



**MariElectronics™** INNOVATIONS



Elma™ Detection  
for your  
**Care Solutions**

**MariCare™**

Member of MariElectronics Group

Care Homes • Seniors' Homes • Rehabilitation • Assisted Living • Disability Care • Hospitals • Private Homes

## Challenges within the healthcare sector today



### Ageing population

The global population of people over 60 will reach two billion by 2050, which is a major demographic change. To cope with the challenges and harnessing the potential benefits of this change, we need to plan well, innovate, and collaborate with various stakeholders, so that societies can adapt to the changing needs and dynamics of an aging world.

### Lack of resources

There is not enough money, resources or personnel to cope. Handling daily routines in care homes consume too much time. Particularly accidents that take place during the night are difficult to prevent and notice immediately.



### Healthcare regulatory changes

New technology solutions have faced challenges in certain countries, particularly regarding the privacy of residents. Is it appropriate to implement camera solutions for dementia patients who cannot provide a power of attorney? Can technology enhance privacy by enabling remote pre-routine checks without the need for physical presence?



### Patient experience

A successful collaboration between staff, residents and their relatives starts with a good experience - impossible to achieve without compromising privacy. Today's assessment of the senior's physical and cognitive health, are mostly with unanswered questions!

*How well are you prepared?*



Your extra pair of eyes,  
without disturbing  
the residents!

**24/7/365**

## Elma™ Smart Detection - Improve assessment and planning pro-active care in all shifts 24/7/365!

### Elma™ is a complete "All-in-One Toolbox" solution

- This toolbox helps dementia experts to get reliable answers to open questions on resident's daily changes of behavior - revealing activity also at night time.
- Improved healthcare with digital supervision.
- No wearable devices, no cameras!



