

FALCON's Proposal Auto Dynamic Profiler

28 June 2024



www.falconautotech.com

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1. Glossary

S. No.	Term	Description
1	RFQ	Request For Quote
2	IT	Information Technology
3	BOQ	Bill Of Quantity
4	PDP	Power Distribution Panel
5	PC	Personal Computer
6	UPS	Uninterrupted Power Supply

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

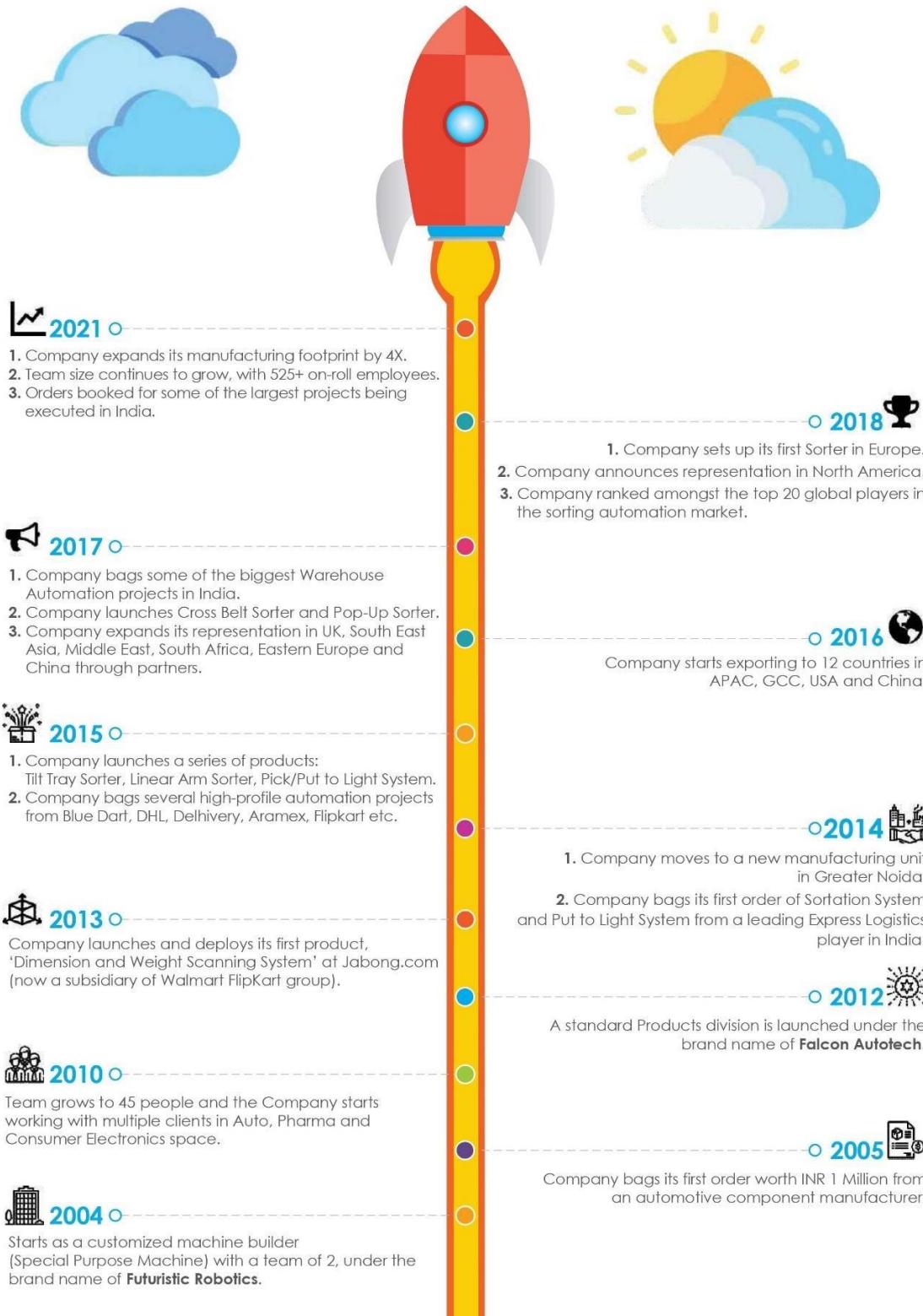
Giving us an unprecedented ability to harness our true potential generated by culmination of Supply Chain Know-How, quality Hardware and flexible Software under one roof.



