AI PLAYBOOK

Built Environment Sector

An AI adoption guide for companies in the Built Environment sector, featuring sector-specific examples that illustrate how AI enables smarter operations, data-driven decision-making and scalable workforce transformation.

NTUC'S AI-READY SG INITIATIVE

INTRODUCTION

NTUC's AI-Ready SG is an initiative driven by NTUC to help workers thrive in an AI-enabled future. Working with tripartite partners, AI-Ready SG consolidates AI initiatives for both workers and employers, equipping workers with AI relevant skills, supporting companies in business transformation and job redesign for better worker outcomes, and improving job matching so workers can access better opportunities; thereby contributing towards a fair transition for workers amid AI adoption.

This playbook is designed to guide workers and companies in navigating the AI-enabled economy. It shares resources, strategies, and success stories that illustrate how job redesign and upskilling in AI can raise productivity and benefit both workers and businesses.

AI READY SG An initiative of NTUC

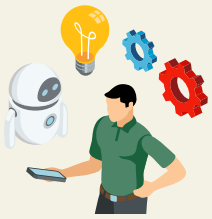
e2i Employment and Employability Institute

ntuc LearningHub

ntuc sme partners

SUPPORTING OUR WORKERS

TRAINING & UPSKILLING SUPPORT



AI is reshaping the way we work, creating new opportunities for workers. By upskilling in AI, workers gain confidence in using AI tools and can take on AI-augmented roles. NTUC is committed to ensuring every worker has access to AI training, regardless of background or experience. Through NTUC LearningHub's broad-based and role-specific AI courses (supported by SSG funding), AI upskilling is made accessible and affordable.

Broad-based AI Skills Training

NTUC LearningHub's curated broad-based courses build essential AI and critical thinking skills for professionals across industries. Participants learn practical generative AI skills, including prompt engineering and business applications, alongside sector-specific use cases to support effective decision-making in an AI-enabled workplace.

Role-based AI Skills Training

Leaders

Courses that focus on equipping leaders to lead AI-driven changes, implementing AI strategies and making data-driven decisions.

Marketing Professional

Courses to equip marketing professionals with practical AI skills to enhance creativity and campaign performance.

Finance Professional

Courses that help finance professionals harness generative AI for smarter decision-making and work automation.

Visit NTUC LearningHub's website to find out more!

https://www.ntuclearninghub.com/ai-playbook/be

Union Training Assistance Programme (UTAP)

NTUC members can defray the cost of AI courses and AI tools through UTAP, with **50% support on unfunded cost***.

**Unfunded cost refers to the balance fee payable after applicable government subsidy. Prevailing funding caps apply.*

For more information on eligibility and how to claim your benefit, please visit: ntuc.org.sg/uportal/programmes/union-training-assistance-programme

NTUC LearningHub Learning eXperience Platform (LXP)

A one-stop online learning platform, which offers timely, bite-sized and quality content to upskill anytime and anywhere.

Discover more at ntuclearninghub.com/lxp

EMPLOYMENT SUPPORT

Navigating career transitions and finding the right opportunities can be challenging in a rapidly changing job market. As AI reshapes jobs and skills, employment support for workers must harness AI and evolve alongside the technology. NTUC is committed to supporting workers at every stage of their career, providing practical resources, personalised guidance, and innovative tools and solutions to better meet workers' evolving needs.

NTUC AI Career Coach (AICC)

The **NTUC AICC** is a one-stop AI-powered platform that helps workers at every stage in their job search journey to assess their career readiness, pinpoint skills gaps, and explore pathways to upskill or pivot into in-demand roles.

Receive your personalised career support at aicareercoach.ntuc.org.sg/dashboard

NTUC e2i's Career & Job Centres

e2i operates **Career and Job Centres** across the island that offer personalised career coaching and job matching services to support jobseekers in navigating the job market. Through tailored guidance and job matching, e2i helps jobseekers identify suitable opportunities, address skills gaps, and make informed career moves as jobs and skills evolve in the AI-enable economy.

For location details and operating hours of e2i Career Centres and e2i Jobs and Skills Centres, please visit:

e2i.com.sg/locations/

Make an appointment to meet a career coach today:

https://e2i.sg/jobmatching

ENABLING BUSINESS AND WORKFORCE TRANSFORMATION

AI TRANSFORMATION

AI is a key driving force of today's industrial transformation. As industries transform, AI is also creating opportunities for workers to take on safer, smarter, and higher-value roles. Across the world, AI is reshaping jobs, reducing repetitive tasks and enabling employees to focus on higher value-added tasks.

