



# PARTICIPANT PROFILE

## TEGUH FERDIANTO 1931476

Team Member (3B)



### CONTACT PERSON

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7314

Teguh Ferdianto

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### •Place, Date of Birth

Batang, Central Java  
January 31, 2001

### •Last Education

SMK N 1 Kandeman

### •Work Period

[3 Years 10 Months]

### WORK LOCATION

## PT Toyota Motor Mfg. Indonesia Karawang Plant #2

Assy & Painting Prod Division  
Assy Production #2 Departement  
SQPC & Kaizen Line



### TMMIN JOURNEY



•17 Oct 2019

Join with TMMIN



•Oct 2019 ~ Dec 2021

Assy & Painting Prod Division

Assy Prod #2 Departement

**Logistic Assembly Line**

Main Job : ① Shop / Sub-Assy Part

② Supply to Main Line



•Jan 2022 ~ Now

Assy & Painting Prod Division

Assy Prod #2 Departement

**SQPC & Kaizen Line**

Main Job : ① Prod Support

② Project Support (D03B, D57T)

**Long Journey, Bright Future!**

xEV Sticker Design Contest '22



Writing Toyota Family Competition '22





TOYOTA INDONESIA  
ASSY & PAINT PROD DIV  
ASSY PROD #2 DEPTH

## SUGGESTION SYSTEM

APPD  
QCC-SS TAM TMMIN

2

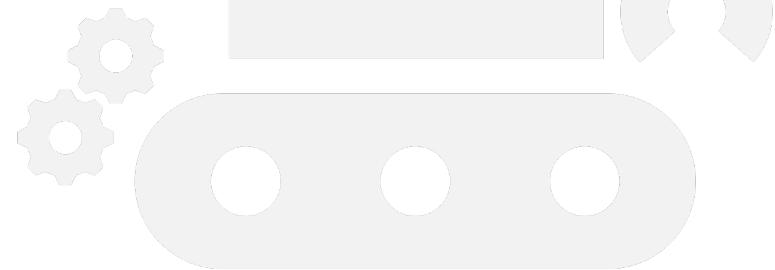


TAM TMMIN QCC Grand Convention 2023 //

# Reduce Lead Time Data Processing LSR by RPA

 New Line Supply Request System





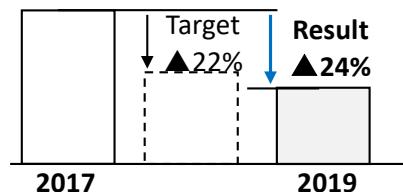
# BACKGROUND

## ① WORLD COST CHALLENGE

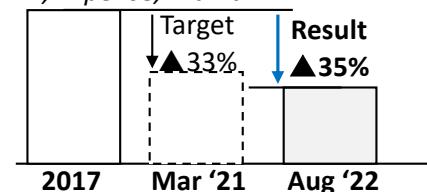
### •SR #1 & #2

Challenge: Catch up & Beyond

[Variable Cost]  
WTA



[Fixed Cost]  
IDL, Expense, Maint.



### •Expansion SR Phase #1 & Phase #2

Success 3 Multiyear Pjt by achieve TDNGA in Real World

Set strong fundamental for New Era

[Manufacturing Cost]  
Variable + Fixed

[Real world cost challenge]

- Inflation
- Commodity price
- Exchange rate

Not Enough!

- Continue & expand SR activity
- TD Monozukuri (Collaboration VA & Suitable activity)

Best Cost Structure ( $\geq 5.5\%$ )

