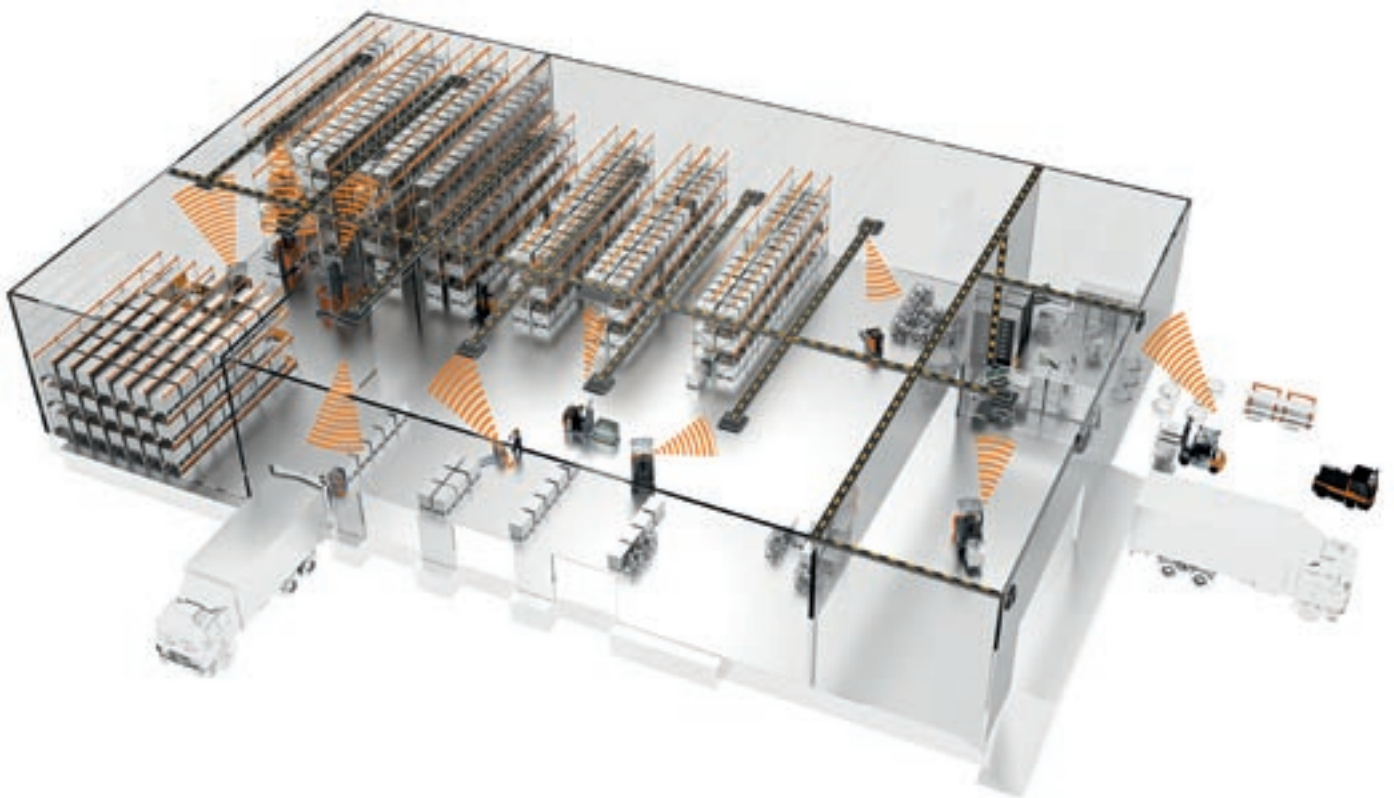# Material flow management system.
