



EMPOWERING TEAMS WITH ASSISTIVE ROBOTIC SYSTEMS



COOPERATE OVERVIEW

About Us:

- A Canadian Robotic Tech company based in Newfoundland.
- Specialize in development, supply and integration of advanced service co-robotic solutions driven by cutting-edge machine learning tech.
- Focused on boosting workforce productivity in healthcare and hospitality sectors through innovative automation technology.

Leadership:

- Led by CEO Norbert Obi, a Master of Computer Science graduate from Memorial University of Newfoundland with a passion for automation solutions.
- Extensive experience in streamlining operations through scripts and software automations, and leadership experience inspired by his Canadian Military background.

Our Innovation:

- At Avalon Robotics, we're pioneers in leveraging robotics technology to transform industries.
- Dedicated to developing innovative co-bot solutions that enhance productivity across health care and hospitality sectors.

Our Mission:

- To revolutionize workforce efficiency through groundbreaking service robotic solutions.
- Committed to reshaping business operations amidst AI-driven workforce, combating business operation challenges and labor shortages.



Empowering the Workforce with Impactful Solutions



OUR MISSION

Empowering healthcare providers and revolutionizing workforce time management is at the core of our mission.

Through innovative robotics solutions, we are dedicated to optimizing efficiency, safety, and productivity within healthcare, hospitality and more.

Our cutting-edge technology automates repetitive and mundane tasks, allowing professionals to focus more on delivering exceptional patient care and core services.

Join us in creating a future where advanced robotic technology transform work satisfaction in healthcare and hospitality.

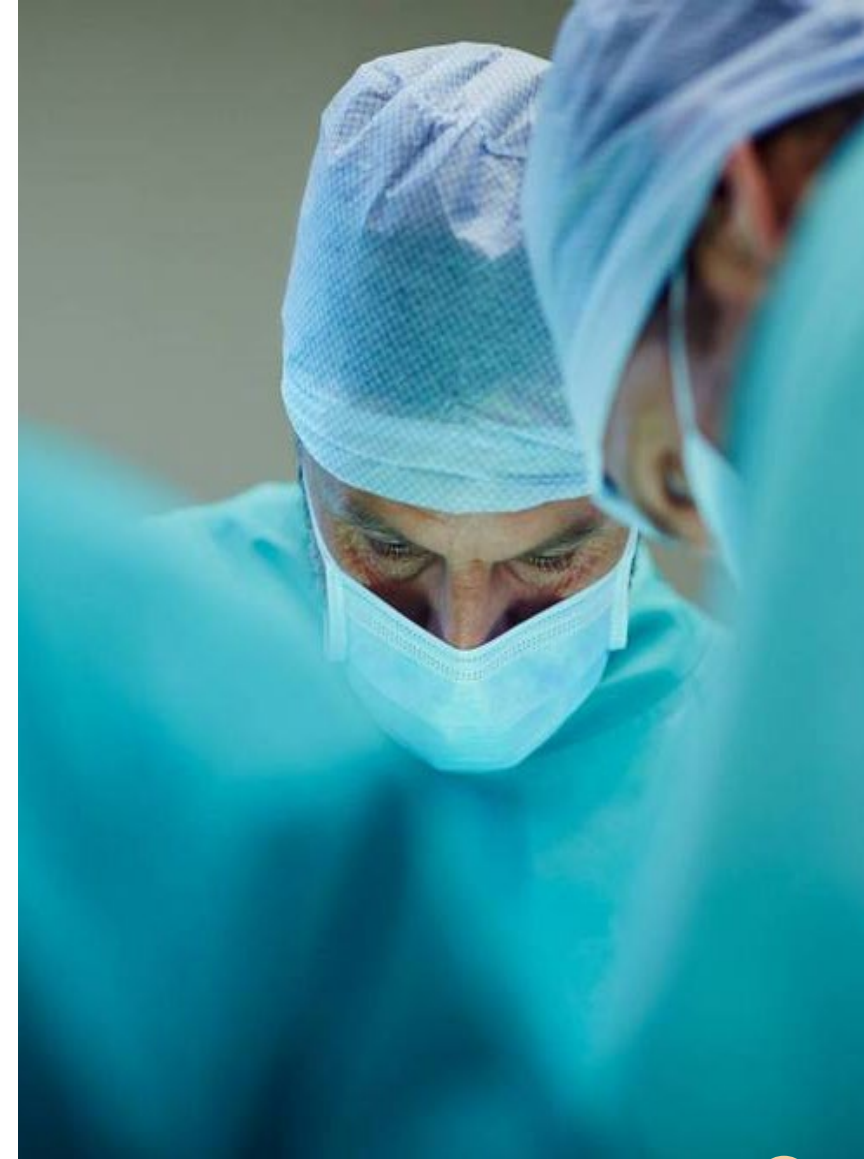


INDUSTRY CHALLENGES'

