



Automated Storage & Retrieval Systems

Our
Range Of
Products:

- Vertical Carousels – VStore
- LeanStore
- Automated Storage & Retrieval Systems
- Mobile Compactors
- Heavy Duty Racking Systems

Get in touch now for pricing & information

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WHO WE ARE

We are a highly respected, young and innovative organization based on the principles of innovation, quality and customer delight as our corner stones. We pride ourselves in being one of the few companies which specialize in “end to end automation” solutions for our clients. Be it our software or automated storage solutions, our focus is on delivery of solutions that will make significant positive and measurable difference to our client’s business.



We have a strong focus on process compliance and a standards driven operation, which is reinforced by our certifications such as ISO 9001:2008, ISO 14001:2004, CE & OHSAS 18001:2007

Our client base, comprising of large multinationals, government and defence organizations as well as Small and medium enterprises are testimony to our product quality, commitment to customer service and a partnership approach.

VERTICAL CAROUSELS – VSTORE



Vertical Storage Carousel Constructional Features

- The most modern and cost-efficient Storage and Retrieval system for today's industry.
- Use of the complete available height for storage.
- Works on a simple Paternoster principle.
- Works on a two vertical chain loop mechanism which is electrically driven.
- A sheet metal cladding ensures protection this assembly.
- A window is provided at ergonomic level for easy loading and unloading of material.
- Entire control using a PC based software with versions for inventory and document management, a PLC controller and an emergency manual mode.
- The system is available from 2 m to 20 m.
- Modular construction.
- Specially designed trays to suit shape, dimensions and weight of the material to be stored.
- Low noise due to well-engineered guiding mechanism using high quality bearings.
- Fast retrieval due to higher speed and shortest path logic built in.
- Low power consumption due to energy efficient motor and other components.
- More compact design compared to other equivalent systems to save floor space.
- Higher up time due to proven design and reliable manufacturing.
- Ease of interface of the bundled software with existing systems, ERP, Warehouse Management Systems.

VERTICAL CAROUSELS – VSTORE



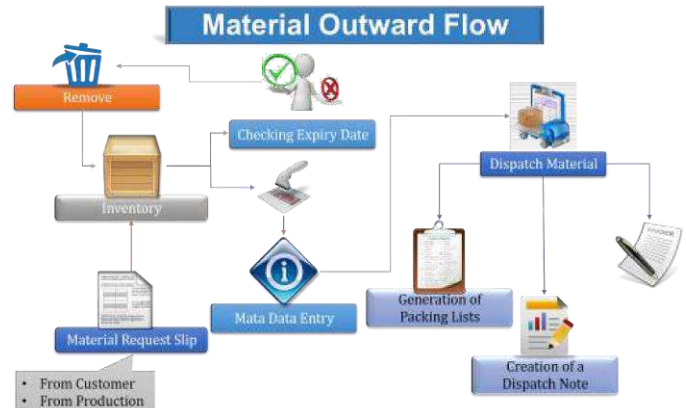
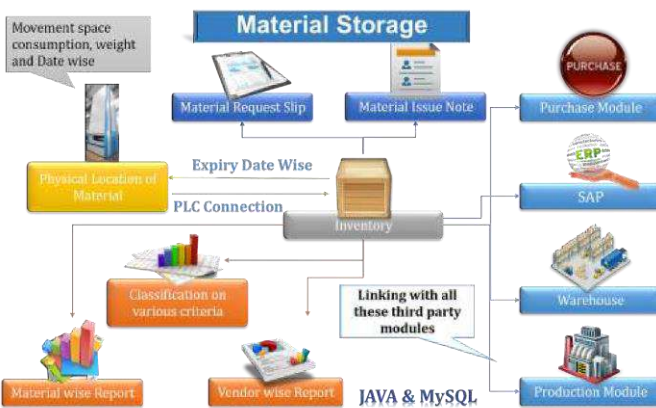
CONTROLLER