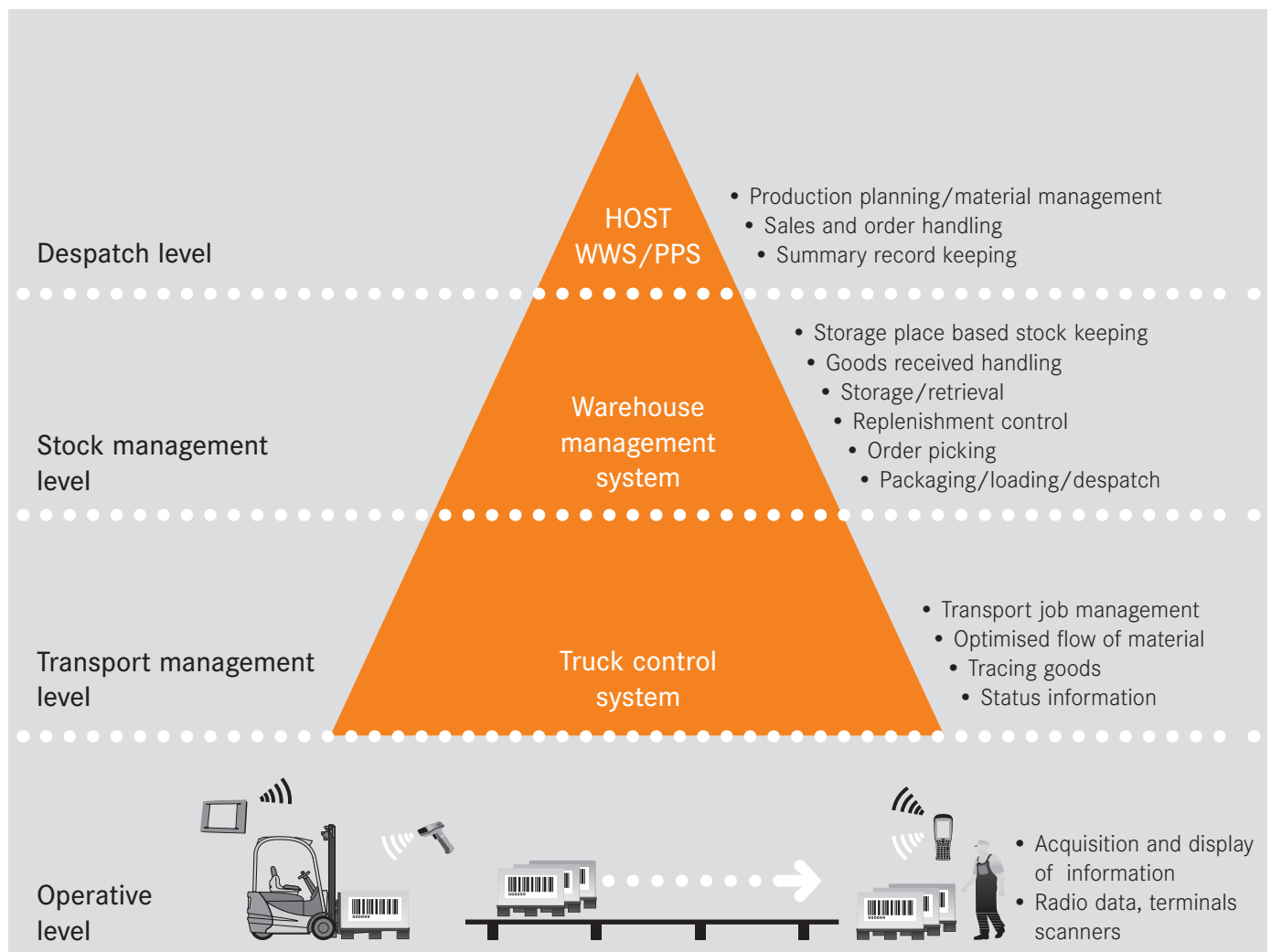# Best for complex requirements.

