

# CamiBOX®

Video via Air



... Welcome ...

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## Purpose of CamiBOX

- **Providing access to wireless IP technologies for all companies**
- **Eliminating the necessity of being acquainted with networks** or even wireless networks
- **Safe transmission of image** in a licence-free band
- High quality image
- **From any number and type of IP cameras**
- For up to several kilometre long distances
- **Considerable saving of time for implementation of transmission paths**

## Benefits

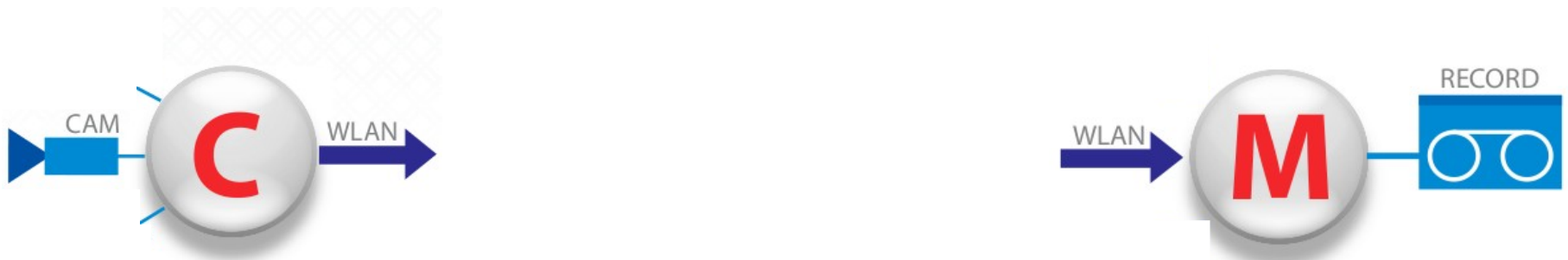
- **Real image transmission from up to 50 cameras (100 Mbps)**
- Robust outdoor application
- Customized network supplied
- **All network elements are supplied ready-for-operation**
- Extremely easy installation
- **Communication proprietary and coded, not via common WiFi**

## Basic technical parameters

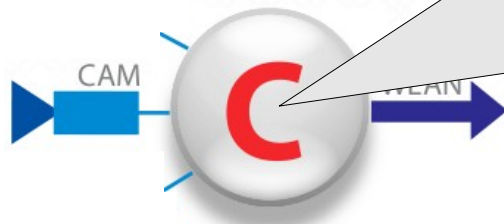
- **watertight design**, no further covering required
- **integrated antenna** for communications of up to 1 km
- **possibility to connect an external antenna** and extend the communication to up to 40 km
- **powered using PoE**, 18-24V, included in the delivery
- **IP addresses** assigned to cameras and recording devices using DHCP (standard: switched off, switch-on to be requested upon ordering)
- **supply includes a small bracket** for wall installation incl. screws and sockets

## Modular solution (Introduction)

- Entire transmission network consists of modular elements to ensure design simplicity
- Unique and worldwide protected modular system



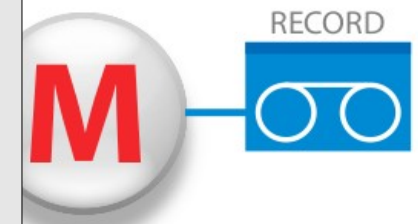
## Modular solution



**Letter “C” (Client)** marks units intended as terminal points of the network, i.e. **cameras**.

The unit is used to connect one (**C1**), two (**C2**) or three (**C3**) cameras.

*Cameras can be located at up to 90m from the unit.*

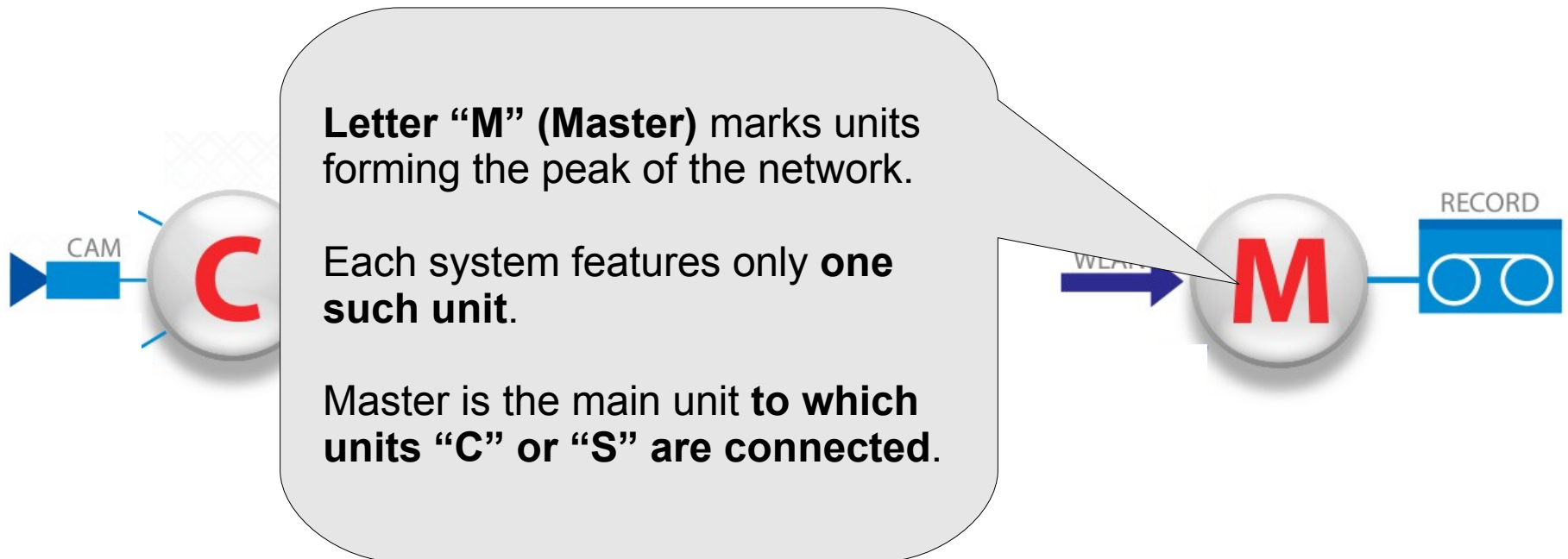


### CamiBOX-C3



This picture shows practical installation of **CamiBOX version C3**. Cameras are connected to ports LAN2 and LAN3. In this case, LAN1 is installed in the interior of a building housing the PoE source, UTP further runs to the 3rd camera around the corner of the building.

## Modular solution



### CamiBOX-M3 (wall)



The picture shows the **M3** unit, enabling **reception of data from three arbitrary directions.**

In particular, this unit receives data from the direction it is set to and at the same time from the direction of another passive antenna (black cable), the third one is not connected.

Upper protective tube (grey) runs to the camera and the lower one to the power supply via UTP and to the recording device at the same time.

