



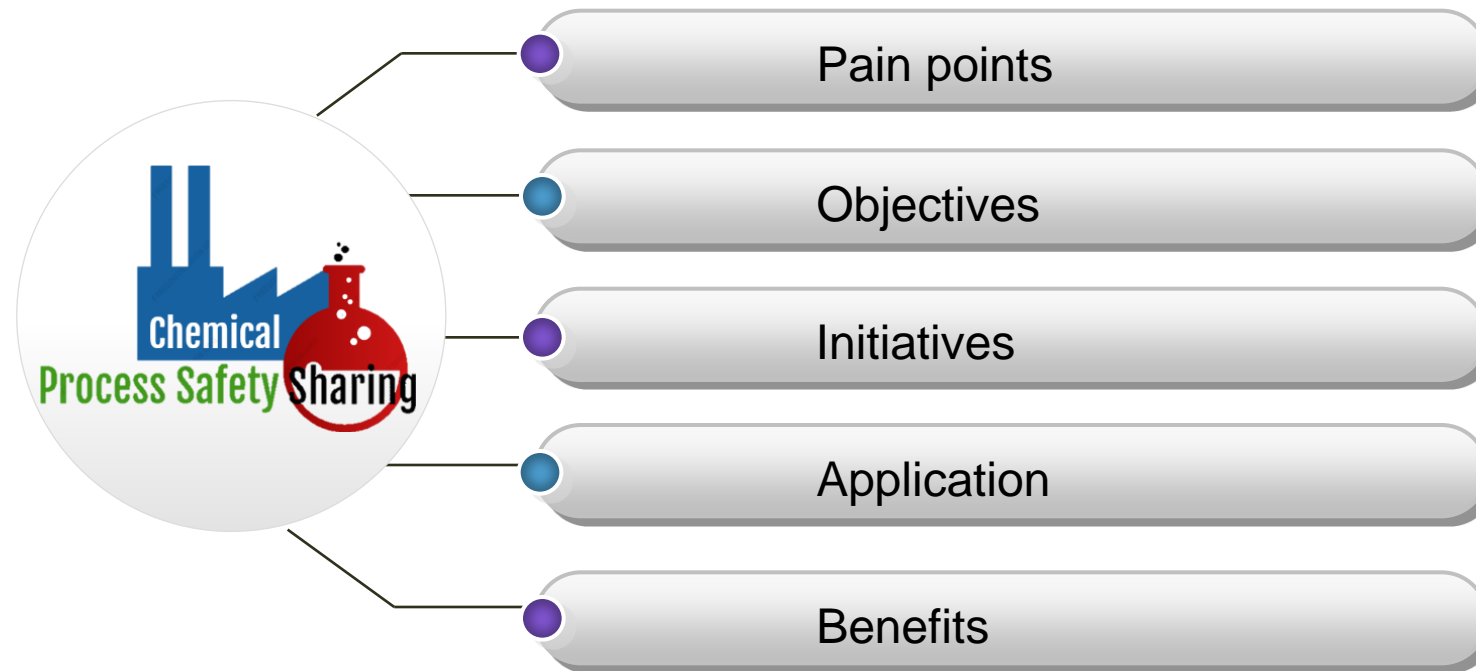
15th Chemical Process Safety Sharing (CPSS)

Smart Digital Inspection Test Plan

Presenter Name: K. Theerayut Phonrut
E-mail: theerayut.p@irpc.co.th
Company : IRPC