STILL material management system.

The STILL Material flow Management System (MMS) is a full scale Warehouse Management System (WMS) to control, depict and analyse every flow of goods and information along the entire intralogistics chain – covering several sites of operation and a broad range of industries providing a solution to production, commerce and services.

All the hardware and software components of the STILL system including the STILL terminals, the warehouse management system and the order picking system are designed in modules which are perfectly harmonised.

The STILL material management system comprises the following core modules:

- Warehouse management system (WMS)
- Transport/truck control system (TCS)
- Information system (IS)
- Interfaces to connect superior and subordinate systems
- Hardware for the operational level.

Despatch level

HOST
WWS/PPS

- Production planning/material management
- Sales and order handling
- Summary record keeping

Stock management level

Warehouse management system

- Storage place based stock keeping
- Goods received handling
- Storage/retrieval
- Replenishment control
- Order picking
- Packaging/loading/despatch

Transport management level

Truck control system

- Transport job management
- Optimised flow of material
- Tracing goods
- Status information

Operative level

- Acquisition and display of information
- Radio data, terminals scanners

Information about stock levels

STILL MMS WMS – warehouse management system.

The STILL warehouse management system individually and intelligently controls and implements every movement of goods in the warehouse including warehouse management, order picking, provision for tours and loading at goods despatch. To do this the system provides information on load carriers, articles, batches, best before dates and serial numbers combining this information with data on warehouse strategies ensuring that the goods are provided to the flow of material on time and on demand and to make sure the available storage space is used in the best possible way. Besides this the system permits optimum management of empties supporting annual and permanent stock keeping.

Goods received.
- Takeover and matching with orders from the super ordinate material management system.
- Consideration of fulfilment rates (excess deliveries, short deliveries or partial deliveries).
- Identification of goods by scanner or barcode.

Warehouse management.
- Consideration of information of the articles like batches, best before dates, serial numbers, hazardous goods etc.
- Flexible load carrier-storage place assignments.
- Simple configuration of warehouse strategies.

Goods assignment.
- Assignment of stocks to orders according to different strategies.
- Consideration of allowable excess deliveries, short deliveries or partial deliveries.

Order picking.
- Deployment of different strategies (e.g. individual picking, parallel picking or collective picking).
- Multi-level order picking.
- Creation of order picking areas.
- Optimisation of pick sequences according to various criteria.

Replenishment.
- Demand controlled replenishment (e.g. by orders to pick).
- Stock level controlled replenishment.
- Flexible assignment for special storage areas (buffer spaces, order picking storage bays).
- Automatic creation of multi-level replenishment chains (e.g. outdoor storage -> buffer spaces -> picking stations).
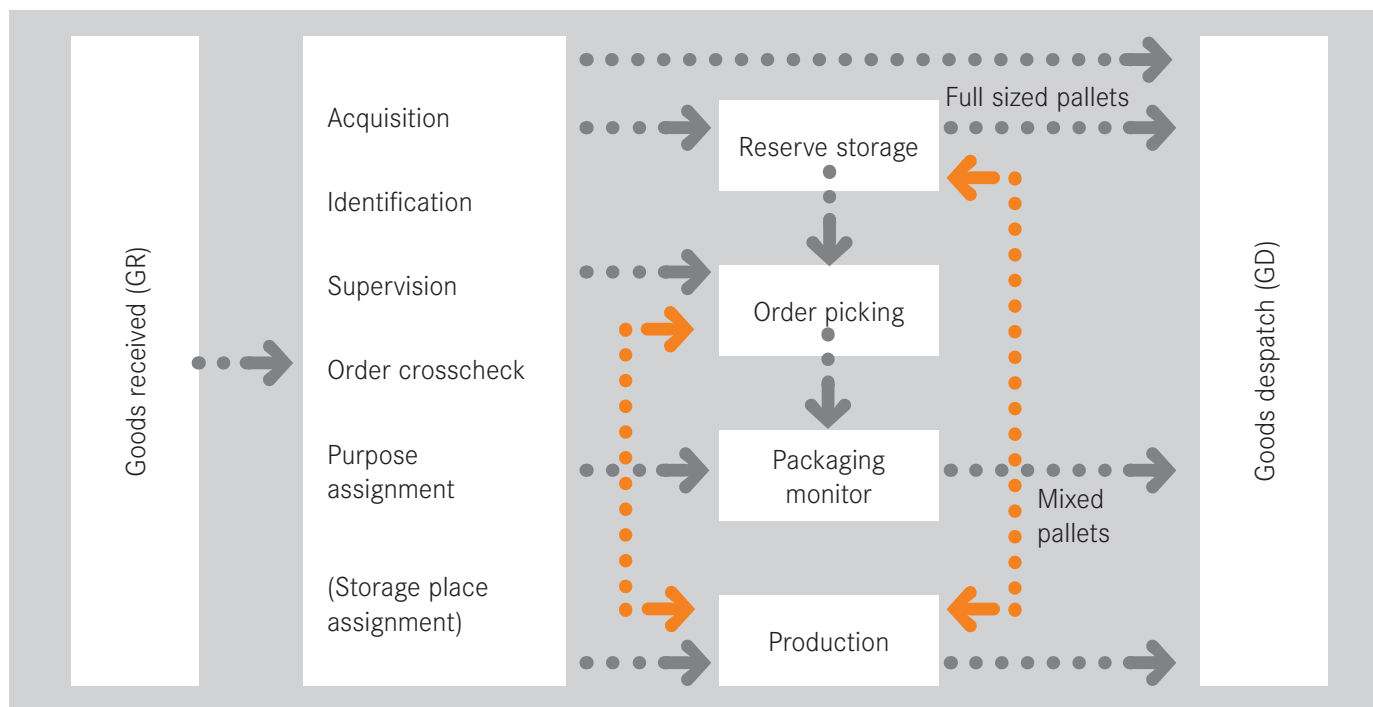
Packing station.
- Packaging and consolidating several orders for one recipient into a single shipment comprising several containers.
- Use of packing schemes for despatch.
- Printing of packaging labels and freight documents, packing lists (DPD, UPS etc.)