### Modular solution

- **C1** (left) is a unit used for the connection of 1 camera
- **M1** (right) enables 1 “C” unit and a recording device to be connected

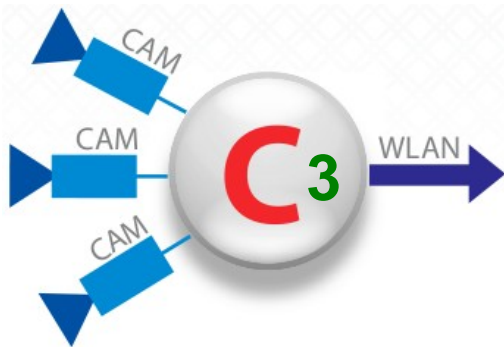
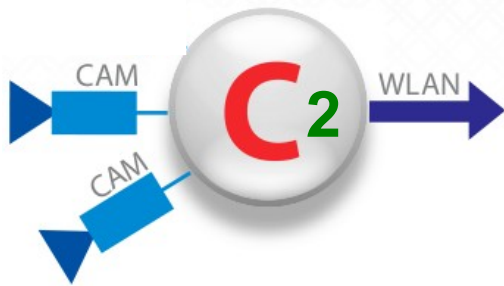


### Modular solution

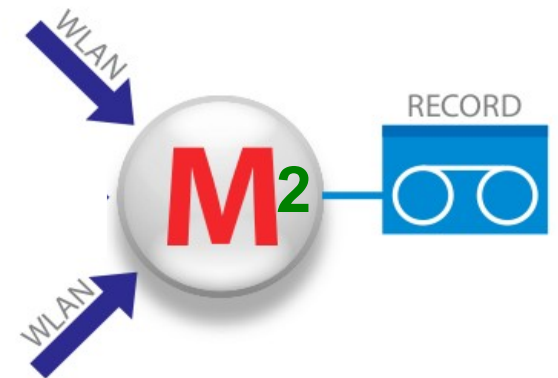
- **C3** (left) concentrates up to 3 cameras for wireless transmission
- **M1** (right) is sufficient, cameras are transmitted via 1 connection



### Modular solution

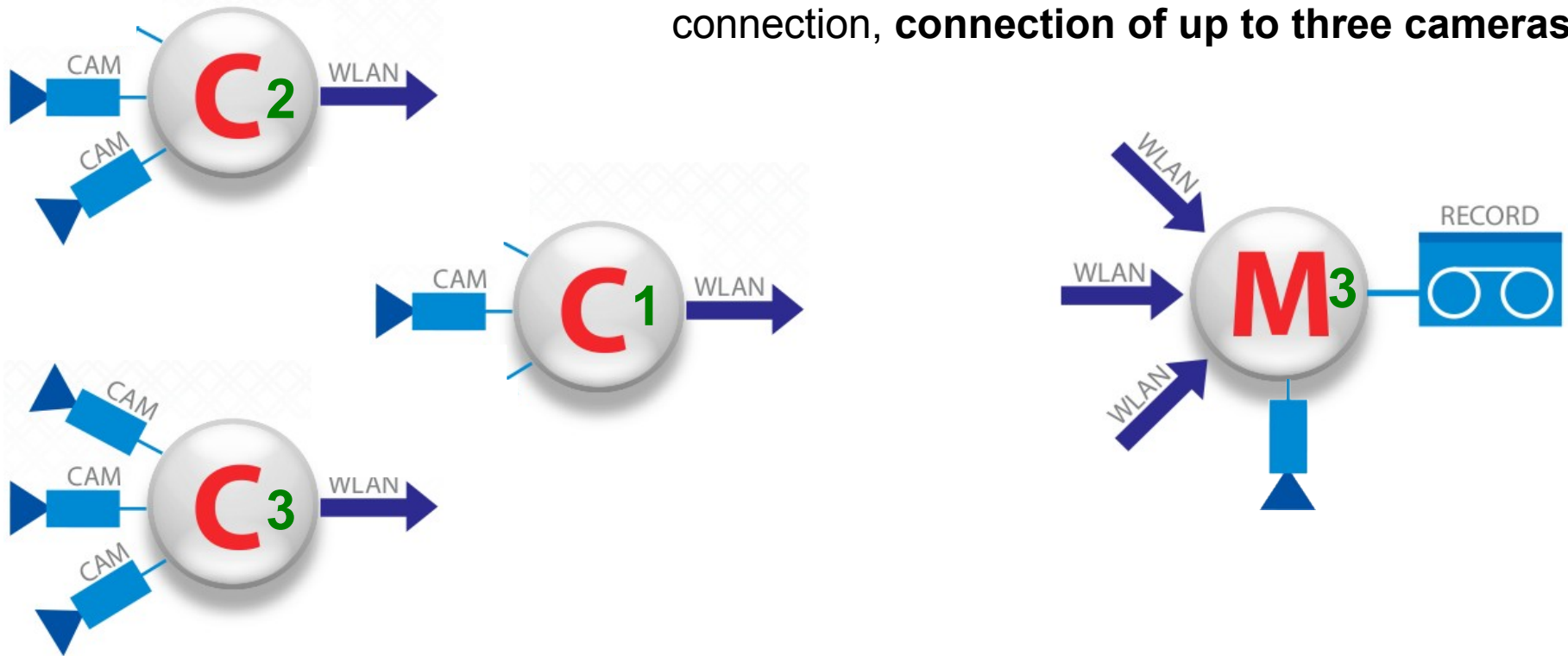


- In the case of transmission from **two points**, the **M2** receiving unit has to be selected



### Modular solution

- **Master units “M” enable, in addition to REC connection, connection of up to three cameras.**



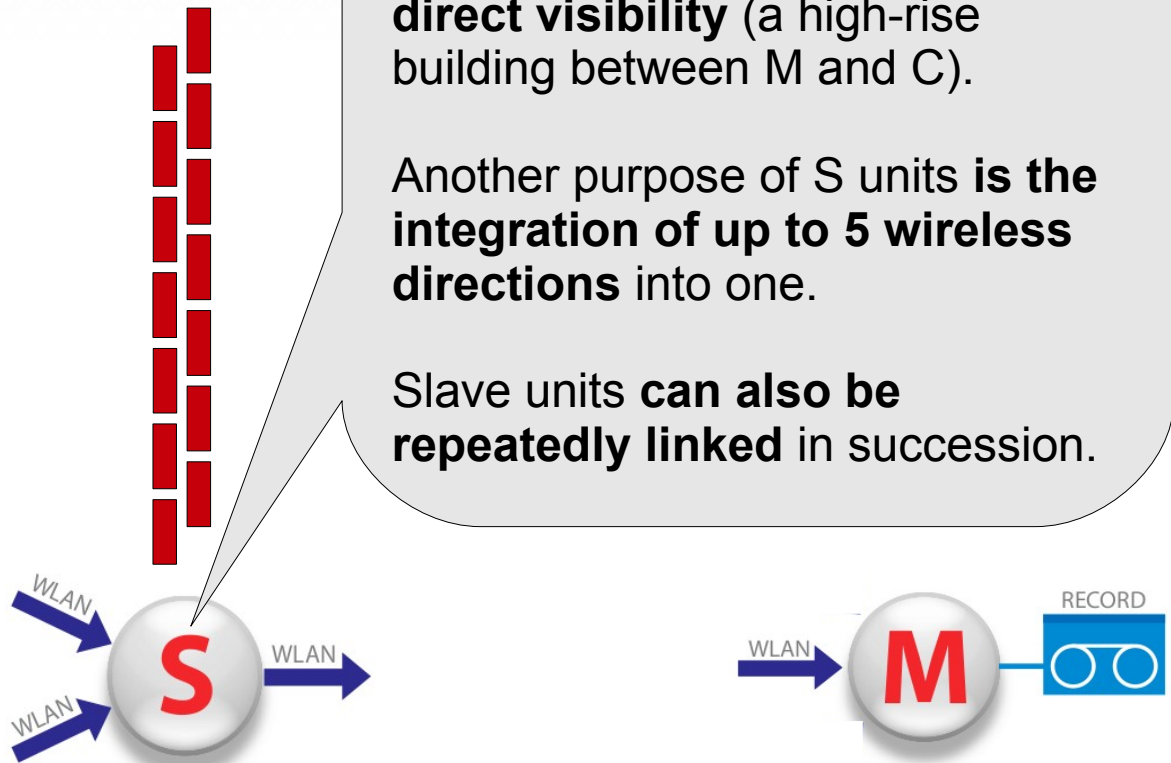
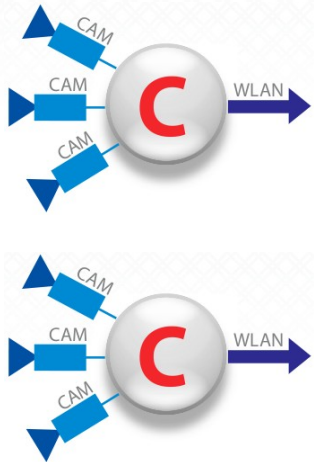
### CamiBOX-M3 (pole)



