

Company Profile

PT. Tekno Digital Nusantara (TeknoVerse)

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"simply innovation that it is"

PT Tekno Digital Nusantara

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About TeknoVerse

Saat ini dunia telah memasuki era baru dimana aktifitas digital sudah tidak dapat dilepaskan dari aktivitas sehari-hari.

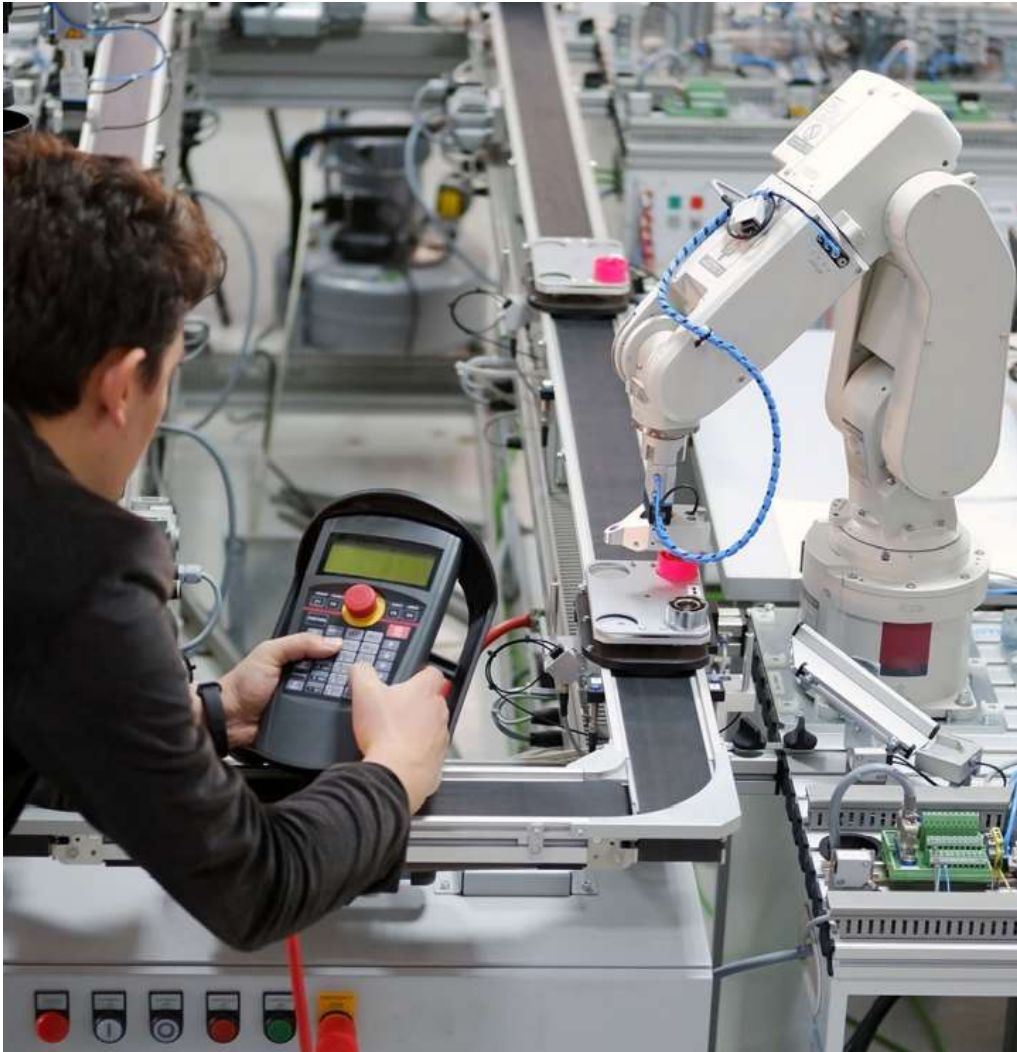
Pada sektor industri, digitalisasi menjadi sebuah keharusan agar proses manufaktur dapat lebih efisien sehingga mampu mencapai level kompetisi yang diharapkan.

Banyak perusahaan masih mengalami keterlambatan dalam transformasi digital, hal ini disebabkan oleh faktor SDM yang belum siap, fasilitas produksi yang belum dimanfaatkan secara optimal dan belum terhubung dengan perangkat IOT.

TeknoVerse adalah perusahaan start up yang dibangun untuk bekerja sama dengan industri dalam mewujudkan transformasi digital di sektor industri menjadi lebih maksimal.

Selamat datang di dunia digital TeknoVerse.





Visi dan Misi TeknoVerse

Visi :

Menjadi perusahaan integrator IT, OT dan OM yang terbaik dan terpercaya di kawasan Asia Pasifik.

Misi :

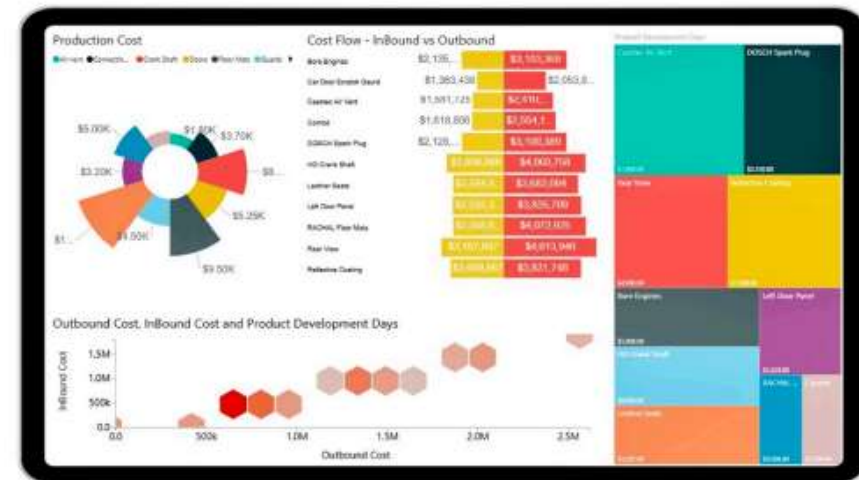
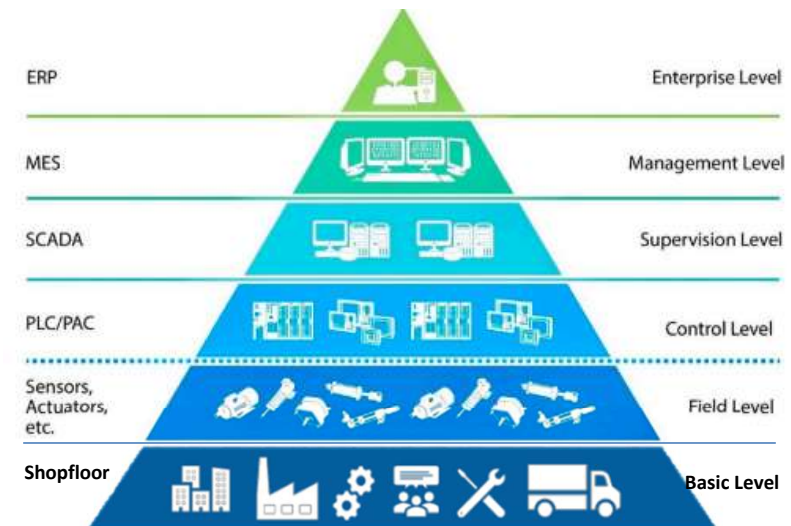
1. Mempercepat proses transformasi digital pada dunia industri manufaktur.
2. Memberikan edukasi kepada pelanggan pada bidang transformasi digital.
3. Mempersiapkan team yang handal dan berintegritas.
4. Selalu menggunakan teknologi yang terbaik dan terdepan.

Layanan TeknoVerse

TeknoVerse dapat membantu industri untuk dapat melakukan proses transformasi digital dibidang industri manufaktur sehingga lebih efisien dan kompetitif.

Interkoneksi dan integrasi dari field level sampai dengan enterprise level dapat saling terhubung satu sama lain sehingga terciptakan ekosistem supply chain yang lengkap.

