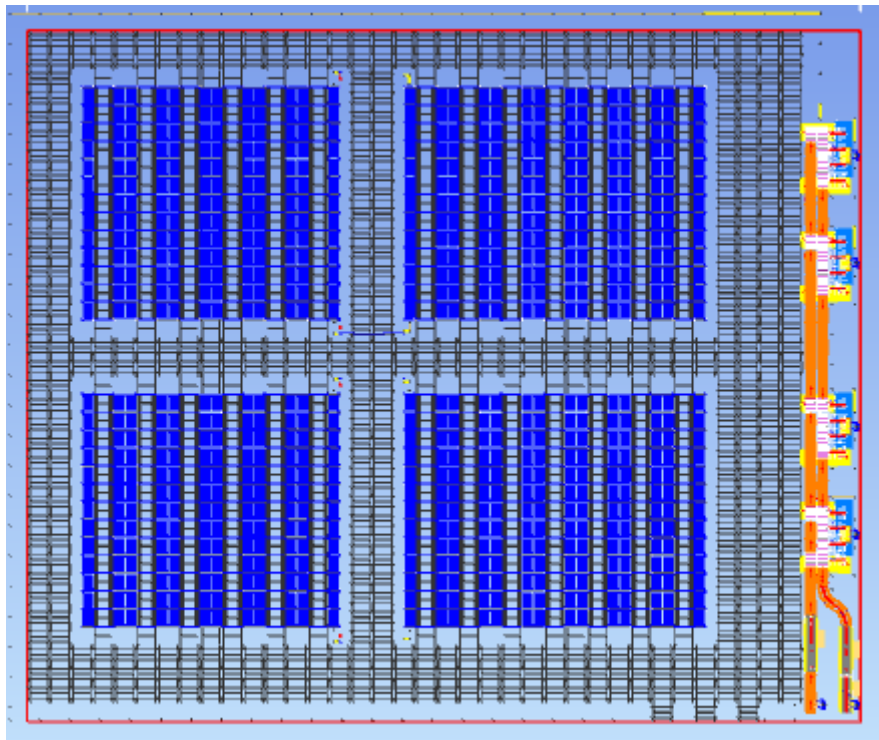


## 7. Proposed System Description/Description of Technical Equipment

### 7.1 Objective

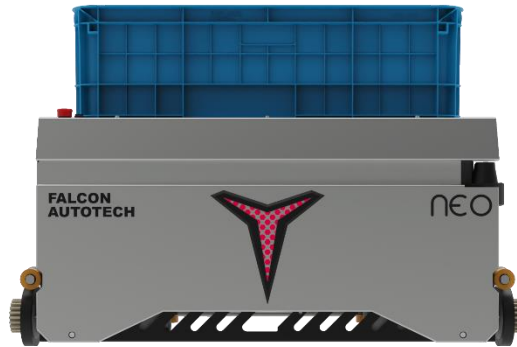
The purpose of this proposal is to present the design, manufacturing, installation, commissioning, testing, integration with Volvo's WMS and Falcon's WCS and acceptance testing of the complete automation system comprising of the NEO -ASRS system and conveyor network to handle various up-stream and down-stream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

**Proposed System Layout**



## 8. System Components

### 8.1 NEO










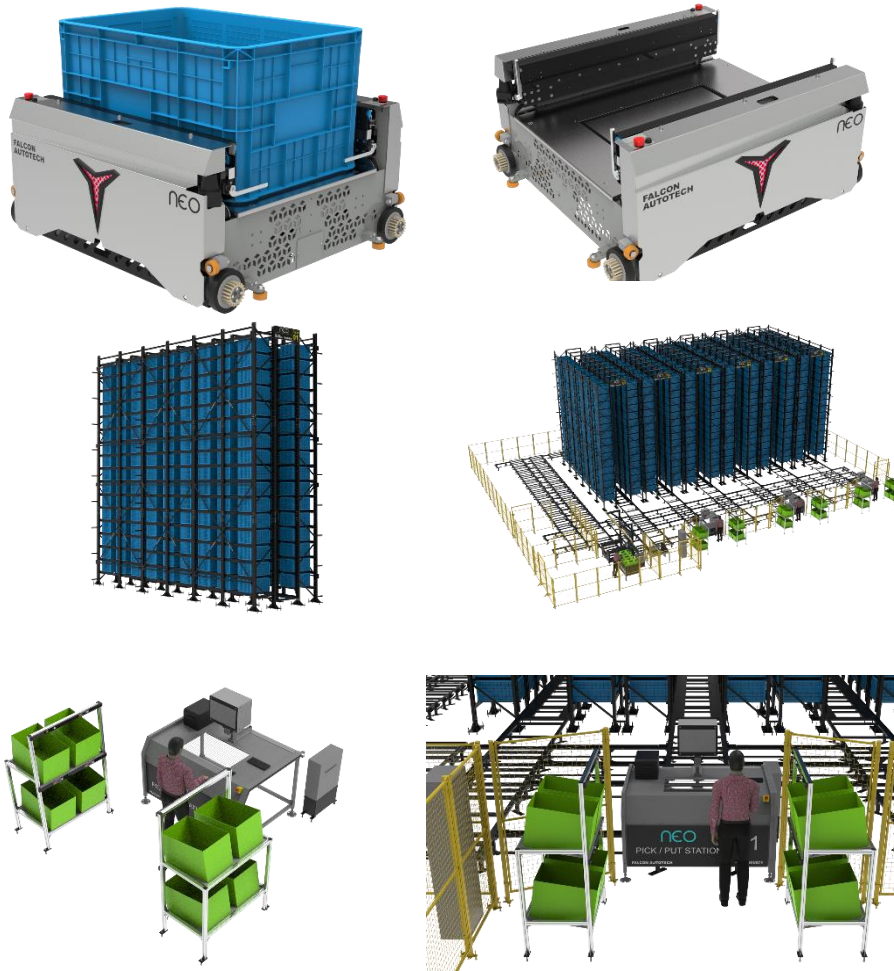
NEO is an end-to-end engineered robotic system for storage and order picking. it is an integrated system consisting of storage bins or totes, storage grids, robots, goods-to-person workstations, and software.

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

						
<b>Self Weight</b>	<b>Dimensions</b>	<b>Working Parameters</b>	<b>Performance</b>	<b>Movement</b>	<b>Safety</b>	<b>Fully customizable</b>
200 Kgs Rated load without bin -40 kgs	BOT 1016*906*500mm External Bin Size 810*568*425 mm Bin volume – 5.8 cubic feet	0 to 35 Degrees Navigation mode – QR code	Works 24/7 manual battery swapping	Moves in 3 dimensions X, Y, and Z Maximum operating speed of 2m/s	360 degrees Obstacle detection Lidar in X, Y and Z axis (3D)	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.