

FALCON's Response to Shree Maruti Courier: Supply of SWEDI Sorter

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www.falconautotech.com

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1. Glossary

S. No.	Term	Description
1	RFQ	Request For Quote
2	PPH	Parcels Per Hour
3	PLC	Programmable Logic Controller
4	IT	Information Technology
5	BOQ	Bill Of Quantity
6	I/O	Input/ Output
7	PDP	Power Distribution Panel
8	PC	Personal Computer
9	UPS	Uninterrupted Power Supply
10	SWEDI	Swivel Wheel Divert

2. About Falcon

THE COMPANY

ABOUT US

Falcon Autotech is one of the leading Intra-logistics automation solution providers with a sharp focus on Parcel, Piece and Case Handling applications. We have a broad portfolio of Sortation Systems for Retail, E-Commerce and CEP (Courier, Express and Postal) industries and have supplied our systems across various countries globally.

OUR VISION

To create a global impact on the society by facilitating world's leading organizations run their supply chains efficiently by leveraging technology enabled products and solutions and, in the process, establish Falcon Autotech as one of the world's most respected and trusted brands in Intra-logistics warehouse automation space.

OUR JOURNEY

The team started out in 2004 solving special purpose automation problems for clients and later pivoted to building a standard technology stack spanning across Hardware, Firmware and Software to tackle bigger Supply Chain problems. Over the last few years, the organization 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.

OUR CORE COMPETENCIES

Organizations are built and defined by the people they are able to attract, cultivate and retain and the talent management philosophy at Falcon Autotech could not agree more. At, Falcon Autotech we take a lot of pride in being the preferred career choice for some of the finest talent in the country across multiple domains such as:

- ❖ Supply Chain Solution Designing and Consultation
- ❖ Hardware Design
- ❖ Electrical Design
- ❖ Electronics Design
- ❖ Software Development
- ❖ Manufacturing

Giving us an unprecedented ability to harness our true potential generated by culmination of Supply Chain Know-How, quality Hardware and flexible Software under one roof.



The infographic features a central vertical yellow bar with colored dots representing each year. To the left of the bar are icons for each year: clouds (2021), rocket (2020), sun/clouds (2019), bar chart (2018), trophy (2017), gift box (2016), globe (2015), factory (2014), handshake (2013), gear (2012), people (2011), building (2010), and factory (2009). The right side contains decorative illustrations: clouds, a rising sun, and a city skyline.

FALCON AUTOTECH

GROWTH

- 2021**
 - Company expands its manufacturing footprint by 4X.
 - Team size continues to grow, with 525+ on-roll employees.
 - Orders booked for some of the largest projects being executed in India.
- 2018**
 - Company sets up its first Sorter in Europe.
 - Company announces representation in North America.
 - Company ranked amongst the top 20 global players in the sorting automation market.
- 2017**
 - Company bags some of the biggest Warehouse Automation projects in India.
 - Company launches Cross Belt Sorter and Pop-Up Sorter.
 - Company expands its representation in UK, South East Asia, Middle East, South Africa, Eastern Europe and China through partners.
- 2016**

Company starts exporting to 12 countries in APAC, GCC, USA and China
- 2015**
 - Company launches a series of products: Tilt Tray Sorter, Linear Arm Sorter, Pick/Put to Light System.
 - Company bags several high-profile automation projects from Blue Dart, DHL, Delhivery, Aramex, Flipkart etc.
- 2014**
 - Company moves to a new manufacturing unit in Greater Noida.
 - Company bags its first order of Sortation System and Put to Light System from a leading Express Logistics player in India.
- 2012**

A standard Products division is launched under the brand name of **Falcon Autotech**
- 2010**

Team grows to 45 people and the Company starts working with multiple clients in Auto, Pharma and Consumer Electronics space.
- 2005**

Company bags its first order worth INR 1 Million from an automotive component manufacturer
- 2004**

Starts as a customized machine builder (Special Purpose Machine) with a team of 2, under the brand name of **Futuristic Robotics**.