TeknoVerse berpengalaman dalam hal melakukan proses integrasi suply chain secara digital (e-kanban) dan mengintegrasikan dengan sistem ERP yang sudah ada, e-Warehouse, Digital Maintenance Support dan Quality System. Keseluruhan sistem tersebut dapat diintegrasikan ke dalam dashboard sehingga pelanggan dapat melakukan monitoring proses manufaktur secara real time.



OM Preparation before Adopt Industry 4.0 Technology

Goal of Operation Management

1. Highest Quality

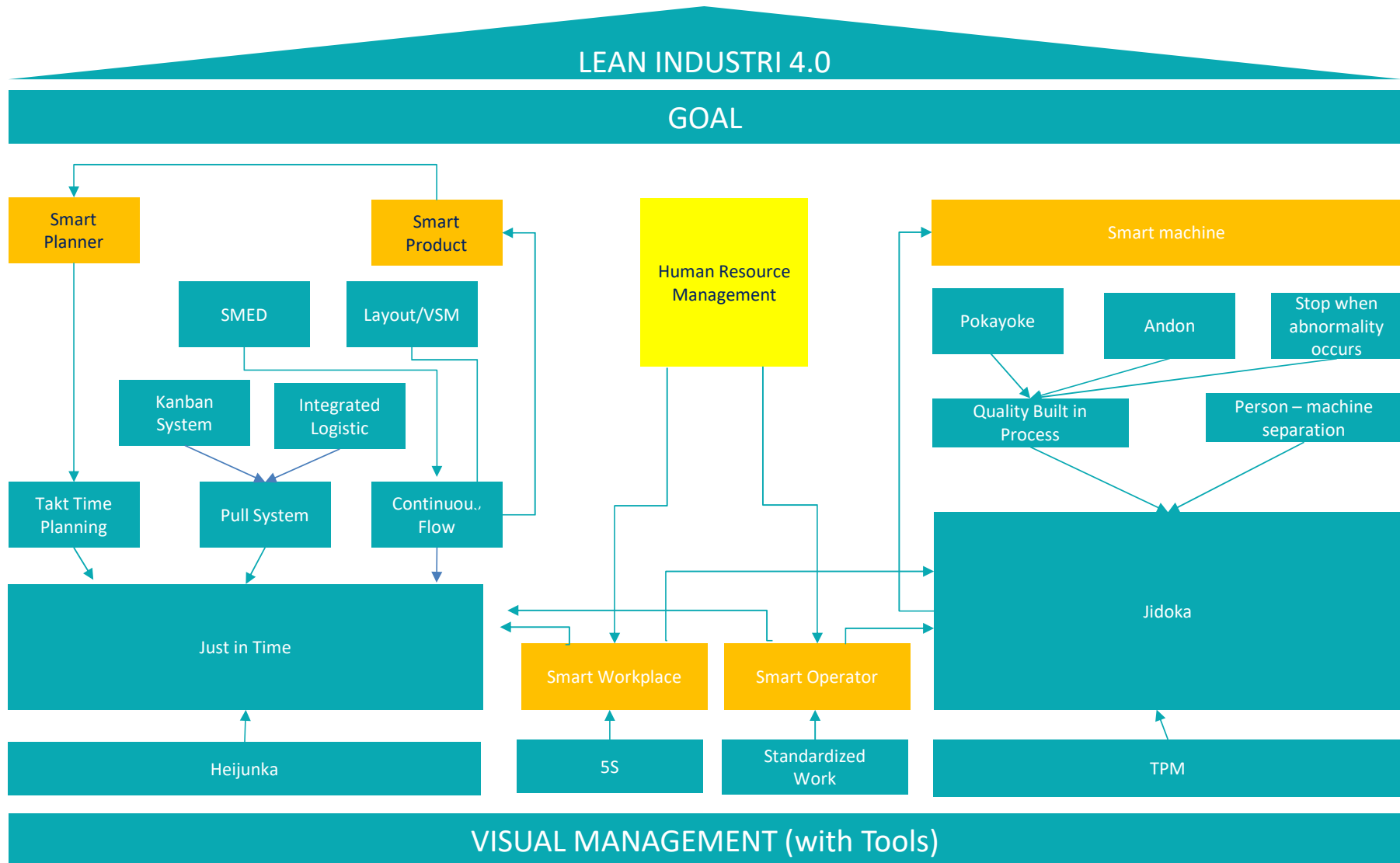


2. Lowest Cost and

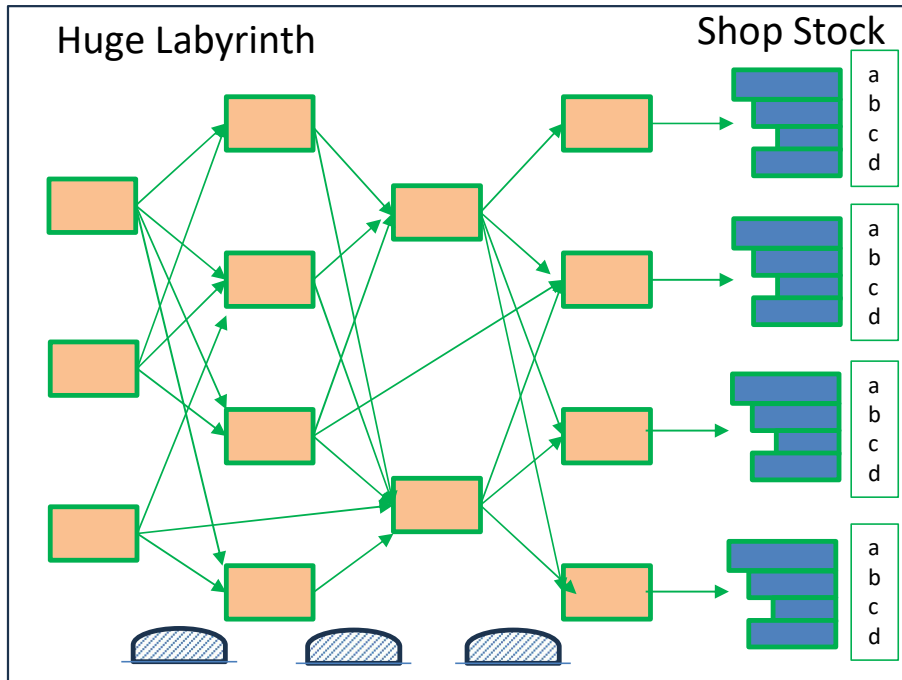


3. Shortest Lead Time



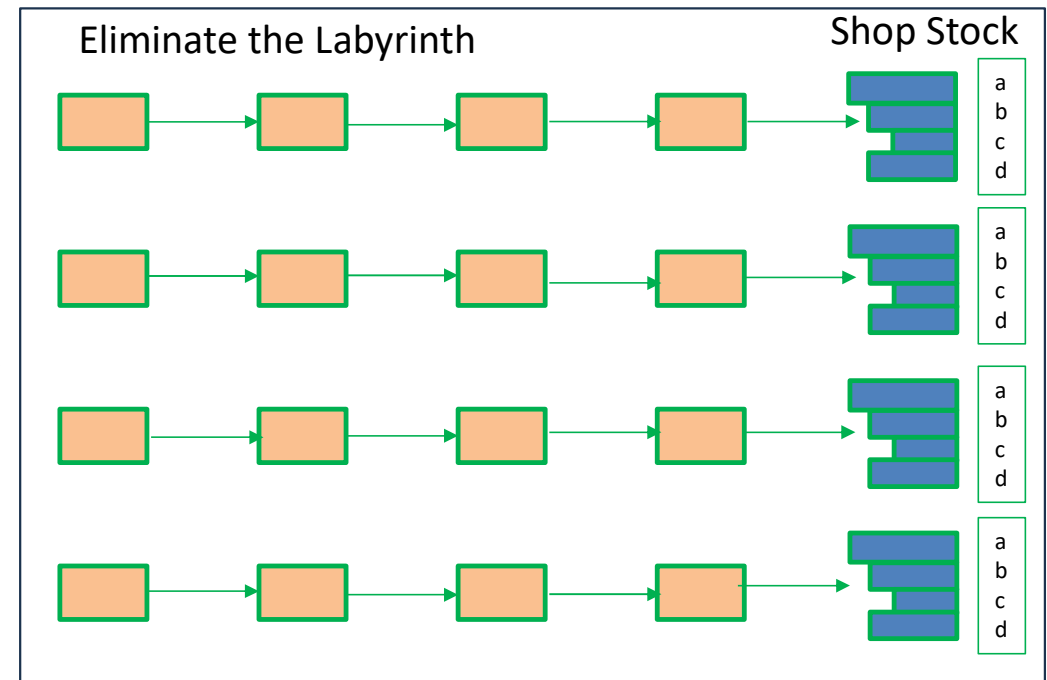


To achieve the goals of Lean Industry 4.0, one way is to create a supportive shop layout



