
HW list

Dock & yard management system.

M2M
SOLUTIONS



HW [Title]**HW [Description]****Component***

Self-registration terminal

Body: Stainless steel
Colour: Grey
Dimensions: Height: 1980 mm, Width: 600 mm, Depth: 137 mm
Using: Outdoor, Indoor
Screen: 32" touch monitor, high luminescence
PC: UNO-2372G Celeron based
OS: Windows 10
Software: Custom shell application to provide features of the self-registration in kiosk mode.
Power supply: 230V
Connectivity: Ethernet

Standard

Note: Any Windows OS based self-registration terminal can be used.
Custom shell application requires administration rights to be installed,
installation manual is available.
Warranty 12 months.

Communication device

Communication device hardware

Standard

Blackview GBV9500 Plus Black
Any durable mobile phone, i.e. Blackview GBV9500 Plus Black
OS: Android 9.0 Pie or higher
Warranty 24 months.




Communication device driver's software installation

Non-standard

One driver's software installation (Android 9.0 or higher device)
and configuration of communication device.
Note: Driver's software requires administration rights to be installed,
installation manual is available.
Warranty 12 months.

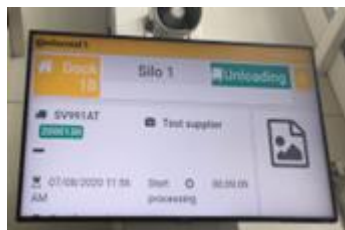
**Standard component can be organized by a plant. Non-standard component is a part of the Solution, delivered by M2M Solutions.*

HW [Title]	HW [Description]	Component*
Parcel locker 24 boxes (4x6) 	Body: Stainless steel Colour: Grey Dimensions: Height: 1900 mm, Width: 1200 mm, Depth: 600 mm Using: Outdoor, Indoor Distribution board Power supply: 230V Connectivity: Ethernet Suitable for Blackview GBV9500 Plus Black, can be improved to support other communication devices, wireless charging of communication devices Warranty 12 months.	Non-standard
Parcel locker 18 boxes (3x6) 	Body: Stainless steel Colour: Grey Dimensions: Height: 1900 mm, Width: 900 mm, Depth: 600 mm Using: Outdoor, Indoor Distribution board Power supply: 230V Connectivity: Ethernet Suitable for Blackview GBV9500 Plus Black, can be improved to support other communication devices, wireless charging of communication devices Warranty 12 months.	Non-standard
Parcel Locker cage equipment set 	Two electronic door locks and sensors (entrance from the plant, entrance from the parking lot) One QR code reader. Components are connected to Parcel locker distribution board. Warranty 12 months.	Non-standard

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Info-board (Internal)

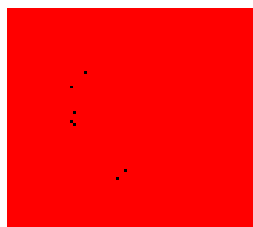


Info-board LCD TV (internal)

Standard

NEC LFD 50" MuSy C501 LCD
 Parameters: S-PVA LED, 1920x1080, 400cd,
 4000:1, 5ms, DP+3xHDMI+VGA, USB 2.0, microSD, RS232, audio 2x10W
 Operation: 24/7
 Power supply: 230V

Warranty 12 months.



LCD TV holder

Standard

Wall mounting LCD TV holder
 Holder Stell SHO 3620

Warranty 12 months.



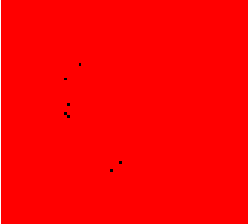
Info-board controller

Non-standard


for one info-board LCD TO
 Linux based microcomputer, HDMI output
 Power supply: 5 VDC
 Connectivity: Ethernet

Warranty 12 months.





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HW [Title]	HW [Description]	Component*
Info-board (External) 	Info-board LCD TV LH55OHFPVBC/EN Outdoor Display (IP56 Rated) High Brightness (2,500 Nits) HDMI input All In One Solution (SoC with SSSP 4.0) Power supply: 230V Warranty 12 months.	Standard
	LCD TV holder Wall mounting LCD TV holder Holder Stell SHO 3620 Warranty 12 months.	Standard
	Info-board controller For one info-board Linux based microcomputer, HDMI output Power supply: 5 VDC Connectivity: Ethernet Warranty 12 months.	Non-standard



