FALCON AUTOTECH

FALCON’s Revised Response to Volvo’s RFQ for ‘Rugby Project’

August 13, 2025

www.falconautotech.com

Kind Attention –

Marketa Young

Offer Ref: F25-00214_Rev 1; Date 12.08.2025

Subject – Techno-Commercial Offer for NEO ASRS Solution

Dear Team,

Thank you for inviting Falcon Autotech to the 'Rugby-Automated Warehouse' tender. Following the clarification meeting on August 4th, we are pleased to submit our revised offer to Volvo.

Changes compared to the submission of July 11th are:

1. Change solution from the rectangle area described in the Volvo specification to a squarer solution with all GTP stations on one side
2. 64 Pcs Bin added
3. Added answers to questions raised by Volvo – added a chapter for this

We would like to highlight the fact that Falcon Autotech is a global leader in providing intra-logistics automation solutions. Falcon has installed over **150 sorters worldwide** with capacity ranging from **800 to 60,000 PPH** and has an excellent track record in designing, manufacturing, and installing parcel sortation systems. With NEO, Falcon Autotech provides an AI-powered robotics solution that can revolutionize the way warehouses operate and is successfully implemented with customers in multiple verticals.

As you will note, we have studied your requirements in great depth and, along with the information collected during the workshops, visits and calls with your different team , we have put together a detailed technical proposal laid out in various sections and sequenced to enable you to understand our proposed solution and to re-enforce our commitment to be your partner in this strategic initiative.

To conclude, I would like to add my personal commitment, on behalf of Falcon Autotech. As we move through the RFP process, please do not hesitate to contact me and my team. We will be pleased to assist you with any further information or clarifications that you might have.

Best Regards on behalf of the team,

Johan Hoelen

Response to Volvo's RFQ for NEO_ASRS Solution

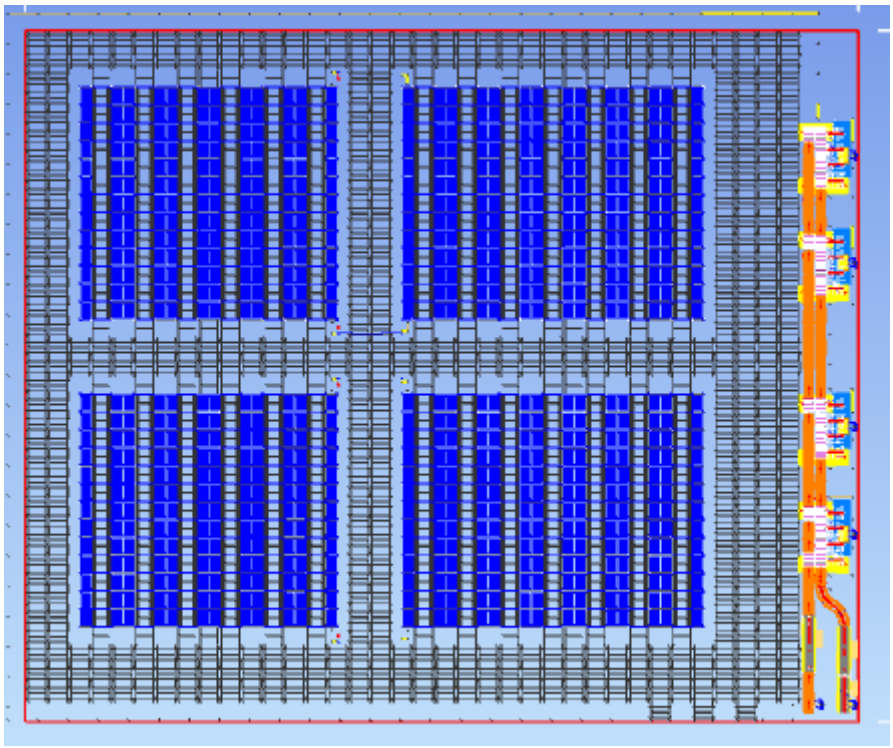

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Table of Contents

1. Glossary

S. No.	Term	Description
1	RFQ	Request For Quote
2	GTP	Goods to person
3	PPH	Parcels Per Hour
4	AC	Alternating Current
5	DC	Direct Current
6	PLC	Programmable Logic Controller
7	IT	Information Technology
8	BOQ	Bill Of Quantity
9	I/O	Input/ Output
10	PDP	Power Distribution Panel
11	PC	Personal Computer
12	UPS	Uninterrupted Power Supply
13	PTL	Pick/Put to Light

2. Executive Summary

Falcon is pleased to confirm its interest in responding to the automation requirement presented by Volvo. Our team has been working closely with the relevant stakeholders, with a clear commitment to listening to and understanding your needs and ensuring this project's success.
As prime contractor, Falcon ensures its full commitment to successfully completing this project. Following the same objective for the said system, we are happy to offer a compliant solution meeting all technical and operational requirements, high-performance, optimized, tailor-made, fast and secure planning, and a competitive price.

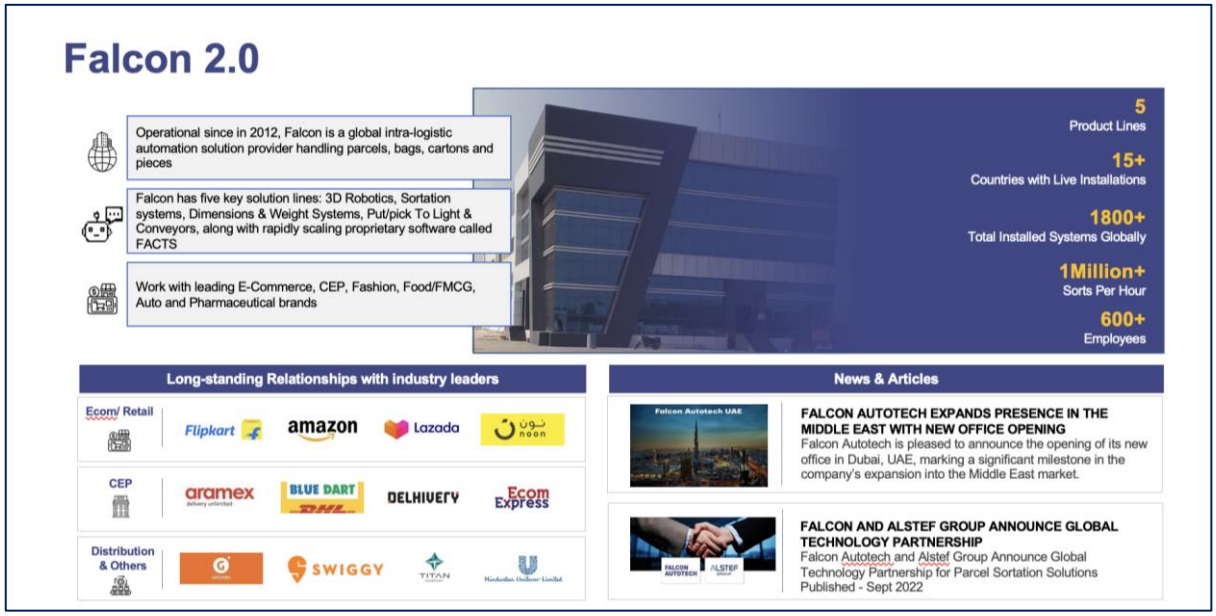
Our solution is based on the following key characteristics:

- **NEO ASRS system with 21424 bin positions**
- **4 GTC stations**

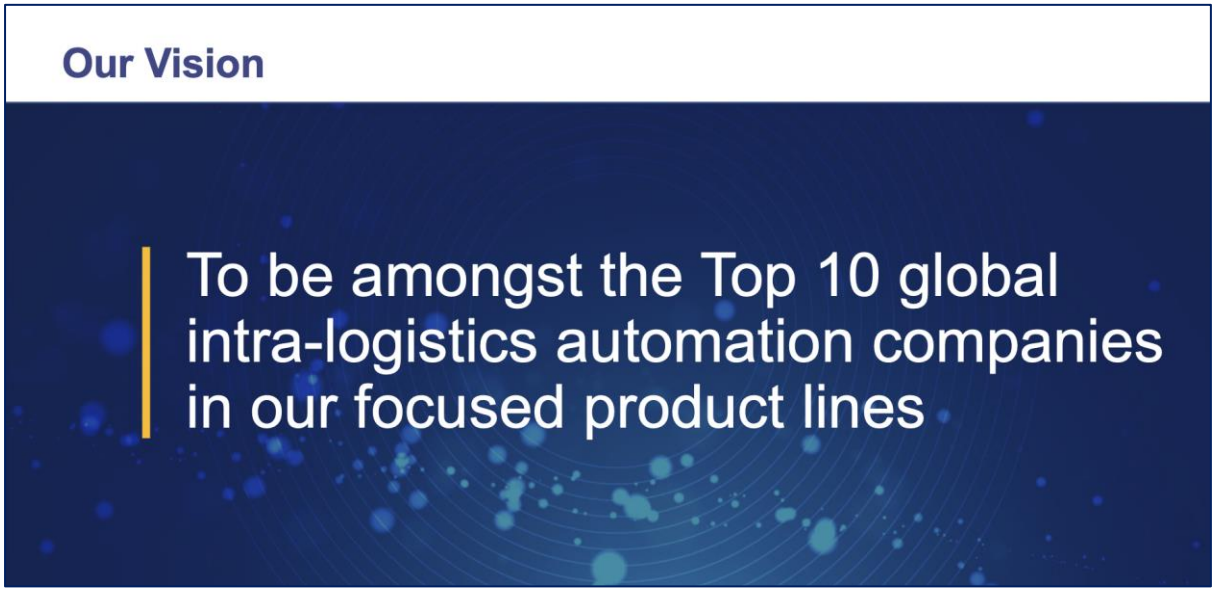
A tailor-made and simple layout, specifically designed for Volvo. The proposed layout is the result of the technical requirements listed during our various meetings and E-mail exchanges.