To help workers and businesses embark on this transformation, NTUC acts as a strategic enabler through tripartite collaboration:

Collaborative Strategy Design

Bringing the labour movement, employers, and government partners together

Workforce Integration

Aligning technology adoption with job redesign and upskilling

Guided Transformation

Using proven tools like the Operations & Technology Roadmap (OTR)

NTUC supports companies in business and workforce transformation, upskilling, and job redesign, including AI adoption through the Company Training Committee (CTC) and grant funding. In turn, workers benefit from better career prospects and wages through skills allowances, wage progression, and career development plans. This approach enables companies to embed AI into their operations to boost productivity while creating better jobs and better job prospects for workers.

The next section outlines NTUC's resources and services to help companies kickstart their AI transformation journey.

GETTING STARTED ON AI TRANSFORMATION

The NTUC AI Transformation Blueprint offers a step-by-step framework to assess AI readiness (via the AI Readiness Index), provide tailored consultations, develop a customised AI Operation and Technology Roadmap, identify training and talent needs, and access CTC and grant funding to implement AI.

Here is how companies can leverage NTUC's ecosystem of resources to get started:

1. AI-Readiness Assessment

Complete a 3-minute AI assessment to receive a personalised report on your organisation and workforce's current AI readiness and identify key gaps to reach your desired state.

- **http://ntuc.airi.sg**

2. Consultation

Receive consultation from NTUC's Industry Training Officers (ITO) who will guide you through your transformation journey, connecting you with the necessary help and resources to achieve your goals.

- **https://www.ntuc.org.sg/jsc/contact-us**

3. AI OTR

Partner us to build a future-ready business and workforce by developing a customised AI Operation and Technology Roadmap (AI OTR). This process identifies suitable resources including AI solutions and training to support business growth and manpower transformation.

4. AI Training

NTUC LearningHub offers customised learning solutions and Learning eXperience Platform (LXP) courses, with various government funding of up to 90%.

5. Talent & Job Redesign

e2i provides access to funding support and programmes that make upskilling, reskilling and job redesign more affordable and practical for SMEs.

6. AI Solutioning

Collaborate with NTUC ecosystem solution partners to scope AI application projects to solve business challenges and drive AI adoption effectively.

7. NTUC CTC & Grant

Form a Company Training Committee (CTC) with us and drive business and workforce transformation through AI skills upgrading, job redesign, and AI solution adoption with CTC funding of up to 70%.

Read about how some businesses have tapped on the CTC and grant to transform their business and workforce in this playbook.

THE AI OTR METHODOLOGY

The **AI Operation & Technology Roadmap (AI OTR)** is a structured, forward-looking framework that helps companies align their business objectives, technology plans, and workforce strategies. Unlike conventional transformation efforts that focus purely on identifying technology, OTR emphasises on cross-functional collaboration, ensuring alignment between leadership, operations, and technical teams.

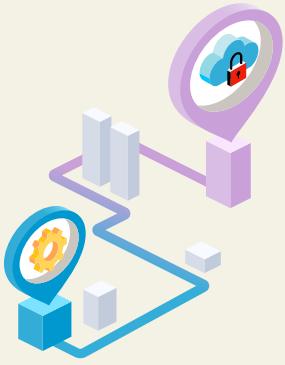
Understanding the Need for Change

OTR helps companies anticipate industry shifts, assess their impact on competitiveness, and clarify the business objectives driving AI adoption. Through facilitated workshops, leaders and employees co-create purpose-driven AI initiatives aligned with strategic priorities and workforce needs, ensuring AI adoption is guided by intent, not technology.

Mapping Digitalisation and AI Opportunities

With clear objectives, companies identify high-value AI and digital opportunities aligned to business needs. Facilitators help prioritise initiatives based on impact, feasibility, and readiness, ensuring resources deliver meaningful outcomes for both businesses and workers.

Charting the Path Forward



The OTR culminates in a time-bound AI roadmap that aligns business vision, technology adoption, and workforce development. Anchored by a strong workforce transformation plan, it equips employees with the skills and mindset for AI adoption. Through this process, organisations embed AI into how they plan and operate, ensuring a human-centric and future-ready transformation.

Sustaining Transformation Through Ecosystem Collaboration

Sustainable AI transformation is enabled by Singapore's tripartite ecosystem. As a key connector, NTUC links companies to funding, training, and capability-building support which ensures AI roadmaps translate smoothly from strategy to implementation.

