



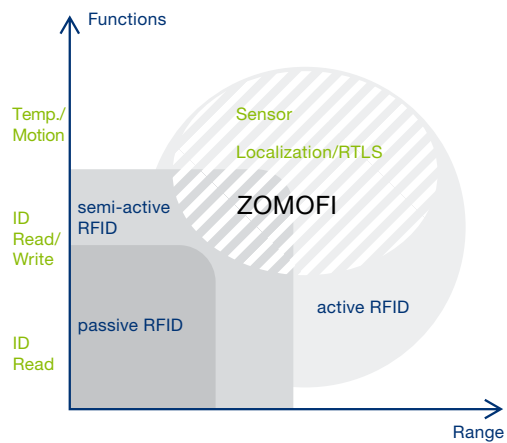
# Zone Monitoring & Find

Active RFID

**albis**  
technologies

## Active RFID – a technology for a variety of applications

Thanks to its active RFID technology the Zone Monitoring & Find (ZOMOFI) solution permits asset management in buildings, storage areas, airports, vehicles, and campus areas. The broad range of application scenarios include logistics, pallet and container management for freight carriers, the automobile industry, and manufacturing facilities to name just a few examples. A ZOMOFI solution may also be used for intrusion detection purposes in museums or in advanced access control scenarios for companies. The real time locating system (RTLS) capabilities in ZOMOFI and its future improvements are increasing «real time visibility of goods» and it enables process improvements.



## Zone Monitoring & Find – a wide field of applications, market segments and scenarios

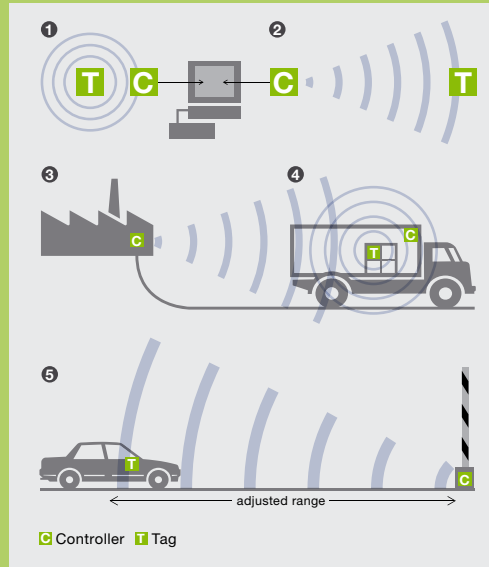
Applications that make use of active RFID technology are numerous and are spread across a variety of industries.

The transponders (tags) have a battery and support transmission distances up to 160 meters for purposes of location, identification, data exchange, and sensor data exchange.

| <b>Application</b> | <b>Segment</b>  |
|--------------------|---|
| Asset Management   | Airports/Ports<br>Defense<br>Logistics<br>Transport (Train/Trucks)<br>Automotive<br>Hospitals |
| Supply Chain       | Postal logistics<br>Airport logistics<br>Pharmacy   |
| People Safety      | Fire brigades<br>Hospital/Care Homes<br>Prison<br>Oil and Gas<br>Manufacturing                |
| Access Control     | Buildings/Campus<br>Parking operators   |
| Intrusion Security | Motion Detection of<br>valuables at museums   |
| Cold Chain         | Retail<br>Transport (Train/Trucks)  |

### ZOMOFI can be used in the following scenarios:

- Presence/absence, for real time localization
- Coverage by mapping in
  - cells (1)
  - precise and target-oriented tracking (2)
- Surveillance in halls and storage areas (1)
- Monitoring in passageways (3)
- Tracking in trucks, including temperature monitoring (4)
- Access control with long-range convenience (5)