3. Company Profile

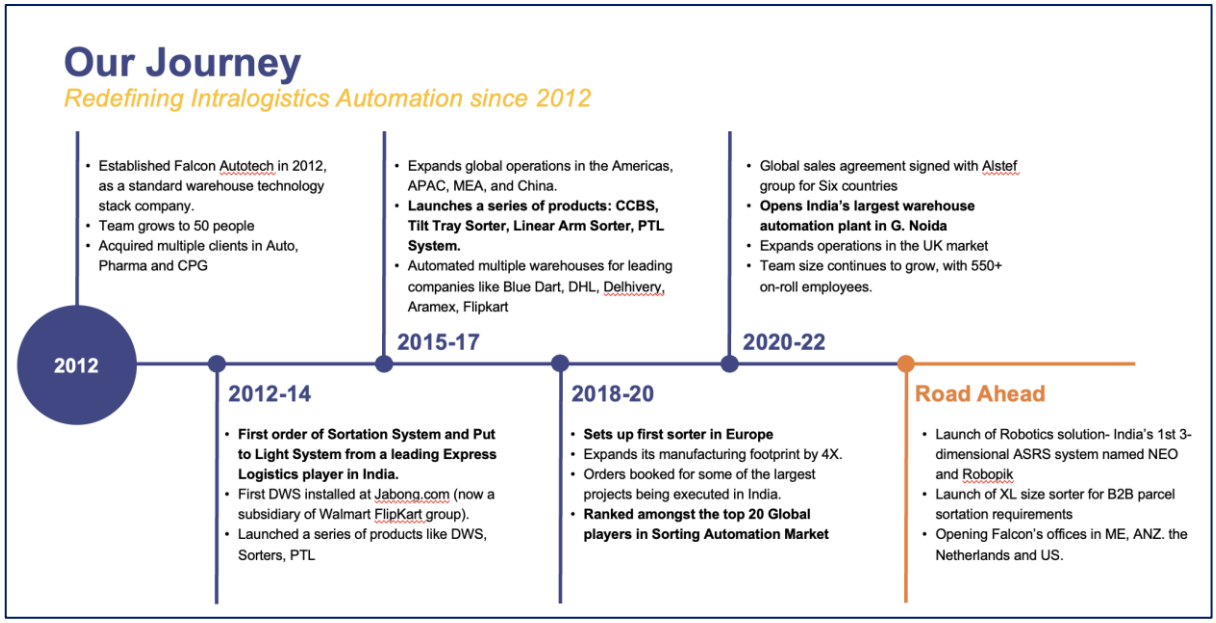
Falcon Autotech (Falcon) is a global intralogistics automation solutions company. With over 10 years of experience, Falcon has worked with some of the most innovative brands in E-Commerce, CEP, Fashion, Food/FMCG, Auto and Pharmaceutical Industries. With our proprietary software and robust hardware integration capabilities, Falcon designs, manufactures, supplies, implements, and maintains world-class warehouse automation systems globally. Falcon's strong research and development team and the continuous focus on innovation reflect our strong solution line around Sortation, Robotics, Conveying, Vision Systems and IOT. Falcon has done over 1,800 installations across 15 countries on four continents.



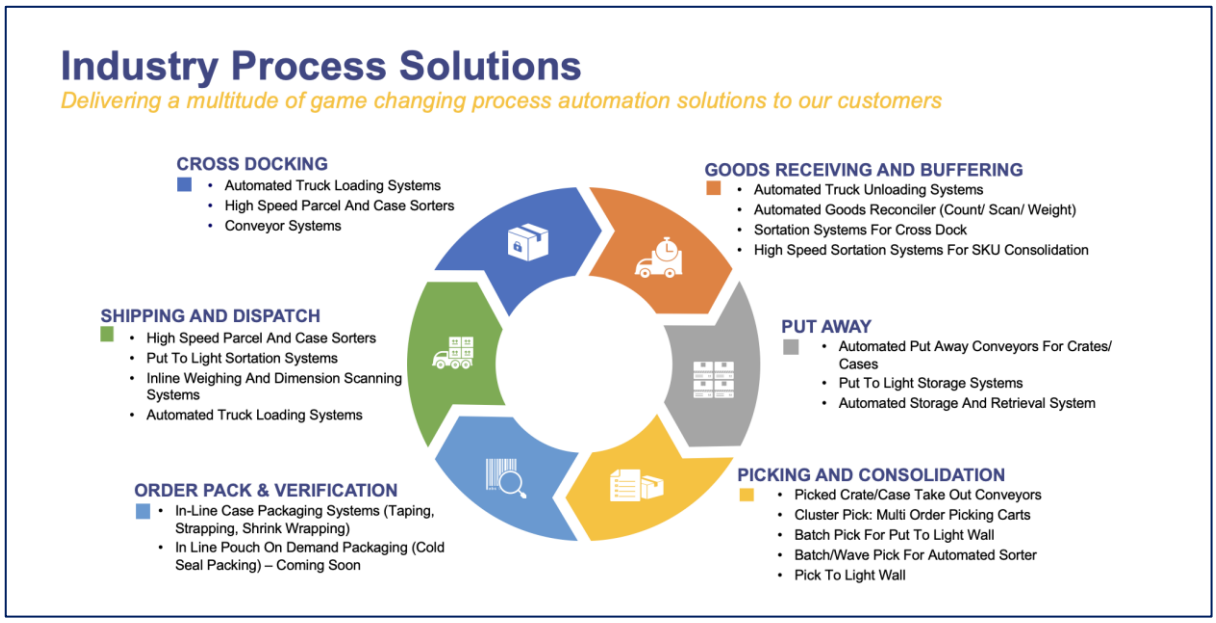
Falcon Autotech is currently among the top 15 intralogistics automation companies; our vision is to become the top 10 intralogistics automation company in our focused product lines.



The team started out in 2004 solving special purpose automation problems for clients and later established Falcon Autotech in 2012 with strong focus on building standard technology stack spanning across Hardware, Firmware and Software to tackle bigger Supply Chain problems around warehouse automation and material handling. Over the decade, Falcon has made rapid strides and has carved out a niche in some of the world's most cutting-edge technologies: Sortation, Robotics, Conveying, Vision Systems and IOT.



As a leading player in the intra-logistics automation space, Falcon continuously strives to improve the operational efficiencies and accuracies for its clients through its domain knowledge and experience in addition to its wide range of products and solutions. To be able to live up to the high expectations set forth by our clients, the team at Falcon realizes the importance of taking up selective applications in focused Industries and delivering world-class projects in return.



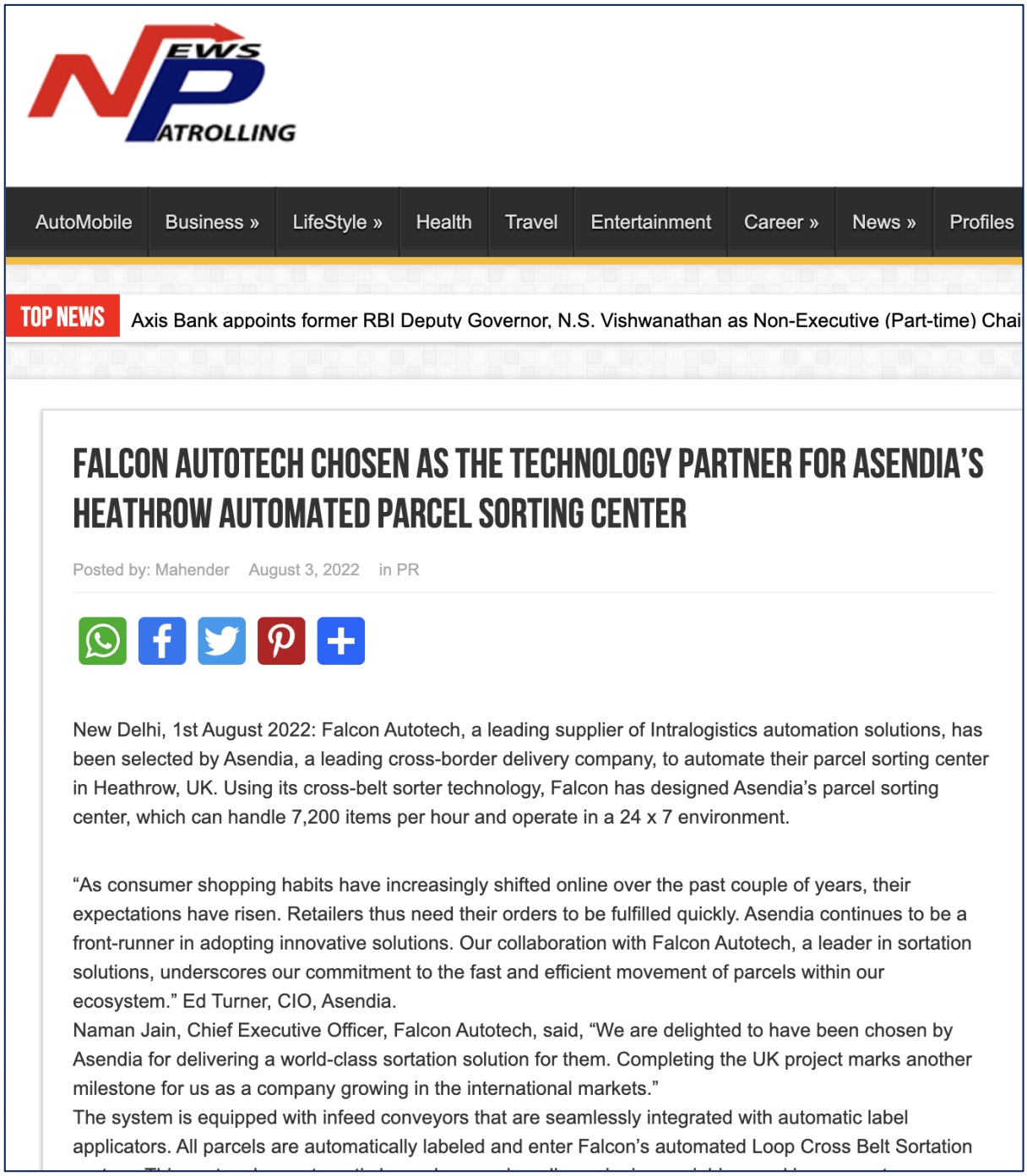
Falcon Autotech has successfully delivered warehouse automation solutions based on smart and innovative combinations of the above product lines for effective materials handling, sortation, and movement. The process is controlled in real-time by our in-house WCS applications. These solutions considerably cut the need for manual operations, improve working conditions, and ensure the highest accuracy of the entire process up to final delivery to the recipient.