+New Approach

- BREAKTHROUGH ACTIVITY**
- Resource Optimization
- Manufacturing Integration

Dec '21

March '26

Maintain Variable & Fixed Cost, Flexible MFG & Real Competitiveness

## ② DIVISION HOSHIN

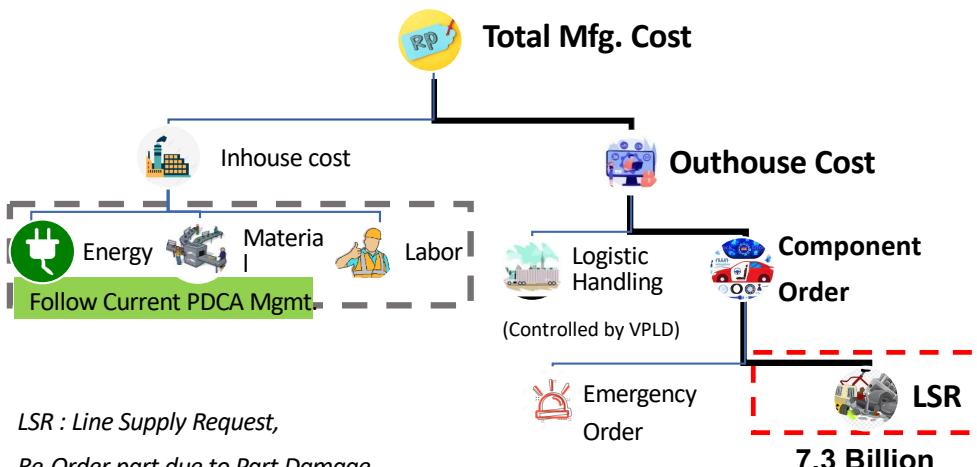


FY22/23 DIVISION Strategic Execution Plan		FY22/23 KPI & Target
(Priority Priority = Breakthrough & Innovation Activity)		Overall objective: Risk PT - Service Standard
No	Item No	Strategic Executive Plan
1.0	1.0	Maintain & Strengthen Basic Foundation
1.1	1.1	Safety "B" Assurance
1.2	1.2	Quality SGA = B3 : "T" Production & Outsource OK Ratio 95%
1.3	1.3	Productivity PERF IC3 towards Prod. 339% up
1.4	1.4	Efficiency Cost CM3 & B5
1.5	1.5	HR All Plant Initiative up
2.0	2.0	PROVE REAL WORLD COMPETITIVENESS
2.1	2.1	Continuous SR2 activities
2.2	2.2	Quality performance up = 6 star on current model and reflect to new model (new process & new GAN assessment) through pursuing early and comfortable process.
2.3	2.3	1.1. Pursue TDNGA in Real World, Pursue new process and follow up (especially for New A (Hybrid))
2.4	2.4	2.2. Mapping early process through voice interview
2.5	2.5	2.3. Pursue TDNGA in Real World, Pursue new process and follow up (especially for New A (Hybrid))
2.6	2.6	3. Stable Quality even after Henzuka (Change part)
2.7	2.7	3.1. Manza Henzuka in each line & Superior follow up
2.8	2.8	3.2. Continue & strengthen Henzuka impact in preparation for the 3 into STDW switch.
2.9	2.9	#Crossplause Comp. MBS & ISO 9001 2015 Registration.
3.0	3.0	* Q1 2023: 100% Line BNF & Production
3.1	3.1	* All Line Assy & Paint model
3.2	3.2	* All line have henzuka board
3.3	3.3	* 100% compliance & compliant
3.4	3.4	* 100% visualise GAN all model
3.5	3.5	* All shop clear mapping & visualise
3.6	3.6	* 100% visualise GAN all model
3.7	3.7	* Zero Q issue after Henzuka
3.8	3.8	* All the have henzuka board
3.9	3.9	* 100% compliance & compliant
4.0	4.0	* Q1 2023: 100% visualise GAN all model
4.1	4.1	* All shop clear mapping & visualise
4.2	4.2	* 100% visualise GAN all model
4.3	4.3	* Zero Q issue after Henzuka
4.4	4.4	* All the have henzuka board
4.5	4.5	* 100% compliance & compliant
5.0	5.0	* Q1 2024: 100% visualise GAN all model
5.1	5.1	* All shop clear mapping & visualise
5.2	5.2	* 100% visualise GAN all model
5.3	5.3	* Zero Q issue after Henzuka
5.4	5.4	* All the have henzuka board
5.5	5.5	* 100% compliance & compliant
6.0	6.0	* Q1 2025: 100% visualise GAN all model
6.1	6.1	* All shop clear mapping & visualise
6.2	6.2	* 100% visualise GAN all model
6.3	6.3	* Zero Q issue after Henzuka
6.4	6.4	* All the have henzuka board
6.5	6.5	* 100% compliance & compliant
7.0	7.0	* Q1 2026: 100% visualise GAN all model
7.1	7.1	* All shop clear mapping & visualise
7.2	7.2	* 100% visualise GAN all model
7.3	7.3	* Zero Q issue after Henzuka
7.4	7.4	* All the have henzuka board
7.5	7.5	* 100% compliance & compliant
8.0	8.0	* AT 91 CY _190
8.1	8.1	* AT 42 CY _190
8.2	8.2	* 100% LSR cost reduction to KCI
8.3	8.3	* 50% Loss cost reduce
9.0	9.0	* 100% TMR
9.1	9.1	* 100% TMR
9.2	9.2	* 100% TMR
9.3	9.3	* 100% TMR
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9.5	9.5	* 100% TMR
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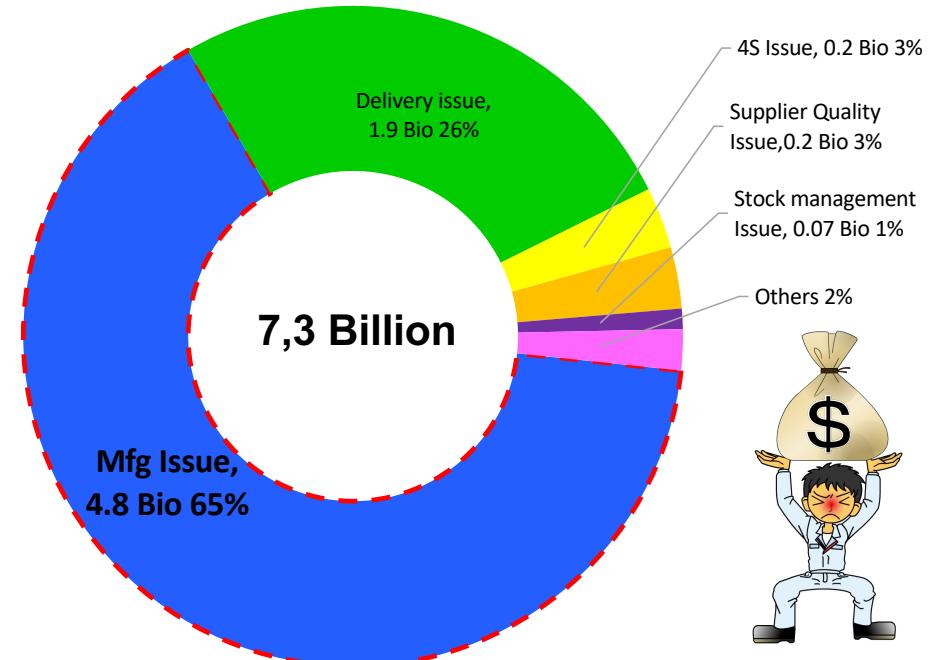
# PROBLEM ANALYSIS