#### **Unit M3 again.**

The active unit is at the forefront, i.e. the first reception direction and two other elements are passive antennas receiving data from the two remaining directions

### Modular solution

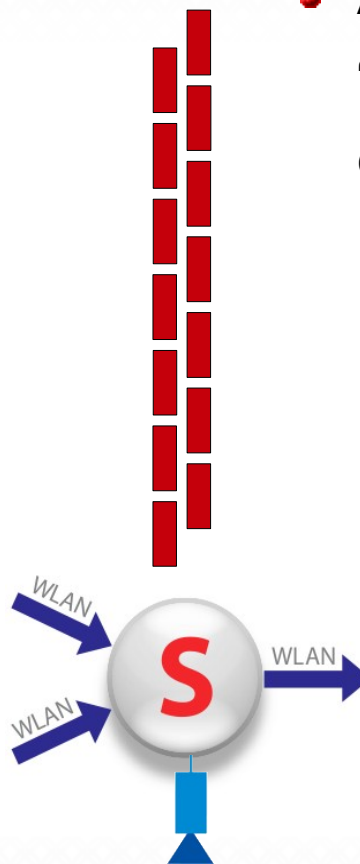
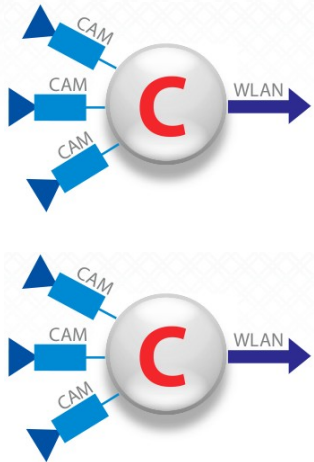


“S” (Slave) units are employed due to the necessity of retranslation in case there is **no direct visibility** (a high-rise building between M and C).

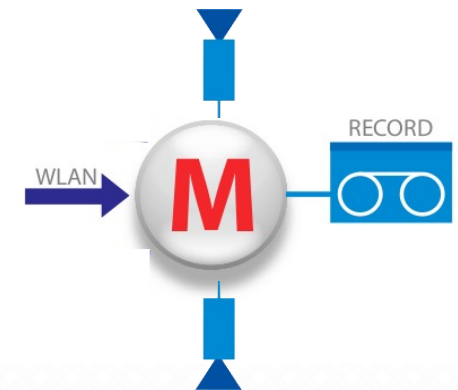
Another purpose of S units is the **integration of up to 5 wireless directions** into one.

Slave units **can also be repeatedly linked** in succession.

### Modular solution



- Apart from retranslation, **slave** units “S” enable **up to four cameras to be connected** at the point of installation.



### CamiBOX-S1



**Example of retranslation, i.e.** forwarding data from a superior C unit, when the unit does not directly supervise the Master unit.

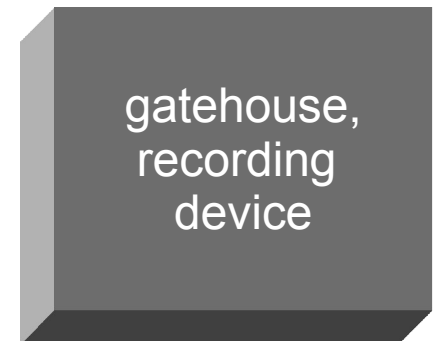
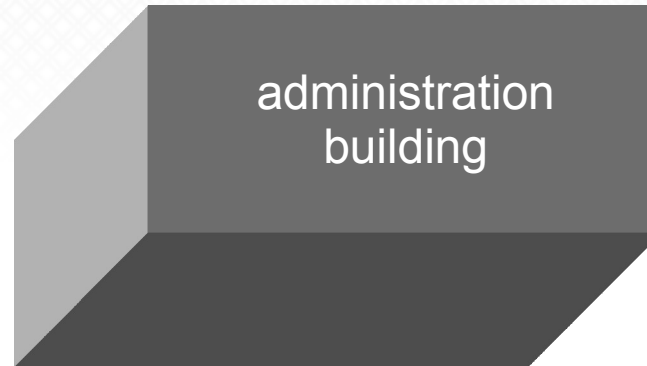
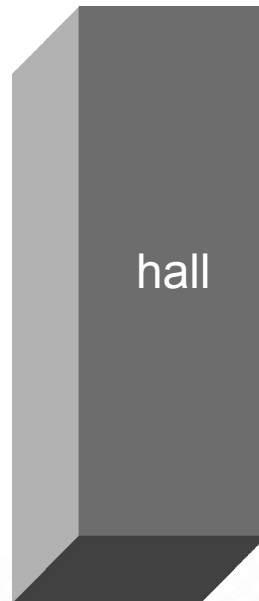
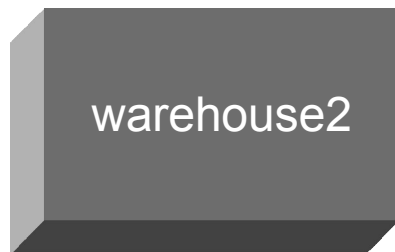
**The upper unit is CamiBOX-S1** and in the lower right corner there is a passive antenna forming a connection to one of the superior C units.

The unit also incorporates a rotating camera.