Over the last 10 years, Falcon has worked with some of the most innovative brands worldwide and has established long-standing partnerships. These brands are testimony of our strong focus on delivering superior customer satisfaction and offering end-to-end intralogistics solutions.

With over 1,800 installations, today Falcon's systems are used all over the globe. Falcon has highly motivated team of 600+ employees supported by over 15 global partners who help us design, manufacture, deliver and maintain automation solutions globally.

4. Falcon's Experience and Achievements in Sortation Space Globally

- Ranked among **Top 20 Sortation System Suppliers globally.** Only company from APAC/EMEA Region.
- Currently possess one of **the World's largest portfolios in Sortation Technologies**: 7 In-house technologies.
- Total installed capacity of **10 million Parcels per day** worldwide.
- Only company to be able to offer a **Fully Integrated AMS**.



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FALCON AUTOTECH CHOSEN AS THE TECHNOLOGY PARTNER FOR ASENDIA'S HEATHROW AUTOMATED PARCEL SORTING CENTER

Posted by: Mahender August 3, 2022 in PR

New Delhi, 1st August 2022: Falcon Autotech, a leading supplier of Intralogistics automation solutions, has been selected by Asendia, a leading cross-border delivery company, to automate their parcel sorting center in Heathrow, UK. Using its cross-belt sorter technology, Falcon has designed Asendia's parcel sorting center, which can handle 7,200 items per hour and operate in a 24 x 7 environment.

"As consumer shopping habits have increasingly shifted online over the past couple of years, their expectations have risen. Retailers thus need their orders to be fulfilled quickly. Asendia continues to be a front-runner in adopting innovative solutions. Our collaboration with Falcon Autotech, a leader in sortation solutions, underscores our commitment to the fast and efficient movement of parcels within our ecosystem." Ed Turner, CIO, Asendia.

Naman Jain, Chief Executive Officer, Falcon Autotech, said, "We are delighted to have been chosen by Asendia for delivering a world-class sortation solution for them. Completing the UK project marks another milestone for us as a company growing in the international markets."

The system is equipped with infeed conveyors that are seamlessly integrated with automatic label applicators. All parcels are automatically labeled and enter Falcon's automated Loop Cross Belt Sortation

POSTED ON APRIL 17, 2023 IN / NEWS

Falcon Autotech Expands Presence in the Middle East with New Office Opening

Dubai, UAE – 17th April 2023 – Falcon Autotech (Falcon) is pleased to announce the opening of its new office in Dubai, UAE, marking a significant milestone in the company's expansion into the Middle East market. The new location will enable Falcon to better serve its existing customers in the region and expand its reach to new markets and prospects.

The decision to establish a presence in the Middle East was driven by the growing demand for Falcon's solution in the region, as well as the strategic importance of the Middle East as a hub for business and innovation. With a team of experienced professionals based in the region,

Falcon Autotech and Alstef Group Announce Global Technology Partnership for Parcel Sortation Solutions

Falcon Autotech, a leading supplier of Intralogistics automation solutions, and Alstef Group, an expert in comprehensive baggage handling solutions and parcel automation integration announce a strategic technology partnership for parcel sorting solutions. As part of an exclusive distribution agreement, Alstef Group will exclusively expand the deployment of Falcon Autotech's Cross-belt sorter range to specific geographies. Falcon Autotech's Cross Belt Sorter (CBS) range includes a linear CBS and a loop CBS option. With proven features, such as automatic item centering, flexible chute positioning, wireless data communication, real-time video coding, and variable electric discharge, the Falcon CBS range is one of the fastest and smoothest sortation systems available in the market.

5. Reference Projects

Falcon has a strong legacy in **Warehousing Automation** solutions and references-

1. Expertise in Parcel Sortation, Piece Picking and Handling, Case Picking and Handling.
2. Lifecycle services (maintenance, spares supply chain, support).
3. Full **in-house** expertise (Hardware/Software).
4. Turn-key **tailored** solutions.

The references list presented below focusing on Sortation Solution –

5.1 Project 1- (CEP Client, UK)

This Solution is designed to handle a volume of 7200 parcels per hour. The system is equipped with three infeed conveyors integrated with automatic label applicator before parcels enter the sortation system. The parcels are sorted using Falcon's Loop Cross Belt Sorter equipped with automatic barcode scanning, dimensioning, weighing and image capture capabilities. The sorter is installed on the mezzanine floor and sorts directly to 58 end destinations.

Solution Specifications –

- Throughput: 7200 PPH
- End Destinations: 58 Nos

Key Technology Modules –

- Powered Belt Conveyors.
- Automatic Induct Lines.
- Automatic Barcode Scanner with Image Capture.
- Automatic Weight & Volume Measurement System.
- Loop Cross Belt Sorter.
- WCS Software System.

Site Picture –

5.2 Project 2- (CEP Client, Riyadh)

In 2019, customers selected Falcon Autotech as a preferred supplier for its airport hub to supply linear cross belt sorter for processing parcels arriving via Air from different states and countries to distribute them locally. The customer chose Falcon Autotech based on its strong track record of success in providing intralogistics automation solutions, optimized design, software integration capabilities and life cycle support services.

Solution Specifications –

- Throughput: 4800 PPH
- End Destinations: 52 Nos

Key Technology Modules –

- Powered Belt Conveyors.
- Automatic Induct Lines.
- Automatic Barcode Scanner with Image Capture.
- Automatic Weight & Volume Measurement System.
- ARB Conveyor.
- Automatic Label Applicators.
- Linear Cross Belt Sorter.
- Specialized Chutes for Gentle Parcel handling.
- FOCR Engine.
- WCS Software System.

Site Picture –

5.3 Project 3- (Client – Courier Express Parcel, Dubai & Jeddah)

This Solution is designed to handle the bulk volumes through Launchpads and induct them into Falcon's Linear Arm Sorter. This system is designed for a throughput of 3000 parcels per hour equipped with automatic barcode scanning, dimensioning, weighing and image capture capabilities to into a total of 480 end destinations with a combination of primary and secondary sortation system. The secondary sortation is achieved by integrating put to light system.

Solution Specifications –

- Throughput: 3000 PPH
- End Destinations: 480 Nos

Key Technology Modules –

- Powered Belt Conveyors.
- Linear arm sorter.
- Automatic Barcode Scanner.
- Automatic Weight & Volume Measurement System.
- WCS Software System.

Site Picture –

5.4 Project 4- (CEP Client, Sydney)

The solution is designed for handling a throughput of 16,000 parcels per hour with the help of Falcon's Loop Cross Belt Sorter. The system consists of 2 feeding zones with a total of 10 feedlines. Sorter design enables the van drivers to directly drop the parcels at the dock doors. It has a total of 369 end destinations that are achieved with a combination of direct drops and PTLs. The system is integrated with 5 side automatic barcode scanning, weight and volume measurement and automatic detection of oversize and overweight parcels.

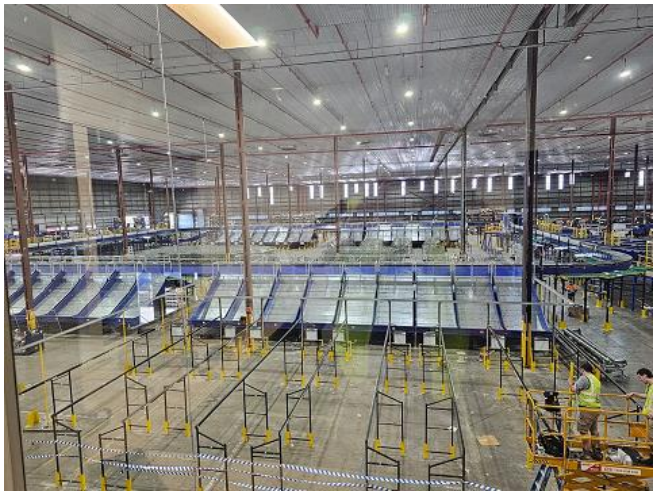
Solution Specifications –

- Throughput: 16000 PPH
- End Destinations: 369 Nos

Key Technology Modules –

- Powered Belt Conveyors.
- 2 Induct zone.
- 5 side Automatic Barcode Scanner.
- Automatic Weight & Volume Measurement System.
- Automatic detection of oversize parcel.
- Loop Cross Belt Sorter.
- WCS Software System.

