

Cova

Smart Food Factory Boosts Productivity by 15% in 6 Months

食品廠智能化 半年間升15%生產力



Background 背景

To achieve a sustainable operation model, Cova factory hopes to save energy and reduce food waste by quantifying production processes with data, at the same time enhance efficiency and facilitate management to align with Maxim's Group ESG goals, as well as its strategy for digital transformation.

Cova 廠房為了推動可持續發展的營運模式，冀以數據量化生產流程去節省能源和減少食材損耗，同時加強營運效率和管理能力，配合集團對環境、社會和管治 (ESG) 的目標和數碼轉型策略。

Solution 解決方案

GS1 HK reviewed the factory's entire production process thoroughly, and advise to introduce Smart Operations solution in which IoT sensors and ezTRACK are setup at the premise, to allow management team acquires all the factory data easily in as dashboard view.

GS1 HK 審視了廠房的整個生產流程，建議引入智慧營運方案技術，安裝物聯網感應器及「縱橫網」(ezTRACK)，助管理人員一眼看清整個廠房的運作數據。

Benefits 效益

3 key areas are enhanced in the Cova factory: 1) manpower use - productivity gain by 15%; 2) overhead costs - reduce 5% ingredient wastage and saves 5% of power; 3) food quality management - minimise food safety risk by monitoring the processes 24/7, bolstering quality and traceability.

Cova 廠房在3方面實現升級，分別是人力資源管理 - 提升15%生產力、營運開支 - 減少5%食材損耗及節省5%能源，以及食品質素的管理 - 透過時刻監控工序減低食品安全風險，強化品質和源頭追蹤。

Background

Maxim's Group has been managing more than 70 well-known brands, including Cova, an Italian brand entering into Hong Kong market since 1993. Having the largest number of Cova outlets in the world, Cova Hong Kong has 13 retail outlets and 5 café in operation. The 24/7 Cova manufacturing plant in Chai Wan takes up orders from the outlets and made tens of thousands of bread, pastries and cookies every day, supplying to the Group's franchise brands like Starbucks and The Cheesecake Factory, besides Cova.

The factory is pursuing a sustainable operation model by quantifying and standardising the workflow processes. This enables precise measurement of energy and food ingredient use, helping to save energy and reduce food waste. The management team also expects to collect real-time operational data and gain insights into productivity and the factory environment at all times, in hope to enhance efficiency and facilitate management.

Solution - Consultancy and Smart Operations Solution

As a long-time trusted partner of the Maxim's Group, GS1 HK conducted a thorough review of the factory's entire production process, from procurement of ingredients, warehouse management, manufacturing, to taking orders, shipping and return, etc. The team advised the factory to use technologies to keep an eye on and streamline the operations, which corresponds to the group's ESG goals, as well as their strategy for digital transformation.

Efficiency Gain, Cutting Consumption & Wastage

Cova decided to deploy GS1 HK's Smart Operations solution by installing IoT sensors in locations like the production area, warehouse, cold storage, and on various appliances such as air conditioner, oven and fridge. These narrowband IoT (NB-IoT) sensors, characterised by their durability, cost-effectiveness and energy-efficiency, help to continuously record a range of data like temperature, humidity, power usage and air quality.

GS1 HK has designed an electronic performance form (e-form) for the project and created a dashboard using GS1 HK's traceability platform "ezTRACK", which enables management to see clearly all the environmental and productivity data, and receive alarm in case of unusual event to prevent accident.

背景

美心集團經營超過 70 多個知名品牌，包括在 1993 年由意大利進軍本港的 Cova，而香港更已成為全球最多 Cova 門店的城市，有 13 間實體零售店及 5 間餐廳。集團位處柴灣的 Cova 廠房，每天會收到各分店訂單，24 小時製作數以萬計的麵包、西餅、曲奇類食品，除供應 Cova 外，亦供給 Starbucks、The Cheesecake Factory 等品牌銷售。

為了推動可持續發展的營運模式，廠房將工序量化和標準化，以便精確測量能源和食材用量，有利節能和減食材損耗；同時以實時數據驅動廠房營運，能有助管理人員隨時掌握生產效能和環境狀況，加強營運效率和管理能力。

方案 - 諮詢及智慧營運方案

作為美心集團多年的可靠夥伴，GS1 HK 審視了廠房的整個生產流程，由原料入貨、倉庫管理、生產工序，以至接受訂單、付運、退貨等，並建議在流程上引入監控科技，塑造更精準的運作工序，以配合集團對環境、社會和管治 (ESG) 的目標和數碼轉型策略。