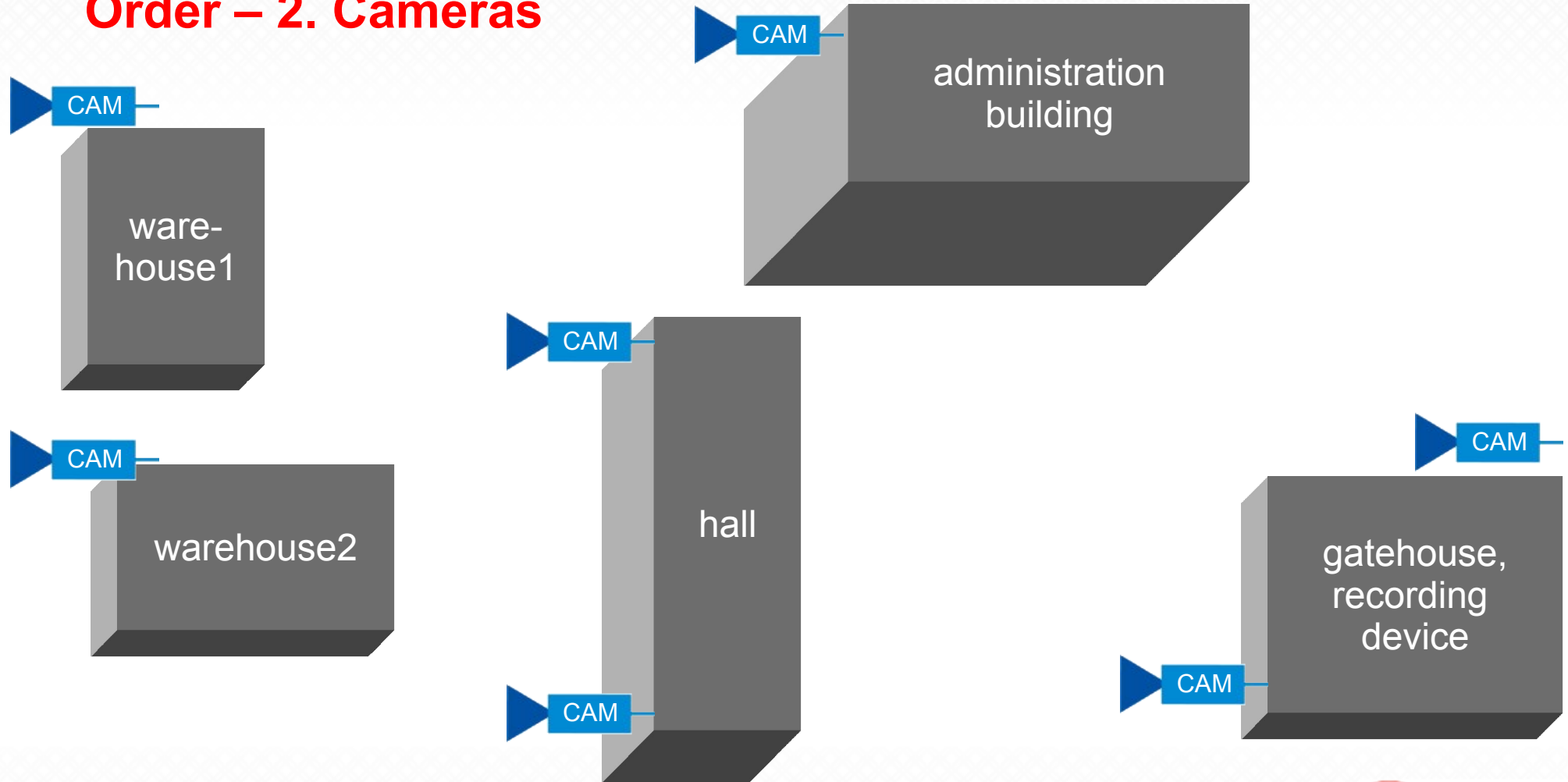
## Maximum number of cameras per unit

Type	Version	C = Cam	Type	Version	R = Rec, C = Cam
<b>CLIENT</b>	<b>C1</b>	C	<b>MASTER</b>	<b>M1</b>	R
	<b>C2</b>	C C		<b>M2</b>	R C C
	<b>C3</b>	C C C		<b>M3</b>	R C C
	<b>C4</b>	C C C C		<b>M4</b>	R C C
	<b>C5</b>	C C C C C		<b>M5</b>	R C C
<b>SLAVE</b>	<b>S1</b>	C C C		<b>M6</b>	R C C
	~			<b>M7</b>	R C C
	<b>S5</b>	C C C		<b>M8</b>	R C C

