



Andon I.App 解決方案介紹

Advantech Industrial IoT / ASG/ PM /Alice Wu
iFactory Smart Manufacturing Solution



大綱

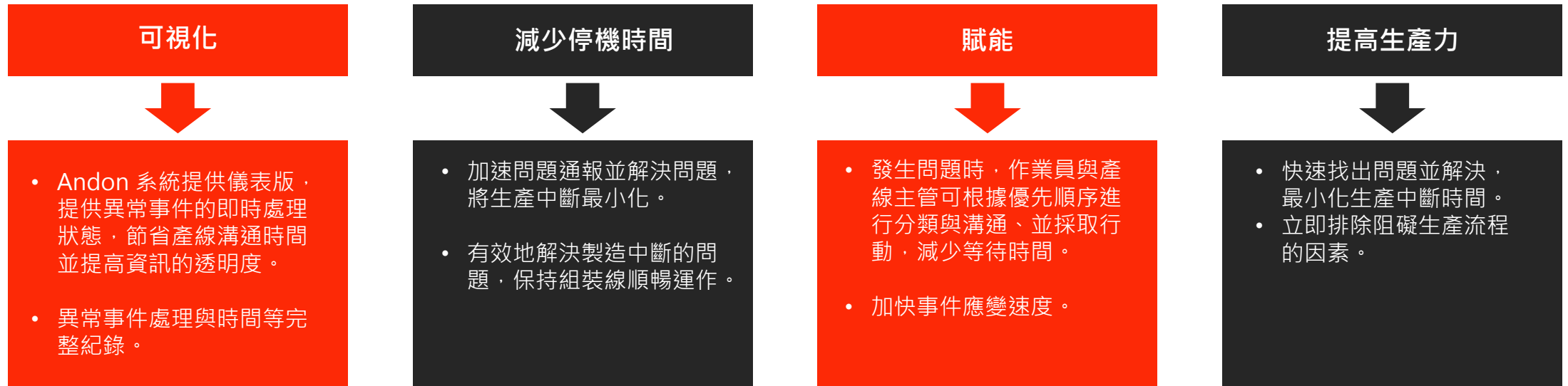
1. 產品介紹
 - 概述
 - 使用者效益
2. 產品主要特色
3. 使用者故事
4. 軟體架構

概述

Andon 是精實製造中重要的管理工具。

在品質異常、機器故障、材料不足、報廢、資訊安全問題及任何導致中斷生產的情況下由人員點擊螢幕、手機或按鈕發送Andon警報，或透過資料擷取閘道器，直接連線至機器或設備，擷取機器本身的報警警告，並在Andon中蒐集到異常資訊後，自動或人工派送維修請求給相關人員，相關人員可以透過電腦、平板、手機即時收到維修工單前往維修，並快速回報維修進度，並記錄維修歷程。

工廠可以透過Andon所蒐集的異常資訊、維修紀錄歷程、時間等作為產品迭代、機器維修保養等分析的數據，讓事後補救提前至事前預防，減少停機的損失進而提高營收及生產力。