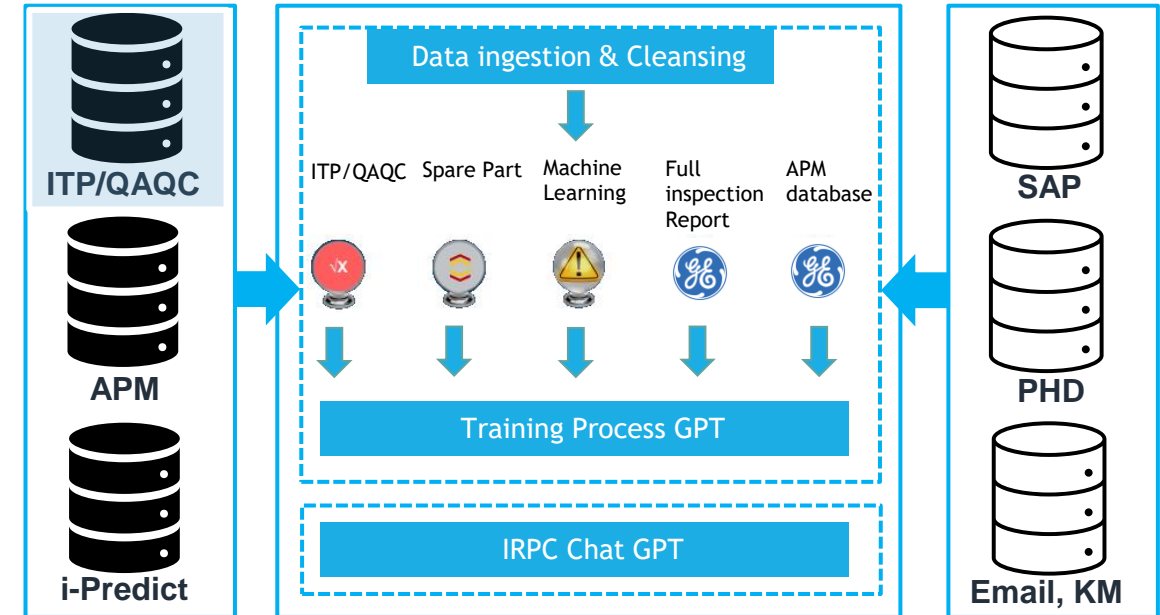
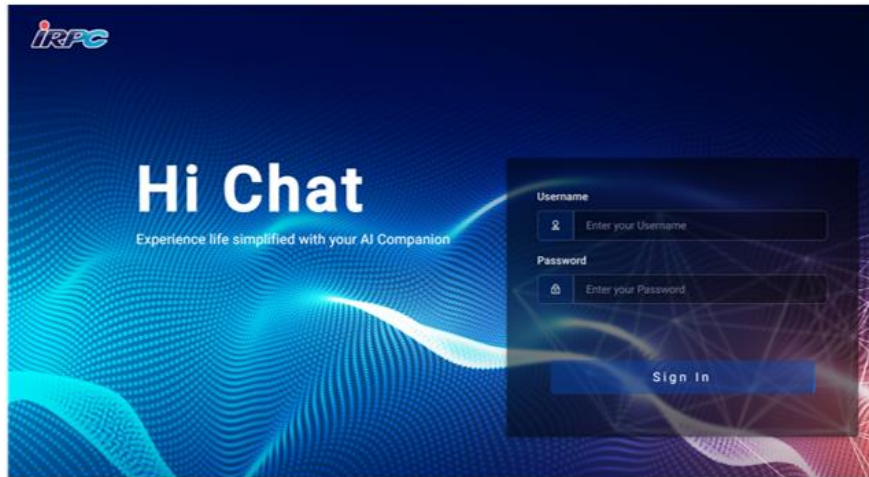
Contents



Pain points

Business problem/ pain points

- Accessing maintenance reports and repair recommendations is complex and time-consuming.
- Historical data must be manually analyzed and compared current data, increasing the risk of errors.
- There is a lack of efficient tools and systems for data processing and analysis.



