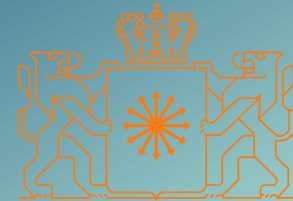


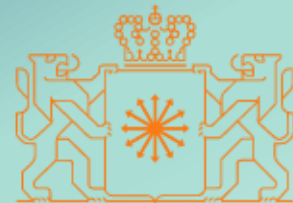
An Agnostic Approach to Intralogistics Automation

Barry Whyte

Head of Business Development, Europe



Nederland
Distributie
Land



Holland
International
Distribution
Council



Introduction



Name: Barry Whyte

Nationality: Scottish

Current Role: Senior Manager

Experience: Robotics & Automation

Fun Fact: I operated a robot that repaired gas pipelines within Buckingham Palace grounds

NPSG Global is a company implementing warehouse technology solutions for some of the biggest companies in the world across multiple sectors including Retail, E-commerce, Food & Beverage and Logistics.

Our services include:

- Project/Program management
- Integration Services
- M & E installation
- Commissioning
- After-sales Support



Company Timeline

September 2012

NPSG
Expands into
Canada



March 2014

NPSG starts first
Robotics
Fulfilment Centre



May 2017

NPSG spans into
Europe & South
America



September 2021

NPSG delivers
first project in
Asia



June 2012

NPSG founded



October 2012

NPSG Global
secures first major
contract



October 2015

NPSG
Development is
formed



August 2017

NPSG expands
into Australia



January 2022

NPSG operates
across 5
continents

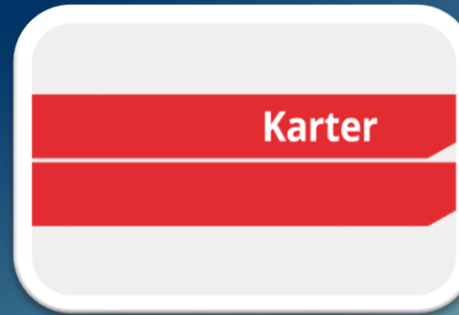
Facts & Figures



Since 2017, over a 5-year period we have delivered over 550 projects and implemented:

- 62,000 AMRs & AGVs
- 2,700 Robot chargers installed
- 1.2M Mobile shelves built (Good To Persons)
- 180 Industrial Robotic arms
- 74 Pick to Light/Stow by Light Solutions
- 27 KMs of Machine and Perimeter guarding
- 1.7M QR Codes/Fiducials Laid
- 210 Storage Solutions Delivered
- 5,500 Pick, Stow & Workstations installed
- 10 Auto Sorter integration projects within Last Mile
- 168 Warehouses Lidar-scanned

Some of our Technology Partners



Industry Challenges

Labour Shortages

- Unemployment rates in March 2023
 - EU : 6.7%.
 - NL: 3.5%
- Wage increase 2022
 - EU: 5.4%
 - NL: 3.2%

Transportation Cost Increase of 10% - 15%

- CPI (Consumer Price Index for Transportation):
 - EU: 126.12
 - NL: 125.98
- Fuel costs increase
 - EU: +37.4%