## COST CONTROL ACTIVITY

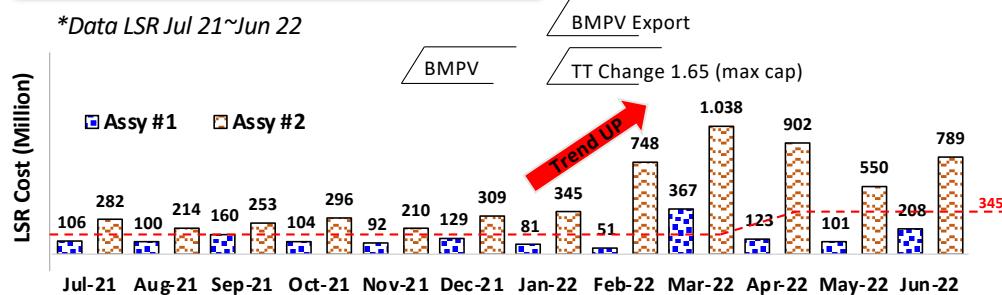


## BREAKDOWN of LSR PROBLEM ( IDR )

\*Data LSR Jul 21~Jun 22



## LSR COST TREND ( IDR )



Trend of LSR significantly was increased when BMPV production increase

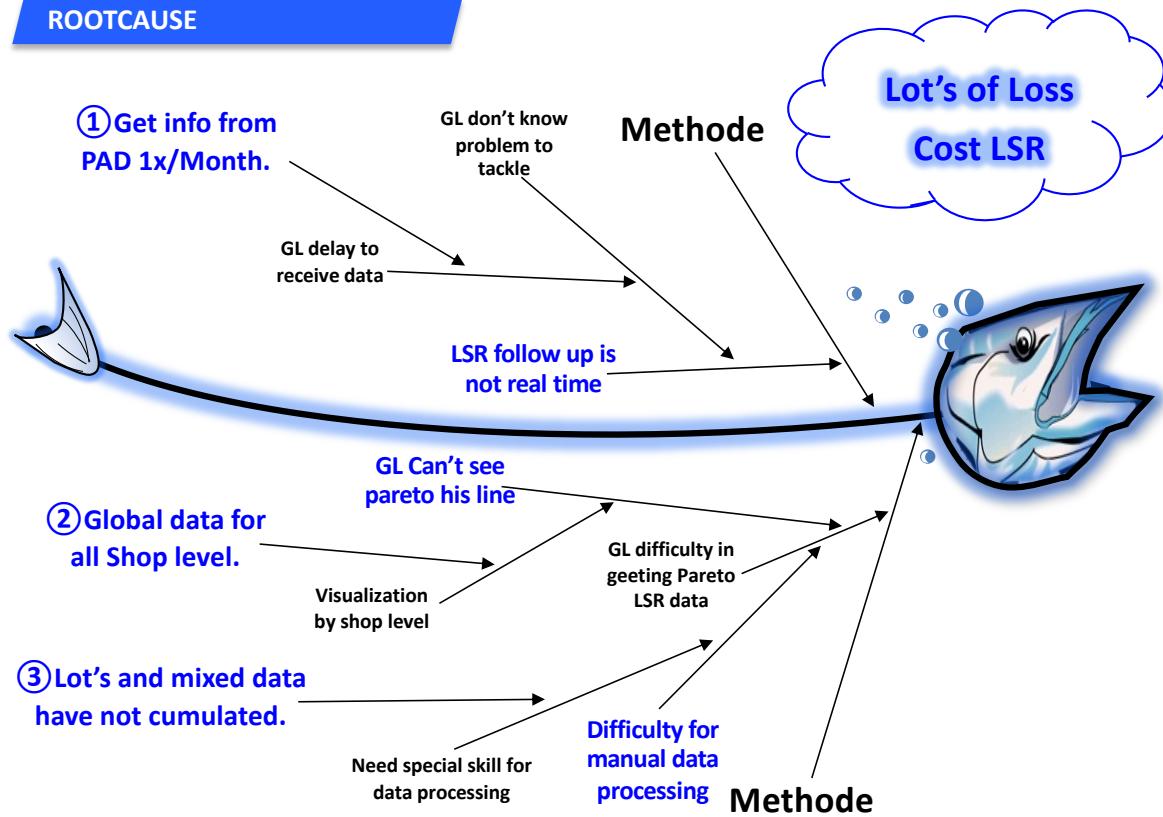
① Manufacturing Issue cause are dominated, therefore we need to follow up and quick Countermeasure at Manufacturing Process