Much stagnation due to many splits & merging

Difficult to tell when finished products will come out of the line after the first production instruction



1. Make smooth flow by using inexpensive equipment
2. It is important to create a work site where the flow of material can be easily followed

What needs to be considered when producing goods one by one is:

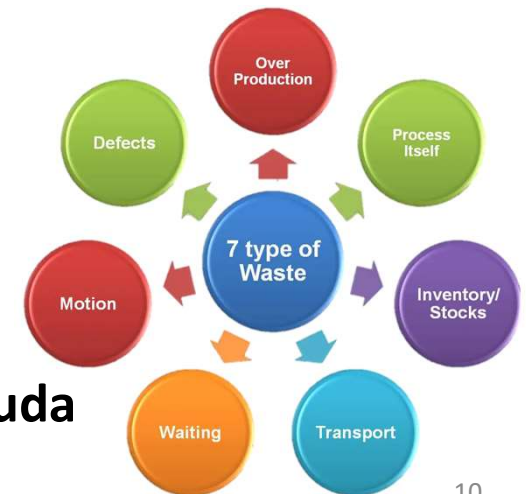
1. No Stagnation



2. Guarantees Quality



3. Reduce Muda

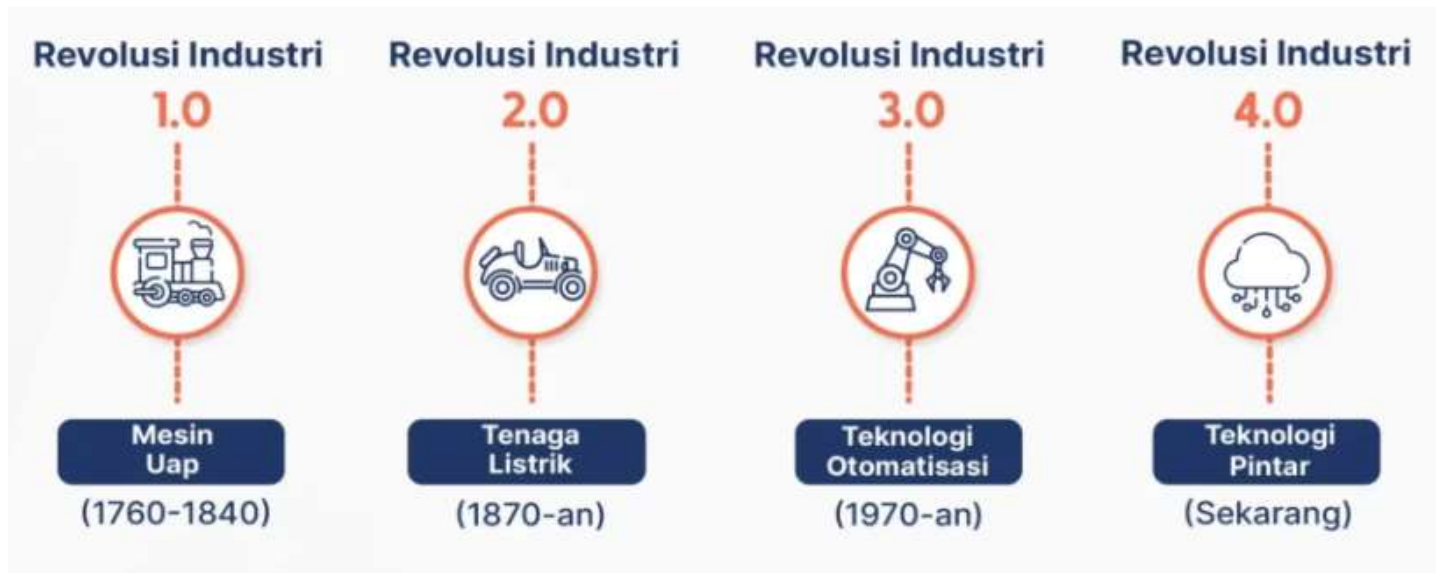


Summary

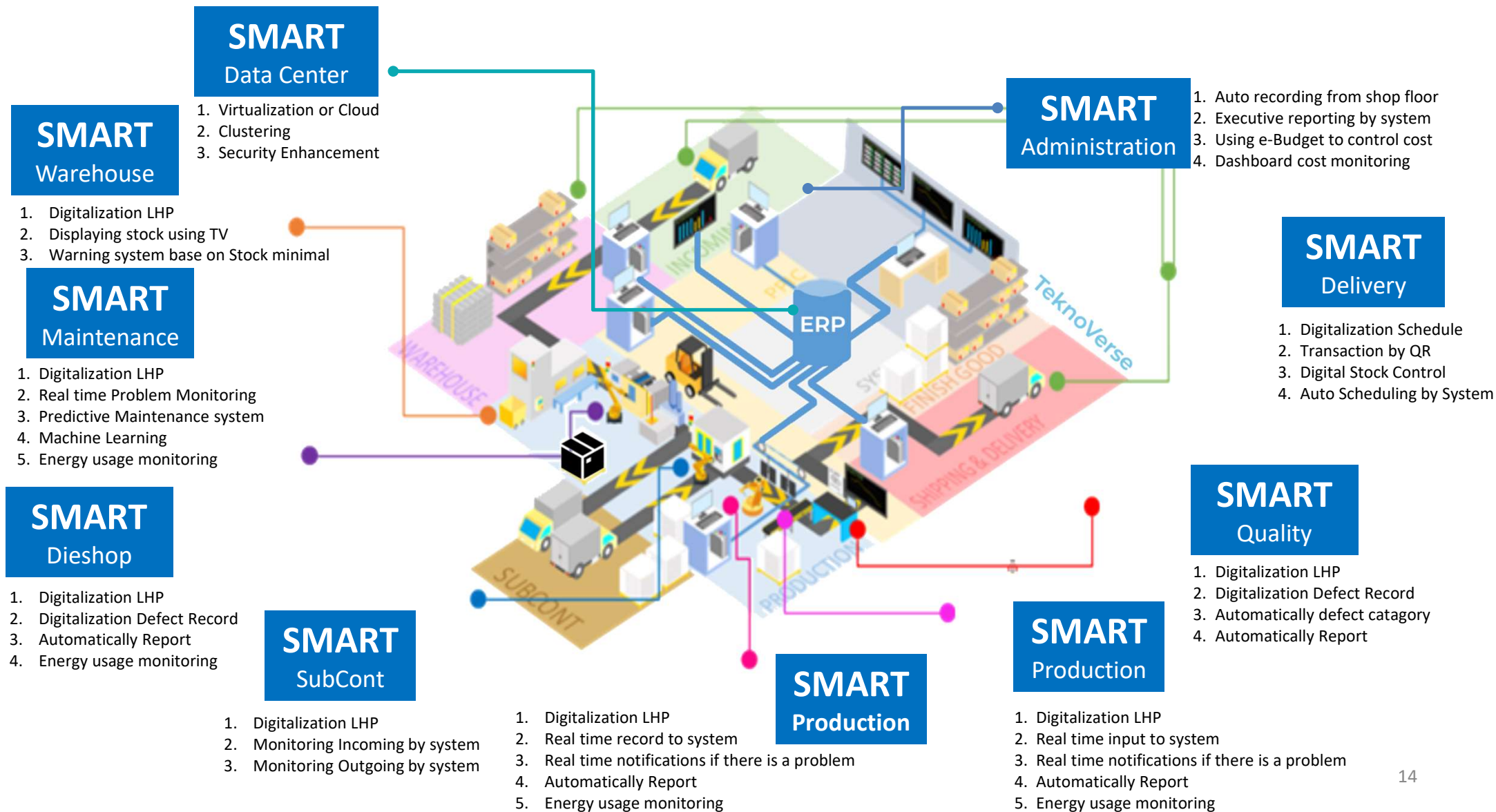
1. Create smooth flow
2. Allocate process according to production sequence
3. One-piece-at-a-time Production