### A short sample of customer scenarios is given below:

- «Asset Management for re-usable pallets»: Re-usable pallets often go missing. Usually, the fact that they are missing is not noticed until it is too late to establish who is responsible. Customers can keep track of their pallet assets by simply installing ZOMOFI in their supplier and distributor network. The pallets are monitored and their location is continuously updated in a management system. Missing pallets can be located and the person responsible for them can be identified immediately. This ensures that customers suffer no pallet losses and that pallet management is transparent and more affordable.
- «Asset Management for measuring equipment»: Several hundred measuring instruments of a development and certification company are used by a variety of people for a variety of projects. The instruments are also distributed across several departments in several buildings. A paper-based or centralized management system for instrument location and regular calibration is time-consuming and generates no value-added for the company. ZOMOFI ensures that data is always kept up-to-the-minute by verifying the location of all instruments every few seconds and also by recording current key equipment data. This significantly reduces search times and optimizes deployment planning.

- «Monitoring of goods in storage areas and buildings»: Very large volumes of goods and wares are stored, moved and shipped in companies with several office buildings, distribution centers and storage areas. Often it is easy to lose track of goods and some goods are simply misplaced. What's needed is a reliable monitoring system. ZOMOFI lets you define specific zones (storerooms, dispatch areas, offices, passageways, etc.) that are then monitored by the system. As a result, you always know which goods or shipping containers are located in which zone at any given moment.

### The ZOMOFI solution delivers benefits where the following are involved:

- valuable, process-critical, mobile goods
- temperature-critical goods
- goods requiring protection against break-in or theft
- access and parking scenarios
- security and emergency scenarios

## Tags and controllers – so small and multifunctional

The ZOMOFI solution includes tags, sensor tags and controllers.

### Multifunction tags:

- Unique ID
- Read & write data over the air
- User memory 112 Bytes
- Unique long battery lifetime (years not months)
- Long reading & writing distance (up to 160m outdoor; up to 80m indoor)
- Rugged design for very rough conditions
- ATEX EX certified version

The reading and writing range of up to 160 m in free space is achieved with the ZOMOFI controller. The anti-collision mechanism allows for a thousand tags to be simultaneously present in the range of one single controller. Hundreds of controllers can be networked.

The unique transmission features make this tag useful also in difficult environments, where non-friendly Radio Frequency material is present such as metal surroundings, concrete walls and water proximity. The alteration of the transmission remains usually very acceptable given the harsh conditions in which the active tag is operating.

### Sensor tags:

- Unique ID
- Temperature sensor or motion sensor

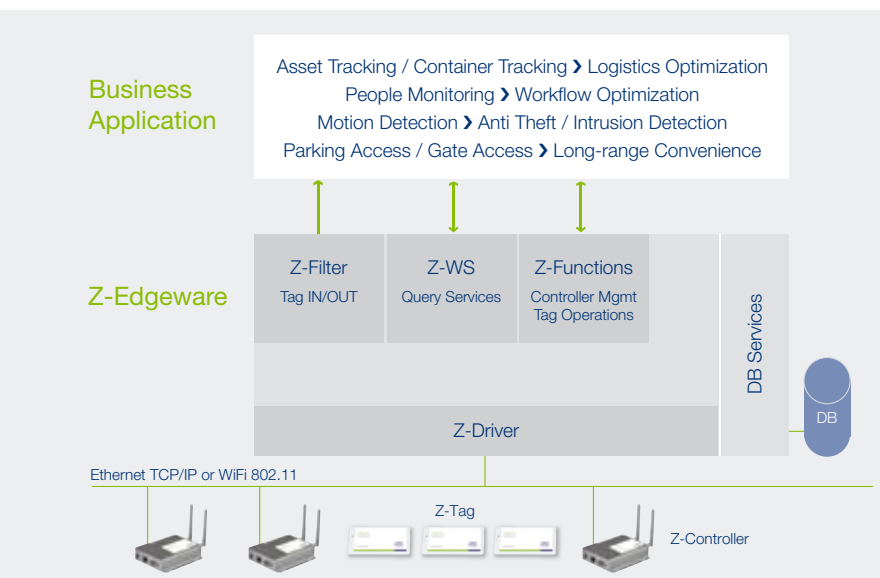


### Controller for all tags:

- Programmable reading range
- Interfaces:
  - Serial RS232/RS485
  - Serial RS232/RS485 + Ethernet + WiFi
- Reads more than 80 tags per second, up to 1000 tags per reader
- Sophisticated anti-collision
- ATEX EX certified version