OUR PRODUCT PORTFOLIO

01

SORTATION SOLUTIONS



Cross Belt Sorter



Tilt Tray Sorter



Arm Sorter



Swivel Wheel Sorter



Sweep Sorter



Pusher Sorter



Pop Up Sorter

02

PICK/PUT TO LIGHT SYSTEMS



Packet Sortation



Multi-Line Order Consolidation



Order Picking



Store Order Fulfillment



Spare Parts Distribution



Kitting



Multi Order Pick Cart

03

DIMENSION & WEIGHT SCANNING SYSTEMS

STATIC DIMENSION & WEIGHT SCANNING SYSTEMS



Cubizon-R



Cubizon-R THRU



Cubizon-R Cross



Cubizon-R ECO

DYNAMIC CONVEYOR BASED SYSTEMS

OUR 8 MODELS



OUR PRODUCT PORTFOLIO

04

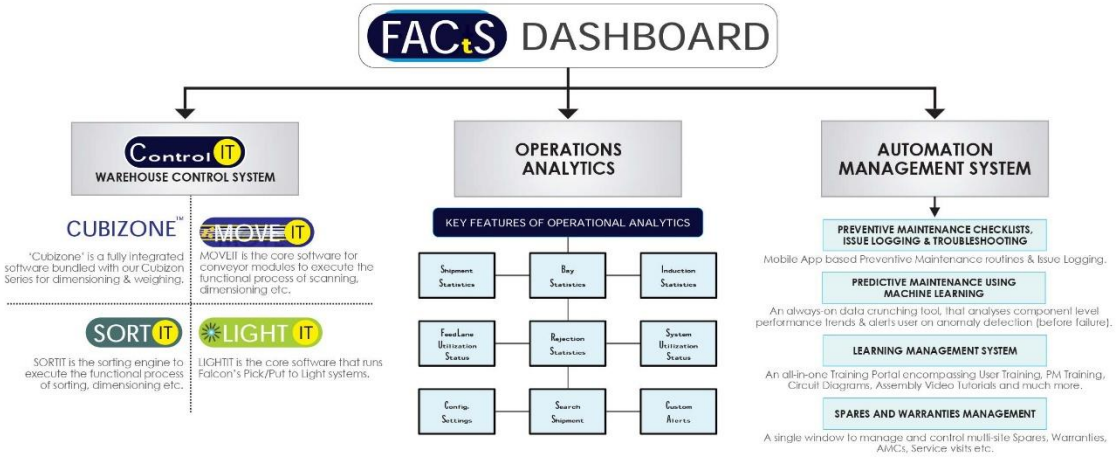
CONVEYOR AUTOMATION SOLUTIONS

BELT CONVEYORS	ROLLER CONVEYORS	SPECIAL APPLICATION SOLUTIONS
<ul style="list-style-type: none"> ❖ PVC BELT <ul style="list-style-type: none"> ◆ Straight Conveyor ◆ Spacing Conveyor ◆ Accumulation Conveyor ◆ Strip Belt Merge- 30/45/60 ◆ Solid Belt Merge- 45 ◆ Incline Belt Conveyor ❖ MODULAR BELT <ul style="list-style-type: none"> ◆ Straight Conveyor ◆ 90 Degree Belt Curve ◆ 180 Degree Belt Curve 	<ul style="list-style-type: none"> ◆ Straight Conveyor ◆ Gravity Roller Conveyor ◆ MDR Accumulation ◆ Angled Roller Conveyor ◆ Curved Conveyor ◆ Spur Merge Conveyor ◆ Swivel Wheel Diverter ◆ Pop Up Belt Diverter ◆ Pusher Unit 	<ul style="list-style-type: none"> ◆ Aligning Conveyor ◆ One to Two Split Conveyor ◆ Two to One Merge Module ◆ Bulk Distribution-ARB ◆ Bulk Distribution-Telescopic ◆ Bulk Distribution-Electric Arm ◆ Telescopic Belt Conveyor
		

05

SOFTWARE SUITE

FALCON'S AUTOMATION CONTROL SUITE



— ADD-ON MODULES —



Real Time Video Coding

No-Read Barcodes have always been a challenge in Sorter Applications globally. With Falcon's RTVC feature, we can now easily decode such challenging parcels in real time while sitting remotely.