Thank you to the NTUC IT&T & UWEEI team for partnering with us to shape our 2030 AI and digitalisation roadmap. The workshop's methodology was instrumental in helping our team to form a unified roadmap by uncovering blind spots, spark meaningful discussions, and connect insights across various functions. Through the workshop, we gained clarity and alignment that will guide us forward. We see this not as the end, but the beginning of a deeper collaboration, and we look forward to continuing this partnership as we transform our workforce for the future.

Mr Balamurali Kumar V,
Senior Director, Manufacturing Excellence
STMicroelectronics

STMicroelectronics

Uweei

Through the AI Roadmap OTR, we gained clarity on where AI can create the greatest impact for SSMC. The structured process helped us identify opportunities, prioritise initiatives, and align our teams. We didn't just chart our unique roadmap, the process also helped align our people to move forward with confidence. We extend our sincere thanks to UWEEI and NTUC for bringing us through this process!

Mr Lim Soon,
Chief Executive Officer
Systems on Silicon Manufacturing Company

ssmc®
(A Joint Venture of NXP & TSMC)

Uweei

AI TRAINING TO UPSKILL WORKERS

As AI becomes more pervasive, building employees' skills and confidence is a business imperative. AI capability enables workers to adapt faster and perform better, while helping businesses drive productivity, innovation and competitiveness.

NTUC LearningHub Learning eXperience Platform (LXP) Enterprise

LXP Enterprise is a one-stop digital learning platform that enables businesses to identify skills gaps, deploy targeted training and track workforce progress using expert-led online courses. Employees can learn anytime to build job-ready digital, technical and adaptive skills, while earning certificates upon course completion.

Meet your corporate training needs with LXP Enterprise
https://www.ntuclearninghub.com/lxp/enterprise

NTUC LearningHub AI Programmes and Courses

NTUC LearningHub offers a comprehensive suite of AI programmes, from foundational AI literacy to role-based training for functions such as Marketing, Finance, and Sales. NTUC LearningHub also provides sector-specific AI modules that enable organisations to apply AI effectively within their industry.

Partner NTUC LearningHub to enhance your workforce's AI capabilities and readiness today. https://www.ntuclearninghub.com/ai-playbook/be

TALENT & JOB REDESIGN

As more companies adopt AI, job scopes, talent needs, and skill requirements change. NTUC supports companies with programmes and funding for job redesign and reskilling, while helping them access the right talent needed for emerging roles.

Hiring & Recruitment services

e2i offers one-stop, personalised support for companies' manpower and training needs. e2i will work with you to identify your requirements, assist in outreach and screening of potential recruits, and connect you with shortlisted candidates.

For more information, please visit https://e2i.sg/manpower

Career Conversion Programmes (CCPs)

CCPs provide employers support to broaden their talent pool by reskilling mid-career new hires and/or existing employees into growth jobs with longer-term prospects and opportunities. These may include roles that are redesigned or newly created due to digitalisation or AI adoption.

For new hires
Salary support for the duration of On-the-Job Training and any facilitated training:
- Up to 70% of monthly salary (capped at $5,000/month)
- Up to 90% of monthly salary for mature workers (≥40 years old) or long-term unemployed (capped at $7,500/month)

For existing workers (redeployment / reskilling)
- Support for Job Redesign Reskilling (JRR) to enable workers to take on growth job roles that could include AI-related skills

For more information, please visit https://e2i.sg/ccp

COMPANY TRAINING COMMITTEE GRANT (CTC GRANT)

The NTUC CTC Grant, managed by e2i, supports companies with CTCs in driving business and workforce transformation, including AI adoption. It helps businesses boost productivity and competitiveness while enabling workers to develop skills, take on higher-value roles, and access better wages and career opportunities.

As of Dec 2025, NTUC had approved **over 800 NTUC CTC Grant projects** across various industries, of which over 70 are AI focused projects. Through the CTC Grant, around 13,000 workers have been upskilled and enjoy better wages and work prospects.

Funding Parameters

Eligible companies that form CTCs can receive up to 70% funding support for qualifying project costs including (but not limited to):

- In-house or external training (non-SSG supported) tied to transformation project
- Equipment and software essential to job redesign
- Consultancy services

Qualifying items are assessed based on whether they drive better business and worker outcomes. These include (but not limited to):

- **Enterprise Transformation:** Enhance business capabilities, innovation, and/or productivity
- **Workforce Transformation:** Better career prospects and wages for workers (Singaporeans and Singapore PRs) through efforts such as job redesign.