Maintenance Generative AI



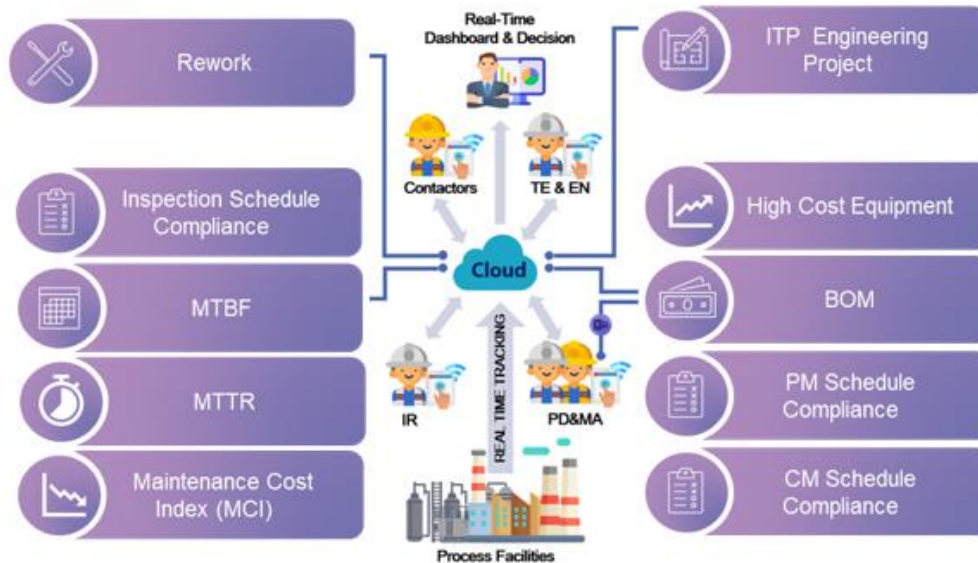
Objectives

- Improve the efficiency of accessing maintenance reports and repair recommendations.
- Accurately identify historical damage using data recognition technology.
- Implement ChatGPT technology to support data processing, analysis, and decision-making.



We can achieve ambitious target to be “Digital Leader” by 4D

- D1 : Digital Mindset
- D2 : Digital Process
- D3 : Digital Organization
- D4 : Do Things Together





2024

1. Assessment/Awareness/Soft side
2. Review QAQC/ITP Maintenance and Engineering
3. Assessment QAQC/ITP Manual Form
4. Development Competency

2026

1. Assessment/Awareness/Soft side
2. All Equipment Digital Form
3. Development Competency

2028

Maintain for Sustainable.



Goal

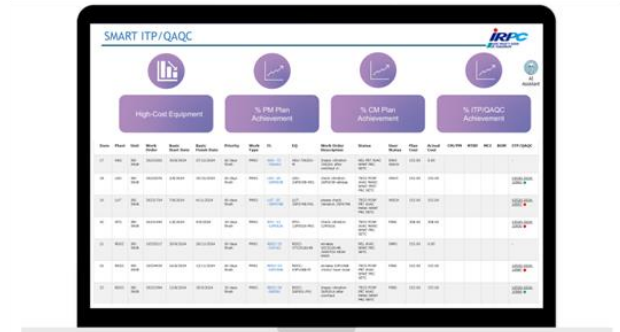
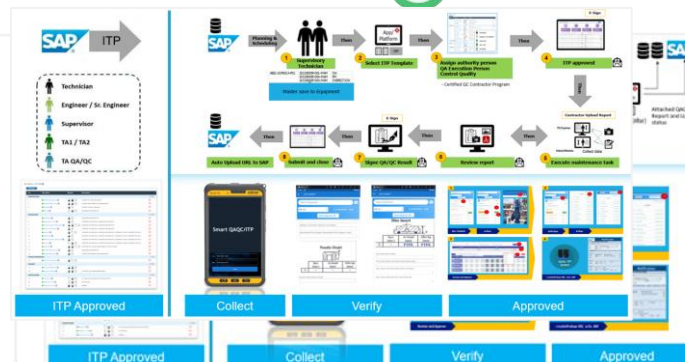
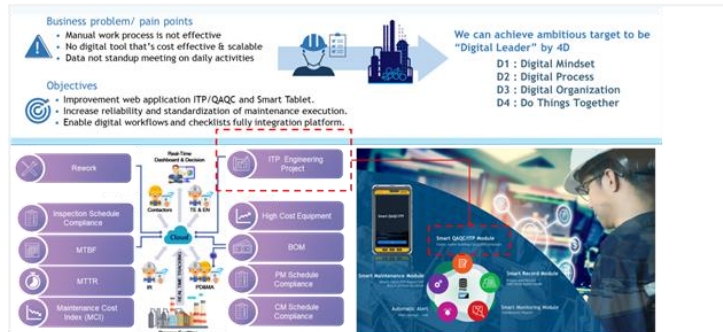
Safety
Increase Reliability Availability
Reduce Maintenance Cost