Deep Learning Image Classification

DIC is an artificial intelligence function that imitates the working of the human brain. It can identify objects such as packets on the carrier and classify them in different categories.



Cloud Sort App/Virtual PTL

It's an android based app used to perform secondary sorting in light assisted put-away operations. It can work as a stand-alone setup or can be integrated with any sorter.

INDUSTRY SOLUTIONS

As a leading player in the intra-logistics automation space, Falcon Autotech 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.

In order to be able to live up to the high expectations set forth by our clients, the team at Falcon Autotech realizes the importance of taking up selective applications in focused Industries and deliver world class projects in return.

FOCUS APPLICATIONS FOR FALCON AUTOTECH

- ❖ Piece Picking and Handling
- ❖ Case Picking and Handling
- ❖ Parcel Handling

FOCUS INDUSTRIES



E-COMMERCE RETAIL



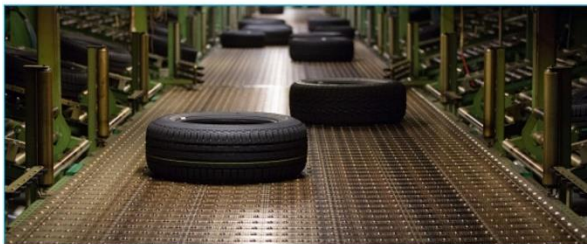
COURIER EXPRESS POSTAL



FASHION DISTRIBUTION



FFP (FOOD, FMCG, PHARMA) DISTRIBUTION



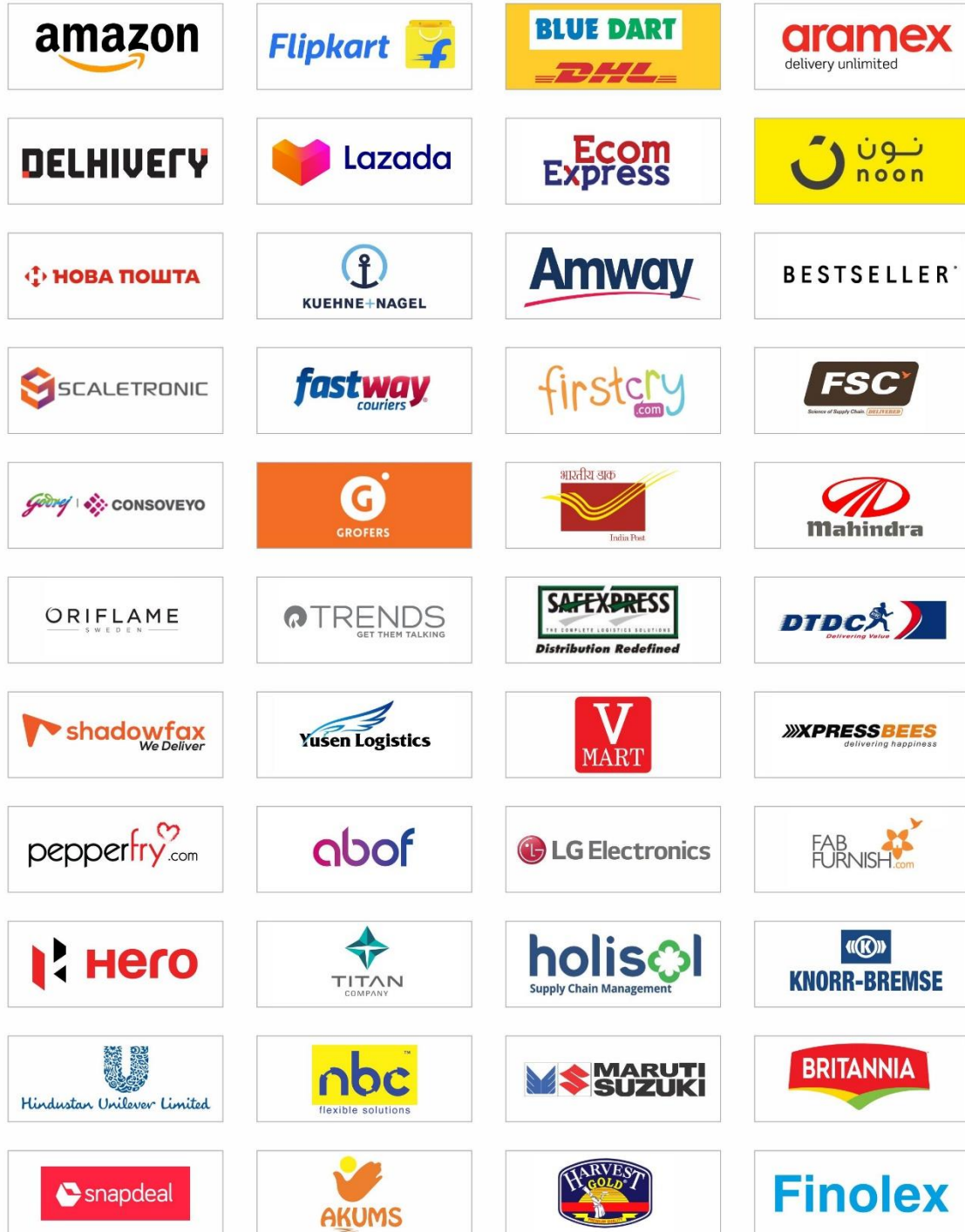
SPARE PARTS DISTRIBUTION



GROCERY DISTRIBUTION

SOME OF OUR GLOBAL CLIENTS

We believe in delivering high quality and standard worldwide. Here is a gist of our esteemed clients across various industry segments.



3. Handled Parcel Spectrum

3.1 Product size Conveyable on the entire system.

Max Length	mm	600
Max Width	mm	500
Max Height	mm	500
Max Weight	Kg	20
Min length	mm	150
Min Width	mm	150
Min Height	mm	5
Min Weight	Kg	1

3.2 Parcels to be loaded on Conveyor/Sorter shall have the following characteristics:

1. Centre of Gravity of items must not move during conveyance or sorting.
2. Item must not have magnetic content; otherwise behaviour of parcel cannot be guaranteed.
3. Liquid or fragile material, to avoid breaking, spillage or leakage, such as wine bottles, metal cans of paint are designated as non- conveyable items.
4. Parcels shall be perfectly and safely packaged: protrusion or open surfaces are not allowed.