Site Picture –



5.5 Project 5- (Client – E-Commerce, India)

Use Case – Destination Sorting of Packed Parcels.

In 2019, Client was looking for a potential automation partner for design and development of a new automated sortation system for B2C parcels. The system should be able to provide maximum uptime with reduced dependency on skilled manpower, and space optimization.

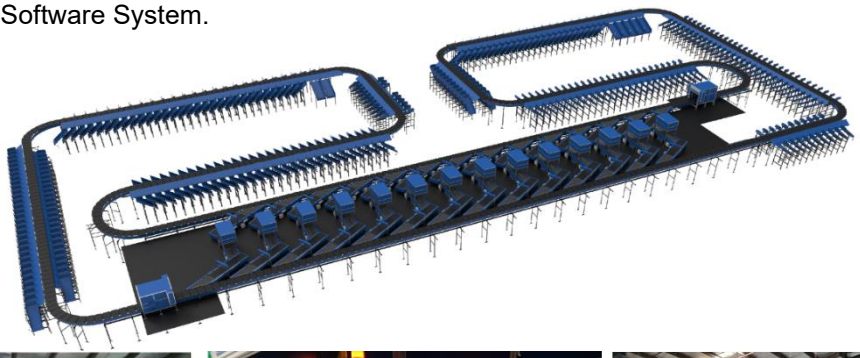
The customer chose Falcon Autotech based on its unique design which could cater to all their pain points, capability of seamless integration with WMS and life cycle support services.

Solution Specifications –

- Throughput: 27,600 PPH
- End Destinations: 410 Direct Outputs
- Building Size: 200,000 Sq. Ft

Key Technology Modules –

- Bulk Infeed Conveyors.
- ARB based Volume Distribution System
- Integrated Pre-sort System.
- Irregular Ejection System.
- Automatic Induct Lines.
- Automatic Barcode Scanner with Image Capture.
- Automatic Weight & Volume Measurement System.
- Loop Cross Belt Sorter.
- Smart Sliding Chutes for Direct bagging and Cage Sorting.
- Bag take out system.
- WCS Software System.



5.6 Project 6- (Ecommerce Client, India)

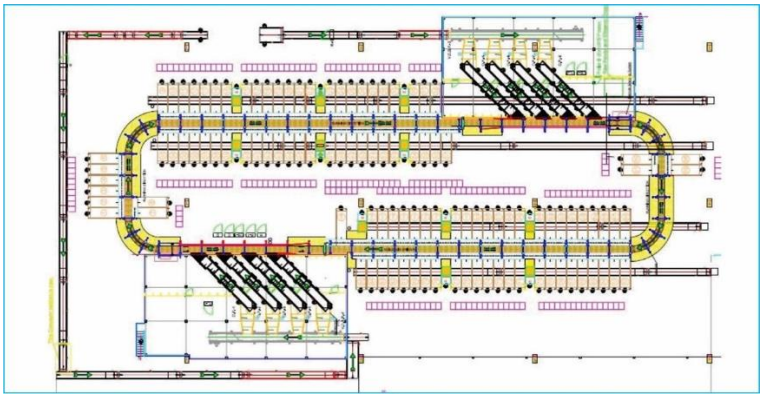
Use Case - Destination Sorting of Packed Shipments

Solution Specifications –

- Throughput: 24,000 PPH
- End Destinations: 110
- Building Size: 200,000 Sq. Ft

Key Technology Modules - Loop Cross Belt Sorter with a cell size of 900 x 500 mm

Layout and Site Pictures -



6. Handled Parcel Spectrum for Conveyor Setup

6.1 Carton & Bin size Conveyable on the entire system.

Max Length	mm	600
Max Width	mm	400
Max Height	mm	400
Max Weight	Kg	25
Min length	mm	250
Min Width	mm	100
Min Height	mm	50
Min Weight	Kg	5

6.2 Types of Parcels

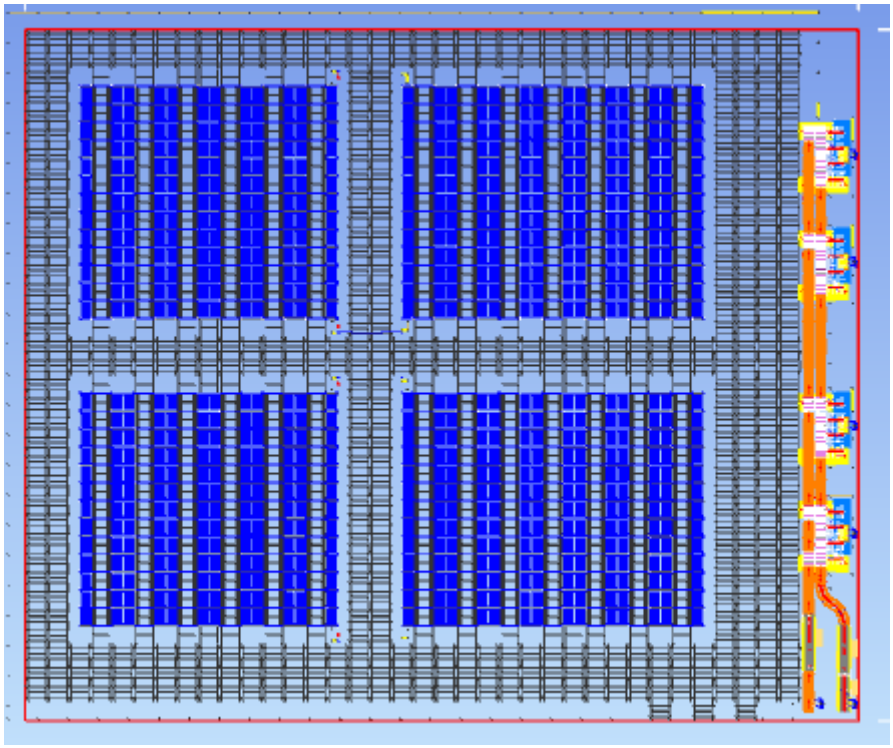
Plastic Totes and Corrugated Boxes for conveyors	Min: L-250 X W-100 X H-50 MM Max: L-600 X W-400 X H-400 MM

7. Proposed System Description/Description of Technical Equipment

7.1 Objective

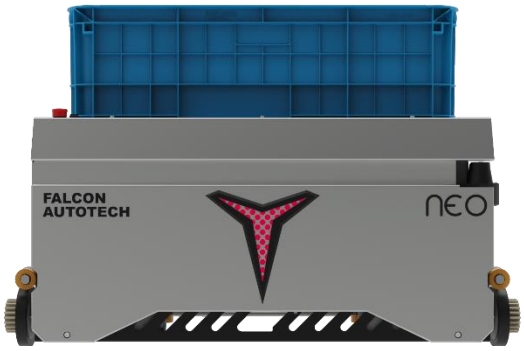
The purpose of this proposal is to present the design, manufacturing, installation, commissioning, testing, integration with Volvo's WMS and Falcon's WCS and acceptance testing of the complete automation system comprising of the NEO -ASRS system and conveyor network to handle various up-stream and down-stream operations.

Proposed System Layout



8. System Components

8.1 NEO



NEO is an end-to-end engineered robotic system for storage and order picking. it is an integrated system consisting of storage bins or totes, storage grids, robots, goods-to-person workstations, and software.

NEO provides higher storage density, is more adaptive, and can be deployed quickly in a cost-effective manner compared to traditional material handling systems. NEO moves flexibly within the storage grid using lidar and AI software capabilities to store and retrieve totes.

- NEO operates on all three axes within the grid to store totes at predetermined locations.
- When the wave starts NEO retrieves and brings the totes having desired products to the picking stations.
- Humans at the picking stations pick items into the order totes. Once the picking finishes NEO stores the inventory totes back to the grid.
- Post completion of orders the order totes can be routed to the packing stations using a series of conveyors.

Technical Specifications

Self Weight
200 Kgs
Rated load without bin -40 kgs

Dimensions
BOT 1016*906*500mm
External Bin Size 810*568*425 mm
Bin volume – 5.8 cubic feet