② Align with SR-2 Expansion, we need to maintain company competitiveness By Reduce Loss Cost due to Part Damage



# ROOTCAUSE ANALYSIS

## ROOTCAUSE



## BEST ALTERNATIVE

Discuss Problem With Leader,



### Root Cause

### Alternative Score

① Get info from PAD 1x/Month.

Suddenly it's too much



1.1 Make activity daily meeting LSR 9  
1.2 follow up LSR Cost by daily 12

② Global data for all Shop level.

What Pareto my Line?



2.1 Change Web Visualization 11  
2.2 Data Summary by Line Level 17

③ Lot's and mixed data have not cumulated.

GL/TM



3.1 Make Sub-Menu Cumulate data by Line 10  
3.2 Work Handling by Special TM 14

## Specific

Reduce 50 %  
Loss Cost LSR

## Measurable

From Ave 699 Mio/Month  
to Ave 286 Mio/Month

## Achievable

Make work easier and  
Cost saving 50%

## Reasonable

Pure part damage from  
Manufacturing Process

## Time Base

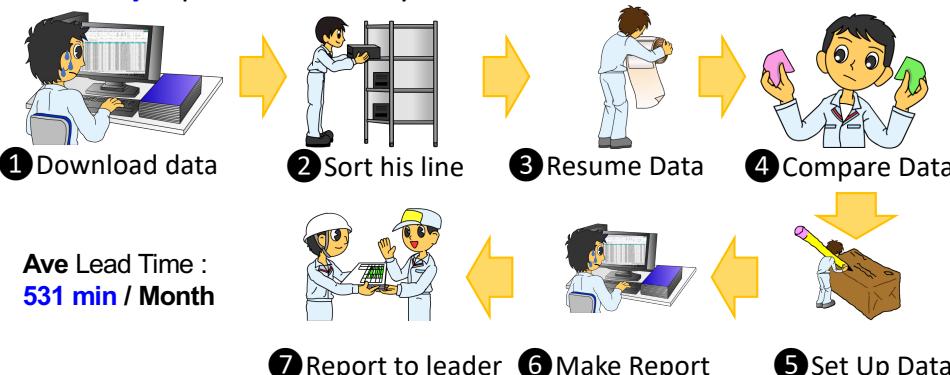
response time limit in  
Week- 1 January 2023

# IMPROVEMENT

**ACTIVITY 1. Follow up LSR Cost by daily**  
**3. Work Handling by Special TM**

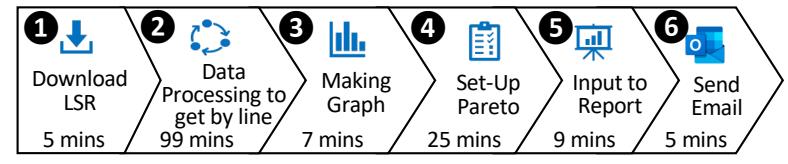
**•Before**

**Monthly** reports LSR cost by **Team Member SQPC & Kaizen**



**•After**

**Daily** reports LSR cost by **Team Member SQPC & Kaizen**

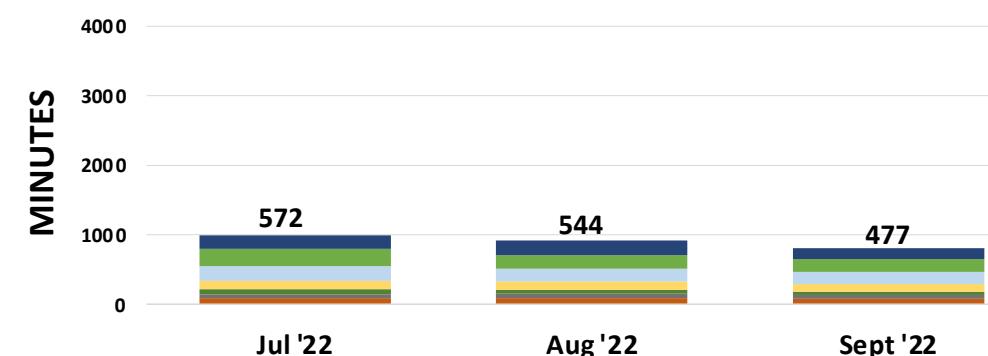


Lead Time : 150 min/Records, 22 Records/month

**Email Information content :** Visualize Total cost amount by monthly, and daily follow up. Direct genba after get problem information