5. Plastic ropes shall be perfectly adherent to the surface of the package.
6. All items with the risk of being damaged during the transport on an automatic conveying/sorting system or damaging the system. They must be robust enough to avoid disintegration of container material and loose of contents in the conveying/sorting process.
7. Item packaging shall have enough grip to be handled on the belts during the acceleration and referencing phases.
8. Items shall not have slippery surfaces and must be able to withstand acceleration of the items on the belt during the start-stop phases (accelerations up to 0.5 g shall be assured without any sliding or tumbling of the items on the belt conveyor).
9. The parcels must have at least one flat and regular surface providing enough stability during conveyance.
10. All shapes are permitted except spherical, cylindrical, or alike unstable items & shapes.
11. All usual packaging materials are permitted (including paper, carton, plastics, plastic foil, rope, tape, textile, and wood)

3.3 Parcel not loadable on the system

All products that are not within the range as described here are considered non- conveyable products, and must be taken out of the main sorter flow by the operators.

1. Unstable items with a risk to roll or tumble on the sorting system, such as spherical or cylindrical items.
2. Items that have a spherical or cylindrical shape.
3. Items that are packed in material that can damage the conveyors or the sorter.
4. Items that have sharp points (e.g., Nails) or sharp edges, that can damage the conveyors or the sorter.
5. Fragile parcels with contents not sufficiently secured.
6. Items that have been classified as dangerous are designated.
7. Wet items are designated.
8. Items with anti-slip treatment.
9. Items with protruding parts.
10. Items with sharp edges.
11. Inadequately packed items that could be damaged during automatic transportation.
12. Electrostatically loaded items.
13. Loose parts on loads and load carriers, such as adhesive tape, stickers, slips of paper, straps, wrap foil etc. are designated as non- conveyable items.

