



TECHNOVATION

Guardforce

引領智慧校園轉型

Leading Smart Campus Transformation

以智能科技應對安全、環保及營運挑戰

Empowering You to Tackle Safety, Sustainability, and Operational Challenges



智能學習

Smart Learning



智能廢物及衛生管理

Smart Waste & Hygiene Management



智能機械人

Robotics



全方位保安及安全

Smart Safety and Security



Guardforce Limited

(852) 2765 2681 | mkt@guardforce.com.hk | www.guardforce.com.hk

營運現代校園的日常挑戰

Daily Challenges in Running a Modern Campus

清潔及衛生挑戰

-  廚餘產生異味，影響衛生
-  垃圾與回收物分類混亂，降低回收效益
-  午膳高峰期垃圾箱瞬間爆滿
-  流感高峰期，疾病快速傳播
-  清潔人手不足，無法有效消毒高接觸區域
-  廁所經常污穢、傳出異味及物資短缺

保安及安全挑戰

-  夜間竊盜風險增加
-  校園周邊有可疑人士流連
-  校園車輛出入難以管控
-  可疑人士匿藏於洗手間
-  學生 / 職員獨處時發生意外，未能及時救援

教學及效率挑戰

-  學生專注力不足，影響學習效率
-  課堂缺乏互動，學習氣氛冷淡
-  教師因搬運導致受傷
-  手動點名程序繁複



Cleanliness & Hygiene Challenges

-  Food waste produces unpleasant odors
-  Poor waste sorting reduces recycling effectiveness
-  Trash bins immediately overflow during lunchtime peak hours
-  Illnesses spread quickly during cold seasons
-  Insufficient cleaning staff hinders effective disinfection of high-touch areas
-  Toilets often dirty, smelly, and lack essential supplies

Security & Safety Challenges

-  Increased risk of theft during nighttime
-  Suspicious individuals loitering around campus entrances
-  Inadequate control over vehicle access
-  Suspicious individuals hiding in restrooms
-  Delayed response to accidents when students or staff are alone

Teaching & Efficiency Challenges

-  Students' lack of focus affects learning efficiency
-  Low classroom interaction leads to limited learning engagement
-  Teachers face injury risks from carrying teaching materials
-  Manual attendance taking is time-consuming and inefficient

為何選擇衛安/ 衛晉?

Why Choose Guardforce/ GF Technovation?

在現代教育環境下，建設智慧校園已成必然趨勢，不僅提升安全與效率，更實踐ESG理念。透過AI及物聯網技術，學校可**即時掌握運作狀況，減少人手依賴、優化資源及減少浪費**。衛安聯同旗下衛晉憑藉多年經驗與創新科技，協助學校應對安全、營運效率及清潔衛生三大挑戰，邁向可持續發展。

In today's education landscape, building a smart campus is essential—not only for improving safety and efficiency but also for achieving ESG goals. With AI and IoT technologies, schools can **monitor operations in real time, reduce manual workload, optimize resources, and minimize waste**. Backed by years of experience and innovation, Guardforce and its subsidiary - GF Technovation help schools tackle key challenges in safety, operational efficiency, and hygiene—supporting a smarter and more sustainable future.

- ◆ 超過45年保安全管理經驗
- ◆ 一站式整合方案：涵蓋安全、衛生、教學與自動化範疇
- ◆ 靈活配置，按校舍規模與預算定制方案
- ◆ 專業售後支援，服務貼心可靠
- ◆ Over 45 years of experience in security
- ◆ All-in-one integrated solutions: safety, hygiene, education, and automation
- ◆ Flexible and customizable based on school size and budget
- ◆ Reliable and professional after-sales support



智能學習方案

Smart Learning Solutions

由專注到互動，智能工具助學生全面發展

From cognitive engagement to interaction — smart tools empower students to excel

ExBrain 腦活動感應器

ExBrain 是**全球最小巧的大腦活動測量與訓練裝置**，透過實時顯示大腦活躍度，配合專屬認知訓練遊戲，有效**提升學生的專注力、記憶力及思維靈活度**。

研究證實，ExBrain 有助學生在課堂上**保持集中，提升學習效率**。在日本試驗中，82% 接受訓練的學生成績有所提升，82%標準差分上升5以上，當中27%更是上升10以上，成效顯著。

ExBrain Brain Activity Sensor

ExBrain is the **world's smallest and lightest brain activity training device**, designed to enhance focus, memory, and cognitive flexibility through real-time brain monitoring and interactive training games.