Digital Transformation to Adopt Industry 4.0 Technology

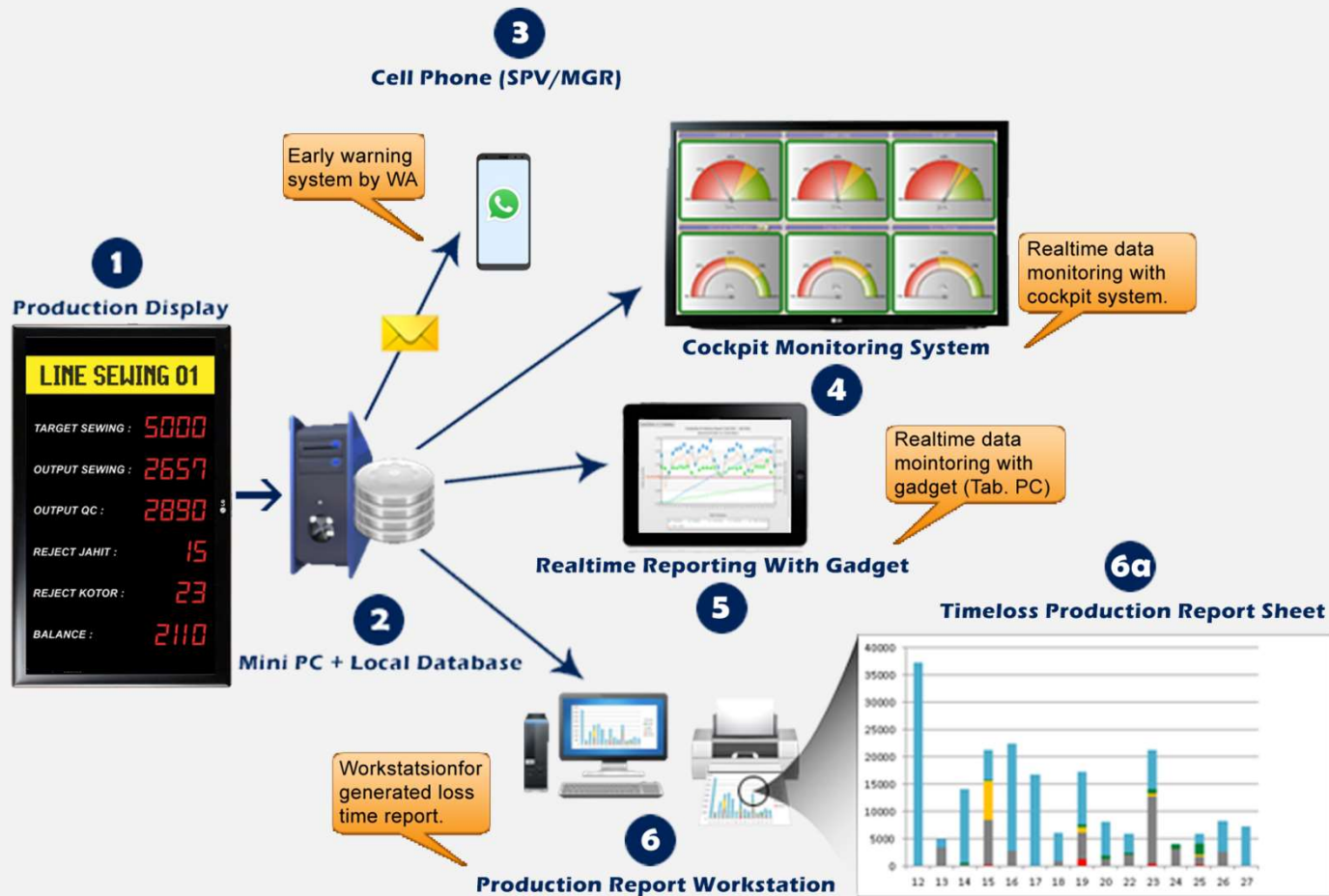
History of The Industrial Revolution



Smart Factory Ecosystem (Future Development)



Production System Integration

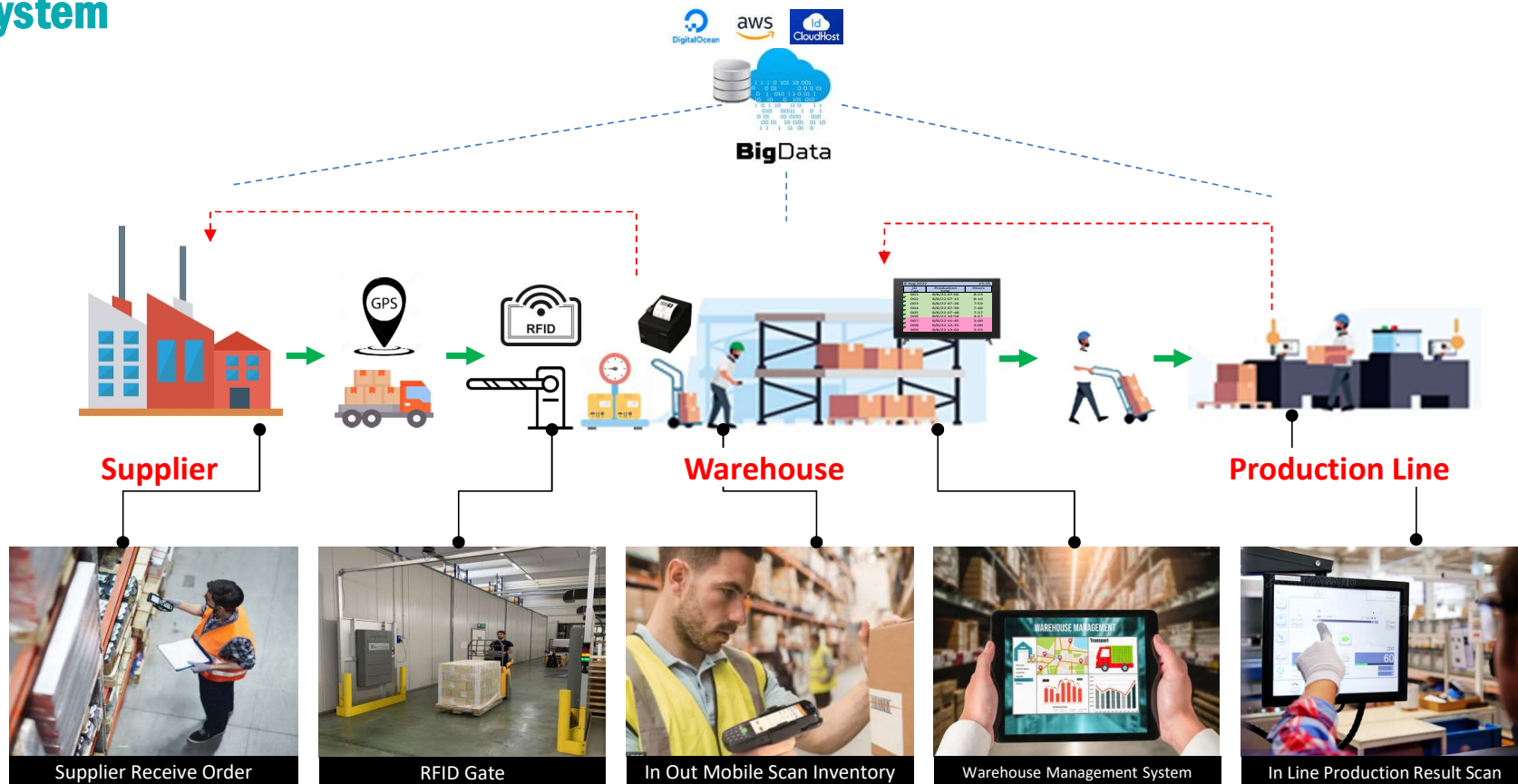


Contoh Ekosistem digital pada sebuah proses manufaktur.