3.4 Types of Products

Parcel Type	Description
Product Profile	Min: L-600 X W-500 X H-500 MM Max: L-150 X W-150 X H-5 MM

3.5 Swivel Wheel Sorting Unit – Falcon

Falcon's Swivel wheel divert is used in system for the smooth transfer of products.

Some Salient Features of Falcon's Swivel Wheel Divert:

- Low Noise
- Maximum uptime.
- Electric based rotation of wheels.
- Minimal maintenance
- High safety standards.



Specification	UOM	Remark
Manufacturer Name	Name	Falcon Autotech
Type - Equipment	Type	Merge/Sorting
Type - Operation	Type	Sorting
Mechanism for Swivel	Type	Electric servo motor
Roller drive	kW	Powered smart wheel
Roller pitch (L x W)	Type	110 x 120
No. of divert sections	Yes/No	1 or 2
Max. product weight (kg/m2)	kg/m2	25
Type of Mounts	Type	Fixed Heights Legs with Grouting Provisions

4. Throughput Calculation

4.1 Throughput of SWEDI (PPH)

Considering the parcel Size 600 x 500 x 500 mm.

Speed – 120 m/s

The throughput of the system can be considered as:

SWEDI			
S. No	Total No. Of Divert Section	Angle Of diversion	Throughput
1	2	45	4000 PPH
2	2	90	3300 PPH

5. Commercial Terms

5.1 Costing for SWEDI Divert Units

S.No	Component	Qty	Total Cost
1	Swedi Diverts	6	₹ 1,33,92,857
2	Packing and forwarding	1	₹ 2,67,857
3	I&C	1	₹ 6,69,643
Total			₹ 1,43,30,357

The Total Price is to be understood.

- Ex Works – Greater Noida, India
- The cost of electrical components may increase depending of the final layout.
- Freight charges shall be extra at actual.
- GST will be charged extra @ 18%
- Including Packing and Forwarding
- Duty unpaid
- Software, IT integration, Installation and Commissioning shall be in Ferag Scope.
- Price is valid for 1 year from the date of proposal.

Our Price does not include taxes, and duties, import duties, charges, fees, taxes etc. charged by authorities outside India for deliveries and services. Same shall be borne & paid by client itself.

*Material Unloading & Laydown area is in customer scope

5.2 Payment Terms

The Supplier Quotation is based on the following payment schedule:

Stage 1: 50% Advance along with PO.

Stage 2: 50% along with 100% Taxes prior to dispatch.

6. Warranty Period

Falcons offered System comes with a standard warranty of 1 year (Starts from the date of beneficiary use) and post completion of warranty, customer can opt for Extended warranty. Warranty covers the following support:

- 24 X 7 Telephonic, Email and Remote Service Support when required.
- 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 continued:
 - 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.

7. 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:

- The proposal only contains divert units, associated conveyors, accessories, collection bins, chutes are not a part of this proposal.
- Servers
- Building infrastructure; building structure, doors, fire exits, levelling devices, building extinguisher and fire alarm system, building heating and lighting system.
- Electrical power supply and wiring to the main control cabinets.
- UPS for Controls and Drives
- Electrical Power for Installation
- Network Cabling up to the Main Server Rack
- Intermediate wiring to parts which are to be supplied by the Purchaser/others
- Emergency/Uninterruptable power supply
- Fire-alarm and fire protection devices
- Traffic and route markings
- Laydown Area
- Ram protection devices
- Cat walks, bridges, maintenance aisles and platforms- If not specified
- Assembly tools like forklifts and hoisting machines
- All kind of network incl. Local Area Network (LAN/WLAN), exceeding the scope described in Scope of Supply
- Any Kind of Civil work
- Any adjustment of the Supplier's scope of supply to local rules and regulations
- X-Ray machines
- Roller cages/ Pallets
- Simulation and 3D animation of the sorter system
- Interface with other equipment not specified in this offer.
- Provision of facilities for the control room (furniture, air conditioning, heating, etc.).
- The supply and installation of fencing around the different corridors.
- Any item specifically indicated as not forming part of the subject matter of the Seller's supply in the offer documentation.