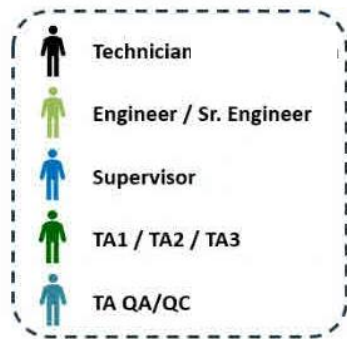
2025

1. Continue Assessment/Awareness/Soft Skills
2. Digitization for Critical Equipment Forms
3. Assessment(Manual/Digital Form)
4. Competency Development
5. Certified QC Contractor Program

2027

- Full Digital Form
- E-FORM Application
- Turnaround 2027





ITP Approved

No.	Task Name	Monitor	Description	Status
1	Preparation work	103320000F-001-MAM	103320000F-001-MAM	OK
2	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
3	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
4	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
5	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
6	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
7	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
8	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
9	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
10	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
11	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
12	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
13	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
14	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
15	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
16	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
17	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
18	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
19	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
20	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK
21	103320000F-001-MAM	103320000F-001-MAM	103320000F-001-MAM	OK

ITP Approved



Planning & Scheduling



1 Supervisory Technician

ABS1-01P001-A-P01 103320000F-001-MAM OH
103320000F-004-MAM PM
103320000F-003-MAM INSPECTION

Master save to Equipment

Then



2 Select ITP Template

Then



3 Assign authority person
QA Execution Person
Control Quality

- Certified QC Contractor Program

Then



4 ITP approved



Contractor Upload Report



5 Execute maintenance task

Then



6 Review report

Then



7 Signe QA/QC Result

Then



8 Submit and close



Auto Upload URL to SAP



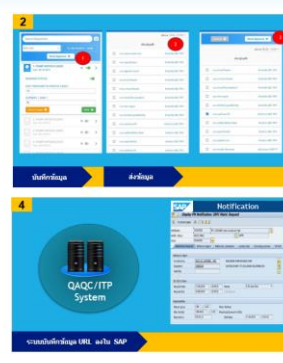
Collect



Verify



Approved





Task Data

No.	Task Name	Procedure / Contractor Specification requirement	Acceptance Criteria	Member	Start Date	Due Date	QC Supervisor	PD	ME	MM	TA	QA Personnel	Report / Document Reference
Preparation Work (Preparation Work Phase)													
1	Scaffolding (ถ้ามี)	ระบียบการใช้งานมีง่าน	ลวดคล้องตามกฎหมาย		07/02/2025	09/02/2025	x					H:	S10333400-3001 Rev.1
2	Lifting plan (ถ้ามี)	การรับกับง่านของชนิดเกสื่องใช้	ลวดคล้องตามกฎหมาย		09/02/2025	13/02/2025	x					H:	S10333400-1002 Rev.1
3	Special tool	ระบียบการใช้งาน	ลวดคล้องตามกฎหมาย		12/02/2025	13/02/2025	x					H:	
Execution Work (Work on Site)													
5	Cleaning Parts	ระบียบการใช้งานมีง่าน	tolerance >0.5 && <1.00		07/02/2025	09/02/2025	x					H:	