- Research indicates that nurses and medical caregivers dedicate a substantial portion of their work hours to repetitive non-core tasks [1, 2].
- They frequently engage in long-distance inter-unit deliveries and other non-clinical activities, significantly contributing to burnout and a decrease in job satisfaction.
- Staff attrition, low productivity and low morale are often associated with the inherent physical and high workload demands within the health care and frontline workforce [1, 2].

[1] Ohneberg, C., Stöbich, N., Warmbein, A. et al. Assistive robotic systems in nursing care: a scoping review. BMC Nurs 22, 72 (2023). <https://doi.org/10.1186/s12912-023-01230-y>

[2] Hendrich A, Chow MP, Skierczynski BA, Lu Z. A 36-hospital time and motion study: how do medical-surgical nurses spend their time? Perm J. 2008;12:25–34. <https://doi.org/10.7812/tpp/08-021>



SOLUTIONS

Give Back Time

- Nurses, frontline, care workers spend up to 30% of their time on non-value-added tasks.

Our revolutionary robotic solutions are transforming workforce by addressing significant challenges. These state-of-the-art robots autonomously handle essential tasks like managing deliveries, such as lab and pharmacy items, and any other related items. By taking charge of routine deliveries and activities such as disinfection, cleaning, they notably reduce non-patient-related tasks.

In collaboration with frontline staff, our robots optimize workflow efficiency, allowing a greater focus on core activities. This efficiency means more direct patient-care interactions, leading to enhanced health outcomes.

The integration of these innovative robots within healthcare and hospitality settings has the potential to revolutionize service delivery. It not only increases job satisfaction among clinical staff but also significantly improves overall clinical and non-clinical outcomes while optimizing productivity.

Augment Current Staff

- The demand for nurses is surging, but supply is not growing fast enough (2.7M (2014), 3.2M (2024))

Helps Retain Staff & Boast Business Continuity

- Front line, nurse turnover rate is 16.8%



PRODUCT HIGHLIGHT

TESTED

Our robots are the result of extensive research and development and are currently operational in various settings.

UNIQUE

Dedicated autonomous and intelligent service robots designed specifically for the healthcare industry.

STABLE AND ROBUST

Attains a remarkable 99.9% accuracy in obstacle avoidance and delivery accuracy.

AUTHENTIC

Developed in collaboration with medical experts to incorporate their valuable input and expertise.



PRODUCT CATEGORIES

ITEM DELIVERY SYSTEMS FOR HEALTH CARE FACILITIES

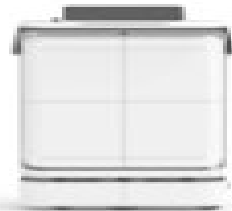
Intelligent service robots designed to automate medical item deliveries within healthcare, and care homes, ensuring staff focus on what matters.

DISINFECTANT ROBOT FOR HEALTHCARE FACILITIES

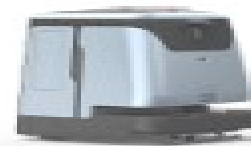
Intelligent autonomous disinfection robot equipped with UV lamp and dry fog technology for efficient sanitization.



Intelligent
Disinfection
Robot



Hospital Delivery
Robot



Commercial
Floor Washing
Robot



Intelligent
Reception Robot

FLOOR CLEANING ROBOTS FOR HEALTHCARE FACILITIES, SENIOR HOME, DENTAL OFFICES

Our cleaning AI robots are fully unmanned, offering 100% automated cleaning that minimizes labor costs.

ROBOTS FOR CART AND MATERIAL TRANSPORTATION

Featuring a lift function and a dedicated rack locking mechanism, our cart robots ensure the cart remains securely attached during high-speed movements, guaranteeing reliability and stability.

MODEL - HOSPITAL DELIVERY ROBOT (LEO) THE NURSE ASSISTANT



Leo, The Versatile, Secure And Efficient Delivery Robot, Excels In Multi-point Delivery Of Medications, Lab Items, Meals, Specimens, And Other Essentials In Healthcare Facilities, Dental Offices, Senior Homes And More.