使用者效益

- 快速反應：

Andon服務的可視化看板，減少尋找異常事件發生原因與關連機器資訊的時間，同時加速溝通與問題排除。

- 有效控制：

Andon即時反應異常，讓維護團隊和管理者能夠有效控制產線。即時資訊儀表板及Andon服務介面，可有效降低作業人員與主管之間溝通成本。

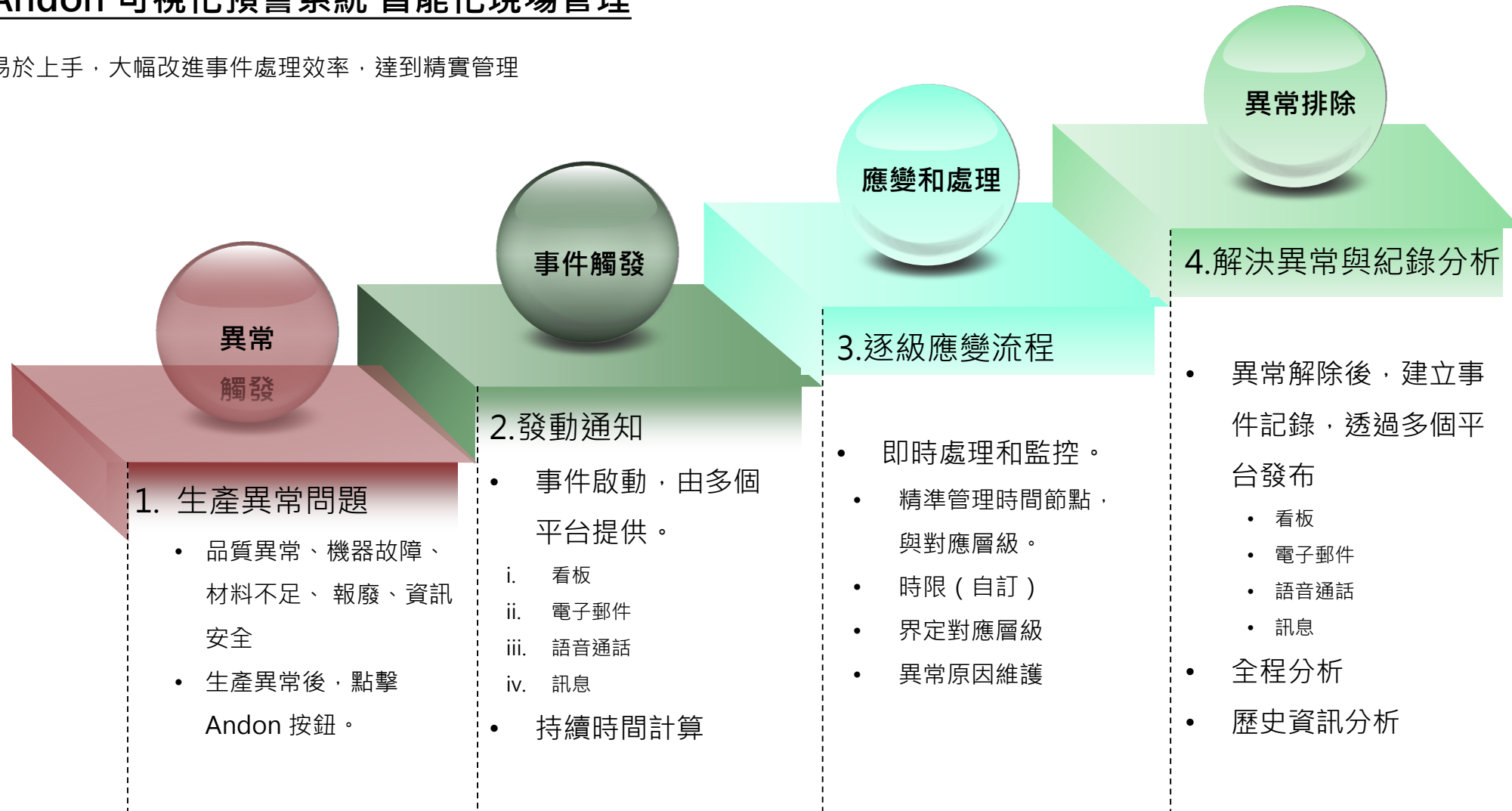
- 資料收集：

異常事件的資料收集與存儲，可協助產線基層至最高決策層對於生產狀態的瞭解、異常問題的歸因，同時協助管理層掌握生產現場的相關資訊，加強並改善產線管理。

Andon異常處理流程

Andon 可視化預警系統 智能化現場管理