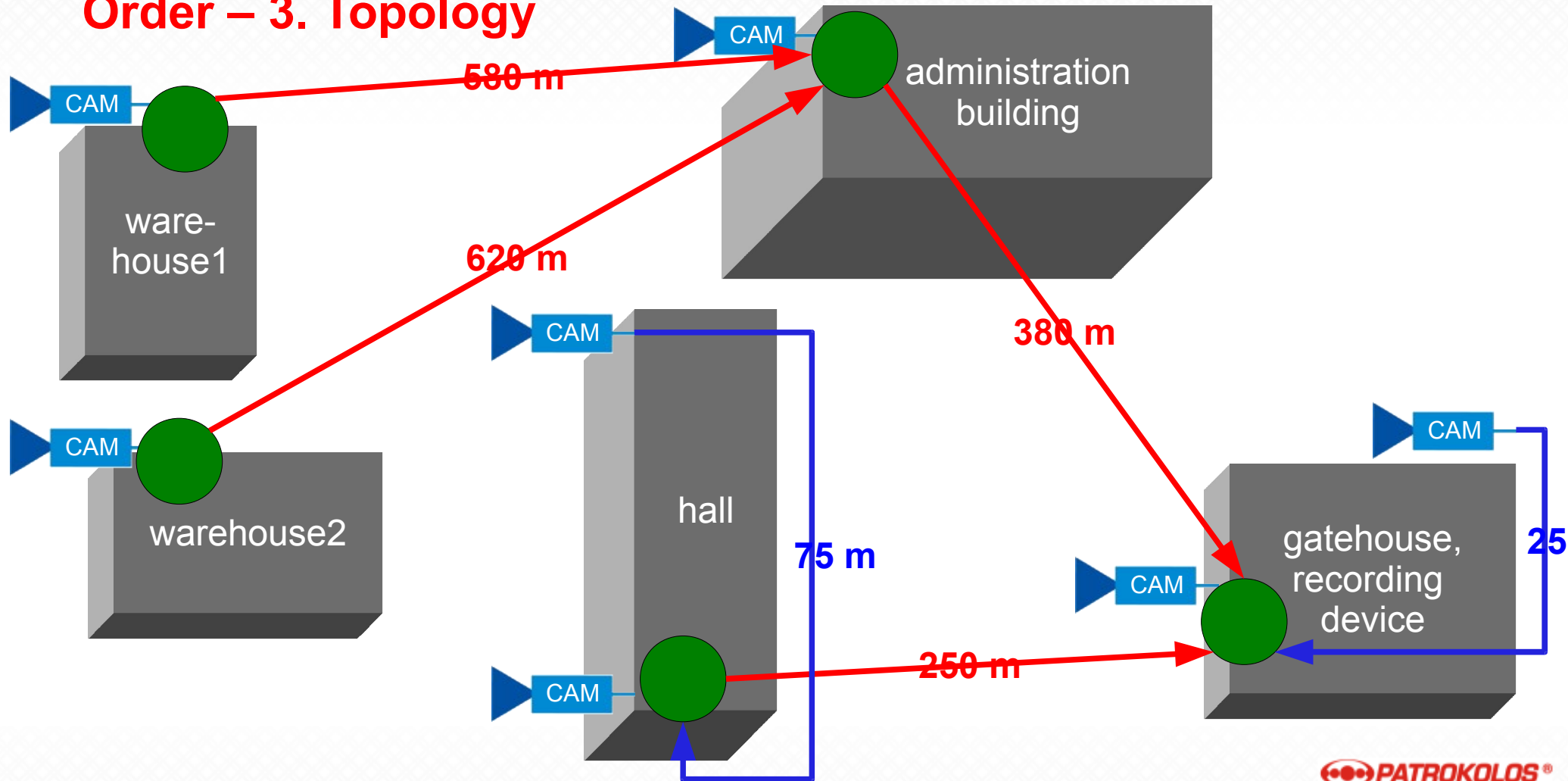
## Order – 1. Indication



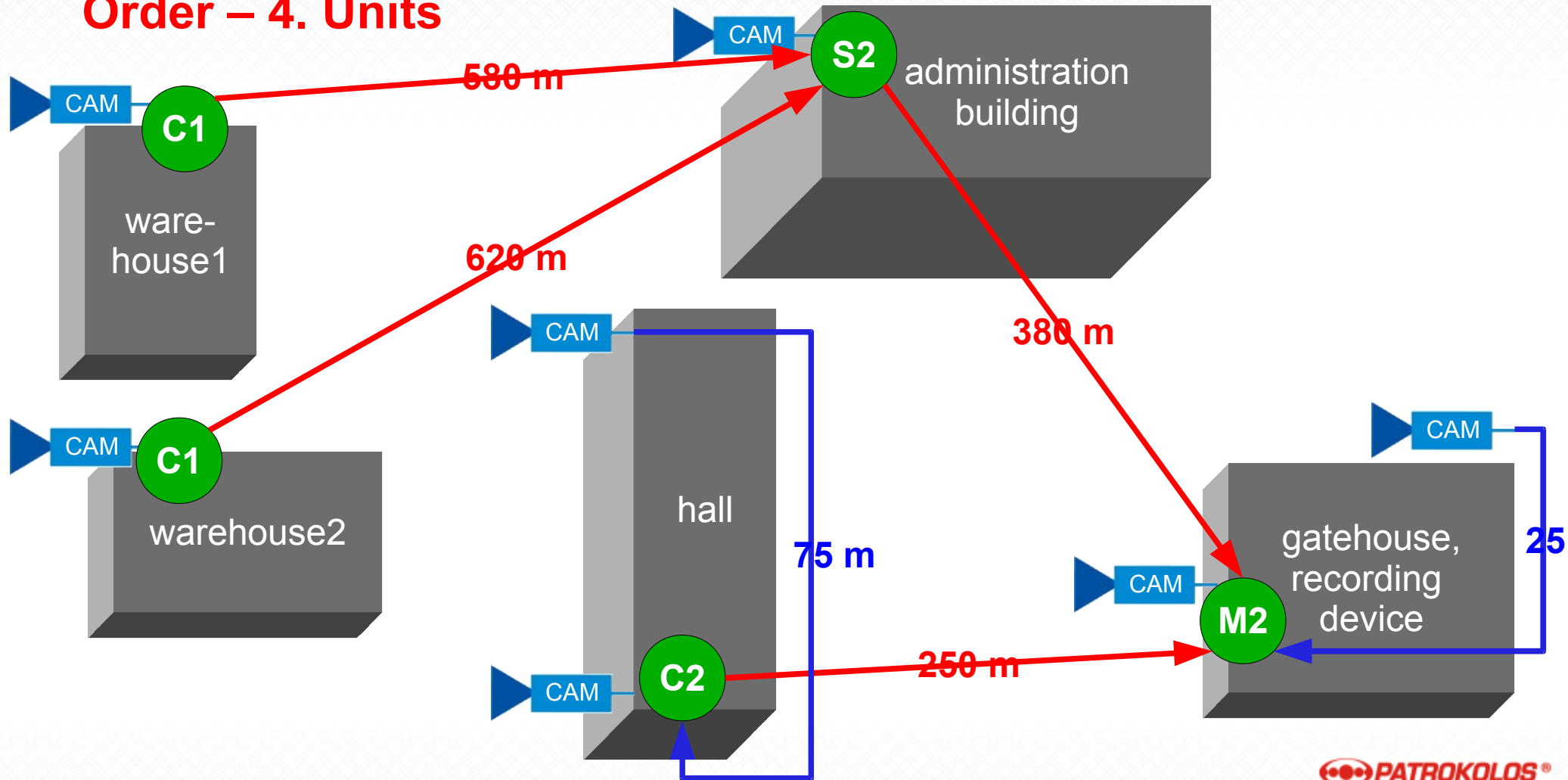
### Order – 2. Cameras



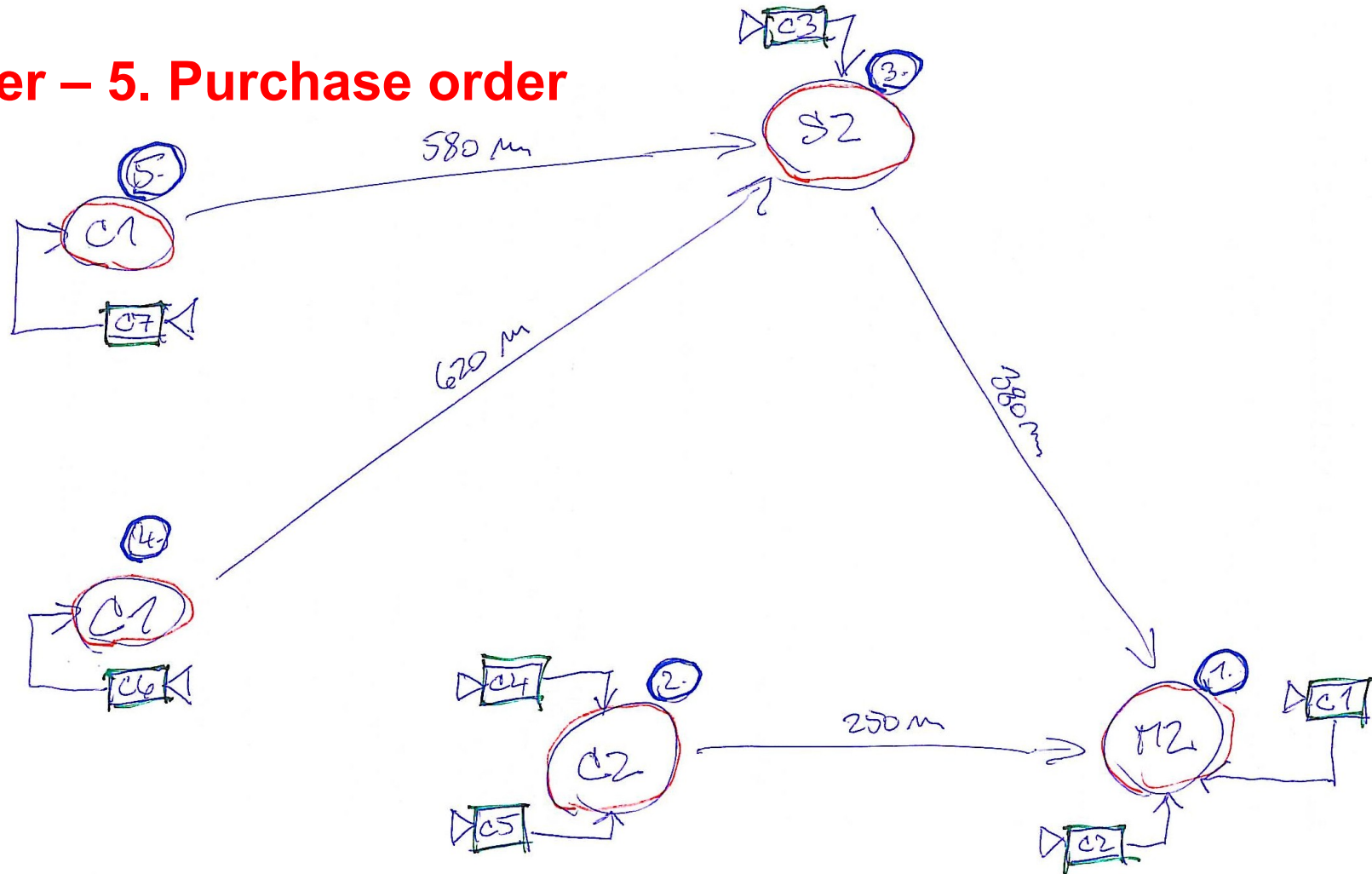
### Order – 3. Topology

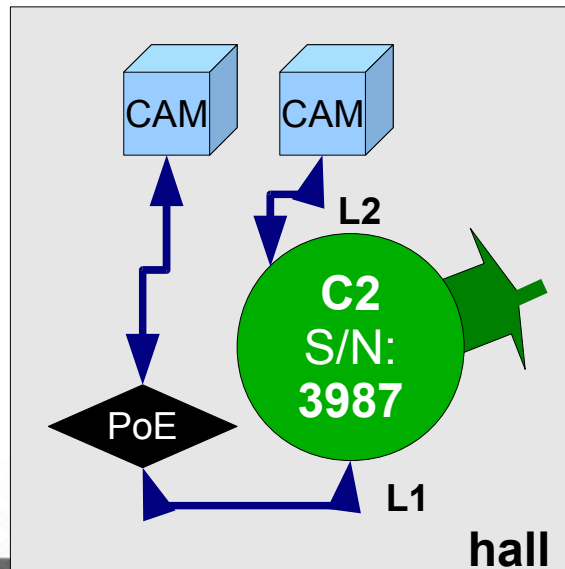
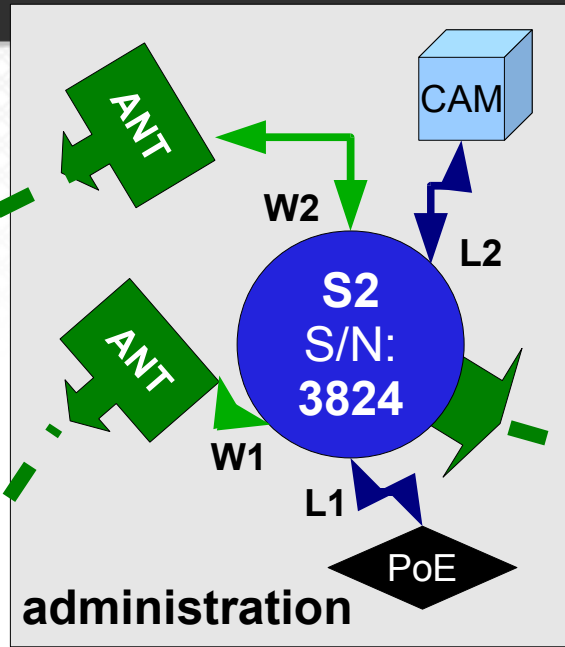
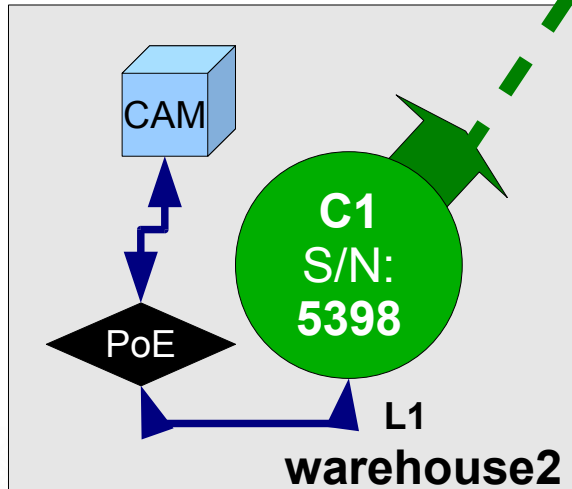
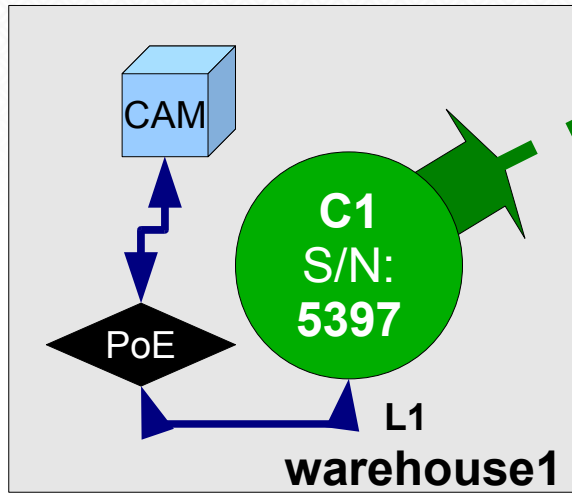