## Interface at the controller – simple and clear



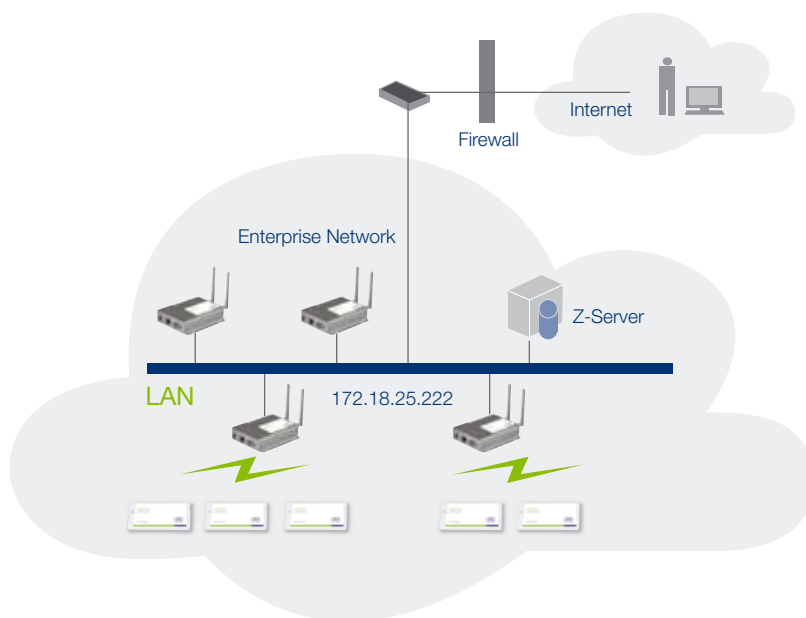
ZOMOFI contains a defined and documented interface to the «Business Application Layer». Therefore existing or newly developed business applications can leverage the ZOMOFI system for tracking / locating information or sensor data. Such integration is supported by the Z-Edgware with filter functions, query services and device operations.

The interface at the controller supports the following main functions for multifunction tags or sensor tags within the transmission range:

- Location of the tag is reported every few seconds.
- Change of location is reported (filtered).
- The data of multifunction tag can be read/written at any time. Tag's signalization rate can be adjusted individually. Tags can be muted and transmission suppressed.
- Attenuation can be set to minimize and maximize the reading distance, meaning the size of each zone.

A solution demo kit is available together with the full command set description. The firmware of the controller is expandable in order to protect the customer's investment.

## Integration of ZOMOFI solution in your network – standards based and very flexible



The ZOMOFI controllers can be connected to the LAN infrastructure. Standard IT components and cabling or wireless access points can be leveraged. There is no need for an extra network or for specialized maintenance or security policies.

The ZOMOFI server – also connected to the LAN network – runs the ZOMOFI edgware and the individual business application.

In many cases the users of the RFID system are connected to the same infrastructure and are running a web-application on their computers to take best advantage of ZOMOFI.

The integration and its IT topology overall is therefore standards based, simple and very flexible.

If you want to optimize your customer processes by using the ZOMOFI solution or simply want to combine the above components with your products and services, please let us know – we shall be happy to tell you more about ZOMOFI.



leave it up to us

Albis Technologies Ltd.  
Zone Monitoring & Find  
Albisriederstrasse 199  
CH-8047 Zürich  
Phone +41 58 252 4828  
Fax +41 58 252 4778  
zomofi@albistechnologies.com  
[www.albistechnologies.com/zomofi](http://www.albistechnologies.com/zomofi)