Pada shopfloor terdapat sebuah display pencatatan hasil produksi yang telah terintegrasi dengan sistem IT sehingga dapat dimonitor secara realtime pada dashboard.

Disamping itu terdapat sebuah sistem yang terintegrasi dengan Whatsapp sehingga apabila terdapat sebuah abnormality maka akan terdapat sebuah warning notifikasi melalui pesan whatsapp secara realtime.

Logistic System



Sistem logistik merupakan salah satu sistem yang terpenting dalam bidang manufaktur, pencatatan inventory secara sistem akan memudahkan untuk melakukan kontrol inventori secara real time sehingga proses rantai pasok dapat berjalan dengan lancar dan efisien. Dengan teknologi mobile scanner maka akan memudahkan operator untuk melakukan proses penerimaan dan pengeluaran barang secara lebih mobile yang nantinya akan dapat mengenerate order secara otomatis ke supplier sehingga mekanisme rantai pasok dalam berjalan secara otomatis.

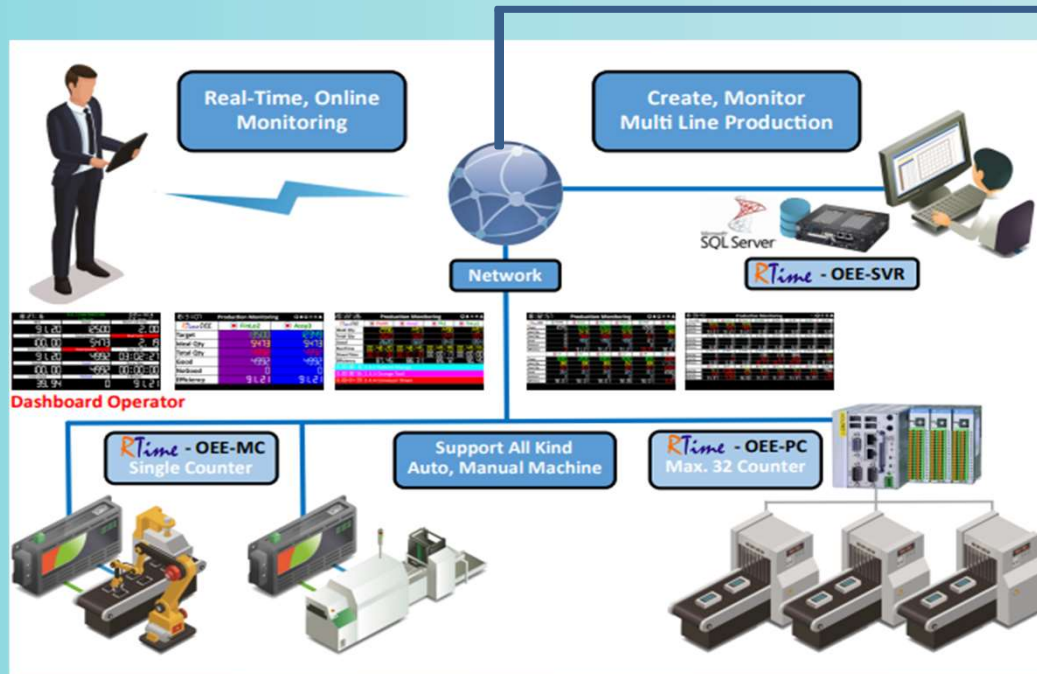
Business Intelligence Dashboard



Setelah proses bertransformasi menjadi digital maka sistem akan menghasilkan banyak data yang harus diolah agar perusahaan mendapatkan manfaat, untuk itu diperlukan dashboard agar dapat melakukan analisa terhadap masalah yang ada sehingga tidak terjadi kesalahan yang sama di kemudian hari.

Production Performance uses IoT to control “Overall Equipment Effectiveness (OEE)” and MTC Issue

Alert system by WA



WA Gateway with feature :

1. Machine/Dies Down time → Info by WA to MTE
2. Downtime over 30 minute → Info by WA to SPV Line
3. Downtime over 1 hour → Info by WA to Mgr in charge
4. Downtime over 1 hour 30 minute → Info by WA to GM in charge

Next Step :

TPM implementation
TPM is Total Productive Maintenance

OVERALL EQUIPMENT EFFECTIVENESS



2024-02-03 20:02:23

Line Cutting 01
Operator : 0296/Ajie S

PartNo : XXXX-XXXX PartName : XXX XXX XXX XXX

Target	14,000
Plan base on CT	3,450
Actual	3,100
Balance	350
Archive	90%

Loss time (minute)	
Dandori	30
Quality	70
Material	80
MP	30
Machine	90

2024-02-03 20:02:24

Line Cutting 01
Operator : 0296/Ajie S

PartNo : XXXX-XXXX PartName : XXX XXX XXX XXX

Target	14,000
Plan base on CT	3,450
Actual	3,100
Balance	350
Archive	90%

Loss time (minute)	
Dandori	30
Quality	70
Material	80
MP	30
Machine	90

2024-02-03 20:02:25

Line Cutting 01
Operator : 0296/Ajie S

PartNo : XXXX-XXXX PartName : XXX XXX XXX XXX

Target	14,000
Plan base on CT	3,450
Actual	3,100
Balance	350
Archive	90%

Loss time (minute)	
Dandori	30
Quality	70
Material	80
MP	30
Machine	90

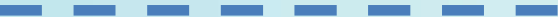
2024-02-03 20:02:23

Line Cutting 01
Operator : 0296/Ajie S

PartNo : XXXX-XXXX PartName : XXX XXX XXX XXX

Target	14,000
Plan base on CT	3,450
Actual	3,100
Balance	350
Archive	90%

Loss time (minute)	
Dandori	30
Quality	70
Material	80
MP	30
Machine	90



Production Performance uses IoT to control “Overall Equipment Effectiveness (OEE)”

Background :

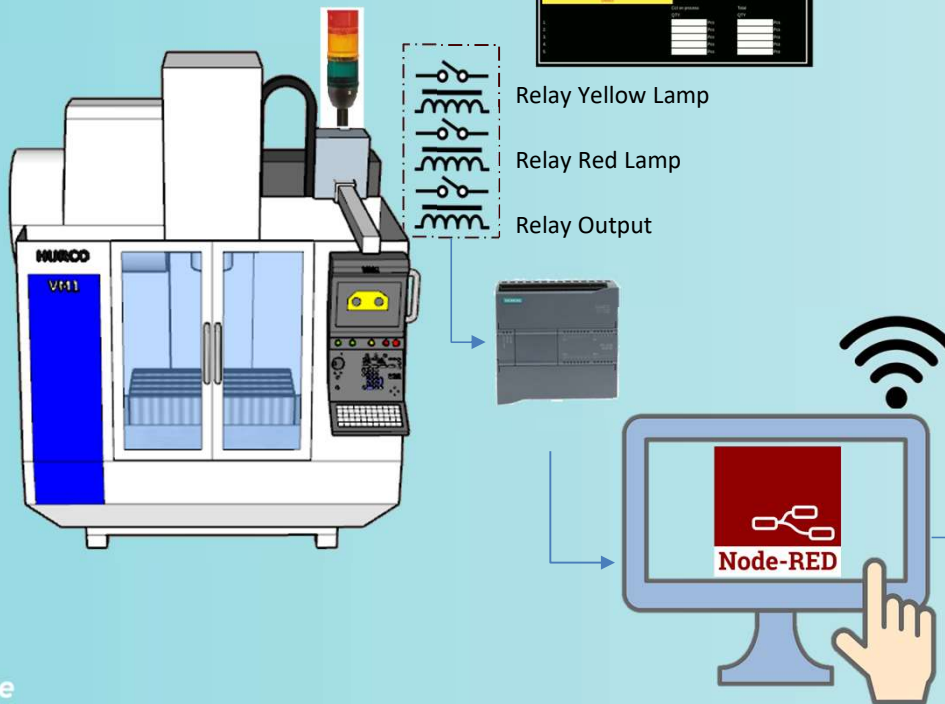
- Line Performance Calculation by Manual
- Line performance is not real-time
- Input Production result by manual