**525+ ON-ROLL EMPLOYEES
290+ ENGINEERS**

**We Value,
Challenge and
Reward our
People**

COMPANY HISTORY



OUR PRODUCT PORTFOLIO

01

SORTATION SOLUTIONS



02

PICK/PUT TO LIGHT SYSTEMS



03

DIMENSION & WEIGHT SCANNING SYSTEMS



STATIC DIMENSION & WEIGHT SCANNING SYSTEMS

DYNAMIC CONVEYOR BASED SYSTEMS

OUR 8 MODELS



OUR PRODUCT PORTFOLIO

04

CONVEYOR AUTOMATION SOLUTIONS

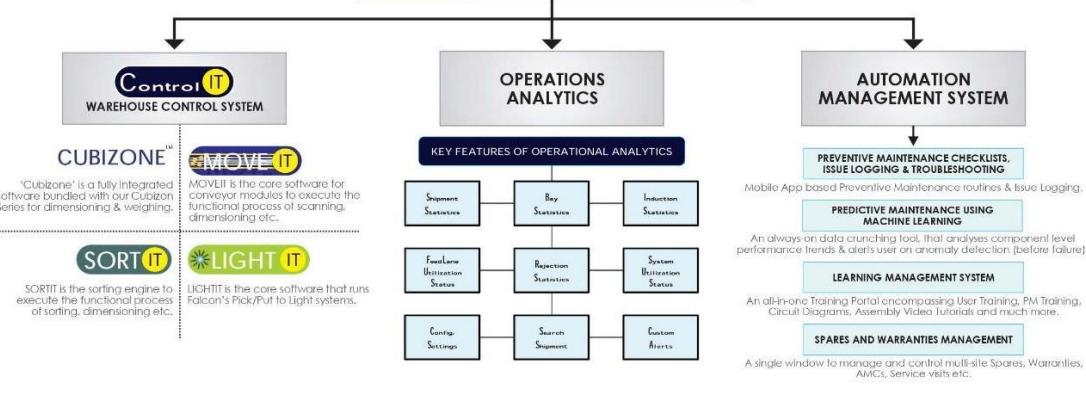
BELT CONVEYORS	ROLLER CONVEYORS	SPECIAL APPLICATION SOLUTIONS
<ul style="list-style-type: none"> ❖ PVC BELT <ul style="list-style-type: none"> ◆ Straight Conveyor ◆ Spacing Conveyor ◆ Accumulation Conveyor ◆ Strip Belt Merge- 30/45/60 ◆ Solid Belt Merge- 45 ◆ Incline Belt Conveyor ❖ MODULAR BELT <ul 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

FACS DASHBOARD



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

DLIC 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.