Worker Outcome Requirements

Applicant to commit to at least 1 of the following worker outcomes:

- Wage increase; and/or
- Recurrent Skills Allowance[1] or One-time Allowance[2]; and/or
- Implemented Career Development Plan (CDP) that is communicated to staff

[1] *Frequency can be either monthly, quarterly, half-yearly, or yearly, and amount is to be commensurate with the scale and type of project, in consultation with CTCs.*

[2] *This is applicable for projects with only training components tied to an approved CTC Grant transformation project. Amount of skills allowance is to be commensurate with scale and type of project.*

For more information on eligibility and the grant, please visit

https://e2i.sg/ntucctc

SECTORAL AI SOLUTIONS

AI IN BUILT ENVIRONMENT (BE) SECTORS - USE CASES ACROSS BE VALUE CHAIN

AI is transforming every stage of the Built Environment (BE) value chain not just by enabling smarter, faster and more resilient operations, but also by reshaping jobs to make work safer, less repetitive and more meaningful. As workers gain new skills and confidence with AI tools, businesses unlock efficiencies and innovation. Here are some areas where AI empowers people and drives business outcomes:

Predictive Analytics & Maintenance
Forecasting issues, optimising operations and reducing downtime of assets.

Autonomous & Robotic Systems
AI-driven machines performing physical tasks for cleaning, security and diagnostics.

Smart Scheduling & Optimisation
Efficient use of time, space and resources through intelligent planning.

Computer Vision & Analytics
Visual analysis for safety, compliance and design enhancement.

Drone & Sensor-based Monitoring
Real-time site and environmental monitoring using drones and sensors.

Smart Buildings & Environmental Systems
Energy efficient and adaptive infrastructure powered by AI.

AI-assisted Design Planning
Leveraging generative AI to optimise interior layouts and building designs

Smart Video Analytics & Remote Surveillance
Continuous monitoring for proactive detection, faster interventions and improved operational oversight.

AI TRAINING FOR BE SECTORS

In addition to gaining role-based AI skills, workers across the BE sectors can also gain sector-specific AI capabilities through NTUC LearningHub's structured training programs. These programs empower workers to deliver greater value in their jobs and strengthen their resilience in an evolving workforce.

NTUC LearningHub's courses are eligible for SkillsFuture Singapore (SSG) funding, absentee payroll support and Union Training Assistance Programme (UTAP) funding.

Fundamentals of AI Applications In Built Environment

This course empowers BE professionals to leverage Generative AI and automation to enhance building maintenance schedules, streamline tenant communication and utilise predictive analytics for proactive asset management.

Smarter Supply Chain Workflows with AI

Participants will learn how to apply AI fundamentals and data-driven analytics to automate supply chain workflows and develop a practical AI integration plan that improves efficiency, cost control and decision-making that will improve end-to-end project delivery.

Mastering Internet Of Things (IoT) 101

This course equips learners with knowledge of IoT for the built environment, including how sensors, networks and data platforms are integrated to monitor, control and optimise building and automation systems. Through a combination of theoretical knowledge and practical exercises, participants will develop skills in programming, system integration and task optimisation using IoT tools.

Visit NTUC LearningHub's website to find out more!

https://www.ntuclearninghub.com/ai-playbook/be

Beyond NTUC LearningHub's structured AI training programme, the BE sector is also supported by SJ Global Academy. As the learning and development arm of SJ Group, SJ Global Academy focuses nurturing a generation of forward-thinking professionals who will lead the transformation of cities, infrastructure and communities through AI innovation, excellence and digital mastery.

AI Foundation for the Built Environment

Through interactive modules, participants will gain practical skills using Copilot across Word, PowerPoint, Excel, Teams and Outlook. Participants will learn prompt flows and best practices, explore Copilot Chat and understand the difference between work-grounded and web-grounded data which is essential for responsible AI use. Participants will also engage with responsible AI principles through real-world scenarios and hands-on exercises relevant to the work in Built Environment sector.

AI and Computational BIM using Revit Module 1-4

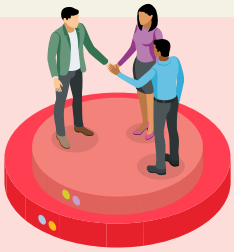
With the Integrated Digital Delivery (IDD) initiative accelerating digital transformation, the BE industry can no longer rely on manual data entry and repetitive modelling tasks. The Computational BIM using Revit course introduces participants to the power of Computational Design using Dynamo, the visual programming environment within Revit for design and documentation automation with built-in AI engine. Participants will learn how computational methods can streamline workflows, improve productivity and enable more intelligent model-based design processes.