Procedure / Contractor Specification requirement *

IEC Standard 60076

Acceptance Criteria *

Value



Picture

Bearing Crush As found	Value	Min	Max
Journal End Bearing:	1		
Journal End Bearing:	2		
Journal End Bearing:	3		

Activity by					
Contractor/IRPC	IRPC				
QC Supervisor	PD	ME	MM	TA	QA Personnel
H					

ITP/QAQC Management

Contractor

เลือก

นาย เสงี่ยม อ่ำพันธุ์ 00000210

นาย สมบูรณ์ สาธิต 00000241

นาย สมบูรณ์ ยะวงศ์ 00000309

นาย อัครพงศ์ แสนโสม 00000315

Add Member

W/O	Description	Remove plan	Install plan	Bearing	State
22761939	Overhaul Motor AB-4Y4702 (Vibration R.)	17/2/2025	19/2/2025	Reserve store IRPC	Finished (saIRI saConfirm vibration)
22761944	Overhaul Motor CLD2-P6201 (Vibration R.)	17/2/2025	21/2/2025	Reserve store IRPC	Finished (saIRI saConfirm vibration)
22763566	Overhaul Motor BDE-P6702R (Vibration R.)	17/2/2025	21/2/2025	Reserve store IRPC	Finished (saIRI saConfirm vibration)
22763043	Overhaul Motor BDE-P6908 (Vibration R.)		18/2/2025	Reserve store IRPC	Vibration report : NORMAL



Waiting Holding Point Alert

Authority Person Control Quality

Certified QC Contractor Program



SMART ITP/QAQC - PS



High-Cost Equipment

Object Type	eq	Category	ABCS	Total Cost (฿)
MOTOR	PS-00A001A-M01	E	B	1,280,845.00
FLOW	PS-FT11102	I	B	277,487.50
PUMP	PS-04P001C-P01	M	B	233,573.41
BLOWER&FAN	PS-23K001B-K01	M	B	171,378.00
BLOWER&FAN	PS-26K001A-K01	M	A	122,588.34

100%

90%

80%



AI Assistant

Item	Plant	Unit	Work Order	Basic Start Date	Basic Finish Date	Priority	Work Type	FL	EQ	Work Order Description	Status	User Status	Plan Cost	Actual Cost	CM/PM	MTBF	MCI	BOM	ITP/QAQC
17	HSU	IRI-INVB	30233202	30/8/2024	27/12/2024	60 days finish	PM03	HSU -72 -72K201	HSU-72K201-M	Inspect vibration 72K201 after overhaul m	REL PRT AVAC NMAT PRC SETC	ENVI WSCH	153.00	0.00					-
18	LDU	IRI-INVB	30232076	2/8/2024	30/10/2024	60 days finish	PM03	LDU -24 -24P003B	LDU-24P003B-M01	check vibration 24P003B มอเตอร์	TECO PCNF AVAC MANC NMAT PPRT PRC SETC	WSVY	153.00	153.00					V2520-2024-10963 ●
19	LUT	IRI-INVB	30231724	7/8/2024	4/11/2024	60 days finish	PM03	LUT -35 -35P074B	LUT-35P074B-P01	please check vibration 35P074B	TECO PCNF PRT AVAC MANC NMAT PRC SETC	WSCH	153.00	153.00					V2520-2024-10957 ●
20	NTU	IRI-INVB	30231440	1/8/2024	9/9/2024	30 days finish	PM03	NTU -12 -12P052A	NTU-12P052A-M01	Check vibration 12P052A	TECO PCNF AVAC MANC NMAT PRC SETC	FINS	358.00	358.00	5%	18	1M	80%	V2520-2024-10930 ●
21	RDCC	IRI-INVB	10535217	30/8/2024	26/11/2024	60 days finish	PM01	RDCC-53 -53P102	RDCC-VT5351814B	ตรวจสอบ VT5351814B /SWITCH HIGH HIGH	REL AVAC NMAT PRC SETC	INPG	153.00	0.00					-
22	RDCC	IRI-INVB	10534439	16/8/2024	12/11/2024	60 days finish	PM01	RDCC-53 -53P106B	RDCC-53P106B-M	ตรวจสอบ 53P106B /motor have noise	TECO PCNF PRT AVAC NMAT PRC SETC	FINS	153.00	153.00					V2520-2024-10987 ●
23	RDCC	IRI-INVB	30231994	13/8/2024	30/9/2024	30 days finish	PM03	RDCC-56 -56P001	RDCC-56P001-P01	Inspect vibration 56P001A after overhaul	TECO PCNF PRT AVAC MANC NMAT PRC SETC	FINS	153.00	153.00					V2520-2024-10966 ●