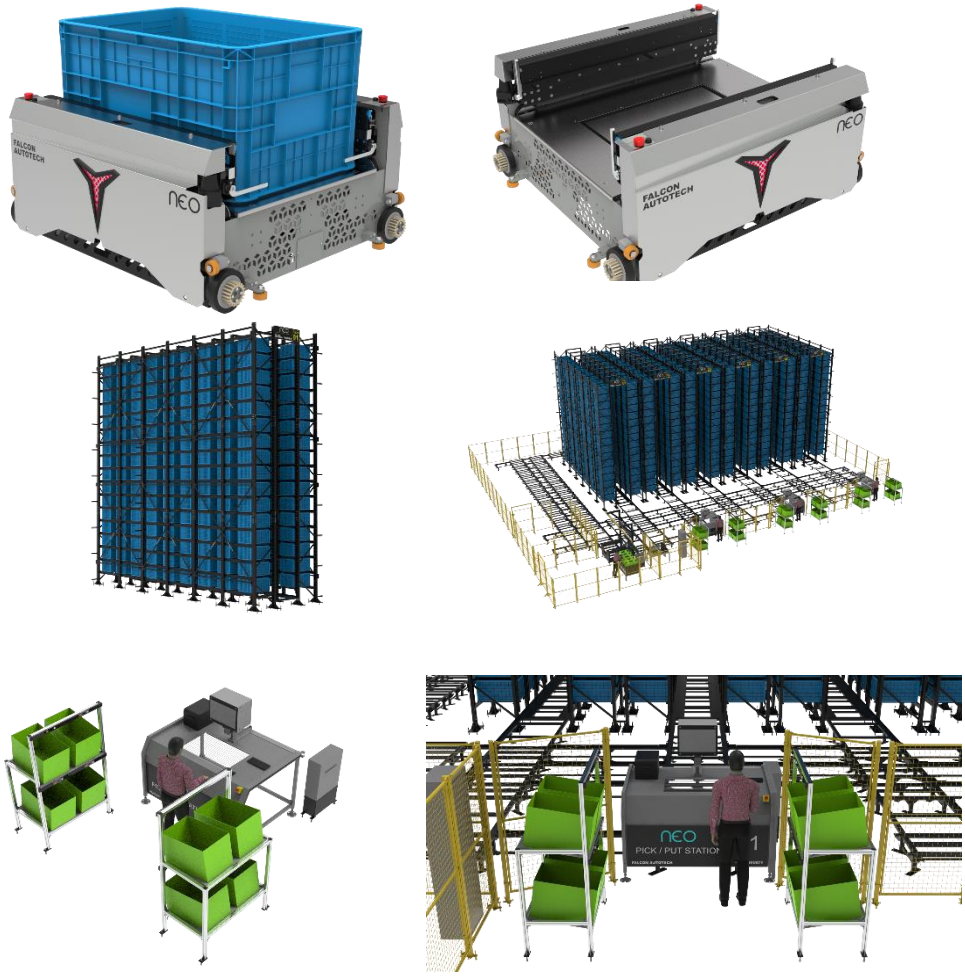
Working Parameters
0 to 35 Degrees
Navigation mode – QR code

Performance
Works 24/7 manual battery swapping

Movement
Moves in 3 dimensions X, Y, and Z
Maximum operating speed of 2m/s

Safety
360 degrees Obstacle detection Lidar in X, Y and Z axis (3D)

Fully customizable
Bin Compartment – 2/3/4/6/8
Maximum storage height -12 m
Max bins storage per tower -22



NEO Bots: The NEO Bots autonomously and independently move in all three dimensions under the structure and bring products to and from human or robotic picking operators. The robots move at 2 m/s and can carry bins weighing up to 40Kgs. NEO Bots are equipped with a swappable lithium battery which helps the system provide maximum uptime.

Racks: The NEO system is built around a storage grid made up of specialized racking structures that can reach a height of 60 feet to enable vertical space utilization in the warehouse. With zero sensors and electrical cables, the racking structure requires no maintenance.

Bins: Products are stored and moved in specialized bins or totes designed to be handled by NEO system. Each bin can be partitioned into 2/3/4/6/8 sub-sections for better product segregation.

Picking workstations: NEO system comes with operator workstations and PTLs for respective use cases or order picking and storage. The PTL station supports 8/12/16/24 parallel orders by maximizing the commonality of SKUs.

NEOIT: NEOIT is Falcon's in-house developed warehouse control software (WCS) that controls the NEO System. NEOIT does task planning, route planning and records the real-time positions of bins and NEO Bots.

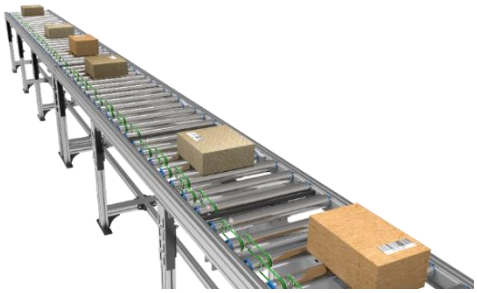
TECHNICAL SPECIFICATIONS		
Basic Specifications	Specification Parameter	Parameter Description
	Model Designation	NEO
	Rated Load	40 Kg
	Self-Weight	200 Kg
	Position Accuracy	+ - 2 mm
	Dimensions (L*W*H)	1016 * 906 * 500 (mm)
	Ground Clearance	20 mm
	Navigation Mode	QR CODE
	External bin Size (L*W*H)	810 * 568 * 425 (mm)
	Bin Volume	5.75 Cubic Feet
	Bin Compartment	2 / 3 / 4 / 6
	Maximum Storage Height	14 Metres
	Maximum Bin Storage per tower	22 Levels
Performance	Driving Mode	Electric Servo Motors
	Control Mode	Manual / Automatic
	Movement	3-D (X, Y, Z Directions)
	Motion Signal	Light Prompt
	Works	24/7
Battery Specifications	Driving Voltage	DC48 V
	Battery Life	Upto 2500 Cycles @ 1C DOD 80%
	Endurance	6 to 8 Hours
	Charging time	Upto 2 Hours
	Charging Mode	Manual Battery Swapping
	Obstacle Detection	360 Degrees (LIDAR in X, Y, Z Axis)
	Emergency Stop	Front and rear emergency stop buttons
	Communication	Industrial Wi-Fi IEEE 802.11 a/b/g/n
	Pick / Put (PP) Station Safety	Light Curtain Sensors
	Working Area Safety	Doors equipped with Saftey Locks
	Safety on Z - Axis Movement	Self Locking Brakes
	Global Saftey (for all Robots)	Using Global Emergency Stop at PP Stations
Operating Parameter	Max Operating Speed (With load) in X & Y Axis	2 m/s
	Max Operating Speed (With load) in Z Axis	1 m/s
	Stopping angle Accuracy	+ - 0.5°
	Stopping position Accuracy	+ - 2 mm
Special Features	Pick / Put Guidance	Yes, through focus light
	Low voltage Battery alarm	Yes, robot will go to the charging station automatically in case of Low Voltage
	Pick / Put Stations Interchangeability	Yes, any station can be used as Pick / Put Station
	Handling fast moving, non-fast moving SKU's to locations near to stations	The system Dyanmically stores the fast- moving SKU's closer to the pick stations and the slow movers farther inside the grid. This enables shorter trip time of the bots thereby greatly reducing the number of robots required.
	FIFO option for the SKU's	It enables the user to consume the SKU which were replenished basis their PUT timestamp.
	Bin recall Feature	It helps in auditing the SKU's
	Re-put Away Feature	It consolidates the less quantity SKU's which are kept in different locations in a single bin and frees the space for next SKU replenishment.
	Realtime Inventory Tracking	Real Time Inventory on the Dashboard
	Ease of maintenance	Mobile Tablet based control for maintenance
	Data Analytics	Detailed and Customized data extraction is possible
	Pick / Put Assist	Dashboards at each PP station that assists operator in pick / put to reduce to reduce the chances of error on the station.

8.2 Powered Roller Conveyor

Falcon’s Roller conveyors are highly energy efficient and require negligible maintenance leading to very minimal Operating costs and thus lower cost of ownership.

Some Salient Features of Falcon’s roller conveyor:

- Low Noise
- Maximum uptime.
- Minimal maintenance
- High safety standards.
- Fastest ROI
- Comes with MS frame.



Specification	UOM	Remark
Manufacturer Name	Name	Falcon Autotech
Material of Roller	Type	MS Rollers with Zinc Plating
Overall Width	mm	600 or as par Layout
Conveyor Height	mm	Variable as per design shared
Drive Power Rating	Watt	40
Type of Motor	Type	DC Rollers (MDR)
Ingress Protection	Type	IP 54
Type of Drive System	Type	Poly V Belt Drive
Load capacity/unit length of Conveyor	kg/m	30
Roller Span	mm	Variable
Roller Diameter	mm	50
Pitch of Rollers	mm	100
Type of Mounts	Type	Fixed Heights Legs with required Grouting Provisions

8.3 Pop- Up Unit

Falcon's Belt Popup device is used for 90° transfer of products.

Some Silent Features of Falcon's Pop-Up:

- Low Noise
- Maximum uptime.
- Electric based popup.
- Minimal maintenance
- High safety standards.

Specification	UOM	Remark
Carton Box cross-transfers (Pop-Up Units)	Nos	6
Manufacturer Name	Name	Falcon/Pulse/Itoh Denki
Dimensions	mm	Suitable Products (600 x 400 x 400 MM)
Type – Equipment	Type	Stand Alone
Type – Operation	Type	Yes
Mechanism for Pop-Up	Type	Electric
Drive Power Rating (Lifting)	Watt	40
Type of Motor	Type	DC
Drive Power Rating (For Rollers)	Watt	40
Type of Motor	Type	DC
Ingress Protection type	Type	IP 54
Provision for Carton Box / Carton Detection Sensors	Yes/No	Yes
Load Capacity of Carton Box	Kg	25
Sorting Capacity	PPH	1200

8.4 NEO Bins

NEO Bin Size			
	Outer Size	Unit	Inner Size
Length	810	Mm	761
Width	568	Mm	523
Height	220	Mm	205
Bin Volume (Cubic Feet)	3.57	CFT	2.88

9. Proposed System Technical Details/BOM

9.1 Mechanical equipment

Pos.	Qty.	Description	Value
FM1	1	**NEO Automation Setup**	
		Neo Racking and Structure	21,424 Bin Locations
		Neo Pick/Put Stations	4 Nos
		Neo Bots	26 Nos
		Infra for Neo	1 Set

FM2	**1**	**Conveyor and Sortation Automation**	
		Powered Roller Conveyor	50 Meters
		PVC Conveyor	7 Meters
		Idler Roller Conveyor	14.5 Meter
		Pop Up Unit	21 Nos