SJ Academy

Visit SJ Academy's website to find out more!

https://sjacademy.docebosaas.com/external/learn

The next section demonstrates how some businesses have tapped on the strength of the tripartite partnership to embrace AI and integrate workforce upskilling into business transformation using the CTC scheme.



AI-DRIVEN TRANSFORMATIONS

AI-Powered Surveillance Sweeper for Cleaner, Safer Roads

YS Yong is a Singapore-based company offering comprehensive environmental services, including waste management, horticultural maintenance and cleaning of public spaces and roads.

Built Environment And Urban Trades Employees' Union (BATU) through the **Company Training Committee (CTC)** and grant funding supported YS Yong to implement the AI-powered surveillance sweeper provided by **W – Locate Pte Ltd**.

With the AI-powered solution, cleaning routes are intelligently optimised so sweepers operate only where needed. This helps YS Yong reduce operating costs by saving fuel and time, while consistently delivering high-quality cleaning outcomes. As a result, YS Yong's cycle time is projected to decrease by 25%.

Challenges Faced

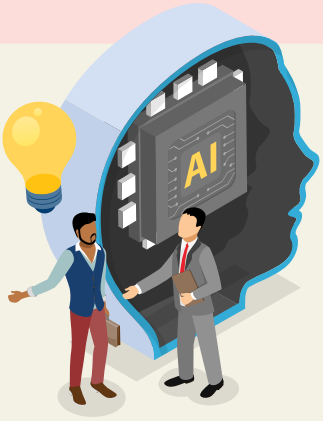
Unsafe & Manual Drain Checks
Workers had to walk along busy roads to inspect drainage chambers which was dangerous and reliant on human judgement.

Inefficient Road Sweeping
Road sweepers cleaned on fixed schedules. This resulted in wasted fuel, time and manpower for roads that were already clean.

Solutions Adopted

AI-powered Mechanical Sweeper
Equipped with smart cameras and advanced software, the sweeper uses computer vision to spot blockages or damage in drainage chambers. An AI-powered software generates digital maps highlighting areas that need maintenance or repair.

Real-time updates guide cleaning teams on where to go and what actions to take while predictive analytics anticipate future issues for proactive maintenance.



Training: To ensure the successful implementation and operation of the AI-powered manufacturing system, technicians underwent targeted AI training programs designed to build essential technical competencies that included building up foundational knowledge in AI and learning effective troubleshooting techniques:

- **AI Support System Overview & Basic Operation** – providing foundational knowledge of how the solution worked and hands-on experience in learning how to train the AI algorithm.
- **Basic Troubleshooting for AI and Vision Systems** – equipping technicians with practical skills to diagnose and resolve common issues related to the AI algorithms and vision hardware.

Job Redesign: After the implementation of the AI-powered manufacturing solution, the technician role was **significantly redesigned and elevated from manual, repetitive tasks to a more technology-driven and multi-skilled position.**

The redesign introduced several key changes to the technicians' responsibilities, including:

- transitioning from manually inspecting parts to overseeing and operating AI-driven inspection systems,
- shifting from manual data entry and report preparation to validating defects and conducting root cause analysis in collaboration with engineers,
- progressing from single-focus inspection tasks to a multi-functional role encompassing system operation, maintenance, and troubleshooting.

"Previously, we had to walk along busy roads to check drains for blockages and keep the roads clean. Now, with the AI-powered surveillance sweeper, I know exactly where the blockages are and I can focus my attention on rectifying it. This has made me more productive and efficient.

Darahaman Bin Ali,
Cleaning Crew
YS Yong

YS YONG SERVICES PTE LTD

BATU

W-LOCATE
A TELEMATICIAN LAB

SMART WASTE MANAGEMENT FOR A SUSTAINABLE FUTURE

800 Super is an established homegrown environmental services provider for the public and private sectors in Singapore. 800 Super's waste management services include residential, commercial and industrial waste collection services, as well as recycling services.

Built Environment And Urban Trades Employees' Union (BATU) through the **Company Training Committee (CTC**) and grant funding supported 800 Super to implement the smart waste management solution provided by **SG Recycle**.

With the smart waste management solution, 800 Super has seen recycling rates triple and reduced the recyclable contamination rate from 40% to just 5% without requiring additional manpower or working hours.

Challenges Faced

Low Public Participation in Recycling

Residents were not motivated to recycle due to the lack of incentives and convenient recycling options, leading to low recycling rates in the community.