Rework

Reduces errors in the maintenance process that lead to rework, which causes delays, increases costs, and decreases work efficiency. This also includes minimizing impacts on safety and reliability of the maintenance system.



Maintenance Control Center Dashboard

Monitors and manages maintenance operations conducted by internal staff or external units (out job), with the goal of systematizing operations for better efficiency and reducing the likelihood of errors.

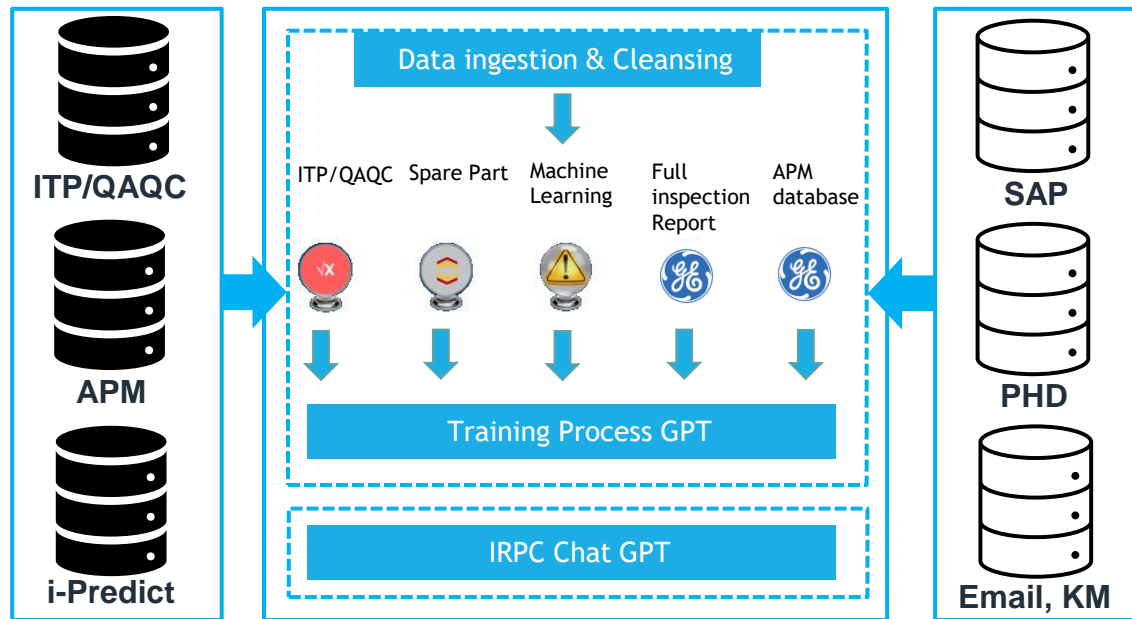


Maintenance Retirement Preparation

Transfers maintenance knowledge and experience into the system to support onboarding of new staff. Ensures new personnel can perform effectively and maintain work quality.