Security and Authentication Technology

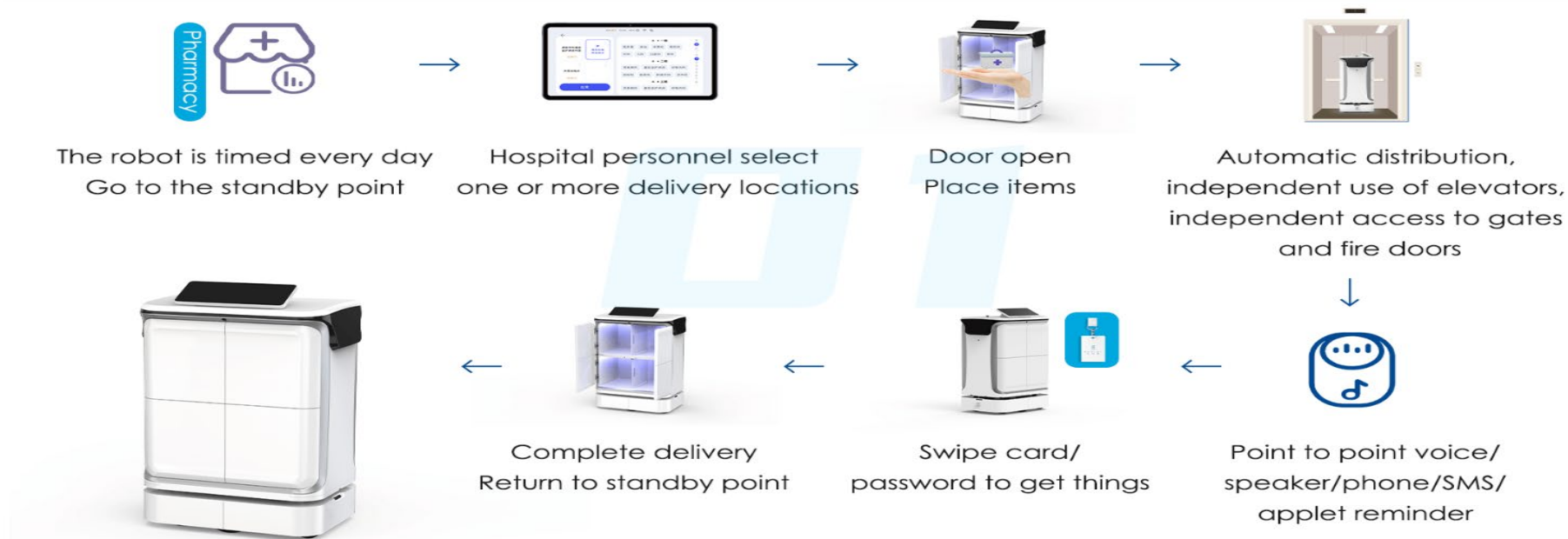
Leo is equipped with robust security and authentication system to prevent unauthorized personnel from accidentally removing or misplacing materials from the robot cabin.

Smart Dispatching Management Systems

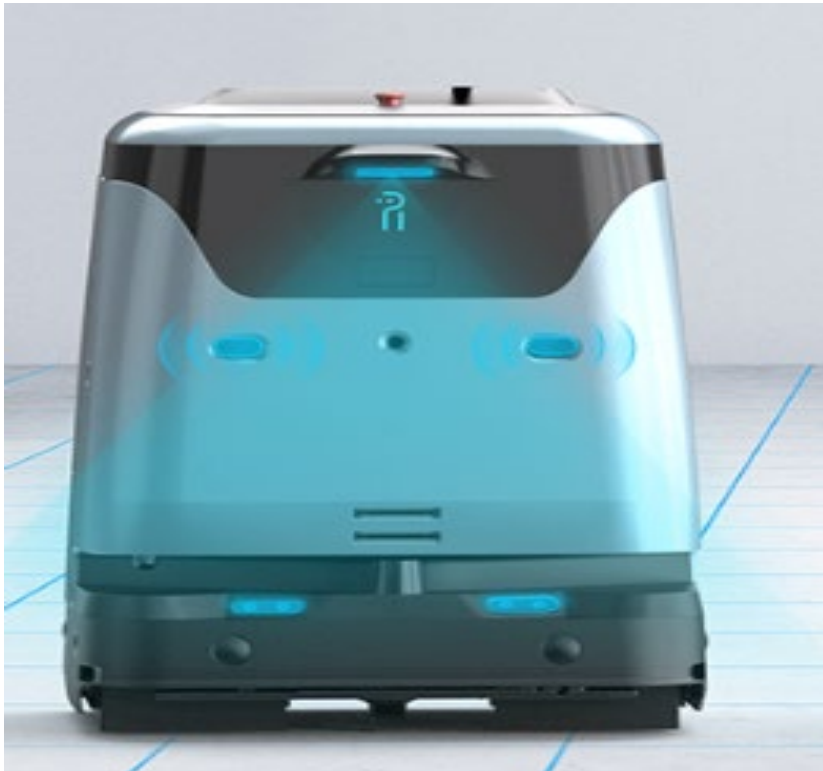
Our software management system allows for the efficient dispatch of Leo to multiple wards in a single run, streamlining operations and enhancing overall management.