Target :

- Line Performance calculations and displayed in real time
- Production input to ERP is real-time
- The OEE performance displayed is real-time

Implementation target :

1. Cutting line
2. 4500T, 2000T and 2500T line



Detail Explanation
of OEE

 2024-02-03 20:02:25	
Line Cutting 01	
Operator : 0296/Ajie S	
PartNo : XXXX-XXXX PartName : XXX XXX XXX XXX	
Target	14,000
Plan base on CT	3,450
Actual	3,100
Balance	350
Archieve	90%
Loss time (minute)	
Dandori	30
Quality	70
Material	80
MP	30
Machine	90

OVERALL EQUIPMENT EFFECTIVENESS



Overall Equipment Effectiveness

GROUP

Cutting

LINE

Cutting

MACHINE

Mesin 01

DATE

12-01-2024

SHIFT

1

STATUS

RUNNING

Target

Plan

Actual

Balance

1200

386

380

6

Run Time

Stop Time

Good Units

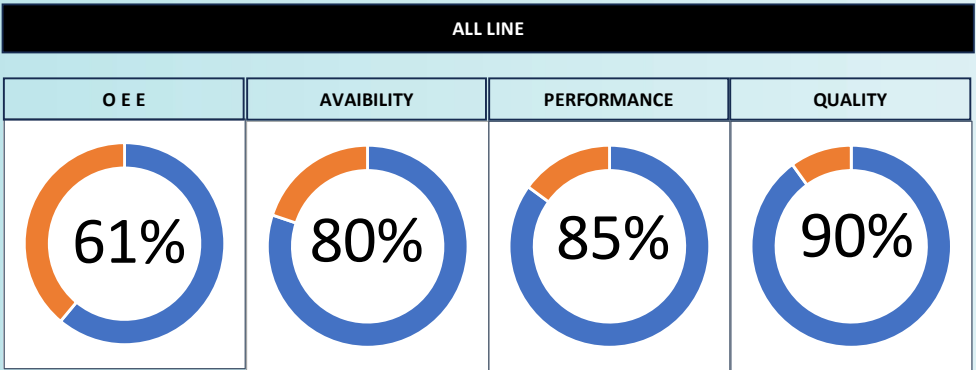
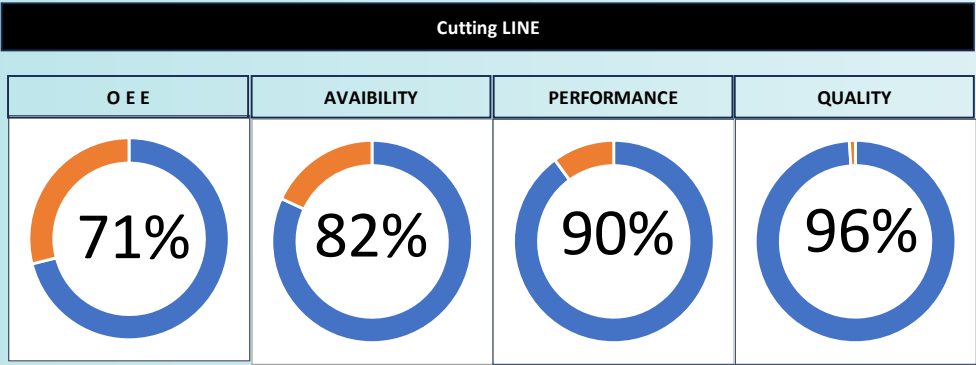
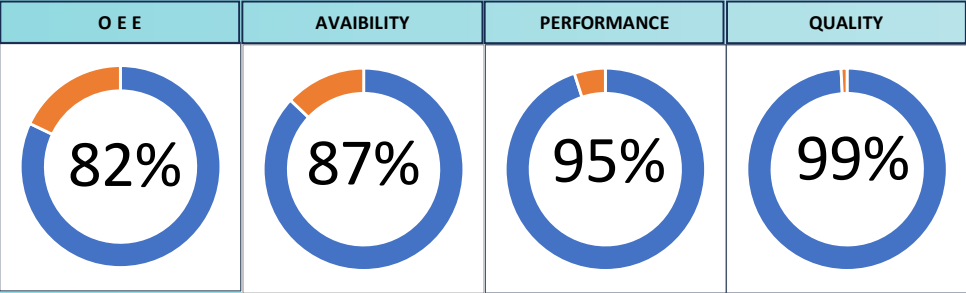
Rejected Unit

240

18

370

10

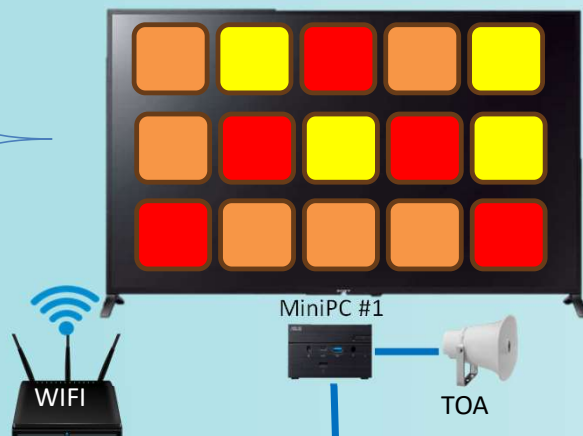


ANDON Calling System

Mesin #1

Problem :
Progress :
Start : 01/15/2024, 08:10:22
Current Duration : 00:03:23
Total Duration : 04:03:23