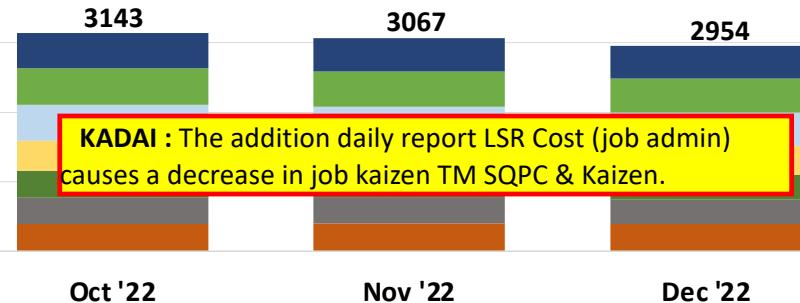


**Lead Time Resume LSR Data**



■ Rect & QG ■ Logistic 2 ■ Logistic 1 ■ Door ■ Final ■ Chassis ■ S/A Chassis ■ Trimming

**Daily Report LSR Cost**

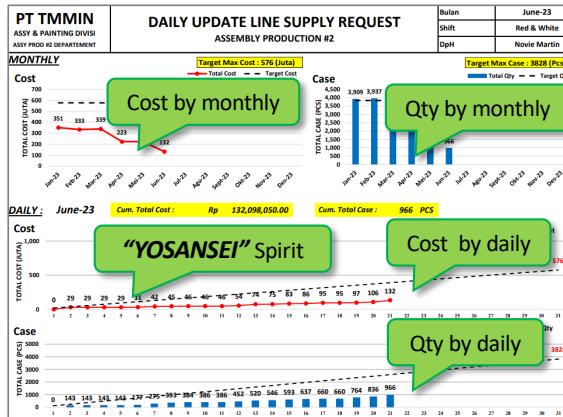




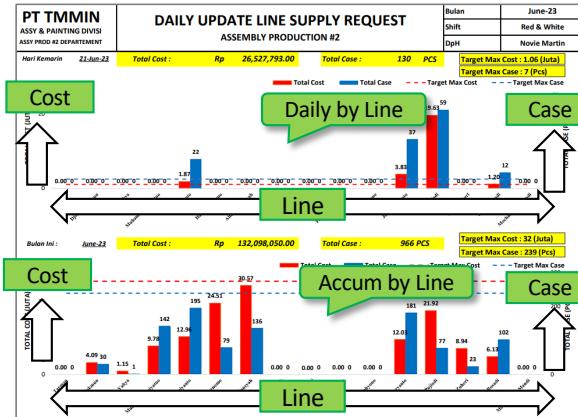
# IMPROVEMENT

## ACTIVITY 2. Data Summary by Line Level

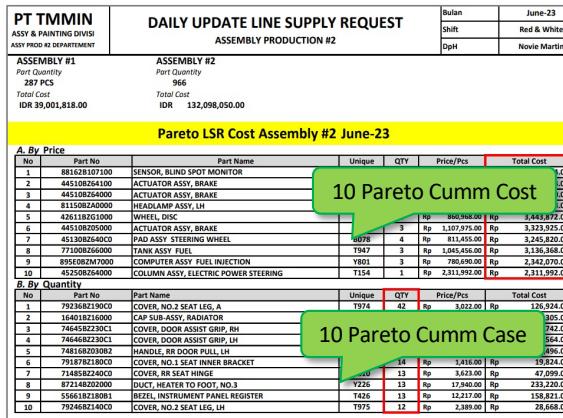
### Sheet ① General LSR Grafik shop level



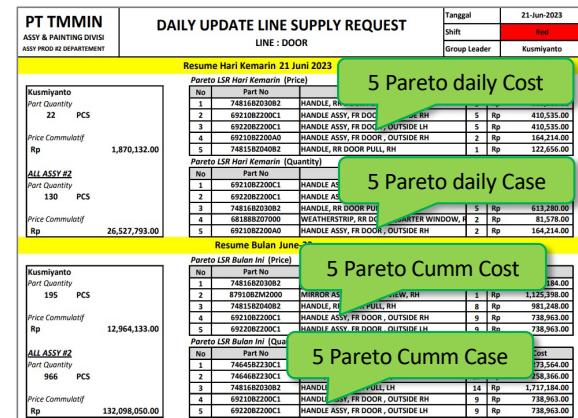
### Sheet ② LSR Grafik by GL



### Sheet ③ Pareto LSR shop level

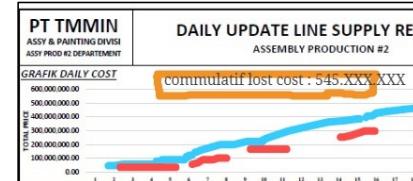


### Sheet ④ ~dst Pareto LSR GL level



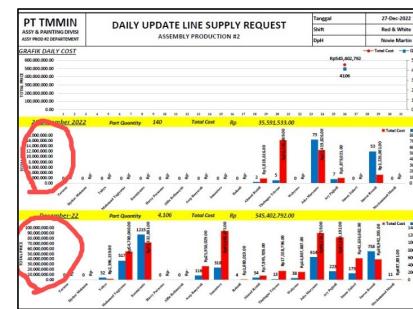
## •Customer Request (GL ,SH ,Manager)