UV System – No Contamination

Leo comes with an integrated ultraviolet lamp that enables both manual and automatic disinfection of the cabin.



MODEL - FLOOR CLEANING ROBOT (MILO) – JANITOR



Milo, The Bully Unmanned Cleaning Robot, Provides 100% Automated Cleaning, Reducing Labor Costs Effectively.

Multi-terminal, Convenient and Intelligent Management System

Cleaning tasks can be assigned to Milo through an app, operation screen, and web page. It supports remote monitoring, real-time data upload, and generates comprehensive reports for efficient cleaning operations.

Obstacle Avoidance System

Milo employs intelligent navigation technology for efficient and swift delivery, ensuring obstacle avoidance and smooth

Small Turning Radius

With its rear drive design and small turning radius, Milo offers high cleaning efficiency, enabling it to effectively clean smaller areas with ease.



Patrol cleaning Stay clean at all times

In patrol mode, the floor stains are identified and cleaned autonomously.

Continue sweeping Intelligently plan routes

Low power, automatic recharge, continue cleaning after completion; When encountering obstacles, avoid them on your own.



reddot winner 2022

-  **dust mopping & scrubbing double clean**
-  **Unique self-cleaning**
Optional workstation for self-cleaning of dust push cloth and drainage of water tank
-  **Consumables are easy to replace**
Componentized consumables design, easy to replace, saving time and effort
-  **Intelligent management**
Tasks can be assigned regularly and remotely through multiple ports such as the central control background, app, etc.

MODEL - UV + DRY FOG DISINFECTANT ROBOT (MIA)



Mia, The Unmanned Disinfectant Robot, Ensures Enhanced Safety And Cost Efficiency By Eliminating The Need For Manual Labor.

Top Performer

MIA, recognized as a top-performing disinfection robot, was selected among the best 15 artificial intelligence classic cases of 2021 by e-Net Research Institute and Deben Consulting, out of a total of 100 contenders.

Mia, with its robust disinfection process, provides double disinfection applying UV and Dry fog process which optimized sterilization. Mia can be deployed 24/7, tirelessly working around the clock.

Mia features 4 sets of 8-channel UV-C LED UV lamps that require no preheating. Each UV lamp group delivers an impressive UV intensity of up to $260\mu\text{W}/\text{cm}^2$.

Eco – Friendly Technology

MIA utilizes UV-C LED ultraviolet sterilization, ensuring an eco-friendly solution without mercury. Its sterilization process is highly efficient, delivering effective results.

3D High-accuracy
obstacle avoidance

Autonomous navigation



Multi-robot collaboration

Autonomous path planning



Autonomous movement
for dynamic disinfection



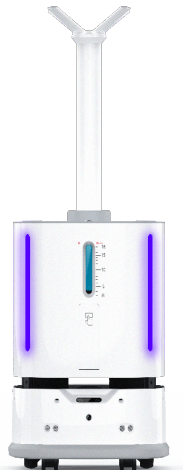
UV+ultra-dry atomized
spray for disinfection



Precise remote control



3D intelligent obstacle
avoidance



MODEL - INTELLIGENT SENIOR LIVING ROBOT (MEDIGUIDE)

Introducing MediGuide, The Intelligent Senior Living Robot Designed To Elevate Senior Living and Care



Companion and support

MediHelper serves as a reliable companion for seniors providing and companionship when human staffing is limited.

Smart Assistance

Intelligently performs various tasks, such as medication reminders, and providing relevant information and resources to promote a healthier outcomes.

Enhanced care and well-being

Promotes enhanced care and support, leading to improved well-being, increased engagement, and a higher quality of life.