Monitoring real-time activity in the space



Bed behaviour & motion detection



Fall prevention and detection



Non-invasive - no cameras or wearables needed



Behaviour analyses and records



Burglar alarm system



Infection/virus, or change of medications detection



HVAC, light and energy management



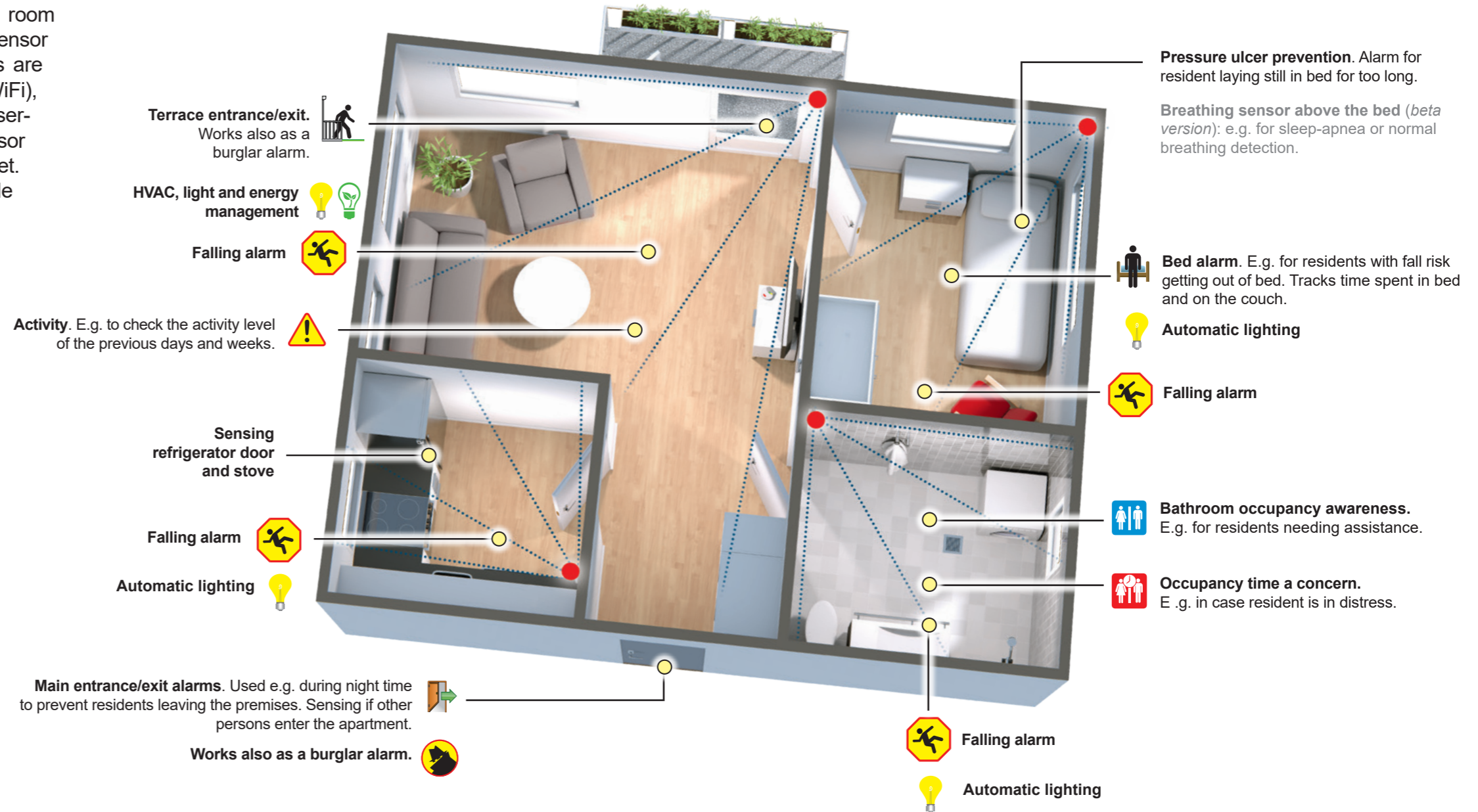
On-site & remote evacuation management



Automatic emergency lighting in blackouts

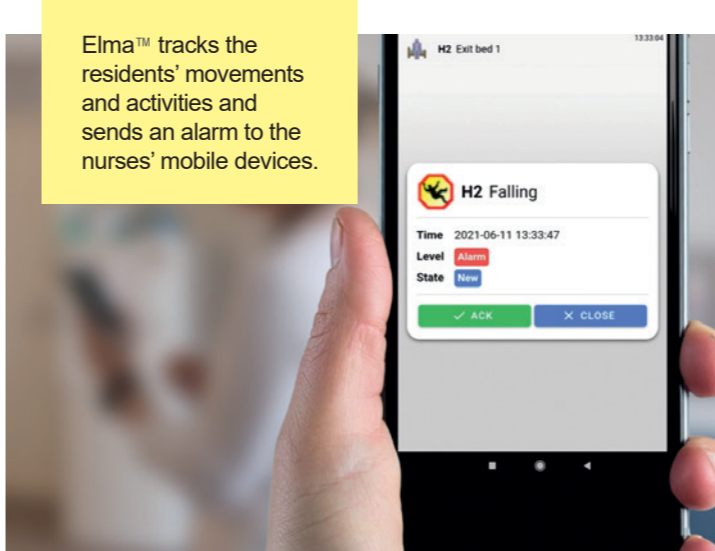
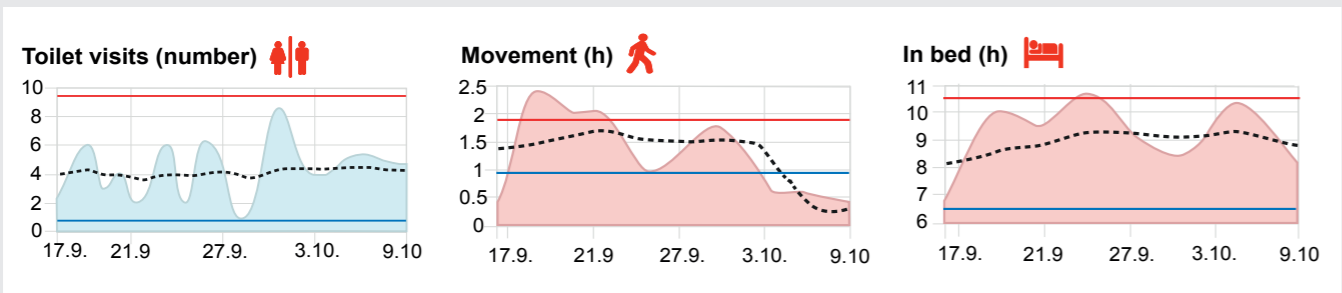
# Elma™ functionality alarms/information/notifications in real-time

Sensors are installed in the top corner of the room where there is the best view over the area. One sensor covers a distance of approximately 15m. Sensors are communicating through a wireless network (WiFi), using a base station or over PoE with access to a user-friendly interface. In the WLAN version, each sensor has its power feed from a normal power socket. Elma™ is easy and quick to install and it is suitable for retro-fitting in renovation projects as well.