### ① Add daily Cummulative progress



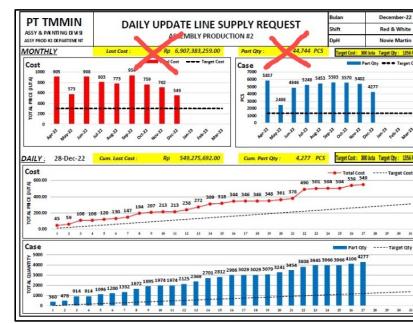
27 December 2022  
"Added a cumulative progress chart on the daily cost progress chart"  
Novie Martin (Mgr)

### ② Set scale display Cummulative



27 December 2022  
"Setting the cumulative cost and case scale display in daily and monthly maximum of 100 million by line"  
Novie Martin (Mgr)

### ③ Eliminated cummulative fiscal year

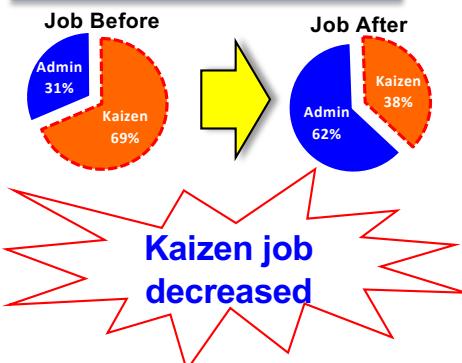


28 December 2022  
"Eliminate display of cumulative loss cost and case monthly in one fiscal year"  
Novie Martin (Mgr)

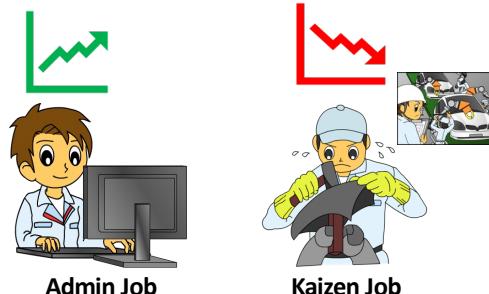


# PDCA #1

## ① BACKGROUND



## ② PROBLEM ANALYSIS



The addition daily report LSR Cost (job admin) causes a decrease in job kaizen.

## ③ IDEA INSPIRATION

### • Alternatif Idea ①

Sipdaga, Aplikasi Pengolahan Data Olahraga Ciptaan Mahasiswa Universitas BSI

Data processing with New Application.

#### Evaluation Points ①

Items	Evaluation	Judge
Safety	Safe from accidents	O
Quality	No potential defects	O
Productivity	Reducing jobs	O
Time Base	> 4 Month	X
Cost	30~250 Million Idr	X
Maker	Vendor	X

- Long processing time
- High Cost
- No add TM Skill

### • Alternatif Idea ②

Robotic Process Automation

Robotik Automation, solusi Infimedia pangkas birokrasi

Data processing with Other Application → RPA

#### Evaluation Points ②

Items	Evaluation	Judge
Safety	Safe from accidents	O
Quality	No potential defects	O
Productivity	Reducing jobs	O
Time Base	< 2 Month	O
Cost	5.5 Million Idr	O
Maker	TM Operation	O

- Shorter processing time
- Low Cost
- Add TM Automatic Skill



## ④ COUNTERMEASURE

### • What is RPA ?

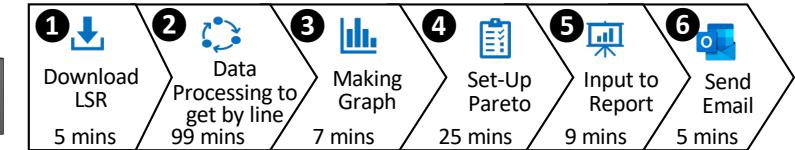
RPA (Robotic Process Automation)

is a simple coding software with running time scheduling for human support in repetitive computing tasks all the time.



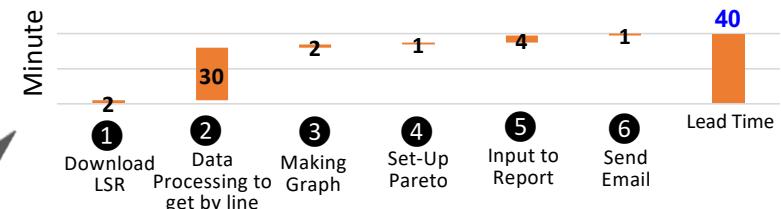
### • Before

Daily reports LSR cost by Team Member



### • After

Daily reports LSR cost by Automatic System



TM : 0 min/Records



# PDCA #2

## ① BACKGROUND

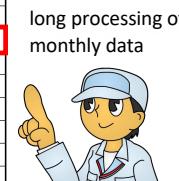
-Long time of RPA records (40 mins /record)



## ② PROBLEM ANALYSIS

### RPA Workflow

No	Work Element	Time	5	10	15	20	25	30	35	40
1	Download LSR Data	2.0								
2	Monthly data processing	25.0								
3	Daily data processing	5.0								
4	Filter data by Line	2.0								
5	Set up pareto	1.0								
6	Docking grafik	2.0								
7	Transfer Excel to Pdf	2.0								
8	Send Email	1.0								



## ③ IDEA INSPIRATION



Why?