Proven to help students **stay focused in class and boost academic performance**. In a trial conducted in Japan, 82% of students who underwent the training showed improved performance, with 82% achieving a standard deviation score increase of more than 5, and 27% achieving an increase of more than 10, demonstrating significant effectiveness.

OBIE互動投影器

OBIE 是一款**屢獲殊榮的互動投影器**，專為應對學生參與度不足的挑戰而設。它能將任何地板、桌面或牆面變成互動學習空間，透過動態遊戲吸引學生主動參與。

由教育專家共同研發，OBIE**內置多款與課程緊密結合的互動遊戲**，有效**提升學生的參與度、專注力及學習動機**，讓課堂氣氛更投入、更具互動性。

OBIE Interactive Projector

OBIE is an **award-winning interactive projector** designed to address the challenge of limited student engagement and participation. It transforms any floor, table, or wall into a dynamic learning space that captivates students through interactive play.

Developed with input from educators and child psychologists, OBIE comes **preloaded with a variety of curriculum-aligned games that boost student focus, motivation, and participation** — transforming passive learners into active and engaged classroom contributors.





廢物管理與衛生方案

Waste Management & Hygiene Solutions

從垃圾桶到洗手間 — 可持續發展始於智慧衛生

From Bins to Toilets — Sustainability Starts with Smarter Hygiene

智能廢物箱



智能廢物箱採用**混合電源設計**，可選擇太陽能或一般電源插座，為壓縮系統提供動力，**提升容量達五倍**，**有效防止午膳時段等高峰期出現垃圾滿溢**情況。配備滿載提示、雲端數據收集、設備管理平台、簡易的觸控介面及獎勵計劃整合功能，全面提升校園衛生水平及營運效率。

Smart Waste Bin

The smart bin features a **hybrid power supply** — solar energy or a regular electrical outlet — powering its compaction system to **boost capacity by up to five times** and **prevent overflow during peak periods such as lunch hours**. Equipped with fill-level alerts, cloud-based data collection, a centralized management platform, an intuitive touch interface, and reward program integration, it significantly enhances campus hygiene and operational efficiency.

智能廚餘回收箱



智能廚餘箱具備**自動消毒除臭**功能，有效**減少異味散發**。支援身份核實、滿載警示、自動磅重及雲端數據收集，並可加設顯示屏及互動介面，提升回收體驗與管理效率。

Smart Food Waste Bin

The smart food waste bin features **automatic disinfection and deodorization to prevent odors**. It verifies user identity, tracks fill levels, records weight, and collects cloud data. With a touch interface, audiovisual guidance, and optional display screen, it improves hygiene and optimizes food waste management.

自動分類回收箱



AI智能分類回收箱可**自動分類回收物**，**分類準確率高達95%以上**，有助培養學生良好的回收習慣，並推動環保教育。設備配備滿載警示及即時數據報告功能，並可按需要加入自動壓縮、磅重與身份核實等功能，助學校落實ESG理念，實現更智能及可持續的校園管理。

Auto-sorting Recycling Bin

The AI-powered smart recycling bin **automatically sorts recyclables with over 95% accuracy**, encouraging student recycling habits and promoting environmental education. It features full-capacity alerts, real-time data reports, and additional functions like compression, weighing, and identity verification, helping schools implement ESG principles and achieve intelligent, sustainable campus management.

智能洗手間管理系統



智能洗手間管理系統配備**亞摩尼亞感應器**、**紙巾視液用量感應器**及**漏水偵測**功能，實時掌握異味、潔淨度及用品狀況，實現按需清潔與快速補充，提升洗手間衛生及管理效率。

Smart Toilet Management System

The smart toilet management system features **ammonia**, **consumable**, and **water leakage sensors** to monitor odor, cleanliness, and supply levels in real time. It enables cleaning on demand and timely replenishment, greatly improving restroom hygiene and operational efficiency.



智能機械人 Robotic Solutions

自動巡邏、運送、接待等工作，節省人手，提高營運效率

Free up manpower and enhance operations with patrol, delivery, and reception robots



清潔機械人

清潔機械人配備人工智能，**定時自動清潔高使用區域，有效解決人手不足問題**。提升清潔效率，保持校園環境整潔衛生，減輕人力負擔。

Cleaning Robot

The AI-powered cleaning robot performs **regular cleaning in high-traffic areas, solving manpower shortages** and improving efficiency. It helps maintain a clean and hygienic campus while reducing reliance on manual labor.