Remote consultation



- Look, listen, question and feel the pulse
- Remote consultation
- Health big data



Chronic disease management

- Smart medicine box
- Medicine taking reminder
- Drug management



Accompanying & Guardianship

- Chat with the elderly
- Guardianship of the elderly
- Remote video
- Itinerary reminder

MODEL - INTELLIGENT RECEPTION ROBOT (WONDERGUIDE)

Wonderguide Series, Our Fully Autonomous Reception Solution, Enhances Customer And Patience Experience, Frees Up Staff To Focus On What Matters.

Introducing Wonderguide

Series of greeting robots, specifically designed for immersive service introductions. These robots cruise along customizable routes, offering multilingual service introductions. Their applications range from routine visitations to hospitalized and special needs children at children's wards, bringing joy and uplifting spirits, to singing happy birthday songs and celebrating special occasions

Natural Language Technology

Your go-to information inquiry companion. Equipped with an easy-to-chat natural language system, Wonderguide understands guest queries effortlessly. With access to over 10 million pieces of Q&A information when programmed, it can provide answers to ticket-related inquiries and offer details about various topics.

Colorful Smart Screen

Experience vibrant visuals on the 18.5-inch large screen, offering a range of advertising methods including engaging videos and captivating pictures to light up the spirit.



Cruising for service introduction

Promotion and display

Self-assisted elevator taking



Way leading

Communication and inquiry

Automatic recharging



Greeting

- Auto-recognizing visitors with facial recognition
- Welcoming them in a friendly tone of human-like voice.



Large Display

ultra-clear 18.5" large screen is available to put ads in various formats such as video, images and photos



Tour Guiding

Visitors can customize the tour and be guided with narration in several languages.



Dealing with inquiries

General inquiries; Ticket inquiries; Entertainment.



MODEL - INTELLIGENT MOBILITY ROBOT (SMARTWHEELS)

Introducing Smartwheels, Your Intelligent Mobility Companion, Offering Automated Experience For Enhanced Mobility.

Mobility-Care Robot

- **Off-road omnidirectional wheel**
Easy to turn around
- **User-friendly**
Ergonomic design, easily operating
- **Intelligent obstacle avoidance**
Recognizing surroundings to avoid obstacles
- **Autonomous navigation**
With smartphone control, Bluetooth connection, remote control



MODEL - INTELLIGENT CART/MATERIAL ROBOT (OLIVER)

Oliver, Our Fully Autonomous Material Delivery Solution, Enhances Safety, Streamlines Material Transportation, And Significantly Reduces Labor Costs.

Oliver enables medical and nursing staff to safely and efficiently transport materials such as carts and bulk items, reducing labor intensity. With 24/7 operation, Oliver ensures reliable and seamless material transport.

Safety Technology

In terms of safety, Oliver is equipped with advanced visual perception capabilities, enabling clear identification of objects and facilitating effective collaboration between humans and machines. With its 360° obstacle avoidance system, Oliver ensures a safe navigation in complex environments.

Moreover, Oliver holds EU CE-MD certification, meeting stringent safety standards.

Flexibility and Scalable

With its optimal size and payload capacity, Oliver is perfectly suited for cart, piece-picking and case-picking workflows in healthcare facilities. It is designed to enhance productivity, increase throughput capacity, and achieve labor savings.



COST SAVINGS FORECAST : LEO, THE CLINICAL ASSISTIVE ROBOT

Avalon Robotics Delivery Robot Cost Impact:

Let's break down the potential cost savings and return on investment (ROI) of introducing LEO, the advanced Assistive Service Robot, in a Canadian hospital:

Estimated Costs:

- Hourly rate of front staff: 25 CAD
- Cost of LEO robot: 100,000 CAD
- Hours of operation per day: 8 hours
- Days of operation per year: 365 days

Savings by Introducing LEO:

- Daily Savings: 8 hours/day * 25 CAD/hour = 200 CAD/day
- Annual Savings: 200 CAD/day * 365 days = 73,000 CAD/year

Return on Investment (ROI):

- ROI = (Annual Savings / Cost of LEO Robot) * 100
- ROI = (73,000 CAD / 100,000 CAD) * 100 \approx 73%

By leveraging LEO to handle tasks such as medical/pharmacy deliveries, and repetitive duties, the hospital could potentially save around 73,000 CAD per year. This investment in LEO offers a robust ROI of approximately 73%, showcasing the economic value and efficiency gains achieved through this implementation.