Record and save as softcopy



Printout

Don't repeat from the first,  
data that has been processed  
can be stored and ready  
used next time

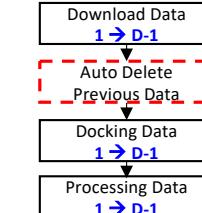
## ④ COUNTERMEASURE

### Change Method Processing Monthly Data

#### • Before

##### ① Download Monthly Data

<https://lsr-prd.toyota.co.id/AE010030204>



Download data from  
the 1st to today-1

##### ② Processing Monthly Data

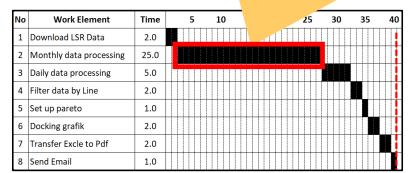
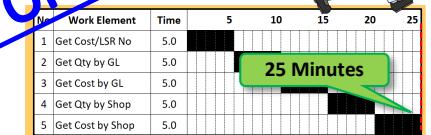
Ui-Path

#### Whiteboard Concept



repeatedly processed  
Previous data

ORIGINAL

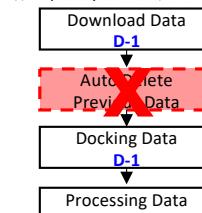


Total RPA Report : 40 minutes/records

#### • After

##### ① Download Data

<https://lsr-prd.toyota.co.id/AE010030204>



Only download data  
today-1

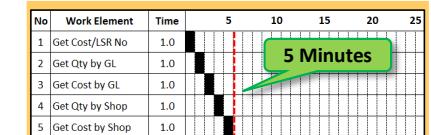
##### ② Processing Monthly Data

Ui-Path

#### Panaboard Concept



save previous data and  
only process new data



Total RPA Report : 20 minutes/records

Quick Records → Quick Response for Speed UP Kaizen & Energy Saving



# YOKOTEN & NEXT ACTION

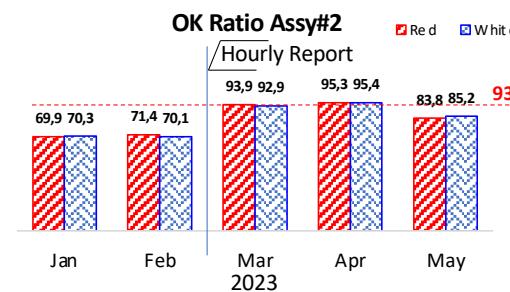
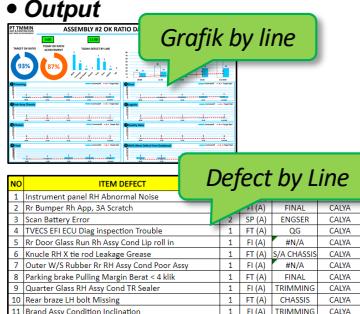
## YOKOTEN PROCESS

### 1 Automatic processing of Assembly Defect (Testing Stage)



- Initiator Profile**
- Name : **Tedi Arifin**
- Noreg : 1425769
- Line : Logistic Assembly
- Dept : Assembly Prod #2
- Position : Team Member

- Before**
  - Manual download by each GL (3x/shift)
  - Data by **Shop level**
- Output**



### 2 Automatic processing bypass pi-box (Design System Stage)



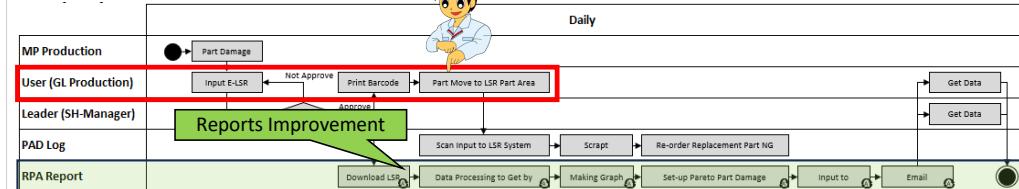
- Initiator Profile**
- Name : **Satrio Octo Pratama**
- Noreg : 1221919
- Line : HV Battery Line
- Dept : Assembly Prod #2
- Position : Team Member

- Before**
  - Manual tracking abnormality
  - Controlled by Engineering
- After**
  - Auto tracking abnormality
  - Controlled by GL level