Mesin
Onsite



TV #5
Hub Switch



PC Server with Database



TV
Prod. Admin

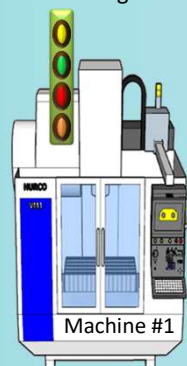
MiniPC



TV
Maintenance
Room

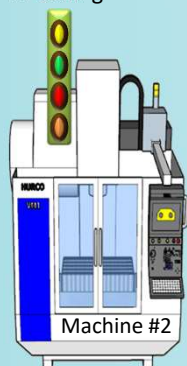
MiniPC

WIFI Calling Box



Machine #1

WIFI Calling Box

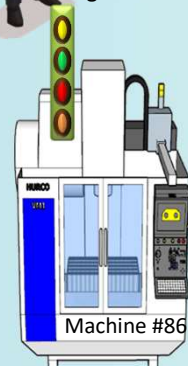


Machine #2



Android Device

WIFI Calling Box



Machine #86

Staff Room



Inventory Control by IoT especially FG and Delivery

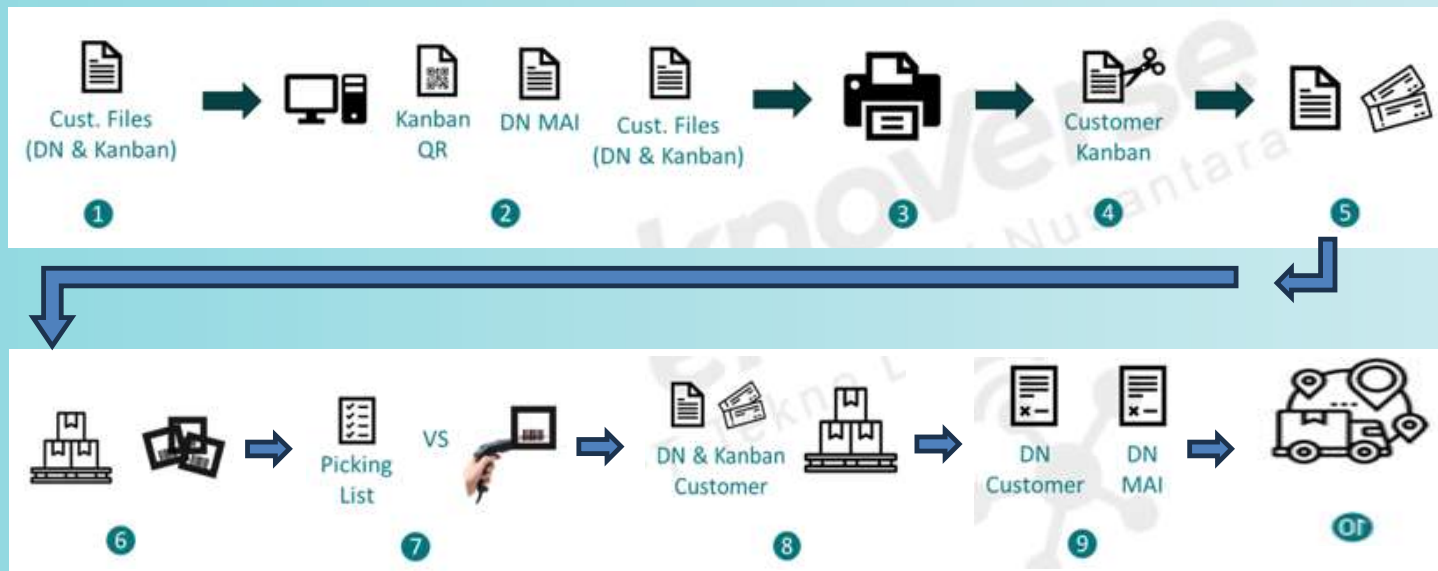
Background :

- Manually Control Delivery Schedules
- Customer Requests Control the delivery schedule based on the system.
- Difficult to prepare delivery schedules accurately
- Repeated manual checks to avoid delivery errors

Target :

- Control Delivery Schedules based on the system
- The Preparation and Delivery Schedule is displayed on TV
- Preparation of Delivery Activities is reduced
- All activities are displayed in real time

[Open the Completed Proposal](#)



NO.	CUSTOMER	PART TYPE	CVC.	QTY.	PROCESS								PLAN	ACTUAL
					DOWNLOAD	PREP PART	LABELING	CHECKING	ON FINISH	PLAN	ACTUAL	PLAN		
01	AAAAAAA	1#2@3A4a	01	250	08:00	09:00	10:00	11:00	12:00	13:15	13:00	13:15		
02	BBBBBBB	2B3#4\$B	01	200	08:15	08:30	09:30	10:00	11:30	13:45	13:30	13:45		
03	HHHHHHH	1H2@H3&Y	02	150	09:00	10:00	11:00	12:00	13:00	14:00	14:00	14:00		
04	EEEEEEE	5#E9E6*G	03	300	09:30	10:30	11:45	12:25	13:30	14:30	14:30	14:30		
05	DDDDDDD	4D3@115%	03	100	10:00	11:00	12:00	13:00	14:00	15:00	15:00	15:00		
06	CCCCCCC	C6#1&8C@	06	500	10:15	10:30	11:30	12:45	14:25	15:15	15:30	15:15		
07	WWWWWWW	1W3@2&98	06	250	11:00	12:00	12:45	13:30	14:45	15:45	16:00	15:45		
08	YYYYYYY	2Y3#7%#	04	150	13:00	14:30	15:23	16:00	16:30	17:00	17:00	17:00		
09	ZZZZZZZ	3Z2@5\$8#	05	450	14:00	14:30	15:00	15:45	16:30	17:00	17:00	17:00		
10	XXXXXXX	X213#4@9	02	350	14:45	15:25	16:00	16:45	17:30	18:30	17:30	18:30		

NO.	CUSTOMER	PART TYPE	CVC.	DOCK	VENDOR	PREPARATION		DELIVERY			RES.
						PLAN	ACTUAL	PLAN	ACTUAL IN	ACTUAL OUT	
01	AAAAAAA	1#2@3A4a	01	1H	SGL	13:00	13:15	14:00	13:25	13:55	OK
02	BBBBBBB	2B3#4\$B	01	1H	SGL	13:30	13:45	15:00	14:35	15:05	NG
03	HHHHHHH	1H2@H3&Y	02	1H	SGL	14:00	14:00	16:00	15:50	16:00	NG
04	EEEEEEE	5#E9E6*G	03	1H	SGL	14:30	14:30	17:00	16:50	17:20	NG
05	DDDDDDD	4D3@115%	03	1H	FED	15:00	15:00	18:00	17:40	18:00	OK
06	CCCCCCC	C6#1&8C@	06	1H	UPS	15:30	15:15	19:00	18:45	19:00	OK
07	WWWWWWW	1W3@2&98	06	1H	DHL	16:00	15:45	20:00	19:30	19:45	OK
08	YYYYYYY	2Y3#7%#	04	1H	ASSA	16:30	16:30	21:00	20:28	20:58	OK
09	ZZZZZZZ	3Z2@5\$8#	05	1H	FGTS	17:00	17:00	22:00	21:35	22:05	NG
10	XXXXXXX	X213#4@9	02	1H	YSHL	17:30	18:30	23:00	22:30	23:00	OK

Die Making Schedule and control by system

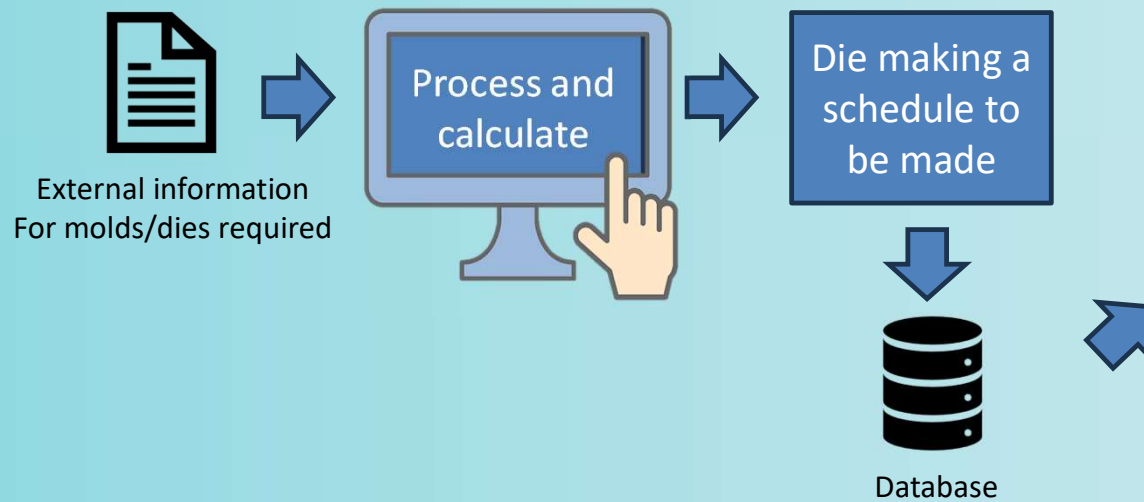
Background :

It is difficult to control the manufacture of customized dies according to marketing orders with the lifetime of the dies

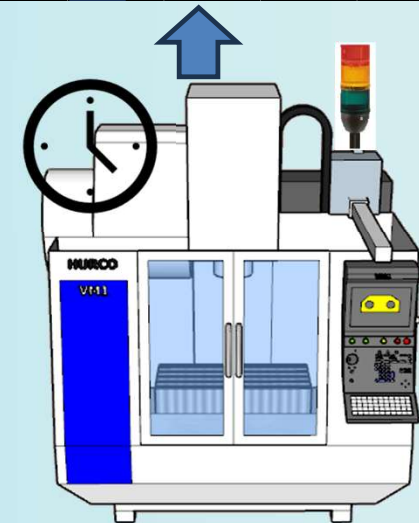
Target :