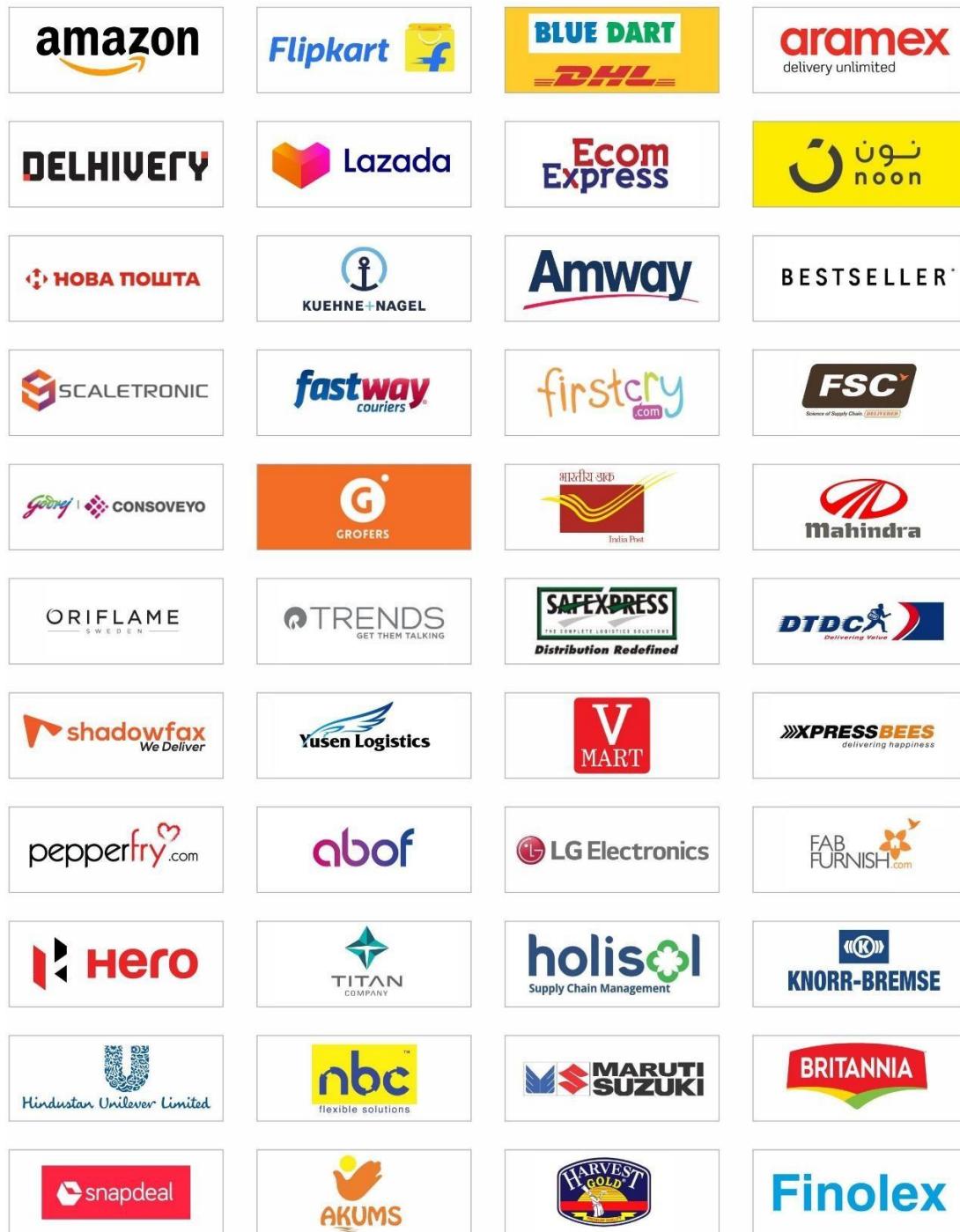


Cloud Sort App/Virtual PTL

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.

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 Product Spectrum

Max Length	mm	1000
Max Width	mm	800
Max Height	mm	750
Max Weight	Kg	60
Min length	mm	100
Min Width	mm	100
Min Height	mm	50
Min Weight	Kg	0.2
Dimensioning Accuracy	Mm	+/-10 for Length, Width and Height
Weighing Accuracy	Kg	+/- 0.06 or 0.5 %, whichever is higher

3.1 Parcels to be loaded on Profiler shall have the following characteristics:

1. Centre of Gravity of items must not move during conveyance.
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 system or damaging the system. They must be robust enough to avoid disintegration of container material and loose of contents in the conveying process.
7. Item packaging shall have enough grip to be handled on the belts during the acceleration and referencing phases.
8. The parcels must have at least one flat and regular surface providing enough stability during conveyance.
9. All shapes are permitted except spherical, cylindrical, or alike unstable items & shapes.
10. All usual packaging materials are permitted (including paper, carton, plastics, plastic foil, rope, tape, textile, and wood)