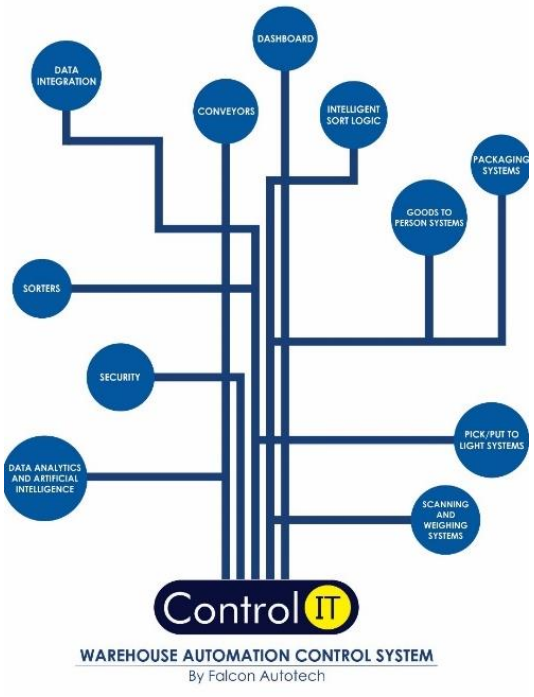
9.2 Electrical Equipment

Electricals			
FC1	**1**	**Electrical Cabling and Wiring with Rated Power** Main Power Distribution panel Main Control Panel Network Switches Field Cabling	Included

9.3 Control System

Components			
FC2	**1**	**IT** Control IT Software Package for Neo System Control IT Integration with Client WMS	Included

10. Falcon's WCS CONTROLIT



Key Values

Supports Multiple Use Cases

- Order Consolidation, SKU wise Sorting, Route Level Sorting, Transporter Wise Sorting and many more

Supports dynamic and static Sort Logic Definition and unlimited Sort Logic Wave definitions

Supports various peripheral Equipment Inputs and Outputs

- Automated Scanners, Manifest Printers, Label Applicators and many more

Ability to define Custom Business Logics

- Cut Off Timings, Quantity/Weight and Volume Thresholds etc

Security

- User profiling with Role Right Mapping
- Database Encryption
- Secured and Protected Communication between WMS and WCS layers

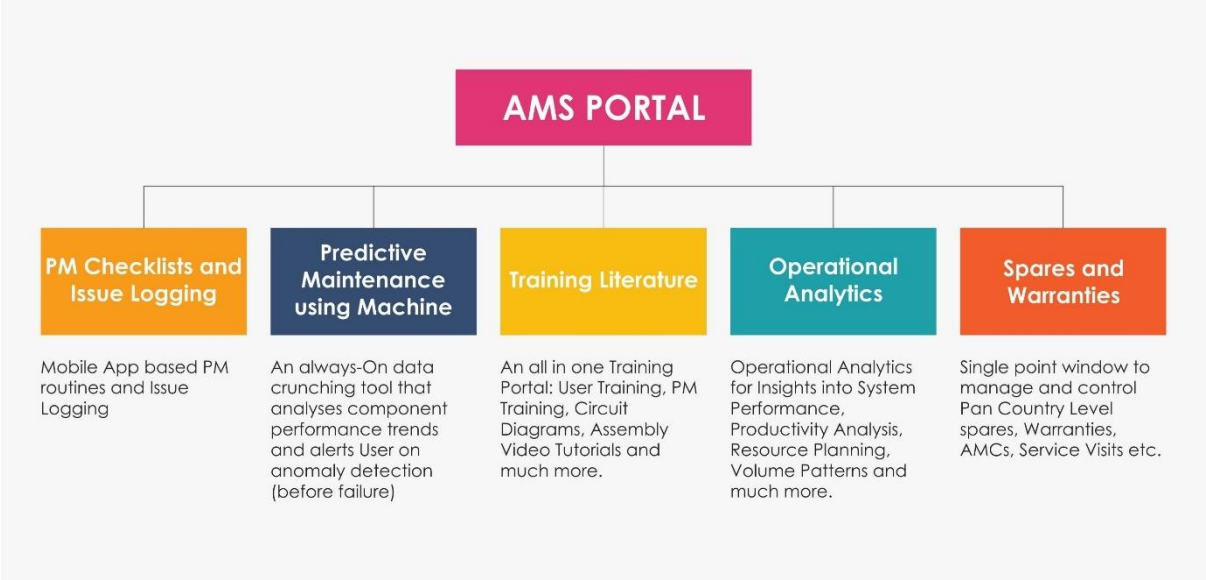
Supported Protocols

API	FTP	FILE UPLOAD / DASHBOARD	ODBC
WEBSERVICES	AMAZON S3 SERVER	FIREBASE	Any Customer Protocol

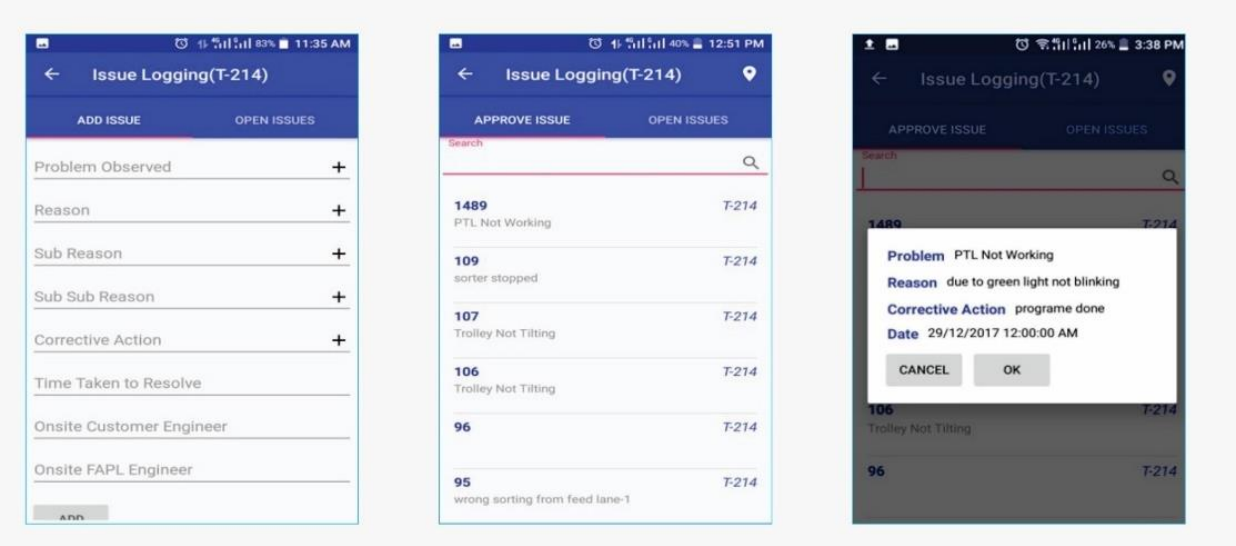
11. Key Components Make

Component	Make
PLC & RIO	Siemens/Omron
VFD	Siemens/Omron/Lenze/AB
Ethernet switch	Siemens/Phoenix Contact
SMPS	Omron/Selec/Meanwell
Line chokes	EMIS/GURU NANAK ELE.
Slim relays	Phoenix contact
Terminals	Wago
Phase failure relay	Selec
Door limit switch	Salzer
Cable lugs	Dowell's/TRINITY TOUCH
Tube light	Philips
Tower lamp + Hooter	Leuze
Utility switch & socket	Anchor
Fan/Air conditioner	Rexnord
Switchgear	Schneider
Main load break switch (CP)	Schneider
Popup Units	Pulse/Itoh Denki/Falcon
Spiral Conveyor	Ambaflex/Apolo/Similar

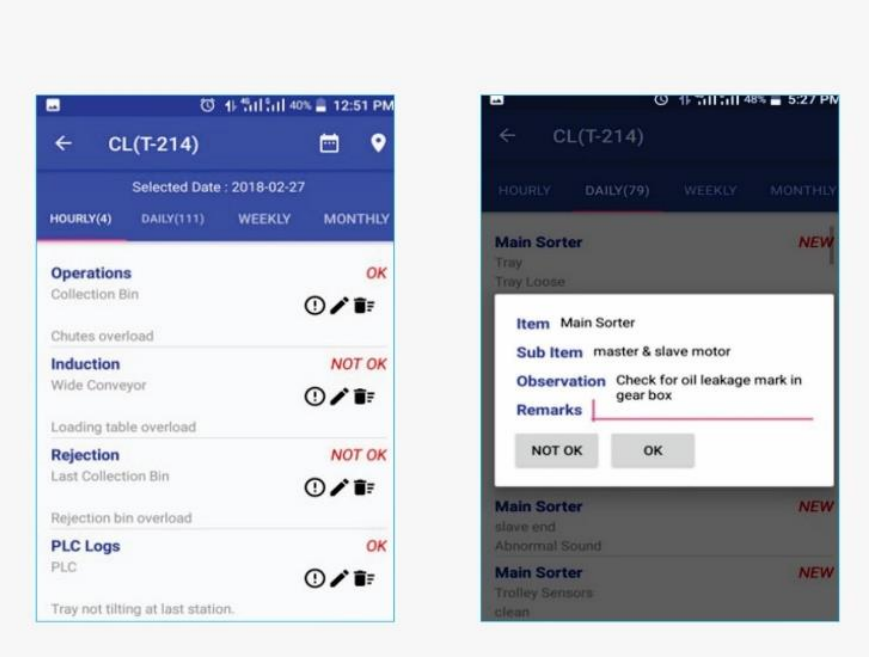
12. Automation Management System (AMS)