Utilizing LEO not only optimizes operational resources but also empowers the hospital staff to focus on more meaningful tasks, ultimately enhancing the overall experience for patients and visitors alike.



OUR SERVICES



Requirement Gathering

By collaborating with you closely, we strive to understand your distinct objectives and requirements. Our aim is to offer comprehensive assistance in selecting, implementing, and maximizing robotics technology to effectively meet and surpass your goals.



Implementation

We customize robotics solutions to precisely fit your requirements, ensuring smooth integration of robotic technology into your workforce operations.



Dedicated Support

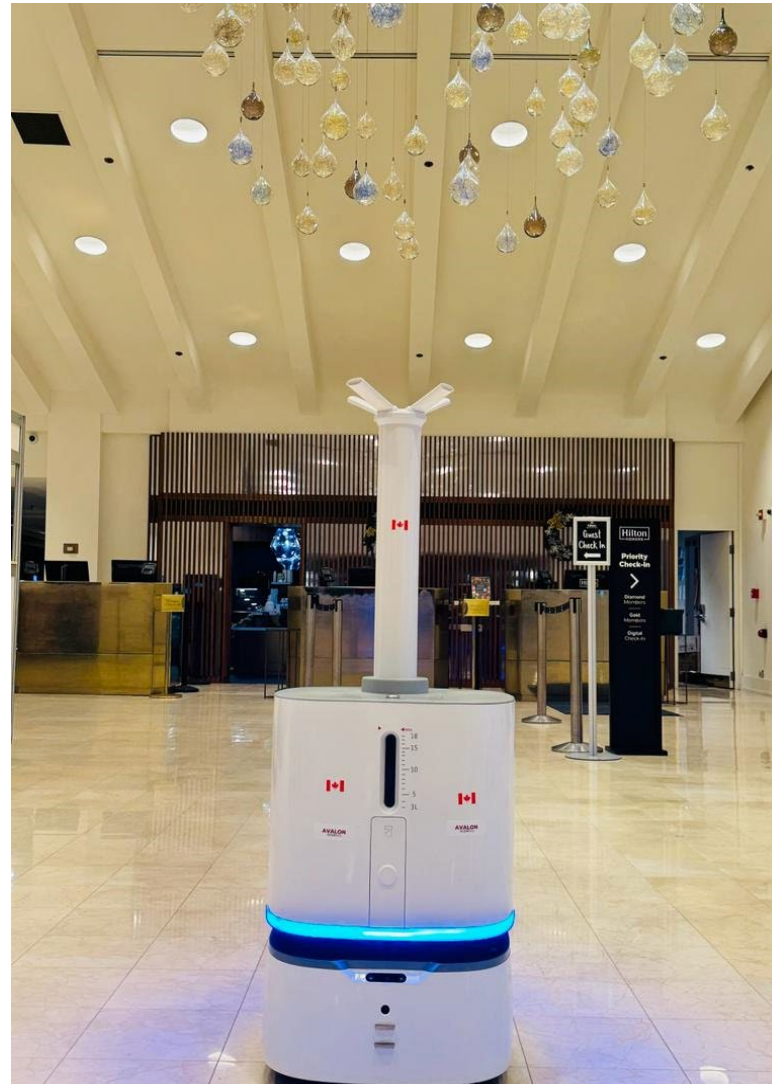
We provide dedicated support throughout the entire process, from pre-deployment to post-deployment, ensuring that you maximize the value of your technology investment.



Delivery and Disinfection System at Exhibition



Delivery and Disinfection systems



Dry-Fog Disinfection System



Delivery System



Innovative Solutions that Makes Real Impact



Knowledge visit to Robotic Hardware Production Facility, in Shenzhen



Leo at work



Disinfection Applications – Over 500 Partner Hospitals



Peking University Third Hospital



mobile cabin hospitals



SHANGHAI FIRST
MATERNITY AND INFANT HOSPITAL



BEIJING HAIDIAN Hospital



Changchun Obstetrics-
Gynecology Hospital



GUANGDONG PROVINCIAL
PEOPLE'S HOSPITAL



AVALON ROBOTICS

Web: www.avalonrobotics.ca

Email: info@avalonrobotics.ca

LinkedIn: [@avalonrobotics](https://www.linkedin.com/company/avalonrobotics)

300 Prince Philip Drive, 3rd Floor, 3M200 St. John's, NL, Canada

L - 4 - 1717 Barrington Street, Halifax, NS, Canada

T: 1 (866) 622 – 5133

M: 709 725 3941