## NEXT ACTION



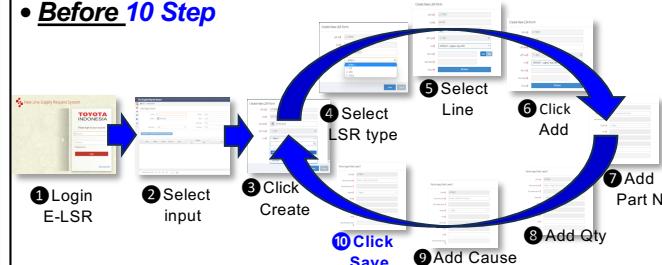
Next Improvement



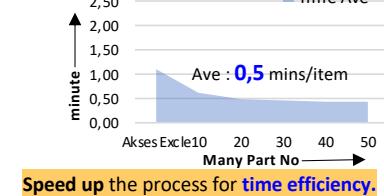
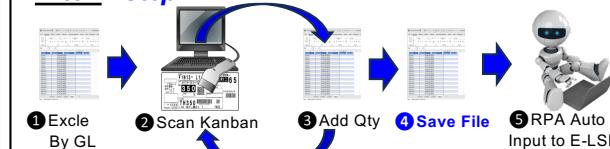
**Background :** Long time process to input E-LSR (Repeated process)

- Purpose :** Reduce CT GL input E-LSR
- Idea :** Reduce repeat process & utilization RPA

### • Before 10 Step



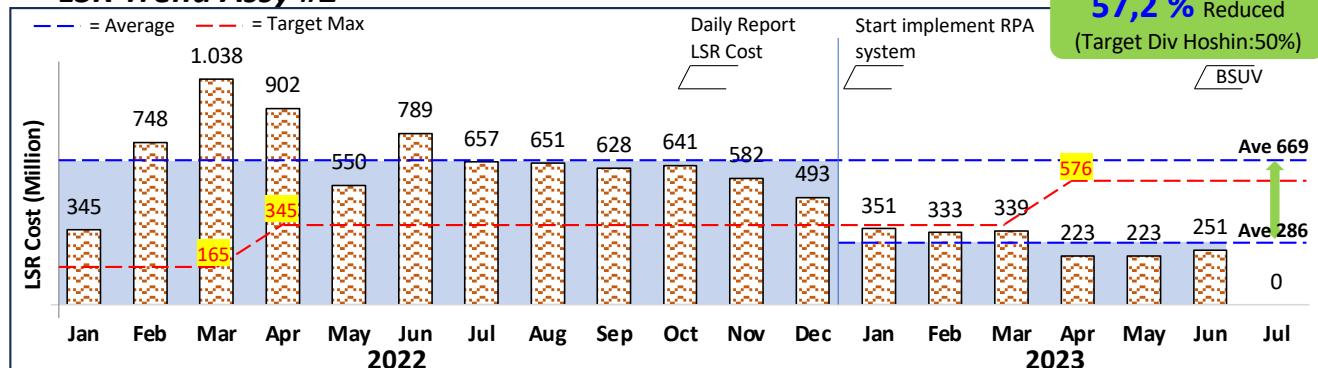
### • After 4 Step





# COST & BENEFIT

## • LSR Trend Assy #2



## COST IMPROVEMENT

- 1 TM Trainning = Rp 5.500.000,00
- 2 Tool Investment (Laptop) = Rp 13.500.000,00
- 3 Energy Consumption  
= kWh X Basic Fee X 12 Month  
= 57.6 x Rp 996,74 X 12 Month  
= Rp 688.946,70 / Year

## Total Improvement Cost

= TM Trainning + Tool + Energy Consumption  
= Rp 5.500.000,00+Rp 13.500.000,00+Rp 688.946,70  
**Rp 19.688.946,70 / year (19,6 Million)**

## BENEFIT IMPROVEMENT

### • HR

Skill : LEVEL UP MP automation skill (3 MP)

### • Productivity

Manual Report by TM SQPC

Σ Report / Month	MH / Report	Total TM	Total MH / Month
22 Records	2,5 Hours	1 TM	55 Hours

### Total MH Reduction

= Manual Report by TM SQPC

= 55 MH x 12 Month

**= 660 MH / Year**



*let's go beyond!*

### • Cost Saving

#### ① MH Reduction

= 55 MH x Rp 97.101,00 x 12 Month

**Rp 64.086,660,00 / years**

#### ② LSR Cost Reduction

= (Ave 2022 - Ave 2023) x 12 Month

= (Rp 668.958.661,25-Rp 286.340.292,58) x 12 Month

= Rp 382.618.368,66 x 12 Month

**Rp 4.591.420.424,00 / years**

### Total Cost Saving

= MH Reduction + LSR Cost Reduction – Improvement Cost

= Rp 64.086.660,00 + Rp 4.591.420.424,00 - Rp 19.688.946,70

**Rp 4.635.818.137,70/ years (4,6 Billion)**

## Total Saving

**10 Yaris Cross HEV /years**



With **New Approach!** Keep manufacturing basic competitiveness for **New Era & World Challenge !**

# Thanks You

\*Logistic Assy #2



\*Project Assy #2