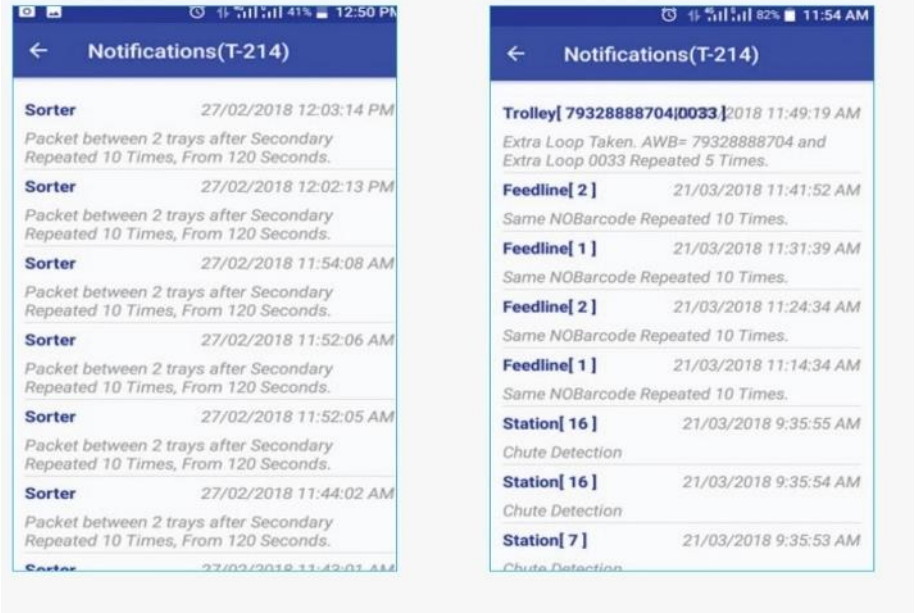
12.1 Issue Logging



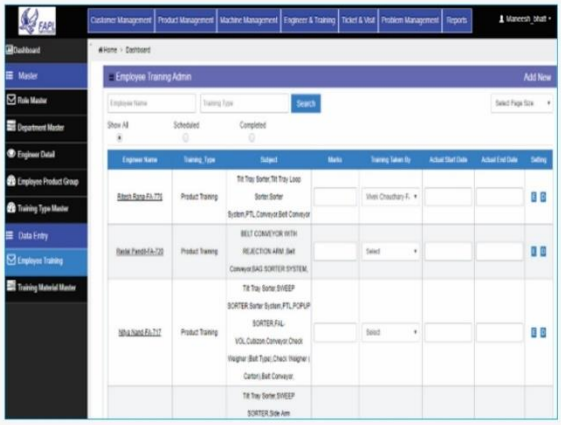
12.2 Preventive Maintenance Check List

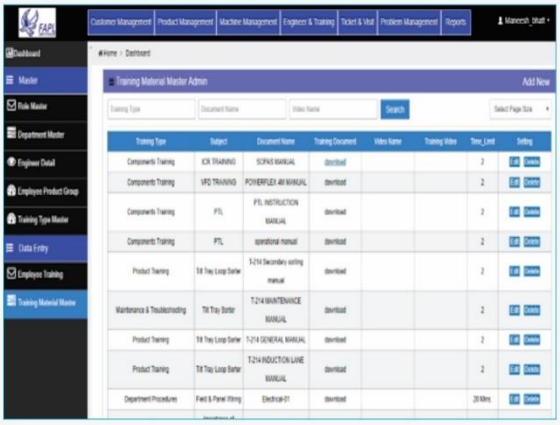


12.3 Predictive Maintenance

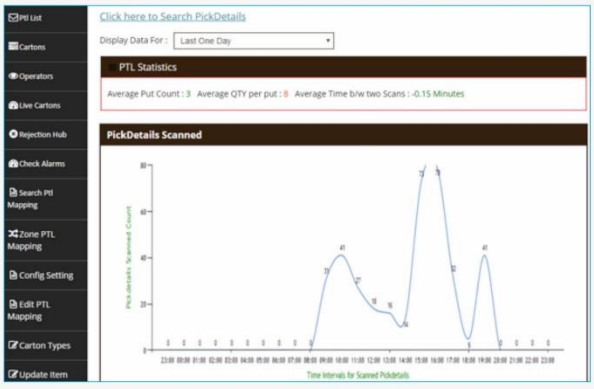


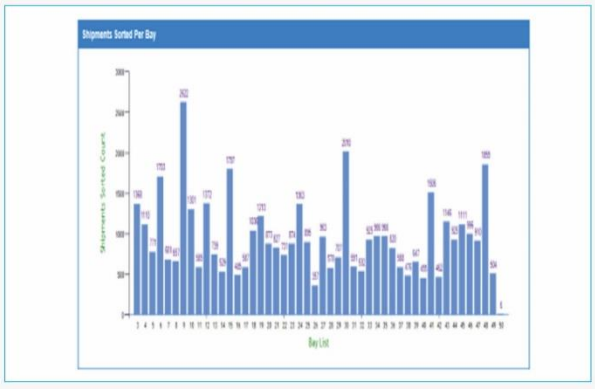
12.4 Training Portal





12.5 Operational Analysis





13. Questions raised by Volvo

Underneath questions raised by Volvo complete with the answers/references:

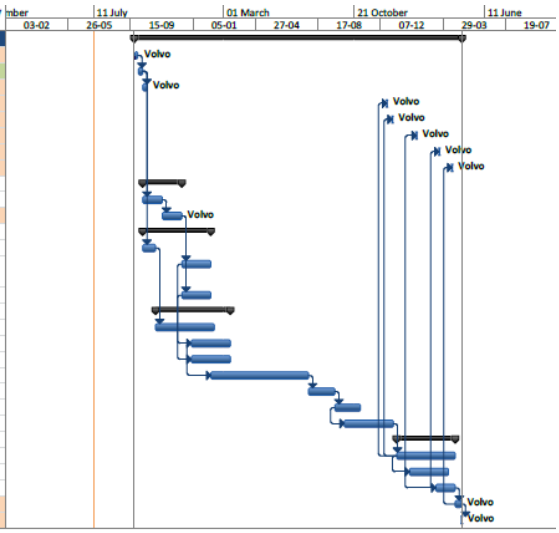
Question Volvo	Answer Falcon Autotech
Power Requirements	
Please confirm the **maximum electrical load (kW/kVA)** for the complete ASRS solution.	Pre engineering figure is approx 130kW (Actual will be shared during DAP phase of the project execution)
Does your system require a **clean earth**? If so, please specify the required **amperage**.	Earthing Resistance of "earth pit should be less than 1 Ohms " & "voltage between earth and neutral shall be less than 1 V on load condition"
Confirm that **110V site supply** (as per UK construction standards) is acceptable during installation — **no deviations permitted**.	OK
Access and Clearance Zones	
What **clear dimensions** are required around the ASRS for:	Falcon will place fencing to secure the area
Initial installation	
Ongoing service and maintenance	
Please define any **critical operational zones** that must remain clear and accessible all the time.	Maintenance Area of NEObot's
Note: There will be **adjacent wide aisle racking** that must retain **access at all time**. Failure to disclose requirements may impact access to critical services in the event of ASRS failure.	
Critical Component Access	
Please identify the **largest part** or **critical dimensioned component** that may require replacement, including the **working zone footprint** needed to remove and reinstall it.	
Point Loads	
The ASRS will be installed in a building under construction by a third-party landlord. Please provide **anticipated point loads (kN/m²)** to inform early structural design and slab specification.	16-20 kN/m (pre-engineering)
Power Resilience / Standby Strategy	
What level of **operational standby generation** do you recommend for your ASRS?	

Should we allow for **UPS tails** or alternative backup power provision as part of the tenant fit-out?	UPS Supply required for the GTC & Charging Stations
Please specify the **size and rating of standby generation** (if any) required for safe operation or controlled shutdown.	