- Advanced PLC controller with HMI for numeric display.
- Quick material retrieval using the shelf number or even the part number.
- The system rotates in clockwise or anticlockwise direction to select the shortest possible path.
- Can be interfaced with computer and provision of RS232C serial port

ADVANTAGES

- **Smooth operation:** The system ensures jerk-free movement even at start– stop operations due to VFD (Variable Frequency Drive), avoiding damage to the stored material. Special technology for smooth engagement/ disengagement of moving parts ensures noise level well below 70db.
- **Safe and secure:** The curtain sensors at the material retrieval window stop the system in case the material is protruding outside the tray or if an operator tries to access the shelf while it is running. Locking provision for the entire system and emergency stop switch provide further safety.
- **Low power consumption:** The system operates on single phase or three phase supply of 230 Volts and draws 10 Amp current. Specially developed energy-efficient power management of Tech-Mark systems ensures further power saving.

VERTICAL CAROUSELS – VSTORE



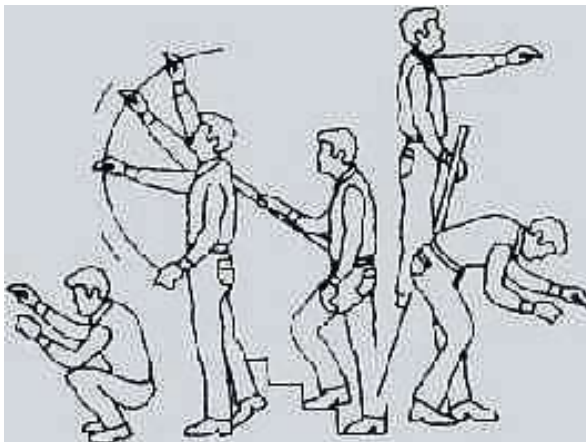
ADVANTAGES

- **Quick retrieval of material:** The automated system increases number of pick-ups per shift, effectively reducing manpower engagement. Typically, this system is nearly 80% more efficient than conventional storage.
- **Optimum space utilisation:** Effective use of optimum height results in floor space saving up to 80%.
- **Manpower saving:** Less manpower engagement compared to conventional stores.
- **User-friendly:** Even an unskilled person with a little training can very effectively use the Carousel Storage Systems. In case of power failure, it can be operated manually. Routine maintenance requires only oiling and greasing, which can be carried out easily by quickly removing the side covers.
- **Power backup (optional):** Single phase UPS provision for operating the system in case of power failure. Can also be operated manually.
- **Quick installation:** Our large manufacturing capacity allows shorter delivery periods. No special provisions are required on site such as pits/foundation and hence, this modular system can also be installed quickly on site.
- **Operations @ a Click:** The bundled software ensures all parts, documents can be retrieved at the click of a mouse from anywhere. Easy interfacing functionality of our software with existing systems makes the systems really integrated.

LEANSTORE

- Ideal for mid-sized, mid-weight and heavy weight components varying in shape, size and weight.
- System offers higher flexibility to accommodate a variety of items to be stored.
- The pitch between two trays can be variable, allowing storage of items with variable dimensions.
- In this system, trays are stationary while the retrieving mechanism is moving, which increases load capacity per shelf (up to 1MT per tray).
- The PLC-controlled platform known as retriever is similar to a lift, moves up and down to locate a particular tray while storing/retrieving the material. The desired tray is brought to the operating window located at ergonomic level for easy loading or unloading of material.
- Very easy to operate and maintain and allows full utilisation of the available height.

Efficient Ergonomics



Lean Store - Constructional Features

- The system is completely enclosed using sheet metal cladding and has one operating window at ergonomic level.
- The operating window is lockable using electro- mechanical mechanism. Additional sensors provide higher safety to the operator as well as operating system.
- The system is constructed using precision fabricated pipes, channels and sheet metal and can be customised to suit the customer's requirements.
- Retrieving mechanism or platform is fitted to vertical chain loops at four corners of the platform which give upward and downward motion to the platform.

