

# INDOOR POSITIONING SYSTEM

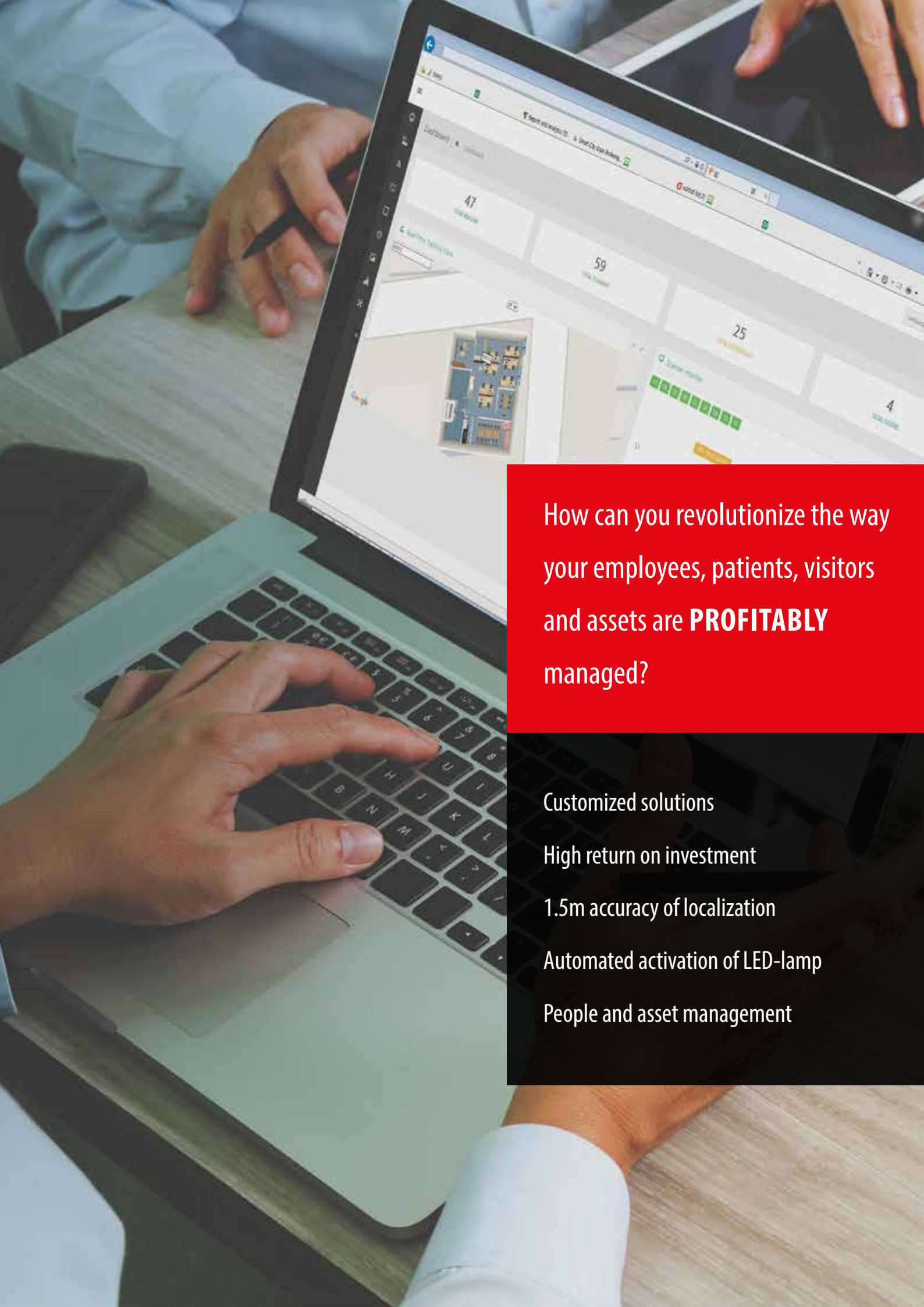
Localization – Tracking – Tracing – Navigation – Proximity Marketing & Services

Ideal for  
Healthcare  
Hospital  
Hotel  
Retail  
Airport  
Industry



Cost-efficient and timesaving solution to locate, track and monitor people and assets in real time for various industries.

 SWISS TRAFFIC



How can you revolutionize the way  
your employees, patients, visitors  
and assets are **PROFITABLY**  
managed?