Inefficient Recyclable Collection

Recyclables were collected on a fixed schedule rather than based on actual bin usage, sometimes resulting in wasted manpower and fuel when bins were not full.

Solutions Adopted

Smart Waste Recycling Bin ("Cash-for-Trash" System) With Computer Vision & Data Analytics

Automated recycling stations reward users with cash or credits for depositing recyclables such as plastic bottles, cans and paper. This modern approach revitalises the traditional "Karang Guni" system, encouraging more people to recycle through convenience and incentives.

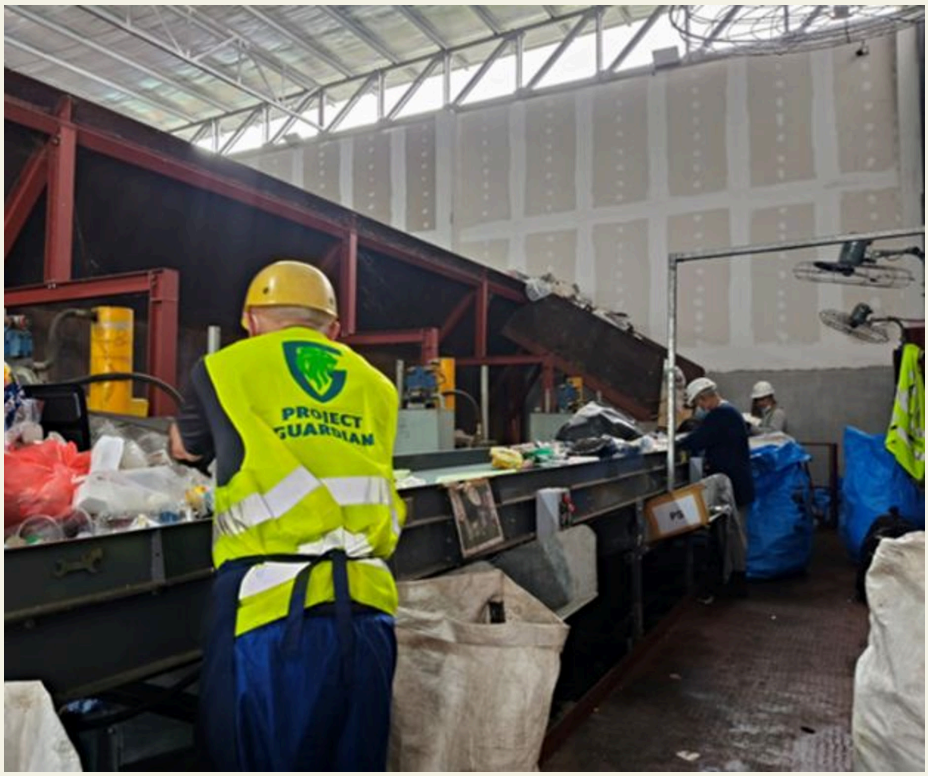
Through advanced vision technologies, the bins identify, sort and compact recyclables while recording transaction and usage data. This enables more efficient collection planning, reduces contamination and provides valuable insights to improve sustainability programs & recycling behaviour.

Training: To ensure the successful adoption and operation of the AI-powered recycling system, workers participated in specialised training programs aimed at developing key technical and operational competencies, including foundational knowledge in AI-driven processes and safe system handling practices:

- **Safe Handling and System Monitoring Techniques** – training workers on proper safety protocols, system checks and how to interpret real-time data to ensure smooth and efficient operations.
- **Basic Troubleshooting for AI Sorting Equipment** – equipping workers with essential problem-solving skills to identify and address common system alerts, sensor issues and minor equipment faults.

Job Redesign: Following the implementation of the AI-powered recycling solution, workers' roles were transformed from labour-intensive and repetitive sorting duties into more technology-enabled, supervisory and value-adding functions. The redesign introduced several key enhancements to the workers' responsibilities, including:

- moving from manual sorting of mixed recyclables to overseeing the equipment,
- transitioning from physically strenuous activities such as prolonged standing, bending and lifting to monitoring automated systems and ensuring smooth workflow,
- evolving from routine waste-handling tasks to more diverse responsibilities involving system observation, performance optimisation and basic maintenance support.



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Before Jan 2025, we used to receive around 21 tons of recyclables at the Material Recycling Facility (MRF) with around 27 workers, each working 8-hour shifts. As of October 2025, with the new initiative, we are receiving 60 tons of recyclables at the MRF with the same workforce and working hours, while even enjoying a longer tea break of 25 minutes instead of 15 minutes.