Today's assessment of the senior's physical and cognitive health, can be improved. Elma™ Smart Detection supports the assessment, as the experts can get real-time information. Especially after a resident have moved into her/his new environment, which in many cases change the resident's circadian rhythm with restlessness, stress and nervousness etc., which is not always seen during the night hours.

# Activity diagrams give valuable information/ notification on circadian rhythm changes



Patented / Patent pending

Elma™ answers many unanswered questions on residents' behaviour, especially residents with dementia, i.e. anxiety, depression and stress. It reveals if the resident is sleeping peacefully or if he/she is in need of extra care and calming down - no need for routine checks. All this is provided in the form of digital supervision, without the use of camera.

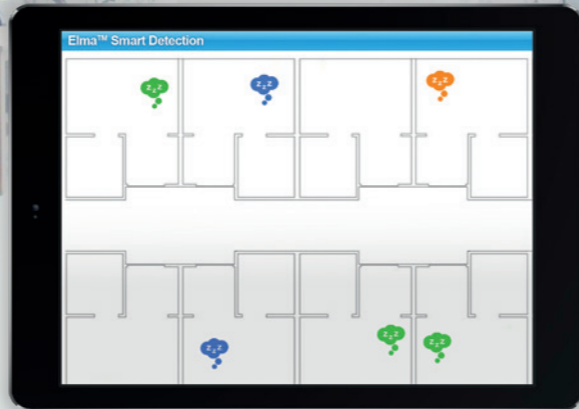


## Bed behaviour and motion detection in real-time

Elma™ provides vital information on how residents move when they lie in their bed. In order to minimize disturbance to the residents, the night shift staff can do a digital surveillance of the wards before starting their routine check and see who is active and avoid disturbance to those who are resting (except those who need medicine or other assistance). Elma™ can also help prevent pressure ulcers by tracking the hours without movement and alerting the staff via the user interface.

### Elma™ UI reveals residents' resting statuses and residents laying still in bed for too long

- Resident is moving in the bed
- Resident is resting in the bed
- Resident is laying still in the bed for too long (relative to the settings in the UI)



## Save time and lives with Elma™ in an emergency

In case of fire, firefighters and rescue teams can get an overall view of the care home and its different wards via a VPN connection to Elma™ interface. Elma™ reveals people and their locations, thus giving valuable time for rescuers to prepare themselves before arrival and see if there are non-evacuated people in the building and where are they located? Evacuation of staff and residents is always the number one priority.



Smoke detector

Remote access for detecting movement in a care home gives unbeatable advantages: well prepared rescue teams save lives during the critical first minutes of evacuation. In situations like criminal acts it's easy to locate people in the facilities where Elma™ is installed and plan the actions accordingly.



Elma™ sensor

Elma™ Cloud Server



## Elma™ also works as a burglar detector

Improves the feeling of safety and security especially at home care.



## Smart energy optimization

Elma™ cuts down your electricity cost with lighting control. Elma™ solution can be fully integrated into the Building Management System (BMS), automatically controlling lighting responsive to people present or not present.

It also improves safety especially during night time. As soon as the resident is leaving the bed, both bedroom and toilet lighting turns on automatically. After going back to bed, lighting turns off.



“ We have a big nursing home with five floors and only one night-carer. With Elma™ technology, we can reduce the check-up visits during night time for those residents who we normally visit three times a night. We also see when someone leaves the room or when something is wrong.

- Ria Lehto, Kirkkopiha, Yrjö ja Hanna Kodit, Järvenpää, Finland.



Patented / Patent pending



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MariCare is the pioneer in developing and supplying sensor solutions for the healthcare sector. We were the first supplier of an invisible floor sensor solution, and together with our customer, we played a big role in changing legislation to fit today's welfare technologies' needs and requirements. MariCare – Your technology partner providing you solutions for the future! With more than 15 years of experience and references around the whole world, we can solve today's challenges.

**MariCare Oy**

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