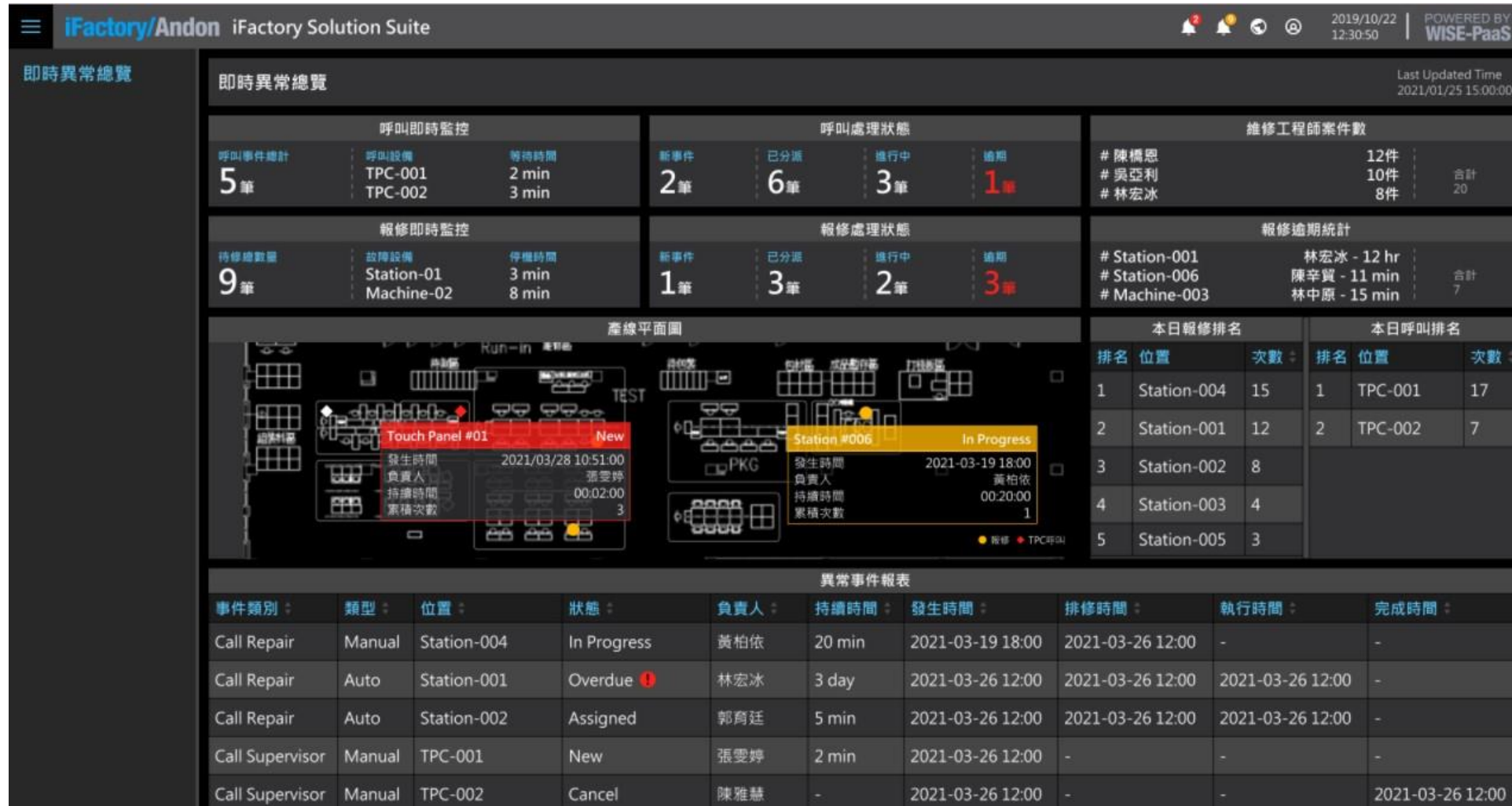
易於上手，大幅改進事件處理效率，達到精實管理





即時異常事件總覽儀表板

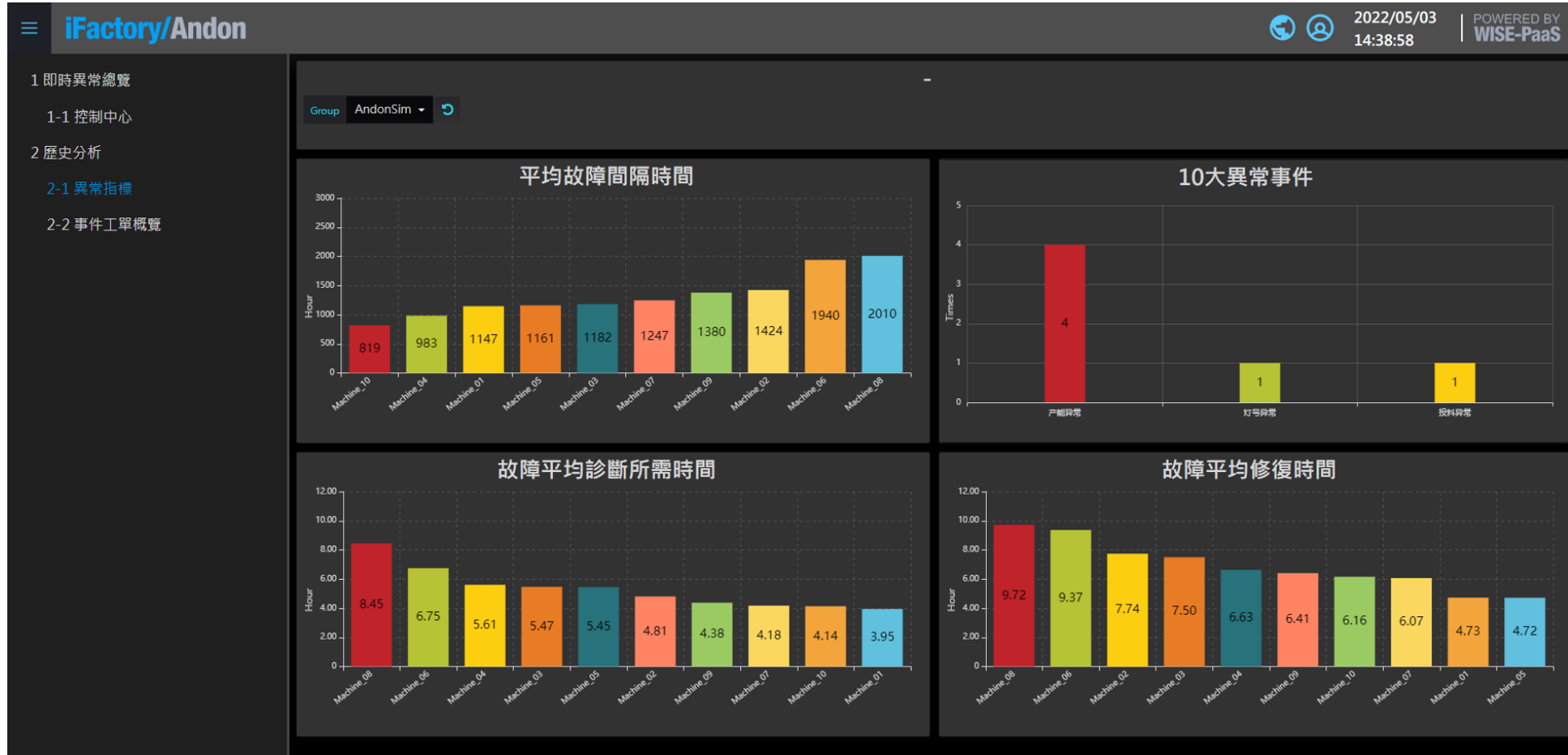
異常總覽儀表板顯示產線和站點的即時異常狀態，讓維護團隊和管理階層有效控制並改善產線。





故障指標追蹤

透過追蹤和分析故障指標，包括 MTBF/MTTR/MTTD 比率和異常原因分析，可達降低停機時間



異常事件紀錄

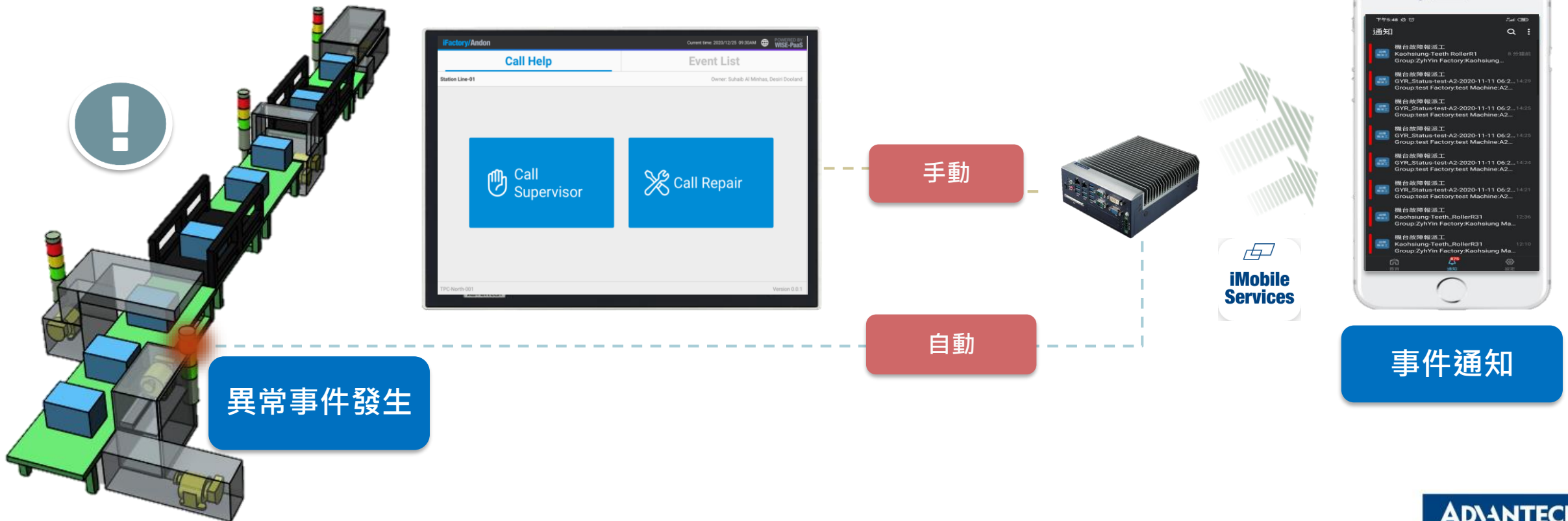
版面配置顯示機器和各工站的狀態，協助用戶準確找出異常事件，解決問題後也能追蹤分析並改善。