Mr. Rusli Bin Raban,
Team Leader
800 Super

800 SUPER BATU SG RECYCLE

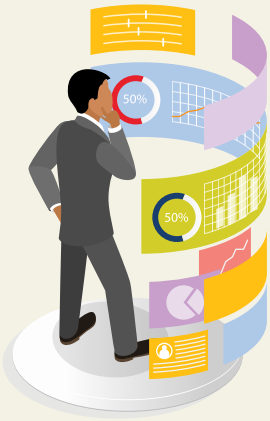
SMART INTEGRATED SECURITY FOR FASTER RESPONSE TIMES

Henderson Security Services Pte Ltd specialises in providing integrated security and facility management solutions infused with smart technologies which includes autonomous patrol robots and centralised command centres.

Union of Security Employees (USE) through the **Company Training Committee (CTC)** and grant funding supported Henderson Security to implement the smart integrated security solution provided by **Icetana AI, Sendquick, Beyond Sensor and Rah Tech.**

With the solution, security officers now perform virtual patrols using advanced cameras and autonomous robots, significantly reducing physical strain and manual effort. This shift enables faster response times and allows personnel to concentrate on critical incidents, leading to enhanced operational efficiency and a more streamlined workflow.

Challenges Faced	Solutions Adopted
Time-Consuming Patrol Schedules Officers had to adhere to strict patrol routes and schedules, which diverted valuable time and resources away from addressing more complex security needs.	**Autonomous Security Robots** Autonomous robots equipped with cameras and sensors patrol the area, freeing officers to handle emergencies.
Missed Incidents From Officer Fatigue Officers had to manually monitor CCTV footage for long hours, leading to fatigue and missed threats due to lack of focus.	**Smart CCTV Monitoring** AI analyses video footage continuously and highlights suspicious activity, allowing officers to act quickly and reducing chances of missed threats.
Slow Communication Leading To Delays In Response Important updates were shared manually via WhatsApp, causing delays in incident response.	**Automated Real-time Alerts** AI-powered systems automatically send real-time alerts to the appropriate personnel when incidents occur, enabling quicker response and improved situational awareness.



Training: To ensure the successful implementation and operation of the project, officers went through targeted user interface training to understand how to operate the various systems. Officers also went through training on operations response procedures with the changes in job scope as a result of the new systems and capabilities.

Job Redesign: The implementation of the AI-driven security system has led to significant job redesign for security personnel. Traditional manual tasks such as foot patrols and continuous CCTV monitoring have been minimised, reducing physical strain and fatigue. Officers have now transitioned into roles that emphasise incident response, decision-making and operating advanced technologies. This shift has also created opportunities for upskilling, enabling staff to acquire new competencies in tech-enabled security operations.

The URA Building project represents a meaningful transformation of our security operations. By integrating AI-powered monitoring, complementary security technologies and workflow redesign, we managed to optimise our security operations through remote monitoring and reducing manual surveillance. This has allowed our security officers to focus on critical incidents, decision-making and proactive engagement on the ground, elevating their roles from passive monitoring to higher-value, response-driven functions.

We have seen tangible improvements in maintaining a high level of security at the site through detection of non-compliant behaviour using our AI video analytics software. The use of the software enables our officers to focus on incident response as compared to manual monitoring.

We are committed to constantly improving the technologies implemented and upskilling our officers to ensure key outcomes are being met.

Daniel Marc Chow,
Managing Director
Henderson Security Services Pte Ltd

Vendors:

AI DETECTION & REMOTE ACCESS CONTROL

Singtec Security (Singtec) is a Singapore-based security agency with over 40 years of experience, specialising in manpower deployment and remote surveillance solutions. The company is dedicated to delivering tailored security operations across the island, combining expertise with technology to meet diverse client needs.

Union of Security Employees (USE) through the **Company Training Committee (CTC)** and grant funding supported Singtec to implement the AI detection and access control solution by **Mighty-I Technology**.

The adoption of the AI security solutions has enabled Singtec to streamline operations by shifting from manual, on-site tasks to remote, tech-enabled monitoring. Officers now operate from centralised command centers, improving efficiency, safety and resource utilisation.

Challenges Faced

Intrusion Risk

Current monitoring methods did not have the capability to detect and deter intrusion in restricted areas, resulting in slow response times when intrusion occurred.

Manual Operations

Officers had to be physically present to verify visitor identities, perform verification checks and grant access.

Solutions Adopted

Intrusion Detection & Deterrence

The AI-powered surveillance system detected individuals approaching restricted zones, triggering alarms to deter and prevent unauthorised access. The system also enabled real-time tracking of individuals across the island for enhanced monitoring and security oversight.