LEANSTORE



- **Quick retrieval:** The system is faster as compared to vertical carousel. In this system, only the retriever is moving and not all the trays, ensuring faster retrieval.
- **Space saving:** Utilizes complete height and saves horizontal space up to 80%.
- **Optimum storage capacity:** This system allows larger tray dimensions compared to vertical carousel and also varying pitch is possible, allowing storage of material of different shapes and sizes in the same system.
- **Higher load capacity:** Shelves are stationary and can be designed for 1MT load capacity (per shelf).
- **Safety of material:** Totally enclosed system, avoids damage to material from external influences and protects material from theft.
- **Manpower saving:** High degree of automation reduces manpower requirement.
- **Effective inventory control:** Material can be accessed only after entering the part number and quantity, in turn ensuring timely update of record. This allows precise inventory control.
- **User-friendly system:** Very easy to operate and maintain after a brief training.
- **Smooth operation:** Only the retriever is moving up and down with the help of a chain and sprocket mechanism, thus ensuring very low noise and jerk-free material handling.
- **Operator safety:** Curtain sensors at the opening window ensure the operator safety during operation and prevent accidents. Emergency switch at front allows instantaneous halting during operation in case of an emergency.

AUTOMATED STORAGE & RETRIEVAL SYSTEMS



Types:

- 1. Mini Load**
- 2. Double Deep Fork**
- 3. Single Deep Fork**

Working of ASRS:

An Automated Storage & Retrieval System (ASRS) consists of Computer Controlled & PLC based stacker crane driven system for automatically placing & retrieving materials from defined storage locations.

The ASRS is generally used in situations involving high volumes of goods storage. It allows more storage space due to high density storage & narrower aisles. It exploits the vertical height of each Warehouse. An ASRS based storage automation solution increases efficiency of Material Tracking, handling and overall throughput. Inventory is maintained on a FIFO basis and is managed through our advanced Inventory Management System, which also interfaces with the electromechanical components to optionally control the pick and place operations.

MOBILE COMPACTORS



Principle

The basic idea here is to eliminate the floor space requirement between two fixed racks and utilize this space to accommodate more racks. Here, the racks are mounted on guiding tracks which allow forward and backward movement. This type of arrangement requires only one aisle for access and storage and retrieval of material.

Constructional Features

- Sturdy and precision-fabricated racks using high quality material.
- Precisely engineered guide rails, gears, sprockets and chains for smooth, jerk-free movement and low noise or vibrations.
- Sealed bearings with lifetime lubrication
- Sheet metal cladding, ensuring protection from dust, damage or theft.
- Position locking of racks during usage to ensure operator safety.
- Complete system can be locked to prevent unauthorised access.
- System requires minimal maintenance.

Overview of Compactor Storage Systems

Tech-Mark™ offers you the ultimate mobile storage system with the latest 'Easy Glide' technology for a noise-free, effortless and smooth operation for years together. The system offers security of stored material and proves to be very cost-effective. This system requires lesser space than conventional racking systems/cupboards. It can save up to 60% of floor space compared to conventional static shelving or can increase the storage capacity by almost 100%. The system glides on steel tracks and consists of mobile base units onto which different shelving options can be assembled. When a particular rack is required, the appropriate aisle is opened up by mechanical or electrically driven bases. Only one aisle is required to service multiple racks.