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HW [Title]	HW [Description]	Component*
Camera (Dock)	 <p>IP camera Hikvision DS-2CD2T65FWD-I8 (2.8mm) 6 MP IR Fixed Bullet Network Camera Dimensions: Camera: $\Phi 105 \times 289.5$ mm (4.1" \times 11.4") Protection Level: IP67 Power Supply: 12 VDC \pm 25%, 5.5 mm coaxial power plug, PoE (802.3af, class 3) Warranty 12 months.</p>	Standard
	<p>POE injector IP1 POE - POE injector Complies with IEEE802.3af standard External 48VDC power supply Warranty 12 months.</p>	Standard
	<p>Camera holder Wall mounting holder Warranty 12 months.</p>	Standard

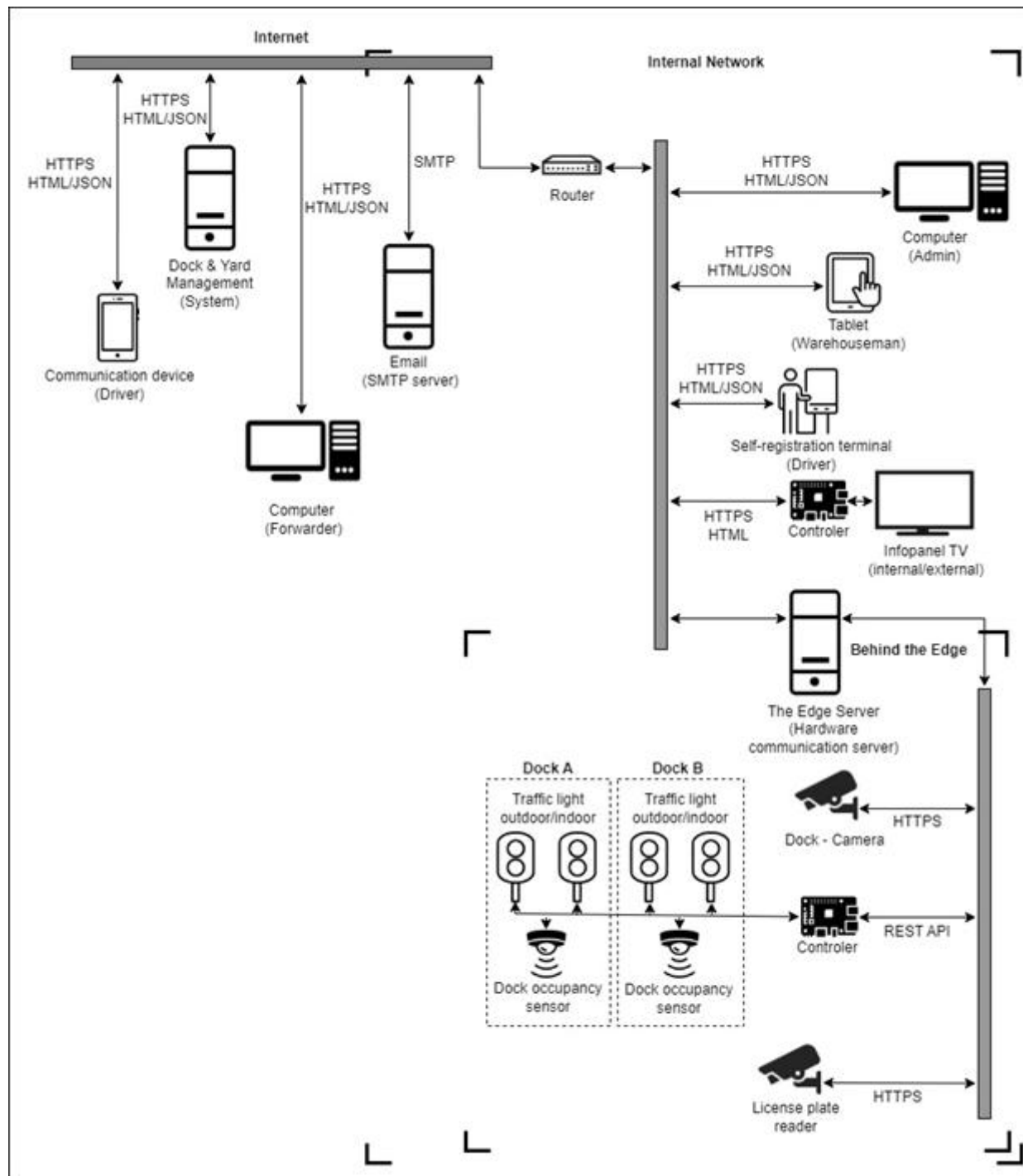
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HW [Title]	HW [Description]	Component*
Traffic lights (Dock) 	Traffic light (outdoor/indoor) LED traffic light, red and green Power Supply: 12 VDC Requires traffic light controller. Warranty 12 months.	Standard
OCC Sensors (Dock) 	Occupancy sensors (outdoor) Occupancy sensor - 2pcs Occupancy sensor - holder - 2pcs Requires occupancy sensors controller. Warranty 12 months.	Non-standard
Controller (Dock) 	Occupancy sensors and traffic lights Controller Set for 1 dock area, up to 8 docks Power Supply: 12 VDC Warranty 12 months.	Non-standard
Warehouseman tablet 	DELL 7220 RUGGED EXTREME I5-8365U 8 GB 256SSD 4NBD Intel® Core™ i5-8365U processors 11.6" FHD (1 920) 60 Hz Dimensions: (WxDxH) 312,20 x 209 x 24,40 mm Weight: Starting at 3.31 lbs. (1.5 kg) with single 2x 34Wh battery Software, user and installation manual. Warranty 12 months.	Standard