增效率、減耗能、降損耗

Cova 決定引入 GS1 HK 智慧營運方案，在配合廠房環境和不同情況下，將物聯網感應器 (IoT sensor) 安裝在生產間、倉庫、冷藏庫等位置，以至各類電器如冷氣機、焗爐、雪櫃等，記錄每刻溫度、濕度、用電、空氣質素等數據。感應器應用窄帶物聯網 (NB-IoT)，具有耐用、低成本、低耗能等特點。GS1 HK 專為項目設計了人力績效表格 (e-form)，亦以追蹤溯源平台「縱橫網」(ezTRACK) 製作出儀表板 (dashboard)，讓管理人員一眼看清所有環境和生產力數據之餘，在特殊情況下亦立即收到警報通知、避免意外。

15% More Productive and 5% Less Wastage

3 key areas are upgraded in the Cova factory: manpower use, overhead costs, and food quality. The GS1 HK team had helped identify, record and analyse the standard minute value (SMV) for each process, and established benchmarks for the processes. For example, in the production of sponge cake, from kneading the flour, making the batter, to baking, the time and materials required for each process are standardised. Staff are required to follow these standards and log them on the e-form regularly. This allows the management to assess staff performance and if any issues arise, they can adjust the manpower across processes to ensure stable product output, meeting the daily order demands.

Saving 5% of Energy

Operating around the clock, energy usage like water and electricity in the Cova factory constitutes a large part of its overhead. By constantly monitoring temperature, humidity and air quality in the factory floor, the management can estimate the expenses more accurately, making it more convenient to prepare financial reports while also enable preemptive measures. For example, if an employee leaves the chill room door open for a long time, that would trigger a spike in electricity consumption immediately, or if a damaged water pipe leak causing excessive water use, all these anomalies will be shown on the dashboard. The management would then receive an alert to take action and rectify the issue.

提升生產力15% 減少損耗5%

Cova針對廠房3個範疇作出升級，分別是人力資源、營運開支和食品質素的管理。GS1 HK團隊首先記錄、分析和歸納出每個工序的標準分鐘值 (standard minute value)，並制定出標準工序的指標。例如製作海綿蛋糕，由搓麵粉、製麵糊、烘培等每項工序，員工所需時間和耗用材料都有標準，員工便需跟從標準，並時刻在e-form上記錄。管理人員便可從中得知各員工表現，若發現問題便能調配人手，確保出貨量穩定、滿足每日訂單需求。

節省5%能源

Cova廠房24小時運作，水電煤等能源佔每月經常性開支不少，所以在生產間時刻監測溫度濕度、空氣質素等，管理人員即可更準確預測每月開支、方便預備財務報表，同時可防範於未然。例如員工忘記關好冷藏庫的門、導致用電突增；或者水管損耗出現滲漏，會在儀表板上顯示用水過量，管理者都可即時獲悉處理。

“

We are committed to using technology to stay competitive and differentiate ourselves from others, making our operations more efficient. With the help of GS1 HK, we've not only been able to streamline the workflows, but also enhance productivity, minimise food waste and energy, thanks to the Smart Operations solution. Our staff can oversee everything, clearly understand and record the overall situation of the factory on a single dashboard, which makes our ongoing evaluation and forecasting easier.

公司一向善用科技去維持市場優勢和競爭力，令營運和工作更有效率。GS1 HK助我們精簡生產流程之餘，亦以智慧營運方案提升生產力、減少食材損耗和能源用量，更讓員工『一眼關七』，在一個介面上清楚知道和記錄廠房整體情況，方便我們時刻進行評估和預測。

”



- Ken Mok, Lead - Manufacturing Solutions, Hong Kong Maxim's Group
- 美心集團生產解決方案主管莫志強

Upholding Food Safety

The factory management can establish alarm systems, for example, if the air quality in the factory floor is abnormal, or if the temperature of a fridge rises by a few degrees over a period of time, a warning will appear to alert staff to handle the emergency. Complete surveillance and documentation of the food production process are crucial to strengthen the factory's food safety management, minimise food-borne risk and protect customers from harm. This also ensures both compliance and traceability. In any unexpected event, the source of the problem can be identified and responses made swiftly, promising damage control at its best.