### Order – 4. Units



## Order – 5. Purchase order

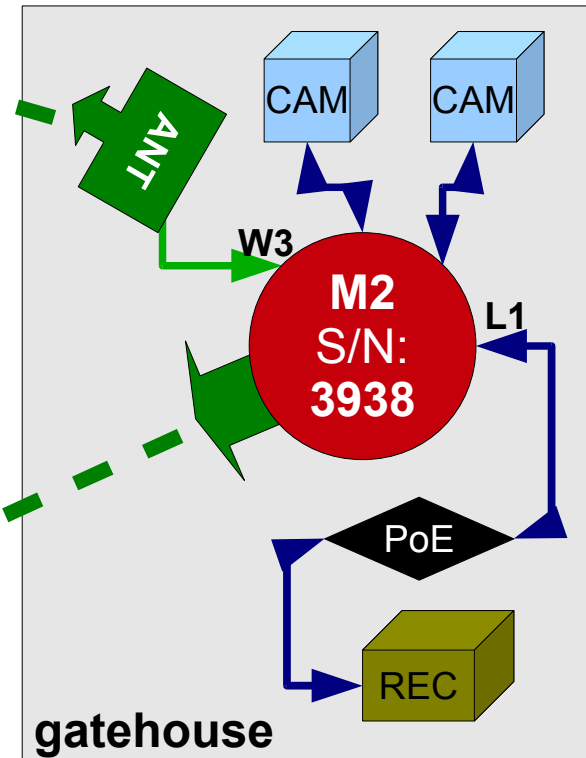




## CamiBOX – DIAGRAM

OBJ20840001

Drawn up by: Moser Radovan



## Principles of correct installation

- described in the Instructions for Use, most essential principles:
- **compliance with the distribution of units** (as per serial numbers and accompanying plan)
- **direct visibility along the connection line** (tree branches also considered an obstacle)
- **congruent polarization** (on one connection line)
- **as precisely aligned opposite each other as possible** (using acoustic signalization)
- **watertight cable connections** (tightening up and vulcanization)
- **archiving the updated version of the printed topology** (for troubleshooting purposes)

## Activation, putting into operation

- Activation of the system is very easy
- CamiBOX network is supplied in such a state that, under standard conditions, **no further configurations are needed**
- mechanical installation only
- connection of power supply and cameras

## Access to unit setting

- under common circumstances there is no need to require access to **units' software**
- if necessary any modification or troubleshooting requirements
- are solved by a **service company**
- up-to-date list of service companies is available at **WWW.CAMIBOX.EU**

## Standard complaint procedure

- **the problem is identified by the installation company** on the site by comparing printed topology supplied by the manufacturer with the real camera availability
- **both end points** of the problematic connection are **disassembled** and sent to the supplier
- the supplier refers the units to the manufacturer who repairs the defective one and sends them back in the same way
- **after delivery** the installation company **reinstalls both units**
- the **maximum** complaint processing time is **30 days**

## **Express paid service = solution in up to 4 days**

- the problem is **identified by the nearest service company** on the site using the CamiBOX-SERVIS or comparing the topology with the real camera availability
- **the service staff provides the manufacturer** with the order no. and **serial no. of the defective unit**
- the manufacturer makes a back-up copy of all up-to-date configurations of all units
- **the manufacturer presets and promptly dispatches** (express) another unit of the same type and configuration, i.e. a **copy** of the unit
- **after the copy is delivered** the service technician **physically exchanges the defective unit** for its copy and sends it back to the manufacturer
- the copy is not replaced with the original repaired unit

## Actual situation - cost comparison

- The following section includes the **comparison of solution methods** and costs for the transmission part of an actual order
- Possibilities taken into consideration: **optical cables / CamiBOX**