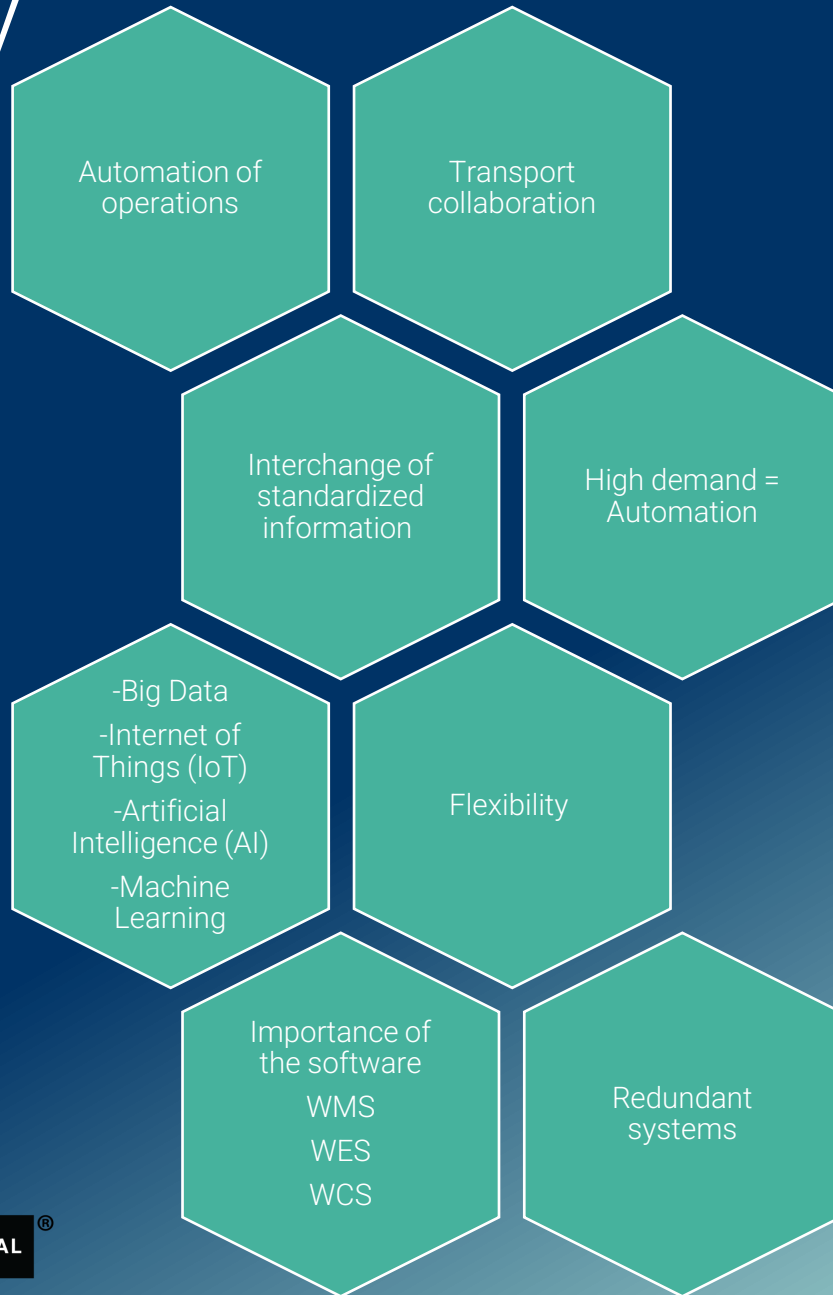
- Sustainability

- Area to improve in the last mile distribution
- Government legislation & targets
- CO2-free Warehousing buildings

- Customer Expectations

- Consumers demand shorter delivery times driven by the e-commerce sector
- Demand greater product variety
- - Both expectations will be only achieved by implementing automating intralogistics processes

Industry Trends



- Light Automation rather than big “Silos” implementing storage solutions – robots and shuttle systems to increase efficiency, saving energy and less downtime.
- B2B and B2C integration within the same facility. Fulfillment Centers with flexible and scalable solutions, adaptable to unpredictable customers demands.
- Automated facilities are tailored to consumers in large metropolitan areas - Automation is a critical competitive advantage for those invested in warehouse technology.
- ROI calculation is critical to phase the growth with modular and scalable technology to balance the investment.
- Picking and order preparation processes represent up to 50% of OPEX
 - Goods to Person, Cobots, Pick To Light, etc.,
- In the medium term, we will see automated control systems based on AI and Machine Learning.
- The future of automated systems will be intelligent and flexible to enable the business to face better peaks and troughs in demand.
- Interconnecting processes: successful technology and human interaction is key to success. The importance of the software systems being open and adjustable to change is key.
- Consumer demands require greater reliability and up time.

Our Process – Turnkey

Empathize

Investigation: Site Visit & Data gathering
 -Understand the functionality of the operation and its processes
 -Time studies

Stakeholders interest:
 -Expectations
 -Actual challenges and problems
 •Understanding your future plans

Definition

Data Analysis, Process flows, Touch points, Time studies

Positioning mapping

Objective

Ideas & Prototypes

-High
 -Medium
 -Low solutions

Emulation, Simulation & run scenarios

Digital twins

Assess

ROI calculation

Feasibility study

Go-No go analysis

Solution Implementation

Initiating

Planning

Executing & Monitoring and Controlling

Close Out

After Sales Service

Preventive Maintenance

Training

Troubleshooting

Our Agnostic Approach

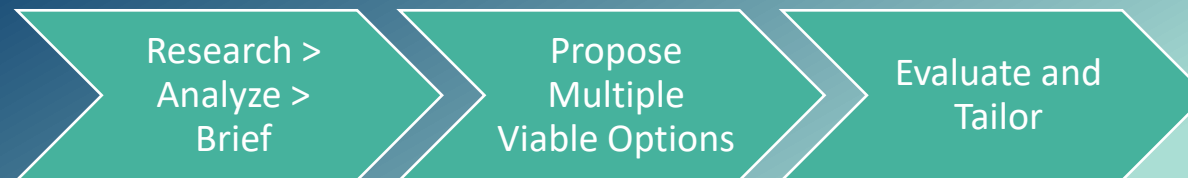
“Learning to choose is hard. Learning to choose well is harder. And learning to choose well in a world of unlimited possibilities is harder still, perhaps too hard.”