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HW [Title]	HW [Description]	Component*
Arm-barrier camera 	Hikvision DS-2CD7A260G0/P-IZS(2.8-12mm) Licence plate recognition 1/1.8" Progressive Scan CMOS 1920 × 1080 @ 60fps IP67, IK10 1 RS-485 interface Connectivity: Ethernet Warranty 12 months.	Standard
	Camera holder Wall mounting holder Warranty 12 months.	Standard
	POE injector IP1 POE - POE injector Complies with IEEE802.3af standard External 48VDC power supply Warranty 12 months.	Standard
Arm-barrier controller 	Arm-barrier Controller Allows to control arm-barrier (suitable interface required) Linux based microcomputer Power supply: 5 VDC Connectivity: Ethernet Warranty 12 months.	Non-standard

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High level architecture of the System

Entity	Description and purpose	Note
System (Dock & Yard management)	Information system, client-server architecture, provides interfaces to 3rd party system and devices. Key features: <ul style="list-style-type: none"> User management and user authorization and authentication Master data management (site layout, unloading areas, docks, navigation routes, devices management) Timeslots Transaction data (planned deliveries) Visualisation of current state on the map layout Registration, the site entering and leaving support functions Algorithms to organize arrivals of vehicles to docks Reports <p>Communication interfaces to 3rd party systems.</p>	Installed on a virtual server in Cloud (the Application) and on-premises (the Edge)
Traffic lights	Standard hardware. Provides information about the permitted arrival or departure of the vehicle.	Installed at every dock. Behind the Edge server.
Dock occupancy sensor	Non-standard hardware. Provides information about dock occupation, so the System can automatically call another vehicle to be unloaded.	Installed at every dock. Behind the Edge server.
ANPR	The 3rd party system includes: License plate readers and Arm barrier controllers. Provides API to receive and sent data related to truck access control.	3rd party system.
License plate reader	Validation of vehicle entering or leaving the site. System compares license plate number with assigned communication device and expected situation.	3rd party system component. Installed at every gate.
Arm barrier controller	The System allows to open arm barrier so the truck may enter or leave the site if allowed.	3rd party system component. Installed at every gate.
Camera	Standard hardware. Allows to record truck loading or unloading at the dock (picture or short video).	Installed at unloading / loading area. Behind the Edge server.
Parcel locker	Non-standard hardware. Storage of communication devices near to gatehouse.	Installed near to the gatehouse. Behind the Edge server.
Tablet	Dedicated to warehouseman to control loading and unloading process. Note: Native application which provides desired content and functionality is installed on the tablet.	Installed at dock as needed.
Self-registration terminal	Standard hardware. Terminal dedicated to registration of truck drivers before entering the site.	Installed near to the gatehouse.
Communication device	Standard communication device (Android based, proprietary application, single purpose, robust and waterproof, option: wireless charging) used to notify drivers and allows to control vehicle position on site. Key features: <ul style="list-style-type: none"> Online / offline status indicator Assignment / activation Route navigation and driving hints Notifications Emergency button Removal / deactivation Wireless charging when placed in storage box (parcel locker) <p>Note: Native application which provides desired content and functionality is installed on the communication device.</p>	Kontroler je inštalovaný v oblasti dokov a dokáže obslúžiť viacero
Info-board (internal / external)	Visualisation of trucks queue and dock occupation in front of warehouse, additional information in warehouse.	Installed at the entry of the unloading area.

Description of entities