3.2 Parcel not loadable on the system

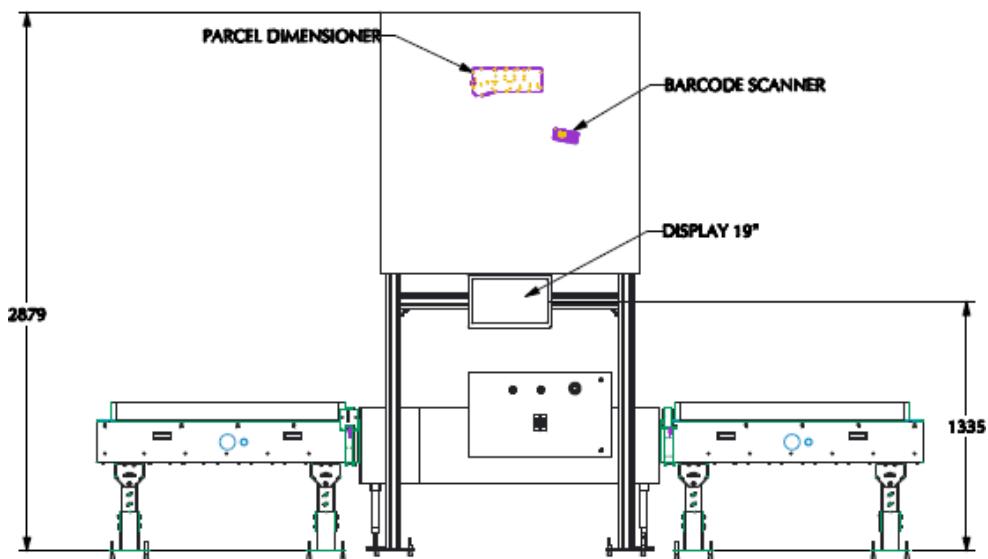
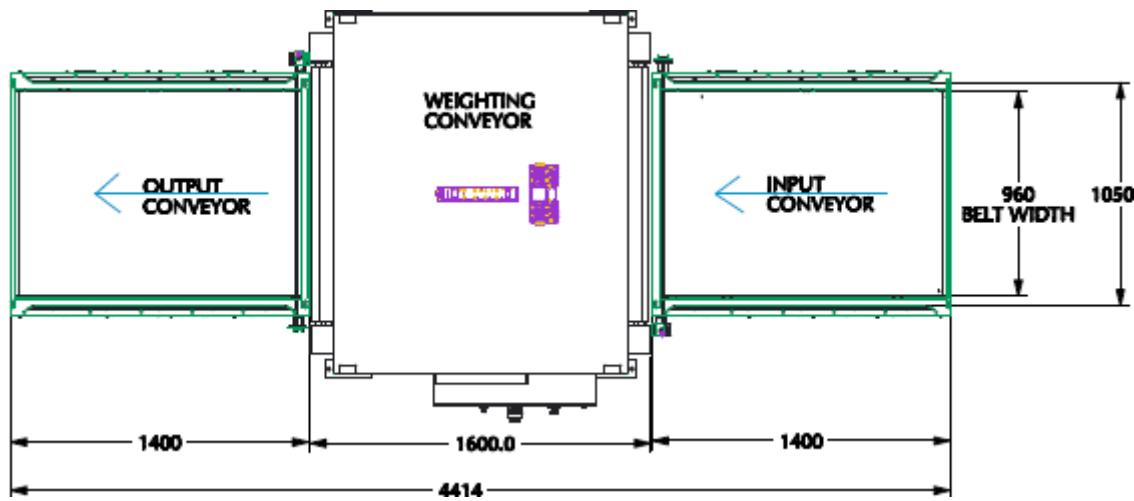
All products that are not within the range as described here are considered non- conveyable products and must be taken out of the main conveyor flow by the operators.

1. Unstable items with risk to roll or tumble on the conveying system, such as spherical or cylindrical.
2. Items that are packed in material that can damage the conveyors.
3. Items that have sharp points (e.g., Nails) or sharp edges, that can damage the conveyors. Items with protruding parts.
4. Fragile parcels with contents not sufficiently secured.
5. Items that have been classified as dangerous are designated.
6. Wet items and Items with anti-slip treatment.
7. Inadequately packed items that could be damaged during automatic transportation.
8. Electrostatically loaded items.
9. 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.

3.3 Types of Parcels

Parcel Type	Description
Corrugated Box/Cartons	
Plastic Totes	Min: L-100 X W-100 X H-50 MM
Shipments	Max: L-1000 X W-800 X H-750 MM
Polybags/Jiffy	