- Barry Schwartz, from ‘The Paradox of Choice’

NPSG know that when it comes to warehouse automation, choice abounds and big decisions to be made. Our approach is to find multiple viable options to consider and guide you in deciding what solution best suits your needs - now and in the future.

We are not tied to any one brand, partner or solution - our Agnostic Approach allows us to truly offer the best solutions on the market, which in turn will give you the best return on investment.

For us, it is critical to tailor the solution to the needs of each organization, understanding it’s unique processes and challenges and focusing on the key areas to improve and which depend on the functionality of the facility and it’s operational process. There is not one formula that works for all.



Project Delivery Process & Philosophy

- Our value offering is evident throughout the Project Lifecycle. At each phase, NPSG leads the process to a successful outcome.

Initiating

Define high level Requirements ,
Scope of Works,
Budget;

Identify Project Stakeholders

Define Project success

Planning

Lead the Phase;
Set Objectives and Milestones

Procurement of materials via NPSG's Supply Chain;

Lead Kick-off Meetings & Site Visits;

Project Planning;

Risk & Change Management;

Final Design;

Execute

Premium Project & Site MGMT;

Logistics & Inventory Management;

Complete Deployment, Site Representation & Coordination;

HSEQ;

Commissioning and Acceptance;

Closeout

Lessons Learned and Closeout Report;

Post-deployment Support incl., Maintenance, Servicing, Procurement;

NPSG believe all parties should be engaged in the process when automation is an option, This includes the End-user (Customer), technology providers and suppliers. Collaboration is the key to successful implementations with positive results.

Best Practices

- Optimize, refine and standardize the existing processes identifying improvement areas before implementing automation
- Plan automation comprehensively, understanding machines, robots and systems' capabilities along with the operational constraints, such space limitations, human interactions and external process interfaces
- Use emulation and simulation tools to avoid operational flows disruption by onsite tests
- Start with pilot projects and measure what are the tangible benefits to the processes and to the business
- Understand the target ROI beforehand, independently for each of the processes and systems. Phase automation in alignment with the business' CAPEXs
- Create well-defined processes around the automated systems
- Robotics implementation:
 - Flexibility: Plan paths and scalability for peak demands
 - Integration: Use standard software and components to allow integrating multiple systems within the same environment. Open Architecture.
 - Ergonomics: Equipping the industrial robots with devices to improve associate's ergonomics and HSE KPIs
- Manage and support the cultural change required

One of Our biggest Automation Challenges for Brownfield Sites

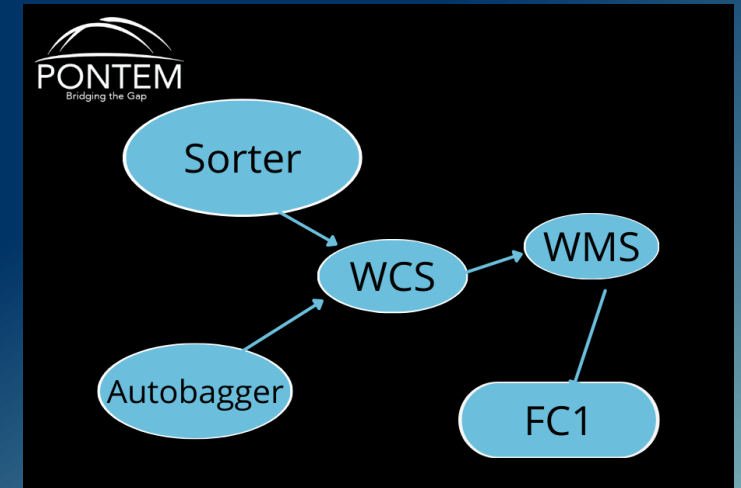
Existing Warehouse Control Systems - Proprietary WCS solutions.

Incomplete connectivity between critical warehouse systems hinders automation's effectiveness, while poorly executed automations can be costly. Relying on black-box 3rd party systems limits warehouse control, increases costs & reduces efficiency.

Although aspects of solutions may be presented as open architecture, such as PLCs, the solution is often clouded in a black-box middleware offering, subjugating the end-user to lack of control and transparency.

The Solution – Disruptive Technology

Pontem represents the next-generation Warehouse Control System (WCS), setting a new standard for openness and adaptability. It streamlines integration with Material Handling Equipment (MHE) hardware and software, while eliminating the traditional hidden fees, change, and lead times associated with proprietary WCS solutions.



Thank you !

Contact

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