Group III										
事件數量		異常平均發現時間			異常平均解決時間			異常平均持續時間		
12		23.3 min			6.9 hour			11.1 week		
異常事件名稱	類型	位置	負責人	狀態	發生時間	發現時間	執行時間	解決時間	完成時間	持續時間
Event02	Manual	-	-	Cancel	2022-01-25 09:35	-	-	-	2022-01-25 09:36	42.4 s
Event01	Manual	-	-	Overdue	2022-03-24 17:59	-	-	-	-	2.7 week
Event02	Manual	-	-	Overdue	2022-03-24 17:58	-	-	-	-	2.7 week
Event01	Manual	-	Test_User	Overdue	2022-02-16 18:17	-	-	-	-	7.8 week
Event01	Manual	-	-	Overdue	2022-01-25 14:44	-	-	-	-	11.0 week
Event02	Manual	-	-	Overdue	2022-01-25 14:42	48.6 s	2022-01-25 14:43	-	-	11.0 week
Event02	Manual	-	-	Overdue	2022-01-24 18:20	-	-	-	-	11.1 week

異常事件警報情境

結合iMobile服務的警報通知，可手動或自動呼叫

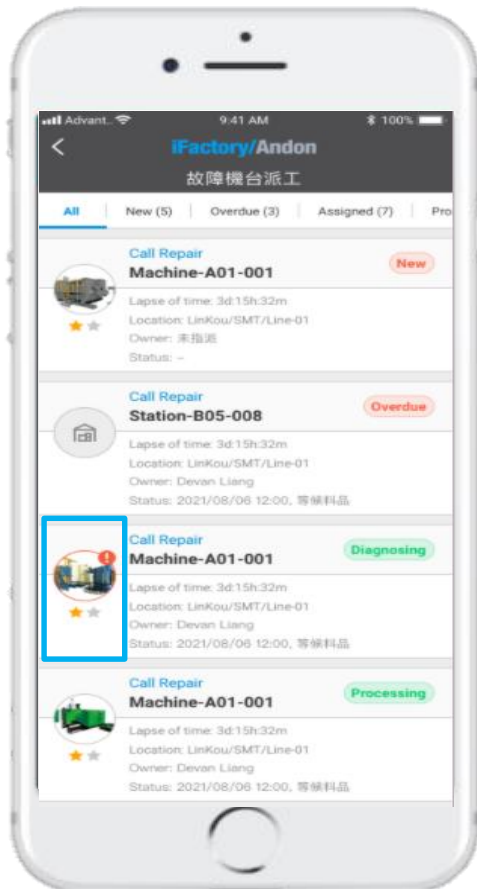
- 手動：作業員使用 TPC
- 機器於發生異常事件時自動通知



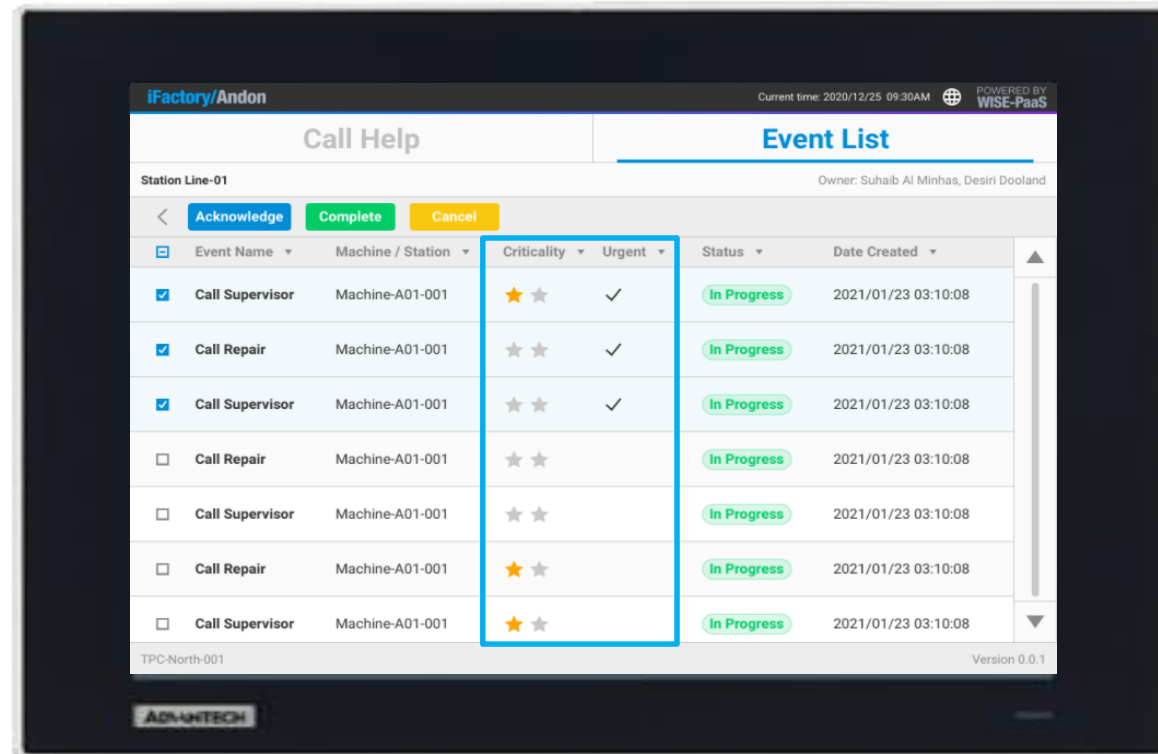


異常事件 - 派工和報工

iMobile 服務支援手動或自動派工，減少資訊傳遞所浪費的時間。



突顯關鍵機器和緊急事件。



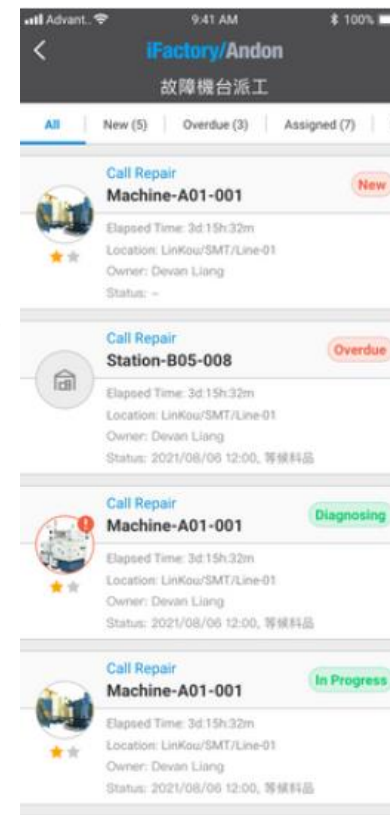
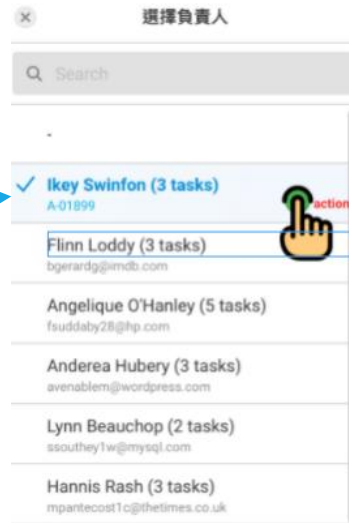
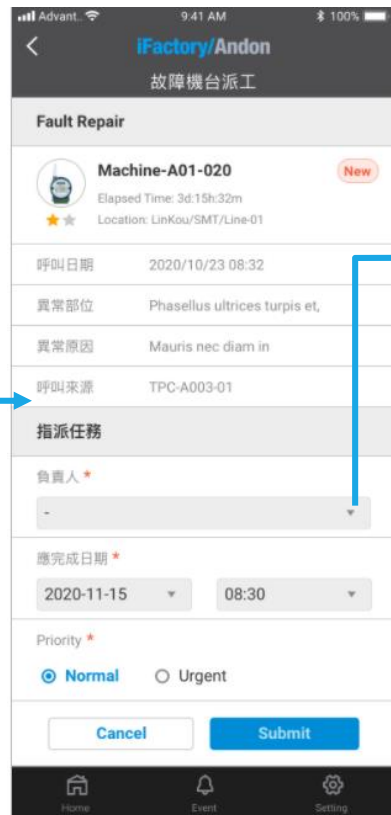
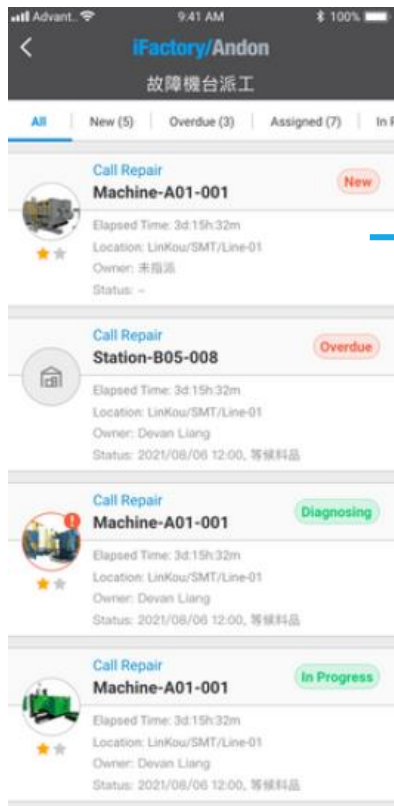
使用者也可以在現場的觸控面板上報告事件。



Andon 報派工流程

使用者設定後，主管可透過即時通知，直接將異常事件與處理工作指派給團隊成員。

iMobile 視覺顯示或聲音提醒可加速各作業人員之間的內部溝通。



iMobile 派工

iMobile 報工

TECH



事件設定 - 事件清單

事件設定提供使用者定義平台，包括通知、處理流程修改、及其他資訊設定。使 Andon 服務變得更靈活以滿足不同的使用情境。

使用者修改的事件通知和處理
工作流程。

其他事件資訊設定。

Index	Event Name	Description	Call Out Parameter	Dispatch Parameter	Report Parameter	Dispatch Mode	Notification Group	Actions
1	Event-001	-	2	2	2	System Auto	Team-001	
2	Event-002	-	3	5	5	System Auto	Team-002	