GS1 HK finished the process assessment and supported the solution implementation within 3 months. Beyond the production line, Cova is contemplating an upgrade of its logistics system (including cold chain), aimed at improving fulfillment capability and ensuring stable supply of its premium food to the customers. This innovative transformation experience of Cova factory serves as an excellent proof point for the company to scale up to the other 4 factory premises, accelerating its data-driven operation strategy.



食品安全至關重要

廠房管理人員可設定監測警報，譬如空氣質素在生產間出現異常、或雪櫃溫度在一段時間內增加了幾度，儀表板便會出現警示，提醒人員有突發情況需處理。食品製作全程監控和記錄，有助廠房強化食品安全管理，減低食安風險，保障顧客健康，同時確保合規性和可追溯性。一旦出現問題或事故，亦能迅速找出問題源頭，及時採取措施處理，將影響減至最低。

GS1 HK團隊在約3個月內已完成流程檢視，及協助Cova廠房部署方案。完成生產部份後，Cova正評估更新包括冷鏈運輸在內的物流系統，冀提升配送能力，為顧客確保穩定優質食品供應。Cova廠房的創新變革經驗，讓集團積極考慮擴大部署規模，在其他4個廠房引入智慧營運，貫徹實時數據驅動的營運策略。

“ At Maxim's Group, our digitalisation journey has started years ago which helps us respond more quickly to the market needs. I believe at the heart of the journey, is real-time data. Data is the lifeblood and asset that drives the growth of our group. GS1 HK has the Smart Operations solution centered around real-time data, providing us a solid groundwork to promote sustainable development, optimise operational management, and ensure food safety.

美心集團多年前已推動數碼化營運，以便迅速靈活地回應市場需要，而實時數據就是其中關鍵。數據有如驅動集團運作的命脈，是重要資源。GS1 HK 以實時數據為核心的智慧營運方案，為我們推動可持續發展、優化營運管理和確保食品安全奠定穩健基礎。 ”



- Louis Mah, Director, Group Information Technology, Hong Kong Maxim's Group
- 美心集團資訊科技高級總監馬慶和

Benefits

By quantifying productivity and energy consumption, Cova factory is able to gauge the effects after implementation:



Recognising the average energy consumption demand helps reduce power use by 5%



By accurately measuring the portions of each product, food wastage is reduced by 5%



The standardised production process saves manpower and achieve productivity gain by 15%



Maintain constant surveillance of the production line to ensure food quality and food safety.

效益

Cova 廠房將生產力和能源用量等量化，更準確掌握方案實施前後的對比：

管理人員得知平均用電用水需求，有助節能5%

員工精確掌握每份成品用量，食材損耗減少5%

將製作工序標準化後，員工做事更省時，生產力提升15%

時刻監測生產間避免影響食品質素，維護食品安全

GS1 standards used or solution (s) / service (s) used

- GS1 HK Smart Professional Services
- ezTRACK Traceability Platform
- GS1 HK Smart Operations solution

應用的GS1標準或方案/服務

- GS1 HK智慧專業團隊
- 「縱橫網」(ezTRACK) 追蹤溯源平台
- GS1 HK智慧營運方案

About the Company

Founded in 1817 by Antonio Cova - a Napoleonic soldier - Cova is one of Italy's oldest pasticceria. The time-honoured Milan café was introduced to Hong Kong in 1993, committed to offering food lovers authentic Italian cuisine, a selection of sensational fresh cakes and desserts as well as renowned chocolates and confectioneries directly imported from Milan.

公司簡介

Cova 是義大利古老的甜品名店，由拿破崙的將領安東尼奧·科瓦（Antonio COVA）於1817年創立。這家歷史悠久的米蘭甜品店自1993年便進軍香港市場，一直致力為顧客呈獻經典意大利菜式、品牌馳名的精緻蛋糕甜點及多款由米蘭直接空運到港的經典朱古力。

GS1 Hong Kong 香港貨品編碼協會

22/F, OTB Building, 160 Gloucester Road, Wanchai, Hong Kong

香港灣仔告士打道160號海外信託銀行大廈22樓

T +852 2861 2816 | F +852 2861 2423 | E corpinfo@gs1hk.org

www.gs1hk.org

GS1 is a registered trademark of GS1 AISBL.
All content copyright © GS1 Hong Kong 2023
GS1是GS1 AISBL的註冊商標。
版權所有 © GS1 Hong Kong 2023