Goods despatch.
- Consolidating one or several customer orders into a single tour.
- Creation of basic schedules for regular tours.
- Optimised lorry loading accounting for load characteristics (weight, quantity, loading sequence).
- Provision of respective documents such as loading list, freight documents etc.
- Documentation of empties accounts with customers and suppliers.
- Interface with scales and imaging for documentation of goods despatched.
- Loading supervision.

Printing documents.
- Print of process documents such as pallet labels, bond notes, loading list etc.

Overview of the areas covered by STILL MMS

STILL MMS transport/truck control system.

The transport/truck control system (TCS) controls optimum operation of the fleet of trucks in the warehouse according to a defined set of criteria. STILL MMS TLS allows implementing complex strategies e.g. multi-level transports or internal transports with trailers. Voucher less handling of transport jobs and consistent documentation of the flow of the material form the basis for gapless processes. Simple dialogues to exchange information with the drivers ensure quick handling of transport orders. The simple terminal dialogues can be individually modified to support the drivers according to the task at hand.

Take over and generation of transport jobs.

- Take over of transport jobs (movement of material) from superior systems (WMS, PPS etc.) via various interfaces.
- Creation of transport jobs at the MMS control stand, the on-board terminal and other mobile devices.
- Internal creation of repetitive transports e.g. to dispose empties following preset criteria.

Transport control.