3	Event-003	-	2	3	3	System Auto	Team-003	
4	Event-004	Event-Q5805805478	3	4	4	System Auto	Team-004	
5	Event-005	Event-G5480027125	6	4	4	Manual	Team-005	
6	Event-006	Event-N1584804887	1	2	2	Manual	Team-006	

Edit Event
* Required

Dashboard Display Language(s)
English

Event Name
Call Supervisor

Description
Description

Dispatch Mode*
 Manual System Auto

Notification Group*
SupportTeam

Tips: To change your dashboard display language(s), click System Settings > Advanced Settings > Display Language Settings.

CANCEL SUBMIT

Call Repair

選擇設備(0) 1 - 12 of 12

故障位置(0) 1 - 5 of 5

Station_01 Station_02 Station_03 Station_04 Station_05 Station_06 Station_07

軸輸 刀具 料盤 螺絲 螺絲

CANCEL SUBMIT

Fault Repair

Machine-A01-020

負責人 Josephine Kinsdel

異常部位 Phase3a ultrasonic torque st.

預計完成日期 2020-11-15 08:30

Status In Progress Completed Cancel

選擇材料 Error-A01-0072

選擇地點

解決方式 更換設備零件

事件設定 - 事件清單

觸控面板 - Call help

iMobile - 派工 / 報工



事件設定 - 顯示設定

事件設定也為使用者定義功能，提供求助服務配置和按鈕顯示。

使用者可調整選項內容、按鈕和文字顏色以及附加事件圖示，讓其他使用者更容易理解。

設定事件按鈕和文字顏色，
以附加事件圖示。

Index	Event Name	Button Color	Text Color	Actions
1	Call Supervisor	#190066	○ #FFFFFF	
2	Call Repair	#008CD6	○ #FFFFFF	
3	Alarm			
4	Error	● #cc325b	○ #FFFFFF	
5	Lack of material	● #009a9c	○ #FFFFFF	

事件按鈕顯示版面配置修改。



顯示設定

觸控面板畫面



地點：
台灣

公司：
天崗精機科技股份有限公司



概論：

天崗精機科技股份有限公司成立於1982年，主要從事高科技製鞋機械設備製造，多年來一直向“自主發展”方向發展製鞋機械設備。

挑戰與需求：

- 人性化的操作界面：圖形化的操作和顯示，方便操作人員和管理人員使用。
- 提升異常表單開立及處理效率：整合ERP系統自動開立異常管理單，取代傳統紙本表格和人工處理時間。
- 數據化管理：將每份工作報告數據化，以利後續統計分析。

