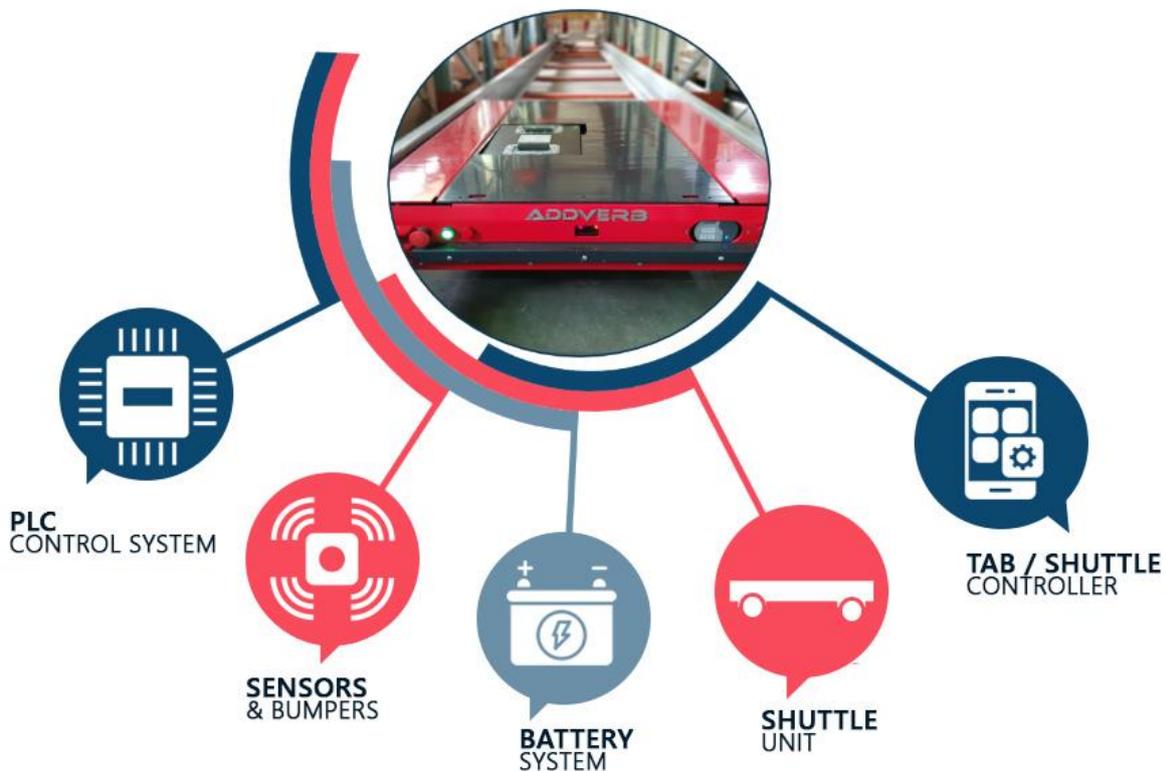


# Pallet Shuttle - AddSat: What Lies Within

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Warehouses in India have witnessed a transition from manual operations to fast and reliable automated processes. One of the key changes as highlighted in our earlier piece, “**Warehouse Odyssey**” has been the transition from “**Traditional Racking**” and forklift-based operations to “**Dense Racking**” and “**Pallet Shuttle**” based operations. Pallet Shuttle enables organizations to gain a competitive advantage and increase the storage and throughput capacity of their warehouses. Consequently, Pallet Shuttles are one of the most adopted technologies across the globe and **AddSat**, pallet shuttle manufactured by Addverb is one of the largest deployed Pallet Shuttle in India. It’s imperative to understand what enables **AddSat** to gain such an edge, how does it function, how does it ensure a **SAFE** operation. To understand all these aspects, let us explore the nitty-gritties of what makes AddSat, our Pallet Shuttle, one of the most coveted and popular Pallet Shuttles in India.



### PLC Control system:

The heart of the entire AddSat system is 'PLC based control system'. This PLC control system takes the input commands given through tablet on an android platform & processes them based on a customized program & takes decision related to storage and delivery operations. This PLC control system ensures accurate control of AddSat movement on the rails of the dense racks.

### Sensors & Customized Bumpers:

They form another part of the crucial components that help in achieving the safety feature, for both humans & shuttle. The sensors detect the obstacle and alert the shuttle to slow its speed & stop at a defined distance with respect to the obstacle. Bumper is a protective device installed on the front of AddSat to protect its front from collisions with material/human. It avoids potential trapping or crushing risks. The customized bumper fitted with bumper guards on both sides in the direction of movement protects AddSat against any damage while it is operating.



For the pallet shuttle system, the important hardware components are: Tab for Connectivity, Shuttle Unit, Battery & the Battery Charger.

### Tablet/ Shuttle Controller:

The entire operation of the shuttle can be controlled through a wireless tablet. With a very simple configuration, and easy to use features, the system doesn't require much installation time once the racking set up is done. The tablet is connected to a wifi-network & acts as a communication medium between the operator and the shuttle. The operator provides input through the tab on an easy to use interface and gives commands to the shuttle to either drop a load or pick a load from the aisles. In case of AddSat, it can be operated in 2 modes; manual & automatic.





### Shuttle Unit:

It's a battery-operated trolley, with an ability to carry the pallet loads swiftly along the rails. In a semi-automatic system, an operator places the shuttle (with the help of a forklift) at the beginning of the rail where the storage/ retrieval/reshuffle operation needs to be performed, upon which depending on the input command, shuttle performs the operation. After successful completion of the operation, shuttle comes back & rests at the source position.

### Battery System:

Battery management is often overlooked when it comes to industrial equipment, and good battery management is still an exception rather than something obvious. With small improvements to the equipment & the processes, most of the time, we can achieve best results. AddSat battery is also designed on the similar lines; with easy to change system, and various features like advanced technology, heat management, smart charging & emergency power handling mechanism, **AddSat offers upto 16 hours of battery life**, hence can be used for two whole shifts without any intervention.

A unique feature of this battery pack is the absence of a "memory effect", so is possible, in an emergency, to recharge for less than the optimum time for charging.

### Battery Charger:

The battery charger is designed to ensure safety and a reliable performance. With smart charging feature the charger automatically stops charging when the battery level reaches 100%. In our next blog, we will be writing on '**Top 5 reasons to have a Pallet Shuttle in your warehouse**'. Watch this space!!

**Addverb Technologies** is incorporated in 2016 with an aim to help Indian companies to embrace Industry 4.0 in all walks of their supply chain operations. If you have any automation related requirement, do write to us at our email id [automate@addverb.in](mailto:automate@addverb.in).