智能消毒機械人

智能消毒機械人**於流感高峰期提供定時自動消毒，以安全有效的噴霧消毒劑全面覆蓋高風險區域，有效阻截病毒傳播，保障校園衛生安全。**

Disinfection Robot

During flu season, the smart disinfection robot automatically **sprays safe and effective disinfectant at scheduled times**, covering high-risk areas to stop the spread of viruses and maintain a hygienic campus environment.



禮賓機械人

禮賓機械人提供快捷可靠的**訪客登記服務，兼具接待、助理、監控、嚮導與互動功能**，有效提升校園訪客管理效率與安全水平。

Customer Service Robot

The concierge robot efficiently handles **visitor registration** with reliability and ease. It also offers **assistant, monitoring, guiding, and interactive features**, enhancing campus visitor management and safety.



送遞機械人

送遞機械人自動穿梭於校園，協助運送教材，**減少教師搬運勞損風險，同時節省教學準備時間**。配備智能儲物箱，確保物品安全送達。

Delivery Robot

The delivery robot navigates campus independently to transport teaching materials, **reducing the risk of injury for teachers and saving valuable preparation time**. Its smart storage ensures items are delivered safely and securely.



巡邏機械人

巡邏機械人**日夜無間、風雨無阻地於校園內外定時巡邏**，有效偵測異常情況，防止非法闖入，提升全天候安全防護，減輕人手壓力。

Patrol Robot

The patrol robot conducts **regular indoor and outdoor patrols day and night, even in harsh weather**. It helps detect anomalies, prevents unauthorized intrusions, and enhances 24/7 campus security while reducing the burden on manual patrol staff.





全方位保安及安全方案

Smart Safety and Security Solutions

由門禁至緊急應變，綜合系統全面保障校園安全

Comprehensive systems protect your campus — from access control to emergencies



保安人員

由經驗豐富的專業保安人員駐守校園，全天候守護師生安全，嚴格**防止可疑陌生人在校門附近逗留**，並有效**管理車輛出入**，打造安全有序的校園環境。

Security Guard

Our experienced and professional security guards are stationed on campus to ensure the safety of all students and staff. They **effectively deter suspicious individuals from lingering near school entrances** and **manage vehicle access** to maintain a secure and orderly environment.



電子保安系統

衛安提供多種先進電子保安系統，包括**CCTV、警鐘、門禁、數碼及網絡錄影系統**，以及**夾萬**等，全天候築起安全防線，有效**預防夜間盜竊及闖入事件**，全面保障校園安全。

Electronic Security System

Guardforce offers a wide range of advanced electronic security systems, including **CCTV, alarm systems, access control, DVR/NVR solutions, and safes**. These systems provide 24/7 protection to **prevent theft and intrusion**, especially during nighttime, ensuring comprehensive campus security.



先進保安科技方案

升級校園電子保安系統，結合人臉識別、影像分析與 AI 技術，即時**偵測可疑行為與保安漏洞**，並支援**人臉點名**，提升管理效率與整體安全。

Advance Security Solutions

Upgrade the campus electronic security system with facial recognition, video analytics, and AI technology to detect **suspicious behavior and security risks** in real time. Supports **facial recognition-based attendance**, enhancing management efficiency and overall safety.



物聯網感應器加強安全

透過 IoT 感應器偵測**跌倒、逗留過久、佔用異常及生命徵象**，**預防未經授權人士匿藏於更衣室或洗手間**，配合圖像化儀表板與即時警報，快速掌握潛在風險。

IOT sensors for Safety

Using IoT sensors to detect abnormalities such as **falls, prolonged presence, unusual occupancy, and vital signs** — **Preventing unauthorized hiding in restrooms and changing rooms**. Paired with a visual dashboard and real-time alerts for quick response.

方案一覽 | Solutions Summary

痛點 Pain Points	智慧方案 Solutions	效益 Benefits
學生專注力低、互動不足	智能學習	提升學習效率與專注力
校園環境與衛生受影響，回收效率低	智慧廢物與衛生管理	提高整潔度、分類準確性與效率，減省人手
人手不足難以應對重複性工作	智能機械人	自動化操作，標準一致，減低工傷風險
安全風險無處不在，難以即時掌握	智能保安	主動風險預警，自動化人員與車輛出入管理
Students' lack of focus and interaction	Smart Learning	Improve learning efficiency and engagement
Poor hygiene and low recycling efficiency	Smart Waste & Hygiene	Improve cleanliness, sorting accuracy, and efficiency with less manpower
Manpower shortage for repetitive tasks	Robotics	Automate tasks, ensure consistency, and reduce injury risks
Security risks anytime, hard to monitor	Smart Security	Proactive risk detection, with automate access