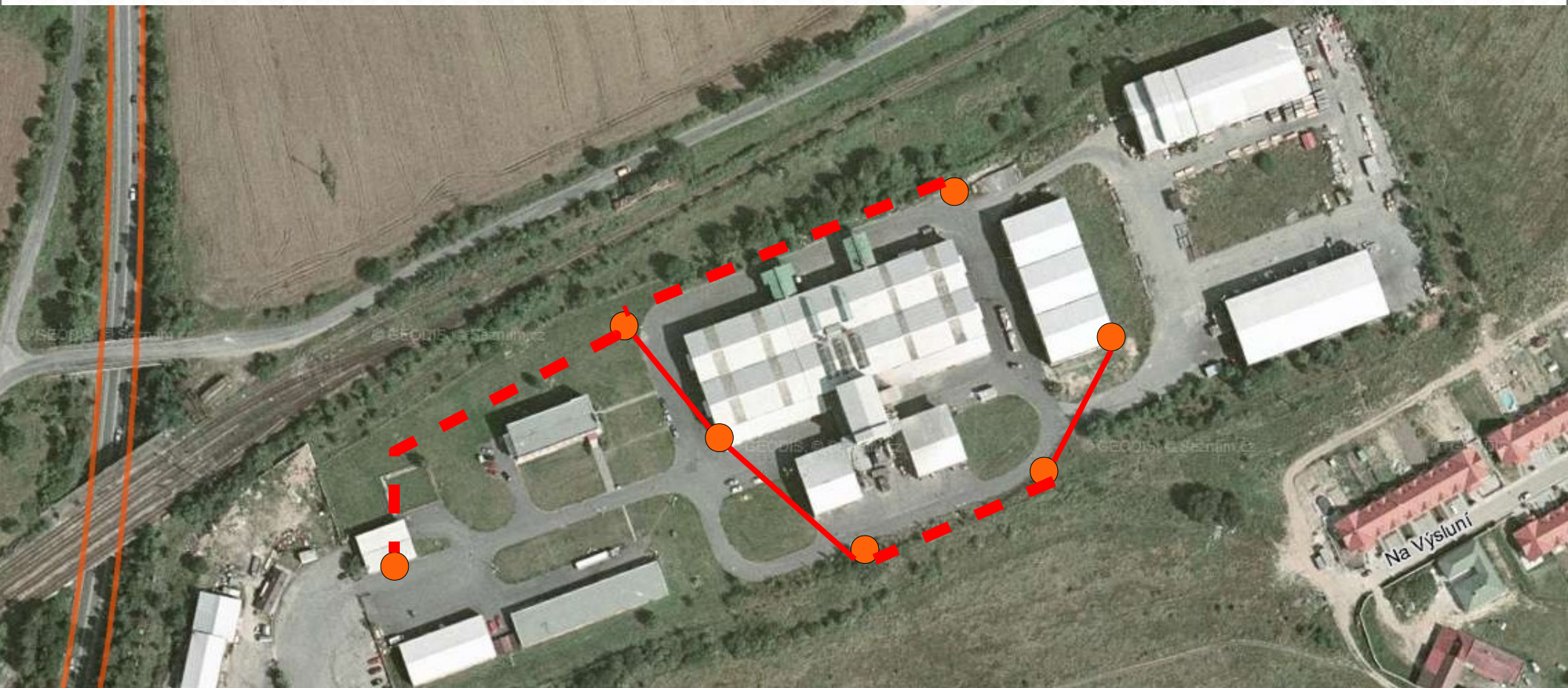
## Cost comparison – actual order



## Cost comparison – required camera positions



## 1. Cost comparison – optical connection solution



= throw-over



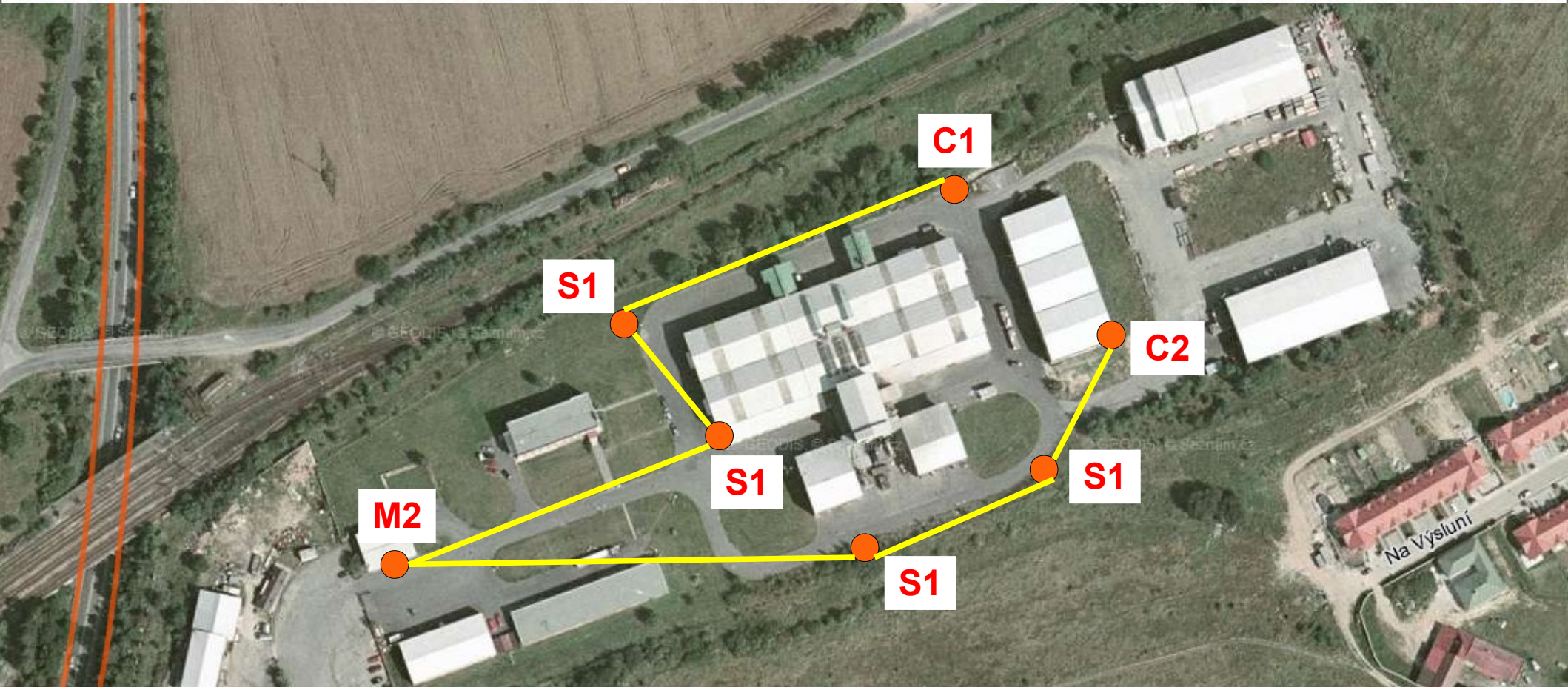
= excavation

## Cost comparison – optical solution

- material: 3 611 EUR
- work implementation: 5 407 EUR
- time: approx. 2 weeks
- **Total: 9 018 EUR**

*the budget has been calculated by  
the installation company on the  
basis of prices applicable for 2009  
in the Czech Republic*

## 2. Cost comparison – Camibox solution



 = wireless connection Camibox

## **Cost comparison – CamiBOX solution - budget**

- material: 4 560 EUR
- work implementation: 670 EUR
- time: **3 days**
- **Total: 5 230 EUR**

### **Material contains:**

- CamiBOX: 4 189 EUR
- other: 371 EUR

*the budget has been calculated by the installation company on the basis of prices applicable for 2009 in the Czech Republic*

## Cost comparison – budget

### CamiBOX

- material: 4 560 EUR
- work implementation: 670 EUR
- time: **3 days**
- Total: **5 230 EUR**

### Optical solution

- material: 3 611 EUR
- work implementation: 5 407 EUR
- time: **14 days**
- Total: **9 018 EUR**

difference from the optical solution:

**- 3 788 EUR**

## Summary CamiBOX

- **Czech, European product**
- **maximum support** from manufacturer
- **modular** design
- delivered **configured**, ready to install
- **outdoor design**, no covering requirements
- **compatible** with all types of IP cameras
- **maximum safety** of transmission
- **transmission efficiency** often higher than that of other types of recording devices
- **price** considerably lower compared to optical cable laying

## Questions and discussion



... do not hesitate to ask,  
**we will be happy to  
answer...**



## Test yourself

**1 – What considerably facilitates the directing of the device?**

- a) low weight
- b) nut number M8, identical for all applications
- c) acoustic signalization

**2 – What type of unit is included in the network only once?**

- a) S
- b) M
- c) C

**3 – How much data can the M3 unit transmit from the cameras?**

- a) up to 10 Mbps (approx. 5 cameras per 2 Mbps)
- b) up to 100 Mbps (approx. 50 cameras per 2 Mbps)
- c) up to 50 Mbps (approx. 25 cameras per 2 Mbps)

**4 – CamiBOX has to be protected from rain**

- a) units are watertight and no protection is required
- b) using a metal cover with glazed front part
- c) at least with a plastic cover and IP65 protection