Despatch is to select the most suitable tuck (means of transport) by technical and organisational criteria. This aims at optimum use of available resources. The STILL MMS TCS
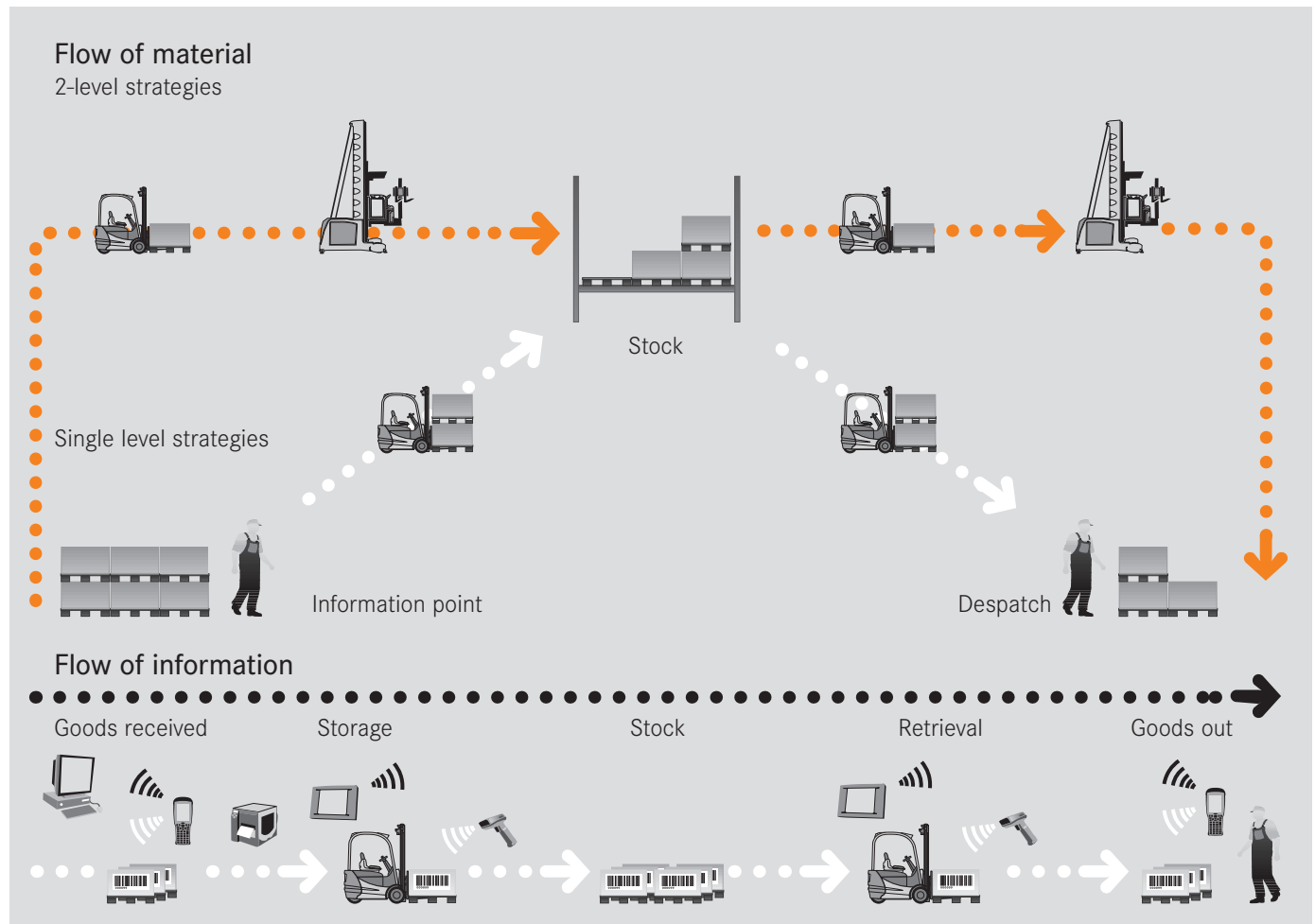- considers trucks, trailers and characteristics of load carriers for optimum allocation to load carries to trucks.
- takes shift profiles and cyclic routes into account to select the trucks.
- despatches in narrow aisles with double work cycles, reduction of change of aisle, type of transport and order priority.

Self learning truck control system.

- Self learning method to calculate travel distances and to optimise travel routes.
- Priority for optimised routes or for handling times can be configured as "fine tuning of transport control".
- Measuring and evaluation of times of executed transports with statistically smoothened results.
- Automatic adjustment to changed warehouse topologies.

Trailer operation and tugger trains.

- Simple generation of transport jobs per station with the STILL transport generator.
- Accounting of free and occupied trailers in the system.

Online flow of information paralleling the flow of material

Integration of subsystems.