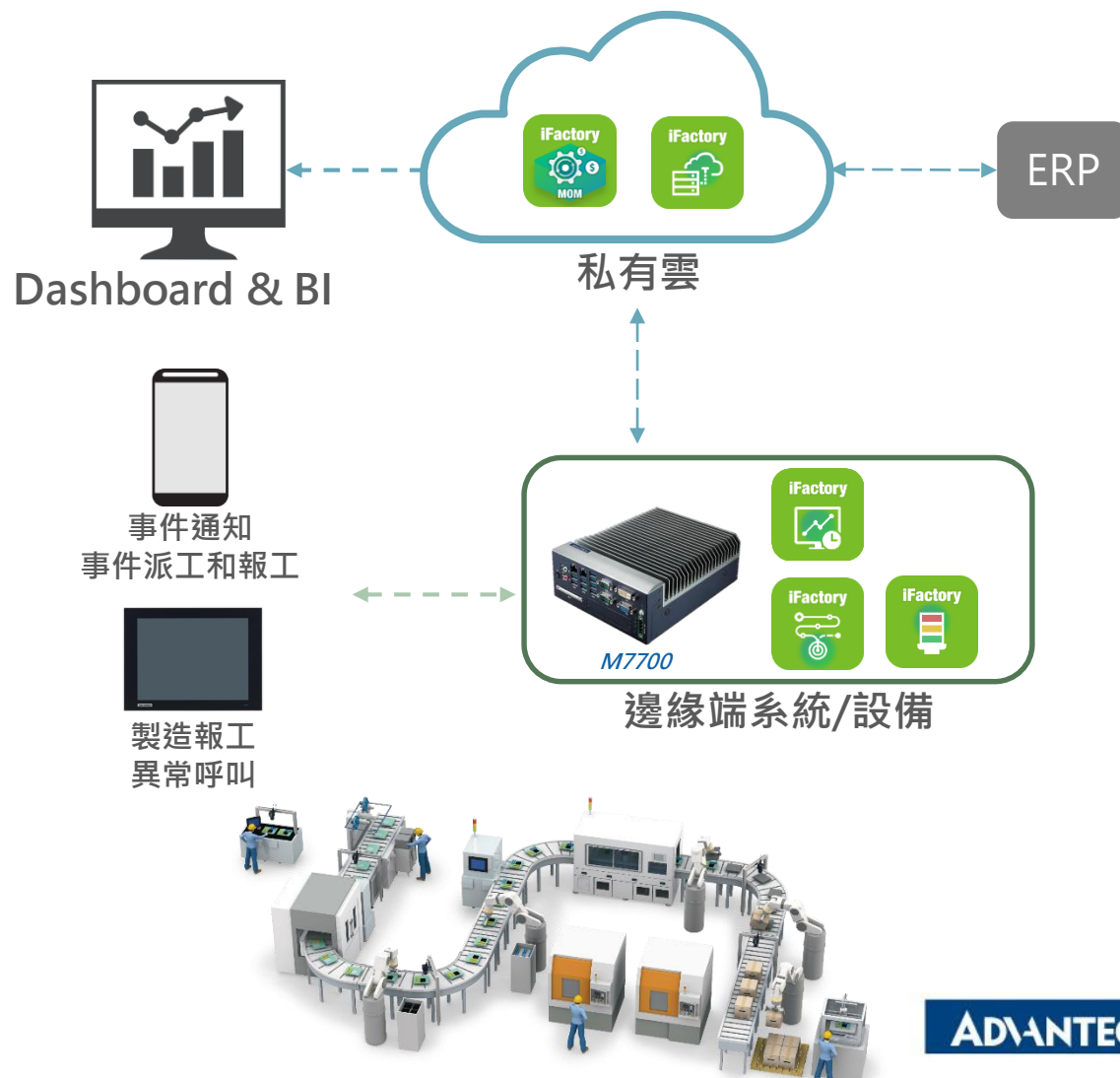
解決方案：

- I.App Andon在生產現場提供觸控界面服務，一旦發生異常事件，立即通知所有相關人員並開始處理。
- I.App Shop Floor通過操作員上報收集不良輸出，通過Data Fabric連接ERP，自動創建製造質量異常訂單。

優勢：

- 在I.App 服務與 ERP 整合的環境中，管理人員可以專注在製造管理流程，以實現製造流程最佳化。
- 製造數據統計分析，提升數據使用價值，提高工廠運營效率。

系統架構圖





地點：
台灣

公司：
研華科技股份有限公司



概論：

研華科技是台灣頂尖的電子製造商之一，該公司以供應各種工業自動化控制產品和零件而聞名，包括客製化規格產品。因此，工廠內建多條組裝產線以執行此類生產，滿足客戶的特殊需求。

挑戰與需求：

- 組裝線必須靈活地換線和安排工單以達成生產目標，因此，有時會發生生產流程中斷，導致非預期停機。為了加快解決問題的速度，必須釐清機器之間的互連問題並指派相應人員協助排除異常狀況，改善異常事件管理並保持組裝線運作順暢。

