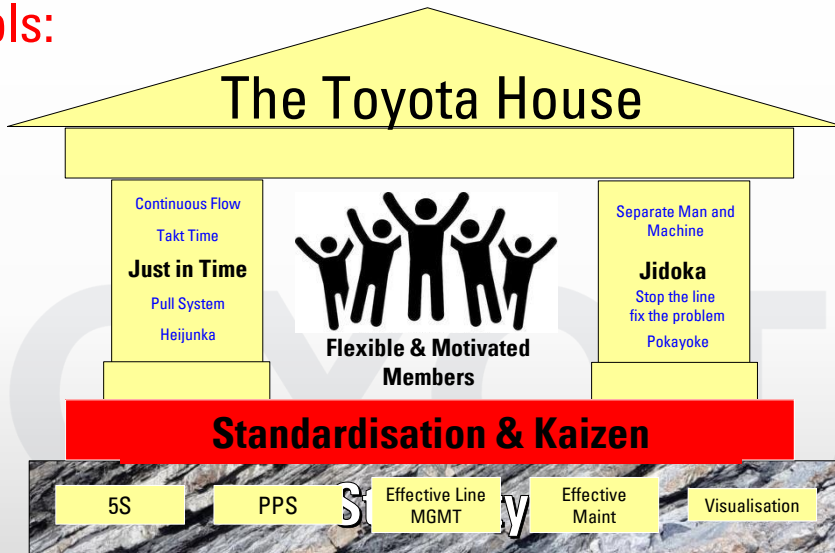
Kaizen or Innovation?

It's not a contest!



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TPS Tools:



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Standardised Work

Maintaining Safety, Quality & Productivity

Standardised work instructions for every process

ZR K Work Std Sheet	GLR	TLR	PPOR	GLB	TLB	PPOB	Date of Issue	16/02/2021	Issuer		
							Date of Last Update		Mtr who updated		
Line	ZR Assembly						Process	9	Hand Amend Revision		
Job No.	Main 9						Task Time (secs)	51			
SEC No.	Job Element		JES No		Element Time		QCS Nos				
1	Engine Mount Bracket (after AM-40)		K.ZR.MO.0343		2.0						
2	Turn 180		K.ZR.MO.0		1.5						
3	Damper Pulley Assy		K.ZR.MO.0347		5.5						
4	Chain-Tensioner Assy		K.ZR.MO.0360		13.0						
5	Label -Type Assy (Chain Cover)		K.ZR.MO.0352		3.0						
6	Turn 180 Exhaust - Intake		K.ZR.MO.0260		1.5						
7	Rotate engine 90 (head face up)		K.ZR.MO.0342		1.5						
8	Turn 180		K.ZR.MO.0		1.5						
9	Hanger (Exhaust) Assy		K.ZR.MO.0335		5.5						
10	Turn 180		K.ZR.MO.0		1.5						
11	Head Cover O'Ring & OCV Gaskets Assy		K.ZR.MO.0491		6.5						
12	Spark Plug Assy		K.ZR.MO.0354		6.0		26.0				
	Return				2.0						

- Detailed step by step instructions
- Safety First
- Quality built in
- Easier to solve problems
- Easier to improve (kaizen)

Working Sequence



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Job Element Sheet

Identify Major Steps, Key Points and Reasons for those Key Points

ZR Assembly:- Job Element Sheet		Document Controller		GL Blue	GL Red	TL Blue	TL Red		
		Date	Sign						
Element Name	Booster Hose Assy (VM)	1	Page of 1	Area	COLD TEST	Date of Issue	04/07/2018	Issuer	M THOMAS
JES No.	K.ZR.MO.0079	QCS No.		DELTA		KUKURI Element	N	Does Element Achieve 100% QA Network Ranking? "Make & Flow"	Y
Major Step	Fit the Booster Hose Adaptor to ISCV unit.								
Key point	Use left hand to fit Booster hose. Gently fit the Booster hose adaptor up to the ISCV unit. Do not hold the end or apply excessive force during fitment.								
Reason	Potential MSS concern if excessive force is used to fit the booster hose and risk of damage to the plastic ISCV unit.								
Category	SQ								
Never Split an Element that is Kukuri, Delta S Item or an XXA or XXB Critical Process. One Process / One member Built in Quality									
Category Delta / Keypoints	S = Safety or M.S.S	R = Regulation	E = Environmental	I = Interface	Q = Quality	K = Knack / Method			