4. System Reference Drawing



Reference Drawing

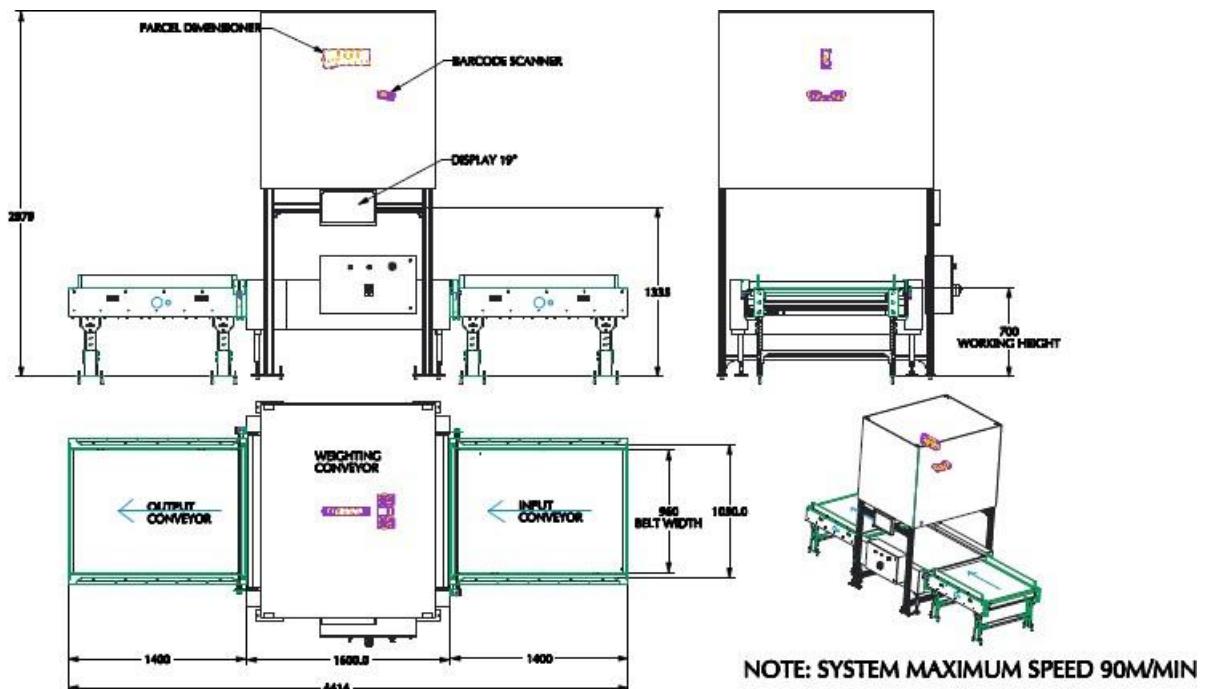
5. System Specification

Description	Units
Automatic Barcode scanning	Yes
Automatic Weighing	Yes
Automatic Dimensioning and Imaging	Yes
Max parcel Length measurable	1000 mm
Max parcel Width measurable	800 mm
Max parcel Height measurable	750 mm
Min parcel Length measurable	100 mm
Min parcel Width measurable	100 mm
Min parcel Height measurable	50 mm
Dimensions Resolution	1 mm
Dimensional accuracy on standard parcels	+/- 10 mm
Max Speed	1.5 m/s
Parcel Min Weight	200 gm
Parcel Max Weight	60 kg
Weighing accuracy	+-. 006 or 0.5% of Product Weight, whichever is higher
Image capture feature	Yes
Total Power Requirement	3 KW
Length of Orientation conveyor	1400 mm
Length of Weighing conveyor	1600 mm
Length of Output Conveyor	1400 mm

6. Proposed System Description

6.1 Objective

The purpose of this proposal is to present the design, manufacturing, installation, commissioning, testing, and acceptance testing of the fully auto dynamic profiler to handle cartons/boxes/totes/jiffyas per specifications shared by RIL.



Reference System Layout/Image

6.2 Process Flow

The shipments will be loaded on the orientation conveyor where the resource will orient the shipment such that barcode always faces the scanner (Top Side only). The shipment passes through the automatic barcode scanning tunnel where the barcode data is read, the weight, dimensions and image are captured and stored in the system. The system then passes on to the output conveyor.

6.3 Main benefits of the proposed solution

The proposed solution has the following advantages:

1. High operational throughput
2. Low occupancy of floor space in the building

7. System Components

7.1 Orientation Conveyor and Output Conveyor

Falcon's Powered Belt Conveyor is used for Shipment Loading/Orientation and as receiving/output conveyor.

Some Salient Features of Falcon's belt conveyor:

- Low Noise
- Maximum uptime.
- Minimal maintenance
- High safety standards.
- Fastest ROI



Specification	UOM	Remark
Manufacturer Name	Name	Falcon Autotech
MOC of Belt	Type	PVC
Belt Thickness	mm	3
Belt Finish	Type	Matt Finish
Usable Belt width	mm	800
Belt Make/Model No.	Make	Forbo/Derco/Similar
Load capacity per unit length of Conveyor	kg/m	60
Type of Motor	Type	AC Geared Motor
Type of Drive System	Type	Direct Shaft Mounted Motor/ Flange Mounted
Type of Drive	Type	Chain drive/Torque Arm type

7.2 Weighing Conveyor

Falcon's weighing conveyor is used for inline weighing of parcels.