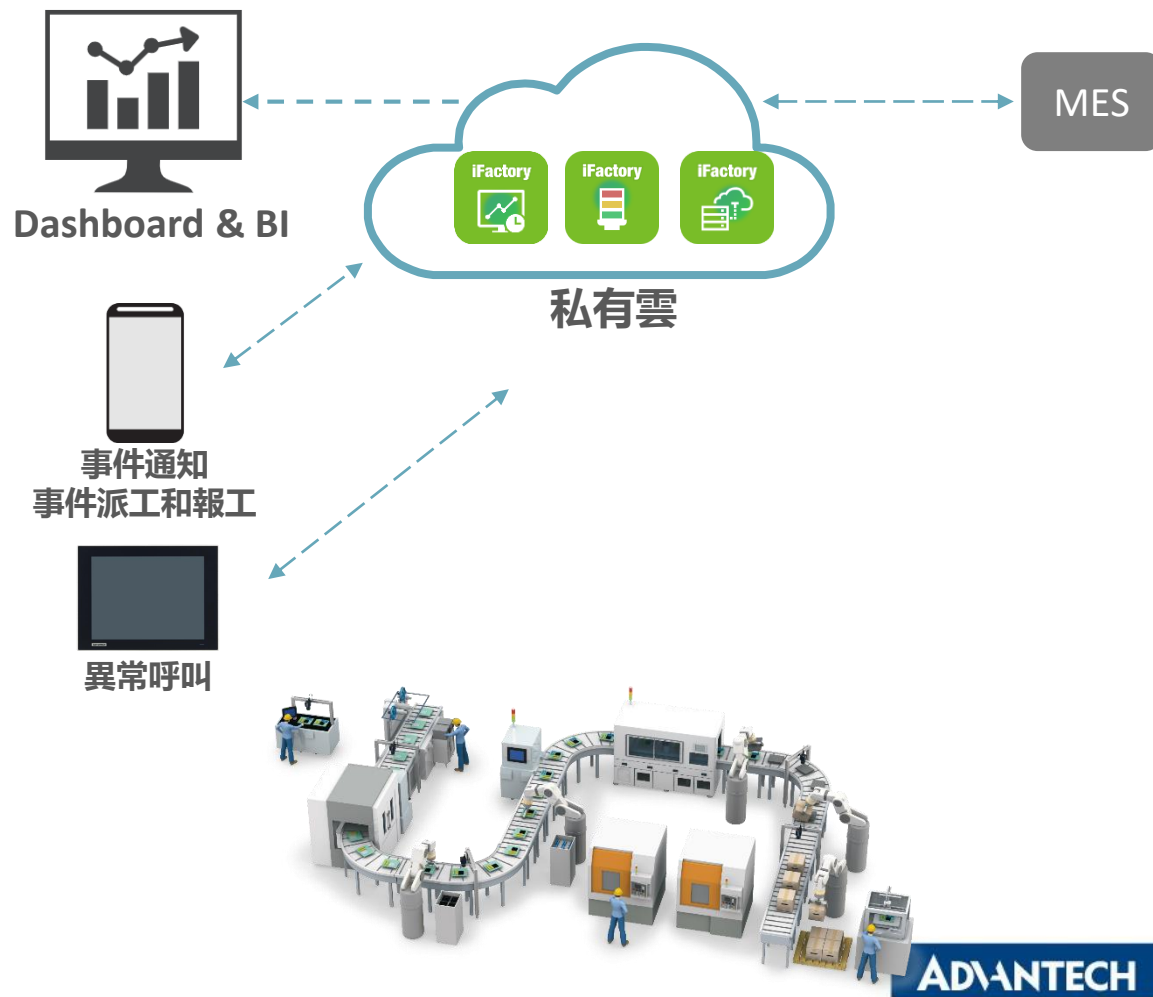
解決方案：

I.App Andon 服務可減少工廠裝配線的停機時間，解決方案套裝應用於工廠內部網絡以滿足工廠信息安全規則，在不同設備上為相關工作人員開發了事件警報和通知等服務。

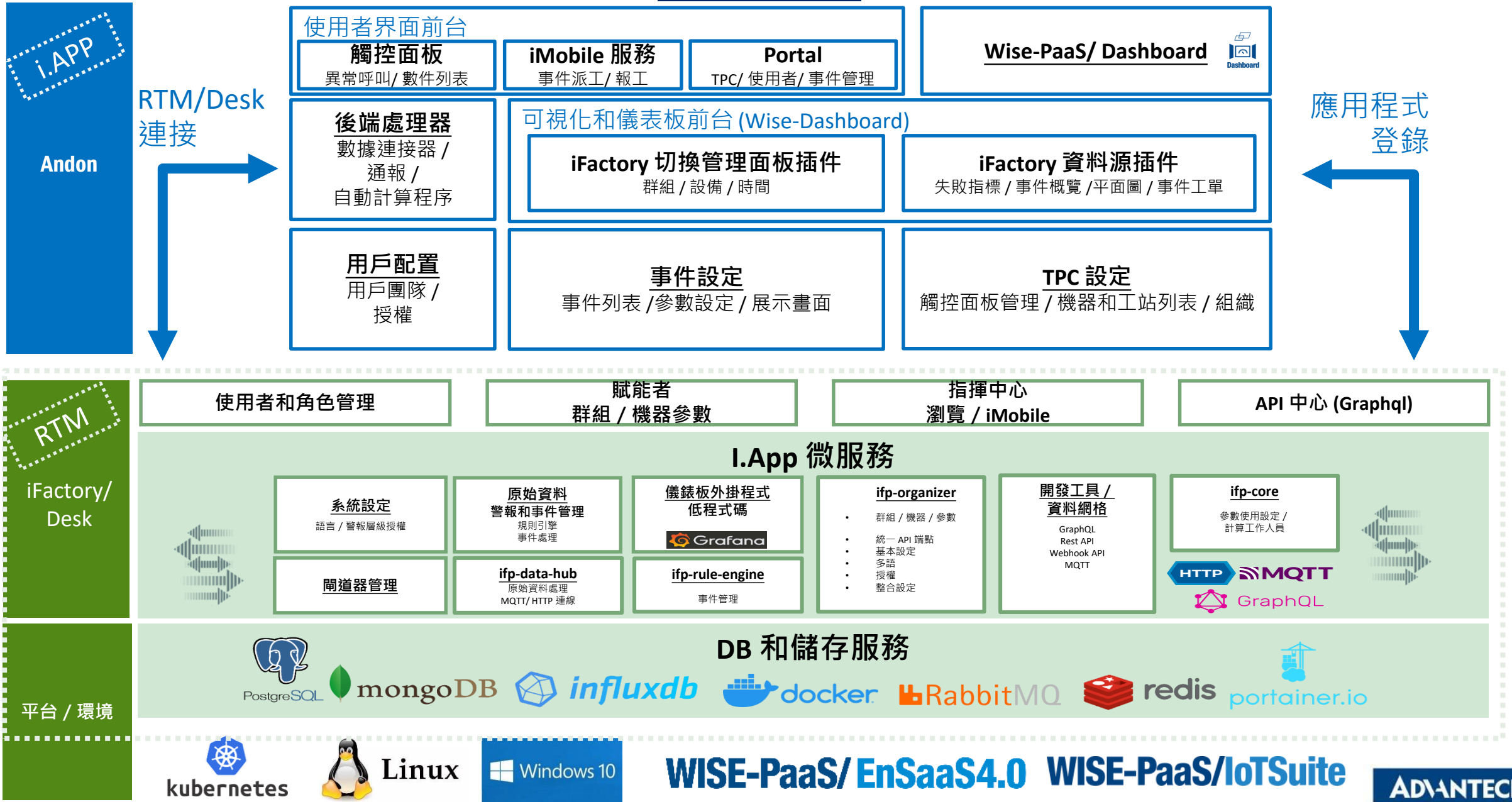
優勢：

- 使用 iFactory Andon I.App，客戶可在發生異常事件導致生產中斷時，讓生產管理者與現場人員能有效掌握組裝線的即時狀態，並加強跨部門間的溝通，加速異常事件的排除。減少停機時間後，組裝線的產量也跟著成長了。