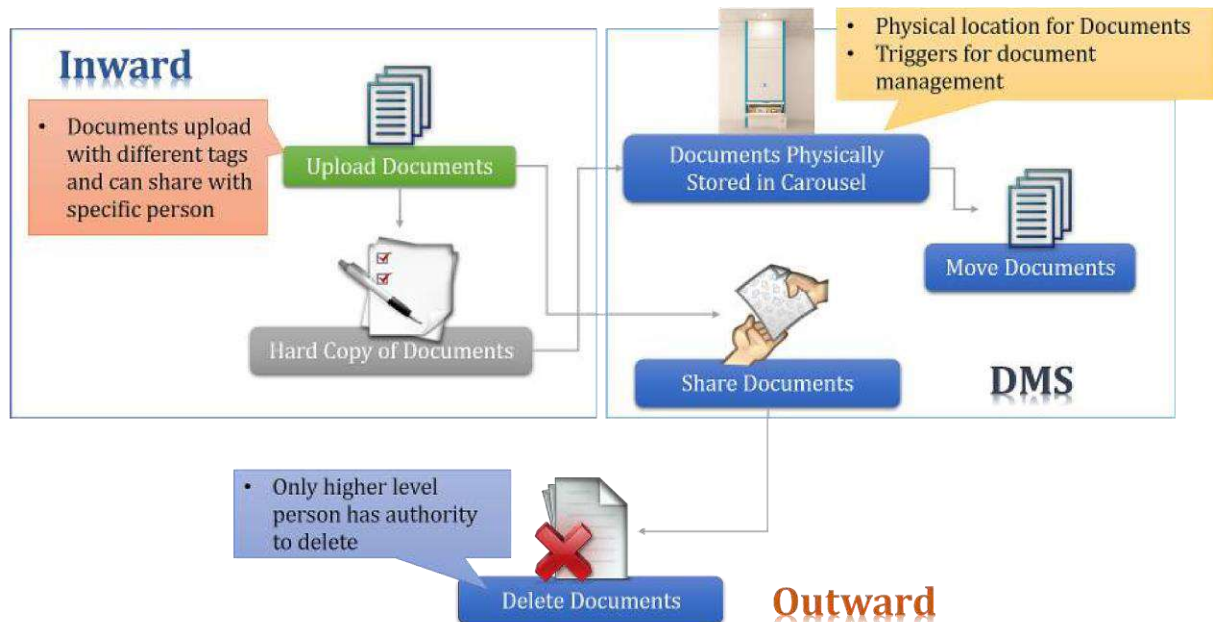
Advantages

- **Space saving:** Typically up to 60% space saving due to single aisle for multiple racks.
- **Higher storage density:** Due to single aisle, storage space availability increases by nearly 80% in the same area as that of conventional racking.
- **Safety:** Stored material is safe from dust, damage, external influences or theft and in-built system features ensure safety of operator.
- **Reduced human effort:** Very less human efforts required for moving the racks with heavy loads.
- **Easy to locate the material:** A list of stored material is available on an acrylic sheet holder on one side of the rack. This saves nearly 30% time of the user.
- **Individual locking racks :** Allows access to multiple racks simultaneously.