Benefits : Digital Transformation



Current Status: Maintenance Go Live 1-04-2025

Hi chat

Maintenance

Maintenance Generative AI (NLP2SQL)

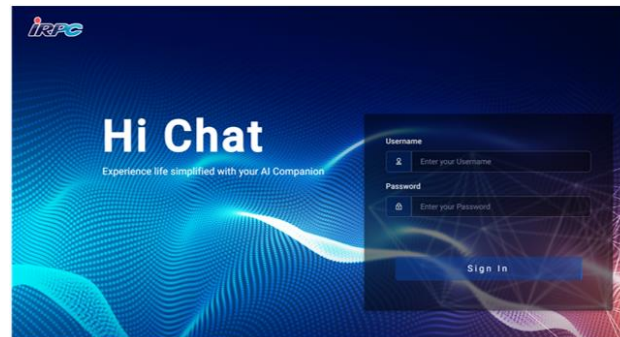
Maintenance Data (from DWH)

Answer

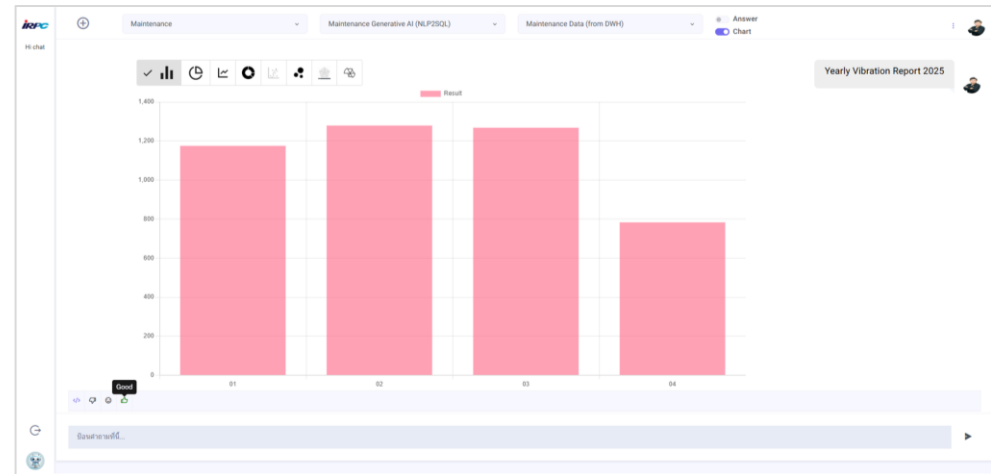
Chart

สถานะ reservation ปี 2025 ของ IRPC

seq	requestorName	approvalName	requirementDate	reservation	pr	po	material1	materialDescr	status	deliveryDate
1	WT-09K106C-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859082	1100184072	-	1700133580	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
2	WT-09K106C-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859082	1100184072	-	1700133501	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
3	WT-09K106D-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859084	1100184072	-	1700133580	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
4	WT-09K106D-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859084	1100184072	-	1700133501	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
5	WT-09K106E-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859085	1100184072	-	1700133580	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
6	WT-09K106E-K01	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11859085	1100184072	-	1700133501	09K106-AIR FILTER,ATLAS,2337,2355,2375	Waiting for Material	04-06-2025 00:00
7	-	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11706453	-	-	1700136698	CTF PUMP VARISCO J53-232-G10-68M3/63MTH	Waiting for Material	04-06-2025 00:00
8	-	นาง รุ่งนภัส อ่อน	31-03-2025 00:00	11706454	-	-	1700136698	CTF PUMP VARISCO J53-232-G10-68M3/63MTH	Waiting for Material	04-06-2025 00:00
9	WT-09P208B-P01	นาง รุ่งนภัส อ่อน	24-03-2025 00:00	11756527	-	-	1700010043	BRG,SKF,GENERAL,309-22/C3	Waiting for Material	04-06-2025 00:00
10	WT-09P017B-P01	นาง รุ่งนภัส อ่อน	24-03-2025 00:00	11756526	-	3100208548	1700009354	BRG,SKF,GENERAL,308-A-28S1TNM/MT33	Waiting for Material	04-06-2025 00:00
11	WT-09P017B-P01	นาง รุ่งนภัส อ่อน	24-03-2025 00:00	11756526	-	3100208548	1700009857	BRG,SKF,GENERAL,308-28S1/C3	Waiting for Material	04-06-2025 00:00
12	WT-09P017B-P01	นาง รุ่งนภัส อ่อน	24-03-2025 00:00	11756526	1100183779	-	1700048795	OIL SEAL,MAAT NBR,SIZE TC 45X62X10MM	Waiting for Material	19-05-2025 00:00
13	WT-09P017B-P01	นาง รุ่งนภัส อ่อน	24-03-2025 00:00	11756526	1100183779	-	1700048008	OIL SEAL,MAAT NBR,SIZE TC 45X62X10MM	Waiting for Material	19-05-2025 00:00