- Integration of Pick-by-Voice.
- STILL RFID-Locator for logic tracing of material movements in the warehouse.
- Preparation and transmission of data to driver assistance systems (e.g. STILL OptiSpeed 4.0).
- Preparation and transmission of transport jobs to automated STILL trucks.
- Interfaces with existing warehouse installations (conveyors, shift rack systems etc.).

Additional functions.

- Acquisition and evaluation of auxiliary work/external services for adequate cost assignment.

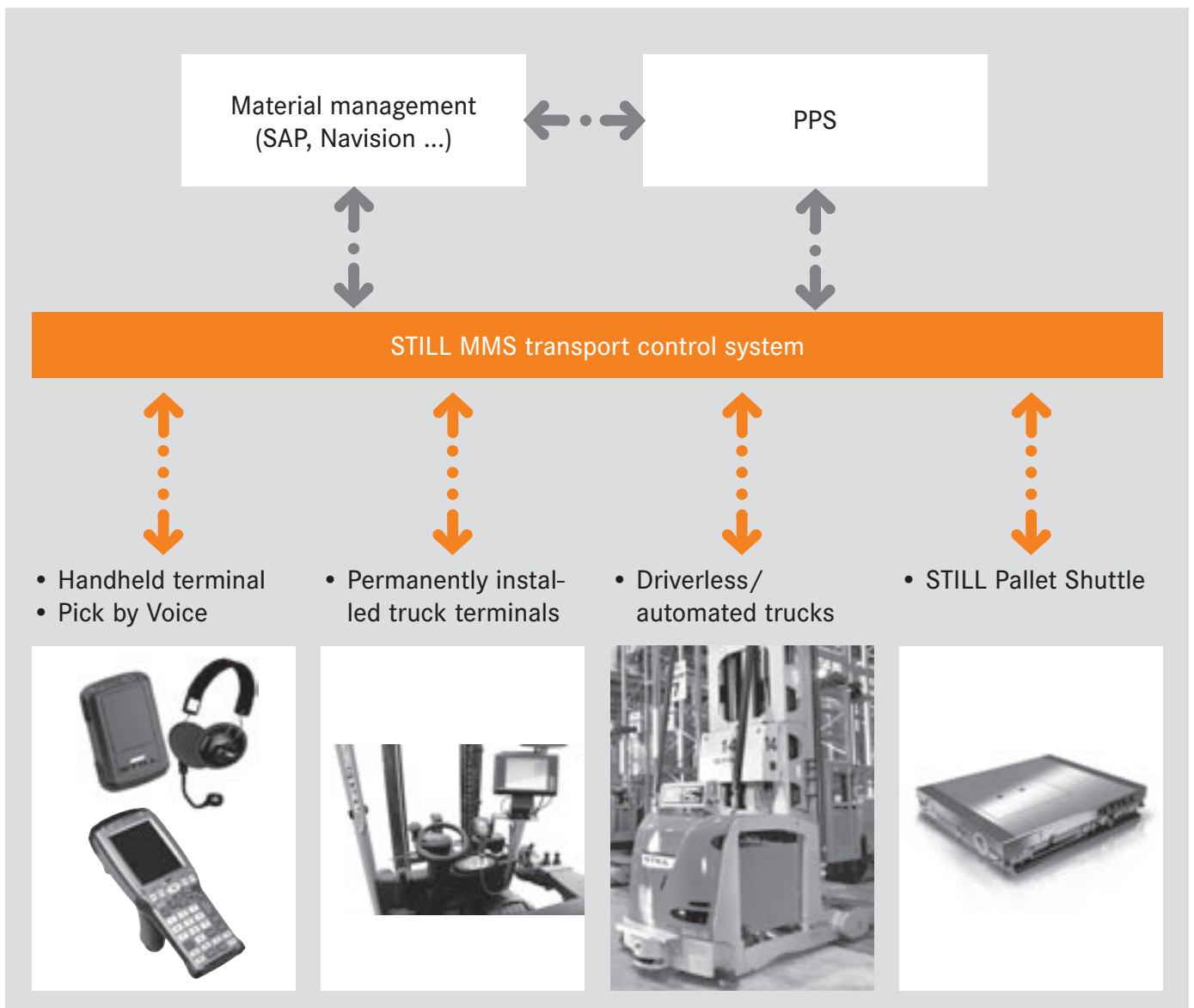## STILL MMS – the operative level & IT.