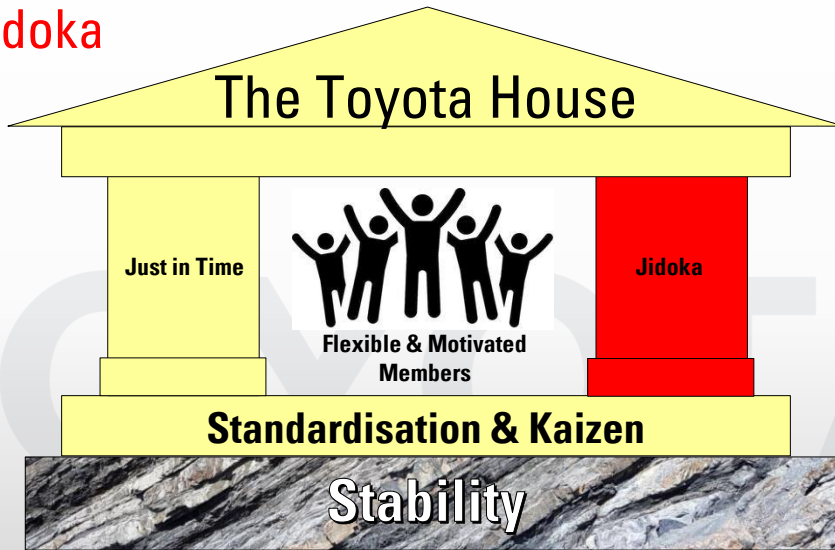
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Jidoka



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Jidoka - Equipping Machines With a Human Sense

- Pokayoke & Andon
- Problem identification
- Stop - Call - Wait
- Problem containment
- Root cause analysis
- Problem countermeasure
- Standardisation



Never Pass On Bad Quality!

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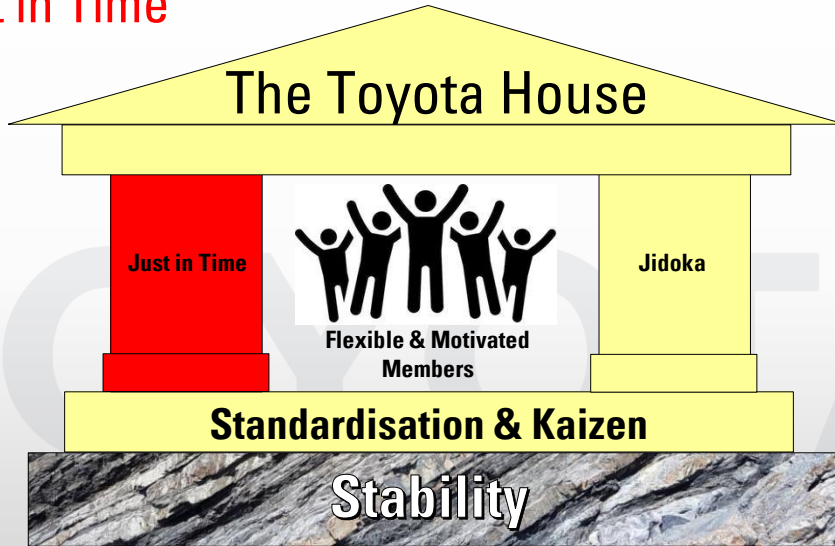
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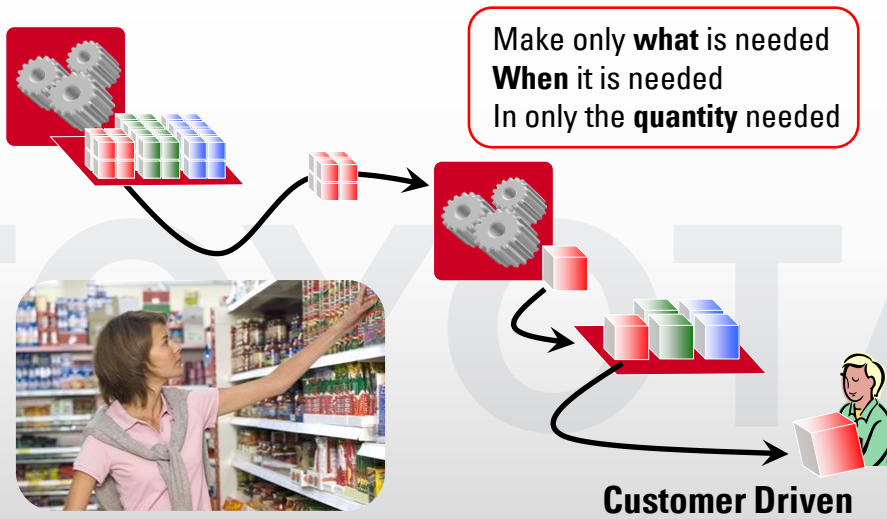
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Just in Time