Maintenance Generative AI





Automation Use Cases in Finance & Accounting

Accounting

- Depreciation Comparison
- Maintain Unit of Production
- E-MAIL Alert for GR non IR
- Out Standing AP/AR for Auditor Tracking
- Tax Refund
- Output/Input Tax Report
- Accrue activity for Month End

Cost Accounting

- Mass Balance
- Hydro Carbon Loss
- MMR
- Report Cost of Production
- Mapping WH

Finance

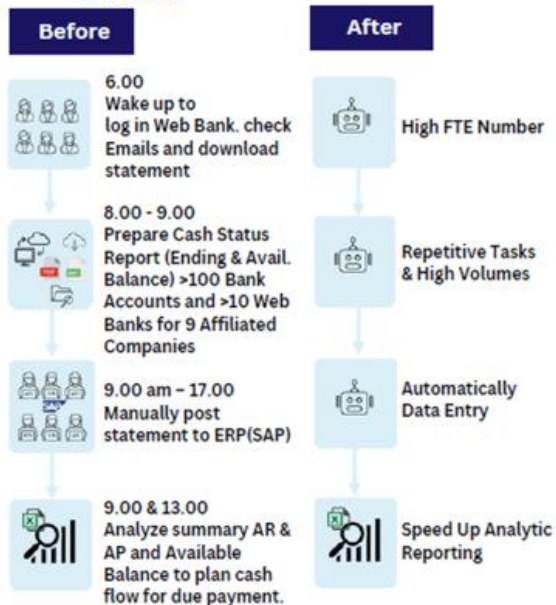
- Daily Cash Status
- Bank Statement
- Foreign Trading
- OIL EDC FEE Upload To SAP
- AP/AR Open Item for Liquidity Planning
- Vendor Cheque (IRPC-CP Payment to Vendor)
- Transfer Employee Salary (IRPC-CP Payment To Employee)
- KTB Cheque Status Upload to SAP

Management Account

- Purchase Raw Mat. Report
- OPEX Expense
- IRPC Gross Margin
- Other Company Gross Margin
- Consolidate Gross Margin
- Inventory Report
- Inventory Turnover
- Inventory Consolidation
- EBITDA by PCA

Finance & Accounting Process

RPA Use Case : Bank Statement & Cash Management Report , Automated Posting Data to SAP



Start 4.00AM – Complete 8.00AM with one Bot only
Reduced the working process time > 70%
Returned the value-added time of employee > 60 hours/month

Contact

065-516-6309

nowandnewbiz@irpc.co.th

ID : @nowandnewbiz



N N
NOW AND NEW
INNOVATION DIGITAL TRANSFORM

IRPC
TRANSFORM

Now and New
INNOVATION DIGITAL TRANSFORM

RPA SOLUTION | PROFESSIONAL
SERVICE | SECURITY |
WEB APPLICATION | TRAINING



Thank you for your attention