The term hardware in the context of the STILL material flow management system is a collective term for all the components forming a system together with the software. Hardware comprises everything with respect to computers and networks and all the terminals e.g. on-board terminals of the trucks and handhelds.
The hardware also includes components like transponders (RFID) and mobile work places for goods received and for order picking. For example, the STILL Touch Terminals and the STILL Pick-by-Voice components are also referred to as hardware.

STILL MMS work space for the driver.

STILL furnishes all the work places of the trucks to be integrated into the system with all the necessary components.
- STILL Touch Terminal to display and enter data.
- Barcode scanner for quick verification of load carriers and storage locations.
- If required, mobile printers to print required documents.
- RFID antennas for the functions of the STILL RFID-Locator.

| Material management (SAP, Navision ...) | PPS |

STILL MMS transport control system

- • Handheld terminal
- • Pick by Voice

- • Permanently instal-led truck terminals

- • Driverless/ automated trucks

- • STILL Pallet Shuttle

Interface with super ordinate and subordinate systems/devices

STILL MMS order picking hardware.

Depending on the requirements, STILL delivers the complete range of necessary hardware for order picking covering Pick-by-Light support as well as Pick-by-Voice equipment.

Hardware and network.

The hardware of the STILL MMS comprises:
- MMS server (physical and virtual servers are supported).
- Work stations for the control stand for administration work and for information purposes.
- Printer/label printer, stationary and mobile printers to print process documents.
- Network (Ethernet) & radio data (WLAN) for data transmission to and from system components.
- Mobile terminals as interfaces between the system and staff.
- On-board terminals.
- Handheld terminals etc.
- VPN-Router for remote maintenance.

STILL MMS information system.