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JIT - Linking Production to Real Demand



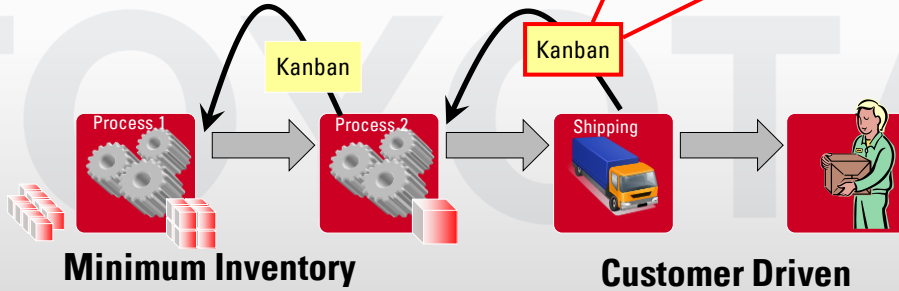
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Kanban Controlled

- Avoids excess inventory
- Reduces Lead Time

Pull Don't Push!

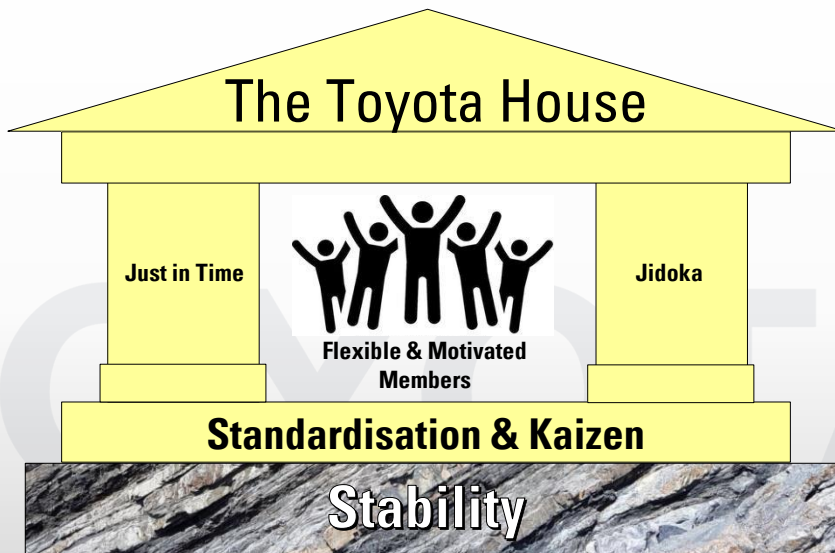


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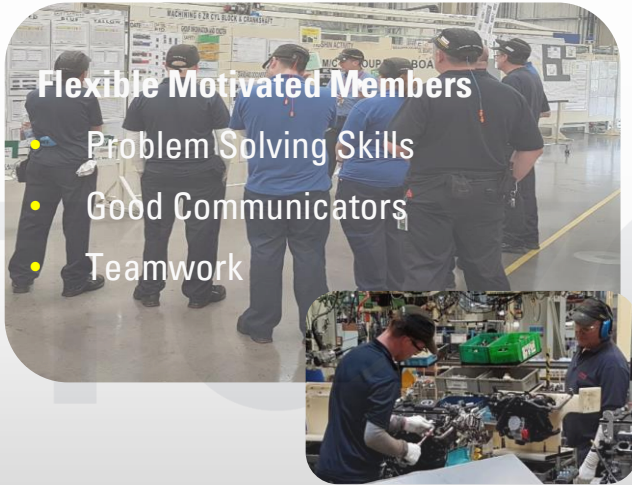
The Toyota House