SOFTWARE FOR AUTOMATED STORAGE

Document Management System for Storage System

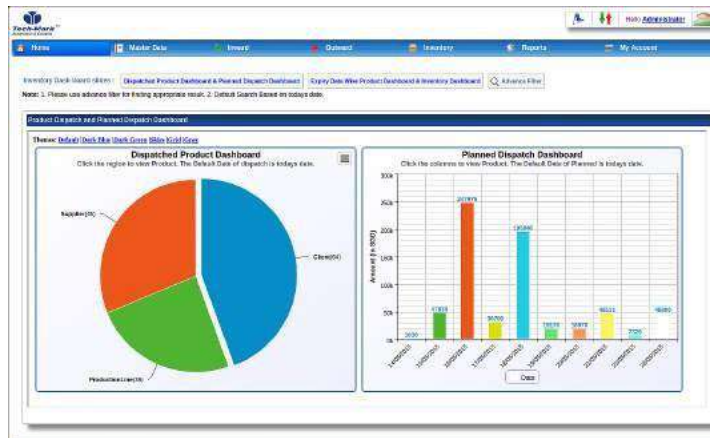
Document Management System - Flow



- Retrieval and storage of documents at a single click.
- Communication with the machine to automate the entire process of storage, search and retrieval of documents.
- Facility to define document indexing and tagging details.
- Functionality to have soft copy or hard copy or both in the system.
- Feature to define various levels of storage in the master module so that new physical storage can be added and integrated with the system.
- Various reports on storage, retrieval including a complete log of file handling along with user name, time and multiple such instances.
- Easy search and sharing of documents.
- Role based access to documents.
- Definition and mapping of documents to departments and document types aids in easier search.
- Colour coding functionality to match with the physical packing of documents in cloth.
- Upload of multiple documents at a single time possible, making work faster.
- Facility to view document online, download documents, based on user defined roles and controls.
- Optional interface with bar code based systems, CCTV systems and other client specific systems.
- Developed using open source technologies, in line and compliant with E-Governance norms, reducing licensing costs and issues.
- Can work in standalone or networked and web based mode as well.
- Mobile based access provided to system.

SOFTWARE FOR AUTOMATED STORAGE

Advanced Inventory / Warehouse Management System for Storage System



Reports in AIMS

Product Category	Product Name	Stock Status	Stock From	Stock To	Storage Type	Storage Rule	Unit	Unit Price	Qty	Unit Price	Value	Created Date	Modified Date	Expiry Date
Navigation & Signaling	Navigation & Signaling	Product Line	Ganesh Ganesh	3271200	General	Category 1	Tray 1	Shelf 2	5	5300	26,500.00	28/05/2018	28/05/2018	18/06/2020
Electronic & Automation	Electronic & Automation	Product Line	Nagaj Ganesh	34120	General	Category 1	Tray 4	Shelf 2	60	100	7,740.00	28/05/2018	30/01/2019	20/06/2020
Navigation & Signaling	Navigation & Signaling	Product Line	Ganesh Ganesh	3271200	General	Category 2	Tray 7	Shelf 1	15	5300	79,500.00	28/05/2018	08/06/2019	18/06/2020
Logistics	Logistics	Supplier	Maheshwari Suppliers	30135	General	Category 1	Tray 1	Shelf 1	8	90	720.00	28/05/2018	18/05/2019	18/06/2020
Accessories	Accessories	Supplier	Maheshwari Suppliers	30135	General	Category 1	Tray 1	Shelf 2	4	300	1,200.00	28/05/2018	18/05/2019	18/06/2020
Accessories	Accessories	Supplier	Anand Singh	3271200	General	Category 1	Tray 1	Shelf 1	2	600	1,200.00	28/05/2018	20/05/2019	20/06/2020
Logistics	Logistics	Supplier	Chandrababu Technology Solutions Pvt. Ltd.	208	General	Category 1	Tray 20	Shelf 1	30	180	5,400.00	28/05/2018	28/05/2019	18/06/2020

- Gives the user full control of the storage and retrieval process for material inventory through a single and simple browser based interface.
- Provision for tracking inventory from suppliers, for clients as well from production line.
- Track raw material, in process and finished product inventory and storage.
- Generation of documents related to inward, movement and dispatch of inventory.
- Intelligence built in to guide the user to the correct available location for storage, based on product dimensions and available space.
- Triggers for various parameters such as dispatch date, expiry date and several others.
- Available API's, being open source and open architecture based system, to ensure ease of integration with various protocols and third party systems and Databases.
- Facility to integrate with a bar code based or RFID based tagging application and other existing client applications.
- Uses web technologies, can be accessed over a network or the internet through any device.
- Full inventory report.
- Category-wise and code wise or material name wise real time inventory view.
- Customer wise, vendor wise and user wise inventory reports.
- Complete transaction log report of inventory storage and retrieval along with user details and time stamp.
- Location wise inventory report.
- Date wise check-in, check-out view of inventory.
- Report on shelf life or expiry of materials.
- Cost of inventory report.
- Re-order level wise inventory report.
- Planned dispatch report.
- Customer/consumer wise report mapping materials to destinations and date of delivery or dispatch.
- All reports will be in listing as well as dashboard /graphical formats wherever required with further drill down facility.

OUR ESTEEMED CLIENTS



CE Compliance



ISO 14001 : 2004



ISO 9001 : 2008



OHSAS 18001:2007

Tech-Mark Automation & Controls

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