The information acquired by the MMS and the data collected during operation are the basis for the STILL information system. This data is processed for various means and purposes.
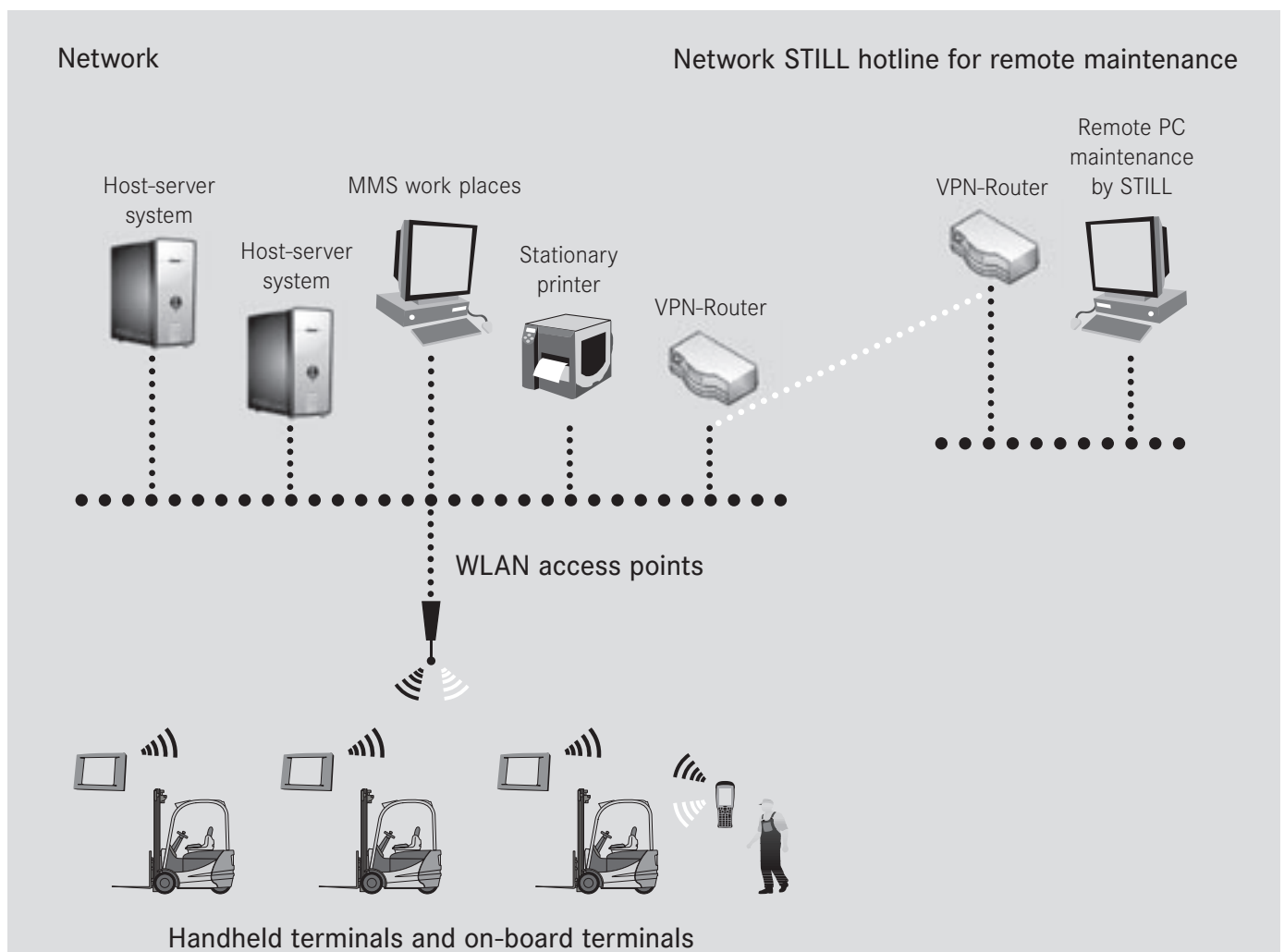The available information is used to optimise handling of every-day business and to create an overview of the status of the warehouse and the system. Data records are used for evaluation and future optimisations.

Control stand.

- WMS and TCS display in the control stand of the MMS (overview of transports, stock level information etc.).

Statistics and reports.

- Logistics index figures, statistics and evaluations by the system (e.g. number of shipments received/dispatched per week, month, year etc.).
- Export of information from the MMS (e.g. by Excel data base access via SQL-Editor).

Network

Network STILL hotline for remote maintenance

Remote PC maintenance by STILL

Host-server system

MMS work places

VPN-Router

Host-server system

Stationary printer

VPN-Router

WLAN access points

Handheld terminals and on-board terminals

IT infrastructure

Services.

STILL does not only convince with its products but also with a broad range of services. What STILL has to offer is unique in its way: starting by analysing the flow of material and the utilisation of trucks, including planning and implementation of complete logistics systems it ends with equipping entire areas in warehouses. The speciality in this: all components are not only perfectly designed for their respective work but also harmonize with each other guaranteeing smooth operation.

You will find a strong partner for your intralogistics in STILL ... from project planning to implementation to service.

Analysing material flow and truck utilisation.

- Analysis of truck utilisation.
- Fleet optimisation.
- Creating and evaluating specifications.

Warehouse planning.

- Racking, conveyors, automating.
- Safety and fire protection concepts.
- Radio coverage and commissioning of radio systems.
- Simulations.

Project implementation.

- Draft of specifications.
- Project implementation and project management.
- Cold commissioning, training.
- Test operation and acceptance.

Service.

- Software support contracts covering the whole range of service availability up to 24/7 requirements.
- Direct connection of our hotline to the customer system.
- Information about updates and new features.
- Hardware support with provision of replacement units.
- Rack inspections.

STILL

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