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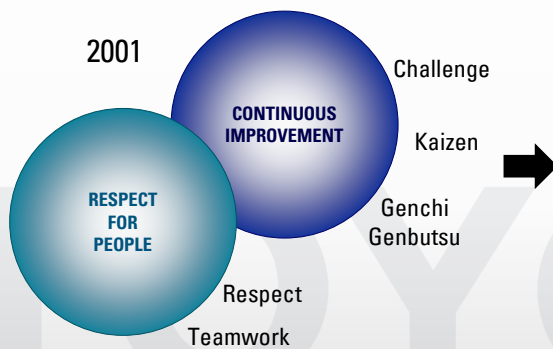
What TPS Needs!



Opportunities

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TOYOTA WAY CULTURE



As the world changes, we need to review our foundation, our attitude and way of working to secure our future.

GLOBAL Direction LOCAL Difference

2020

Act For Others - Challenge
We strive to keep the perspectives of our Customers and stakeholders at the core of our efforts every day. Putting ourselves in other's positions, we go beyond the impossible.

Work With Integrity - Challenge
We always consider where today's work should take us and how it impacts those around us. We forge a path to our objective with integrity and honesty.

Drive Curiosity - Kaizen
Taking a personal interest in everything, We ask questions to discover the mechanics behind phenomena. This mind-set generates new ideas.

Observe Thoroughly - Genchi Genbutsu
Humans sense things instinctively in ways that machines can't. We bring Together hard data while personally seeing, feeling and interpreting the situation, exercising Genchi Genbutsu to discover the most creative and best solutions quickly.

Get Better and Better - Kaizen
Today and every day, we take ownership to sharpen the skills of ourselves and each other with heart, mind and body to meet the evolving needs of our customers.

Continue the Quest for Improvement - Kaizen
We believe in the natural ability of people to change things for the better. Every improvement, regardless of size is valuable. Encouraging both incremental and breakthrough innovative thinking, we seek to evolve with Kaizen, accepting the status quo never.

Create Room to Grow - Kaizen/Teamwork
Focusing on what's essential, we eliminate waste and manage our resources carefully to create room to grow. This is the foundation for agility and the cultivation of new ideas for the future.

Show Respect for People - Respect
No work is solitary. No job is a one-person endeavour. We make the most of diverse perspectives turning differences into fortune as one team. With a fundamental respect for people, we create an environment where all feel welcome, safe and heard and everyone can contribute their best toward meaningful goals.

Welcome Competition - Teamwork
We welcome competition, without ego. It pushes us to improve and better serve our customers and society, creating more value and a better experience.

Thank People - Respect
We owe our existence to our customers, members, partners, stakeholders and communities. We say "Thank You" to everyone we encounter today.

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Toyota Way

The Spirit of Continuous Improvement

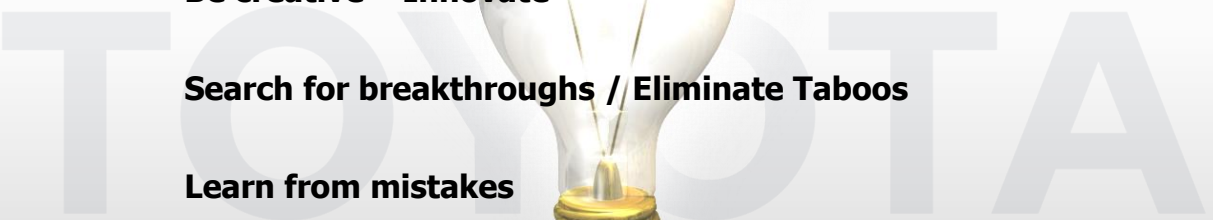
Never be satisfied with where you are today

Be creative – Innovate

Search for breakthroughs / Eliminate Taboos

Learn from mistakes

Never give up



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Toyota Way

The Spirit of Continuous Improvement

Mutual Trust / Mutual Responsibility

Train Members

No Fear No Blame

Ownership at all levels

Teamwork

Employee Engagement



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Gemba!



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Thank You

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