Some Salient Features of Falcon's weighing conveyor:

- High Speed Weighing
- Minimal maintenance
- High safety standards.
- High accuracy



Specification	UOM	Remark
Manufacturer Name	Name	Bizerba
Handled Product Sizes	Mm	Min: 100 x 100 x 50 Max: 1000 x 800 x 750
Minimum Weight	Kg	0.2
Maximum Weight	Kg	60
Weighing Accuracy	Kg	+- 0.05 or 0.5% of product weight, whichever is higher

7.3 Auto Barcode Scanning System

System is integrated with automated Camera technology for scanning 1D/2D Barcodes.

Some Salient Features of Falcon's Scanning System:

- High Speed Scanning
- High Accuracy Rates
- Effortless Operation
- High safety standards.



Specification	UOM	Remark
Manufacturer Name	Name	Hickvision
Barcode Type	Type	1D/2D
Module Size	Mils	>=10
Handled Product Sizes	Mm	Min: 100 x 100 x 50 Max: 1000 x 800 x 750
Number of Codes	Nos	1
Location	Side	Top
Orientation	Type	Omnidirectional
Color of bars	Color	Black
Under Foil	yes/no	No

***SOP to Follow: Large parcels to be fed in the system such that the barcode is on the top face and at the leading end of the parcel.**

8. Proposed System Technical Details/BOM

8.1 Mechanical equipment

Pos.	Qty.	Description	Value
FM1	1	Dynamic Profiler	
		Orientation Conveyor (1400mm Length)	1 Set
		Automatic Barcode Scanning and Imaging System	1 Set
		Auto Dimensioning System	1 Set
		Weighing Conveyor	1 Set
		Output Conveyor (1400mm Length)	1 Set
		Handheld 1D Scanner	1 Set

8.2 Electrical Equipment

Electricals			
FC1	1	Electrical Cabling and Wiring	
		Main Control Panel	
		Field Cabling	Included

8.3 Control System

Components			
FC2	1	Controls and IT Infrastructure Controls	
		Weigh Scale Control, Barcode Scanner Controls,	
		Dimension Scanner Controls	
		Control IT Software Package	Included

9. Program Organization

9.1 Delivery Schedule

Dispatch within 10-12 weeks from the date of signed PO along with advance

10. Commercial Terms

10.1 Price Sheet

Pos.	Description	Amount (INR)
FM1, FC1	Fully Auto Dynamic Profiler	38,00,000/-

The Total Price is to be understood.

- Ex Works – Greater Noida, India
- Freight charges shall be extra at Actual.
- Taxes, Customs, Duties extra at actuals
- Including Packing and Forwarding
- Duty unpaid
- Including Installation and Commissioning
- 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 Laydown area is in customer scope.

10.2 Payment Terms

The Supplier Quotation is based on the following payment schedule:

Stage 1: 70% Advance along with PO.

Stage 2: 30% upon delivery at site within 7 days.

11. Warranty Period

Falcons offered System comes with a standard warranty of 1 year and post completion of warranty, customer can opt for Extended warranty. Warranty covers the following support:

- 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:

- 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.

12. 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. Server PC is not included in this proposal.
- B. Building infrastructure; building structure, doors, fire exits, levelling devices, building extinguisher and fire alarm system, building heating and lighting system.
- C. The weighing and Dimensioning system proposed are not LFT.
- D. Electrical power supply and wiring to the main control cabinets.
- E. UPS for Controls and Drives
- F. Electrical Power for Installation
- G. Network Cabling up to the Main Server Rack
- H. Intermediate wiring to parts which are to be supplied by the Purchaser/others.
- I. Emergency/Uninterruptable power supply
- J. Fire-alarm and fire protection devices
- K. Traffic and route markings
- L. Laydown Area

- M. Ram protection devices
- N. Cat walks, bridges, maintenance aisles and platforms
- O. Assembly tools like forklifts and hoisting machines.
- P. All kind of network incl. Local Area Network (LAN/WLAN), exceeding the scope described in Scope of Supply
- Q. Any Kind of Civil work
- R. Any adjustment of the Supplier's scope of supply to local rules and regulations
- S. X-Ray machines
- T. Roller cages/ Pallets
- U. Simulation and 3D animation of the sorter system
- V. Interface with other equipment not specified in this offer.
- W. Provision of facilities for the control room (furniture, air conditioning, heating, etc.).
- X. The supply and installation of fencing around the different corridors.
- Y. Any item specifically indicated as not forming part of the subject matter of the Seller's supply in the offer documentation.