Using a system for controlling production and stock of dies

Concept

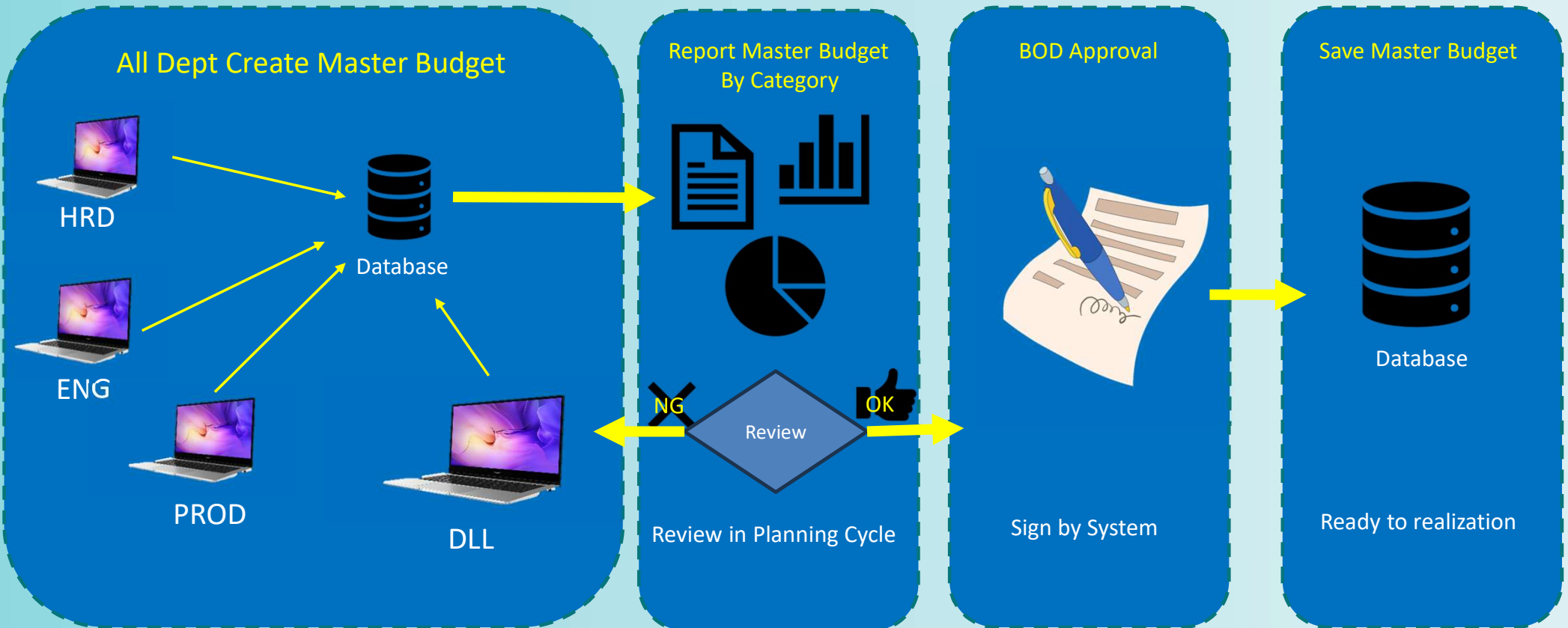


Dies Making Schedule						
Part No	Part Name	Duration	Mach.No	07-Sep	08-Sep	09-Sep
AAAAA	Dies AAAAAA	20 H	No. 1	■		
BBBBB	Dies BBBBBB	10 H	No. 3	■		
CCCCC	Dies CCCCC	8 H	No. 4	■		
DDDDD	Dies DDDDD	4 H	No. 2	■		
EEEE	Dies EEEEE	24 H	No.1		■	
FFFFF	Dies FFFFF	20 H	No.4		■	
GGGGG	Dies GGGGG	10 H	No. 5	■		
HHHHH	Dies HHHHH	8 H	No. 3	■		
Plan				■		
Actual				■		



E-BUDGET

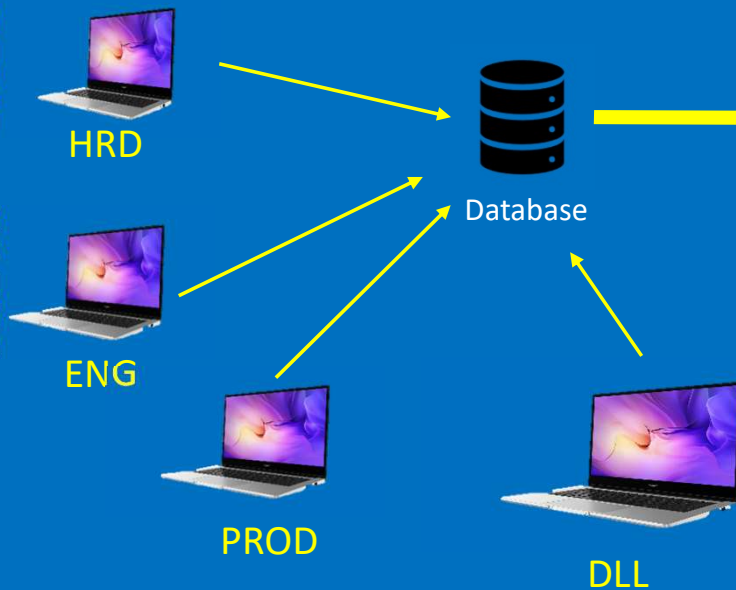
Master Budget



E-BUDGET

Budget Realization

All Dept use budget by activity plan



Budget Control



Budget Check

1. Budget OK
2. Budget Over
3. Unbudget

Tiered Approval

1. Supervisor Approval
2. Dept Head Approval
3. Div Head Approval
4. BOD Approval



Budget Realization



Database

Go to Purchase Request Creation



System Notification by WA

- Approval
- Decline
- Over Budget
- Over due Bbudget
- dll

Electrical Monitoring



Power Meter at Machine



Power Meter at Machine



Power Meter at Electrical Room



Server



Computer Staff

1. Real-time consumption monitor
2. Data collecting and reporting
3. Convert Consumption to currency
4. Analyze consumption trends
5. Alert and Notifications

Application of Electricity Monitor



Electrical Room



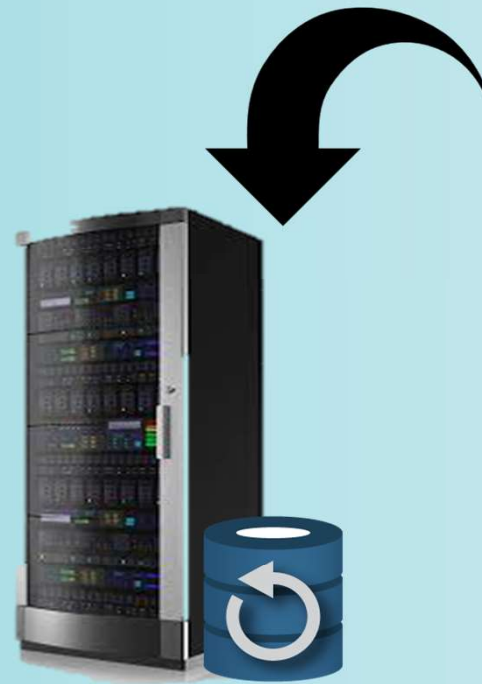
Machine



Computer to monitor electricity

Artificial intelligence

Artificial intelligence to obtain company information using "Whatsapp Chat"



Server



currently being researched



Client TeknoVerse



Scope Teknoverse



IT Infrastructure (Servers & Networks)



Cloud Service (VPS, Microsoft365, Mail & Web)



SAP / ERP SYSTEM Consultant



Software Development, Integration & IoT



PT Tekno Digital Nusantara