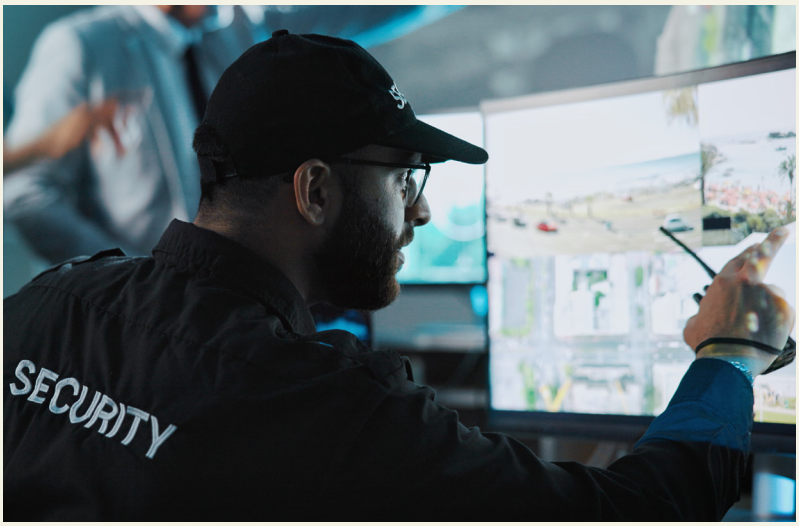
Remote Access Control

Officers could verify visitor identities, grant access and communicate remotely for clarification from a command center. This improved their working conditions while allowing the company to consolidate operational resources more efficiently.

Training: Workers underwent training in AI-powered surveillance and intrusion detection to understand and interpret system alerts, as well as training on operating remote access control systems for identity verification and access management from a command centre.

In addition, they also underwent foundational digital and AI literacy training to support the shift from manual, on-site security tasks to technology-driven, remote security operations. This helped them to understand and build confidence in using AI technologies.

Job Redesign: With the AI-powered monitoring and remote access control solution, officers' roles have evolved from traditional on-site protection and monitoring to centralised remote surveillance through a command center. This transformation also marked a shift from manual physical screening processes to technology-driven operations, where officers now manage and operate advanced security systems to ensure efficiency and enhanced security.



Our technology enhancement project at St John's Island has fundamentally transformed both operational effectiveness and officer welfare. Previously, officers were required to travel by ferry with rigid schedules, endure long waiting intervals and traverse unsheltered routes under intense heat or heavy rain due to the island's limited infrastructure. Today, all monitoring operations are conducted remotely from our mainland command centre in Singapore, eliminating logistical inefficiencies while significantly improving manpower deployment and staff well-being.

At the site, we have deployed high-level CCTV cameras integrated with AI-powered analytics, perimeter fencing intrusion detection systems and remote access control capabilities. This enables our officers to conduct personnel screening, manage barrier access and detect trespassers — including tourists and adventure seekers — in real time. The system provides automated alerts when predefined conditions are met, ensuring swift and precise responses without relying solely on manual observation.

Overall, this technology enhancement initiative has strengthened security coverage, improved response capabilities, enhanced monitoring reliability and elevated officer welfare. By reducing physical strain while empowering officers with intelligent systems, we have also seen increased motivation and job satisfaction — contributing to reduced medical leave and stronger operational stability for both Singtec Security and our client at St John's Island.

Joe Singh,
Operations Director
Singtec Security

AI Partner Case Study: Unlocking Sales Opportunities With AI

Cushman & Wakefield (C&W) is a global real estate services firm that manages and operates commercial properties, offices and business parks worldwide.

With **Voncierge**'s AI-powered video concierge system, C&W is able to deliver a consistent, professional visitor experience while simultaneously enhancing operational efficiency.

Challenges Faced

Service Gaps & Lack of Visitor Engagement Tracking

Insufficient manpower during after-hours led to service gaps during those periods.

Visitor engagement was also handled manually hence there was no systematic tracking, leaving management without visibility into the services delivered.

Solutions Adopted

AI-powered Concierge by Voncierge

Voncierge implemented a video concierge system integrated with C&W's property management platform. It featured an intelligent avatar with wayfinding capabilities, real-time visitor notifications for tenants, and automated interaction summaries.

A dashboard provided management with insights and visibility into visitor trends and response times allowing management to make informed, data-driven decisions and optimise operational performance.

Reach out to us and start your AI transformation journey

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