**5 – Which unit combines 3 branches into one?**

- a) C3
- b) S1
- c) S3

**6 – Direct optical visibility along the connection line**

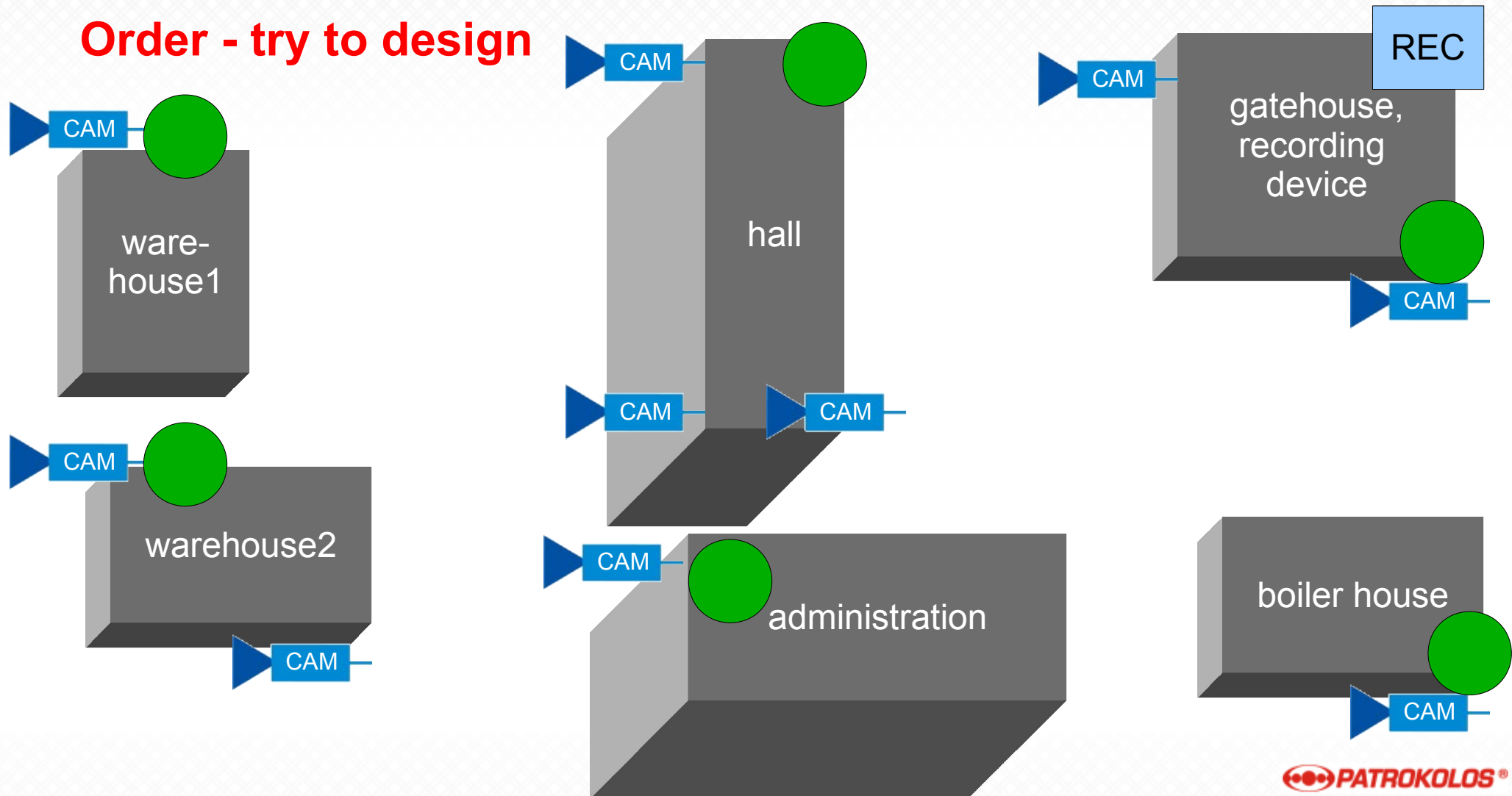
- a) is essential for proper function
- b) is not important
- c) is essential; however, trees are not considered obstacles

**7 – Service provided**

- a) only through standard warranty procedure
- b) possibility of paid service within up to 4 days
- c) possibility of paid service within up to 14 days

**8 – On the opposite page, try to design the optimum connection and versions of CamiBOX units. The recording takes place at the gatehouse. Please mind the height of the buildings.**

### Order - try to design



## Correct answers

**1 – What considerably facilitates the directing of the device?**

- a) low weight
- b) nut number M8, identical for all applications
- c) acoustic signalization**

**2 – What type of unit is included in the network only once?**

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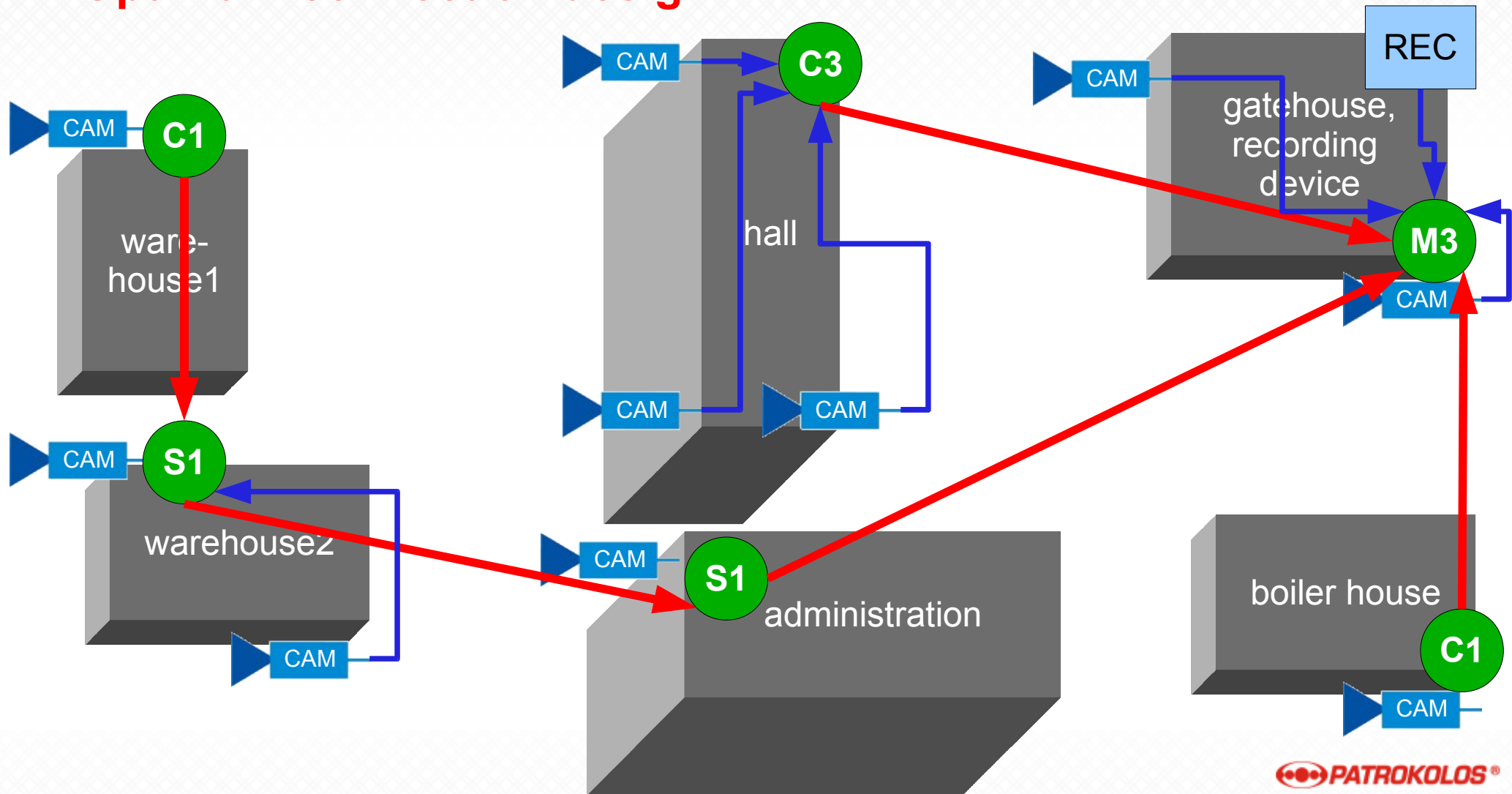
**6 – Direct optical visibility along the connection line**

- a) is essential for proper function**
- b) is not important
- c) is essential; however, trees are not considered obstacles

**7 – Service provided**

- a) only through standard warranty procedure
- b) possibility of paid service within up to 4 days**
- c) possibility of paid service within up to 14 days

## Optimum connection design



# CamiBOX®

**Next: operation presentation**

thank you for your attention