系統架構圖



iFactory Andon 架構圖



IoTaaS, List of Apps for Subscription

■ No Code
■ Low Code
■ SI Enabled

2022.05.20 update

Solution Ready Package

iFactory		iWater & iEnvironment		iHospital	
 WISE-iFactory/Andon Monitor OEE Management	 WISE-iFactory/EHS Digital tool for work orders	 WISE-iWater/Quality Monitoring The distributed management solution for water distribution treatment processes in the water treatment plants	 WISE-iWater/Facility Management Monitor all the facility availability, identify and control abnormalities to optimize water treatment facility management	 WISE-iDS/SignageCMS Media management, program editing, program upload system	 WISE-iDS/SignageCMS Media management, program editing, program upload system
 WISE-iFactory/OEE Improve your OEE performance	 WISE-iFactory/Manual Digital tool for work orders			 WISE-iQM/Inspection Cloud storage, video analysis technology and mobile internet technology to optimize equipment management	 WISE-iQM/Inspection Cloud storage, video analysis technology and mobile internet technology to optimize equipment management
 WISE-iFactory/Maintenance Improve your asset lifetime				 WISE-iVA/Counting Help you measure visitor traffic to improve people flow management	 WISE-iVA/Counting Help you measure visitor traffic to improve people flow management
iEMS		iMachine		AIFS	
 iEMS/HVAC Media management, program editing, program upload system	 iMachine/Pump System Monitor all the facility availability, identify and control abnormalities to optimize water treatment facility management	 AIFS/InspectionAI Forge Monitor all the facility availability, identify and control abnormalities to optimize water treatment facility management		 WISE-iDS/SignageCMS Media management, program editing, program upload system	 WISE-iVA/Counting Help you measure visitor traffic to improve people flow management
 iEMS/CarbonR Media management, program editing, program upload system	 iMachine/Chiller System Monitor all the facility availability, identify and control abnormalities to optimize water treatment facility management	 AIFS/PHM Inspection Multisensor predictive maintenance solution for bearing diagnosis			
 iEMS/ECOWatch Digital tool for work orders	 iMachine/MachineUnits Monitor all the facility availability, identify and control abnormalities to optimize water treatment facility management				

WISE Platform

 WISE-Dashboard Report visualization tool	 WISE-InsightAPM Digital tool for work orders	 WISE-IoTSuite Management Platform
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Edge Service

 WISE-DataConnect Help you reduce network traffic to improve people flow management	 WebAccess SCADA Help you measure visitor traffic to improve people flow management	 WebAccess DMP Help you reduce network traffic to improve people flow management	
 Cybersecurity SRP Help you measure visitor traffic to improve people flow management	 DeviceOn Help you measure visitor traffic to improve people flow management	 Edge AI Help you measure visitor traffic to improve people flow management	 Triangle Help you measure visitor traffic to improve people flow management

WISE Platform & Edge Service

WISE Platform



No Code

WISE-Dashboard

Report visualization tool



No Code

WISE-InsightAPM

Digital twin low code platform



No Code

WISE-IoTSuite

Device IoT Platform

Edge Service



No Code

WISE-DataConnect

Help you measure footfall traffic to improve people flow management.



No Code

WebAccess SCADA

Help you measure footfall traffic to improve people flow management.



No Code

WebAccess DMP

Help you measure footfall traffic to improve people flow management.



No Code

Cybersecurity SRP

Help you measure footfall traffic to improve people flow management.



Low Code

DeviceOn

Help you measure footfall traffic to improve people flow management.



Low Code

Edge AI

Help you measure footfall traffic to improve people flow management.



Low Code

Triangle

Help you measure footfall traffic to improve people flow management.

Domain Solution

Solution Ready Package

iFactory



WISE-iFactory/Andon

Abnormal Event Management



WISE-iFactory/EHS

Digital twin low code platform



WISE-iFactory/OEE

Digital twin low code platform



WISE-iFactory/eManual

Digital twin low code platform



WISE-iFactory/Maintenance

Digital twin low code platform

iWater & iEnvironment



WISE-iWater/Quality Monitoring

The centralized management platform for various distributed treatment processes in the water treatment plants



WISE-iWater/Facility Management

Analysis of the facility availability, reliability and power consumption to optimize water treatment facility management

iHospital



WISE-iDS/SignageCMS

Media management, program editor, program dispatch system.



WISE-iDS/SignageCMS

Media management, program editor, program dispatch system.



WISE-iQM/Inspection

Cloud storage, video analysis technology and mobile internet technology to provide enterprise management.



WISE-iQM/Inspection

Cloud storage, video analysis technology and mobile internet technology to provide enterprise management.



WISE-iVA/Counting

Help you measure footfall traffic to improve people flow management.



WISE-iVA/Counting

Help you measure footfall traffic to improve people flow management.

iEMS



iEMS/HVAC

Media management, program editor, program dispatch system.



iEMS/CarbonR

Media management, program editor, program dispatch system.



iEMS/ECOWatch

Digital twin low code platform

iMachine



iMachine/Pump System

Analysis of the facility availability, reliability and power consumption to optimize water treatment facility management



iMachine/Chiller System

Analysis of the facility availability, reliability and power consumption to optimize water treatment facility management



iMachine/MachineUnite

Analysis of the facility availability, reliability and power consumption to optimize water treatment facility management

AIFS



AIFS/InspectionAI.Forge

Analysis of the facility availability, reliability and power consumption to optimize water treatment facility management



AIFS/PHM.Inspection

Intelligence Predictive Maintenance Solution for Rotating Machinery

iCity, iRetail & Public Services



WISE-iDS/SignageCMS

Media management, program editor, program dispatch system.



WISE-iVA/Counting

Help you measure footfall traffic to improve people flow management.



WISE-iQM/Inspection

Cloud storage, video analysis technology and mobile internet technology to provide enterprise management.

Co-Creating the Future of the IoT World