14. Program Organisation

14.1 Program/ Project Schedule

ID	Task Name	Duration	Start	Finish	Predecessors	Responsibility
1	**Volvo Rugby Automation Solution Project**	**504 days**	**Mon 22-09-25**	**Sat 01-05-27**		
2	**Receipt of Order & Advance**	**5 days**	**Mon 22-09-25**	**Sat 27-09-25**		**Volvo**
3	**Project Launch**	**7 days**	**Mon 29-09-25**	**Mon 06-10-25**	**2**	
4	**Joint Kick Off with Volvo Team**	**7 days**	**Tue 07-10-25**	**Tue 14-10-25**	**3**	**Volvo**
5	**Handover of Laydown Area & Safe Room**	**1 day**	**Fri 18-12-26**	**Fri 18-12-26**	**26SS-15 days**	**Volvo**
6	**Availability of Power (RAW& Earthing)**	**1 day**	**Mon 28-12-26**	**Mon 28-12-26**	**26SS-7 days**	**Volvo**
7	**Availability of UPS Power , Compressor**	**1 day**	**Tue 09-02-27**	**Tue 09-02-27**	**27SS+10 days**	**Volvo**
8	**Availability of Dummy Shipments**	**1 day**	**Mon 22-03-27**	**Mon 22-03-27**	**28SS+5 days**	**Volvo**
9	**Availability of Trained Manpower**	**1 day**	**Wed 14-04-27**	**Wed 14-04-27**	**29SS-5 days**	**Volvo**
10	**Detailed Plan Activities**	**60 days**	**Tue 07-10-25**	**Mon 15-12-25**		
11	Detailed Plan Submission	30 days	Tue 07-10-25	Mon 10-11-25	3	
12	Detailed Plan Apporval	30 days	Tue 11-11-25	Mon 15-12-25	11	**Volvo**
13	**Detail Engineering**	**105 days**	**Tue 07-10-25**	**Thu 05-02-26**		
14	Releasing of Long Lead Items	20 days	Tue 07-10-25	Wed 29-10-25	3	
15	Release of Mechanical Manufacturing & Procurment Items	45 days	Tue 16-12-25	Thu 05-02-26	12	
16	Release of Electrcial Procurmeent Items	45 days	Tue 16-12-25	Thu 05-02-26	12	
17	**Manufacturing & Procurement**	**115 days**	**Thu 30-10-25**	**Thu 12-03-26**		
18	Procurement of Long Lead Item	90 days	Thu 30-10-25	Wed 11-02-26	14	
19	Manufacturing & Procurement of Mechanical Items	60 days	Fri 02-01-26	Thu 12-03-26	15SS+15 days	
20	Procurement of Electrical Items	60 days	Fri 02-01-26	Thu 12-03-26	16SS+15 days	
21	**Inhouse Assembly**	**150 days**	**Fri 06-02-26**	**Thu 30-07-26**	**19SS+30 days**	
22	**Packing**	**40 days**	**Fri 31-07-26**	**Tue 15-09-26**	**21**	
23	**Dispatch from Factory**	**40 days**	**Wed 16-09-26**	**Sat 31-10-26**	**22**	
24	**Delivery at Site**	**75 days**	**Sat 03-10-26**	**Tue 29-12-26**	**23SS+15 days**	
25	**Installation and Commissioning**	**90 days**	**Tue 05-01-27**	**Mon 19-04-27**		
26	Installation Mechanical	90 days	Tue 05-01-27	Mon 19-04-27	24FS+5 days	
27	Installation Electrical	60 days	Thu 28-01-27	Wed 07-04-27	26SS+20 days	
28	Commissioning	30 days	Tue 16-03-27	Mon 19-04-27	27SS+40 days	
29	**User Acceptance Test & Training**	**10 days**	**Tue 20-04-27**	**Fri 30-04-27**	**28**	**Volvo**
30	**Go Live**	**1 day**	**Sat 01-05-27**	**Sat 01-05-27**	**29**	**Volvo**



Note: Final project schedule will be conveyed at the DAP stage.

14.2 Program Management

For this program, proposed approach covers the following aspects:

1. Creation and monitoring of the project plan.
2. Communication with Volvo
3. Scheduling of the resource management.
4. Management of the risks and opportunities.
5. Management of the list of anomalies or reservations.

15. Warranty Inspection

In the warranty inspection of 1 Year Falcon has considered below services

- 1 No Preventive Maintenance per Month
- 12 Nos Breakdown Visit per Year

Preventive Maintenance: A preventive maintenance package refers to planned maintenance activities and services designed to prevent equipment, machinery, or systems from breaking down or deteriorating over time. Preventive maintenance aims to identify and address potential issues before they lead to costly breakdowns or disruptions in operations.

Falcon offers a preventive maintenance package with 12 planned maintenance visits in a year.

In every visit 1 Mechanical and 1 Electrical Engineer will visit the site to carry out the maintenance activities. Any additional visit would be charged extra.

Breakdown Visit: Breakdown Visit, also known as corrective maintenance, is a type of maintenance activity that focuses on addressing and repairing equipment or system failures, defects, or malfunctions when they occur. Unlike preventive maintenance, which aims to prevent breakdowns through scheduled inspections and maintenance tasks, curative maintenance is reactive and comes into play when a problem has already arisen.

Falcon offers 12 visits of Engineers in a year with Curative maintenance package. Engineer will visit the site within 2 hours of decision (excluding on Sunday and Public Holidays) to go to the site.

Any additional visit would be charged extra.

16. Hotline Support

The hotline service access is available Monday to Saturday (excluding Sunday & Public Holidays).

The hotline must be used for urgent issues. During the call, the VOLVO personnel will have to provide information and details to the Falcon qualified engineer to start to find a solution for the urgent request. The list of information may vary depending on the type of request. Nevertheless, basic information will be necessary. The list of information required shall be provided before the start of the service. This list shall evolve according to the needs during service execution. This should be part of high-level discussion between the VOLVO personnel and Falcon.

If the fault raised by the VOLVO personnel is not rectified within 1 hour, VOLVO and Falcon can decide to activate curative maintenance/breakdown visit.

17. Recommended Spare Package

As part of the recommended spare package, Falcon will supply the necessary spares to be kept at the site to minimize downtime in the event of a breakdown.

For items under warranty, Falcon will bear the cost of restocking.

For non-warranty items (such as consumables, wear parts, or inventory expansion), the replenishment cost will be borne by Volvo.

The responsibility and cost of returning any faulty items to Falcon will lie with Volvo.

List of Spare will be shared with client post detail designing of the system

18. Commercial Terms

18.1 Price Sheet

S.No	Component	Qty per set	Set	UOM		Price
1	Neo Package	1	1	Set	£	1,268,991
2	Conveyor Package	1	1	Set	£	141,975
3	Safety & Software Package	1	1	Set	£	43,089
4	Installation & Commissioning	1	1	Set	£	1,512,926
5	Packaging & Documentation	1	1	Set	£	71,464
6	Project Management and Engineering Charges	1	1	Set	£	75,961
7	Freight	103	1	Container	£	551,786
Total					£	3,666,192
Spare Package					£	98,768
Hotline Support					£	30,000
Warranty Inspections					£	45,120
Total Package in GBP					£	**3,840,080**

The Total Price is to be understood.

- Freight: For 103 Containers
- Taxes: VAT and Custom Duty extra as applicable
- Including Packing charges
- Installation and Commissioning: Included
- Price is valid for 60 days from the date of proposal.
- All works conducted in compliance with CDM requirements with Falcon undertaking the role of Subcontractor. It is assumed that Volvo or their nominated agent will undertake the role of Principle Contractor

*Material Unloading & Laydown area is in customer scope

18.2 Payment Terms

The proposal is based on the following payment schedule:

Stage 1: 40% Advance along with Purchase Order

Stage 2: 40% Before Dispatch

Stage 3: 10% against Installation

Stage 4: 10% against Final Handover

19. Warranty

Falcons offered System comes with a standard warranty of 1 year, for complete system against manufacturing defect. Any damage caused to the system by an external source, abnormal use of equipment or any other factor not attributable to Falcon Autotech shall not be covered under warranty. Warranty period will start from the start of beneficiary use of the system

Post completion of warranty, customer can opt for Extended warranty. Warranty covers the following support:

- Telephonic, Email and Remote Service Support when required.(as per hotline package)
- Regular Software updates and Bug Fixes.
- Supply of Mechanical and Electrical components in case of failure (excluding damages as mentioned in Exclusion Clause)

The warranty does not apply to replacement or repair of:

- Normal wear and tear.
- Consumables.
- Faulty articles:
    - Failure to comply with the manufacturer's recommendations (logistics documentation, Technical Information Note, retrofit document) and the rules of the trade.
    - Negligence or abnormal use of equipment.
    - Anomalies produced by an environment of use, storage or transport that does not comply with the specifications or recommendations of Falcon: packaging, temperature, hygrometry, sector, insulation, etc.
    - A defect due to a cause external to the supplies and services of Falcon.
- Equipment other than that supplied by Falcon.
- Items that can be repaired exclusively by Falcon that have been repaired or attempted repairs other than those carried out by Falcon.
- Items that fail due to normal wear and tear of one or more of its components or whose tamper-evident seals (varnish, strip, etc.) have been broken or whose serial numbers have been removed or modified.
- Items damaged during transport to Falcon due to the use of unsuitable packaging.

Note: Transportation cost for sending faulty items to Falcon Factory from the site will be in VOLVO Scope and new items from Falcon factory to site will be in scope of Falcon.

20. Exclusions

The scope of supply includes all parts which are defined in the Supplier's quotation.
All other parts which are not defined in the Supplier's quotation do not belong to the Supplier's scope of supply and are excluded. The following parts are also excluded:

A. RFID sensors, tunnels and associated conveyors if any.
B. Printers, Bar code printers wherever required,
C. Packing Tables and its associated accessories.
D. Building infrastructure; building structure, doors, fire exits, levelling devices, building extinguisher and fire alarm system, building heating and lighting system.
E. Electrical power supply and wiring to the main control cabinets.
F. UPS for Controls and Drives
G. Electrical Power for Installation
H. Network Cabling up to the Main Server Rack
I. Intermediate wiring to parts which are to be supplied by the Purchaser/others.
J. Emergency/Uninterruptable power supply
K. Fire-alarm and fire protection devices.
L. Traffic and route markings (outside FAPL storage grid)
M. Laydown Area
N. Ram protection devices
O. Cat walks, bridges, maintenance aisles and platforms if not mentioned in the BOM.
P. Assembly tools like forklifts and hoisting machines
Q. All kind of network incl. Local Area Network (LAN/WLAN), exceeding the scope described in Scope of Supply
R. Any Kind of Civil work
S. Any adjustment of the Supplier's scope of supply to local rules and regulations
T. X-Ray machines
U. Roller cages/ Pallets
V. Simulation and 3D animation of the system
W. Interface with other equipment not specified in this offer.
X. Provision of facilities for the control room (furniture, air conditioning, heating, etc.).
Y. The supply and installation of fencing around the different corridors.
Z. Any item specifically indicated as not forming part of the subject matter of the Seller's supply in the offer documentation.

21. Annexure*

- *Annexure 1 : 2411111292_Volvo_Rugby_UK_Neo 1.5_Rev-3*
- *Annexure 2 : Provisional Project Plan*
- *Annexure 3 : B01 Cost Split Up*