Customized solutions

High return on investment

1.5m accuracy of localization

Automated activation of LED-lamp

People and asset management

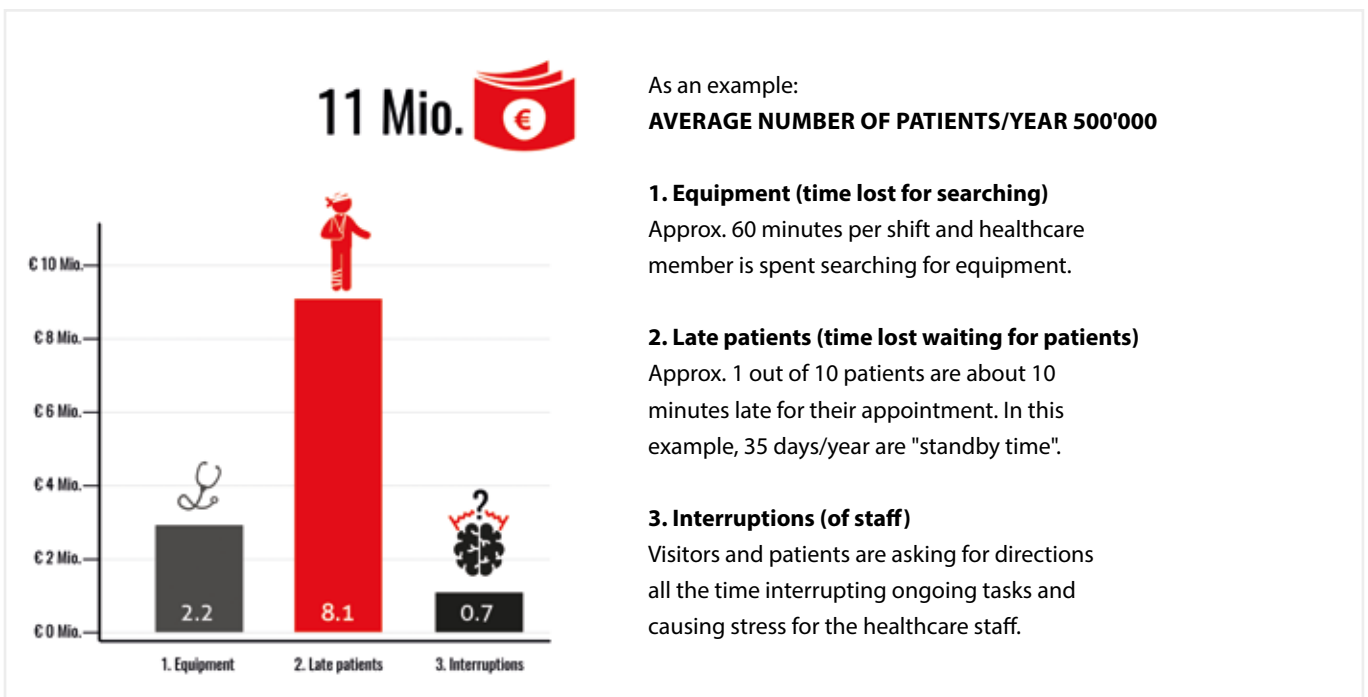
## ACCURATE LOCALIZATION

Localize groups of persons and objects in interior spaces

The brand new system for indoor positioning and indoor navigation revolutionizes the way you can profitably manage your healthcare, hospital, hotel, retail, airport or industry business. The Indoor Positioning System applies everywhere where you have to keep track of people or asset movement, improve your visitors experience or your safety management. Positioning accuracy is up to 1.5m for a super-precise localization.



### ROI – TOTAL ANNUAL SAVINGS IN €



## SYSTEM FEATURES



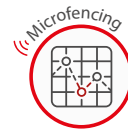
### TRACK THE LOCATION OF PEOPLE

To locate people within buildings and track their movement from one coverage area to the next.



### QUICKLY LOCATE IMPORTANT ASSETS

Supervisors, staff and dispatchers can quickly locate important assets with one simple click on the graphic interface.



### GENERATE CHECK POINTS

Enabled check points can be created along predefined routes to verify that the hospital staff complete their tours.



### CONTROL DWELL TIME OF STAFF

Check the dashboard to see the statistics for proof of dwell time in predefined areas.



### GAIN ADDITIONAL DATA FROM SMART SENSORS

In healthcare or industry the use of wireless and portable smart sensors can be used to accurately monitor temperature, humidity and heart-rate, fine dust and so on.

**All-in-one system for cutting-edge localisation technologies to increase the economic efficiency of your business.**



## SPECIAL FEATURE

Trigger actions based on location



### PROVIDE INDOOR NAVIGATION

With an application installed on a smart phone makes indoor navigation in complex buildings easy.



### SEND EMERGENCY MESSAGE

In case of emergency a real-time SOS alert is automatically generated and sent directly to the control room.



### CUSTOMIZED ACCESS RIGHTS

Create different access rights combined to certain areas in combination with microfencing for different groups of people. Detect and prevent unauthorized access.



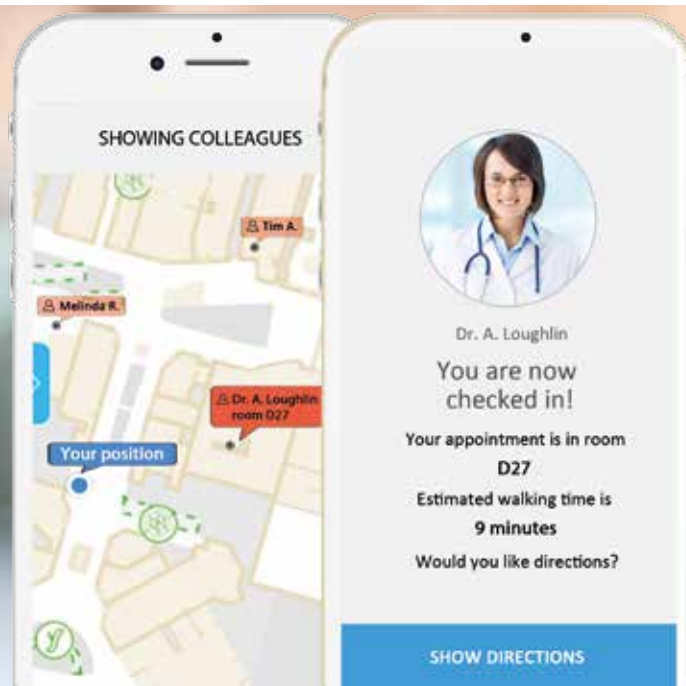
### SECURITY FOR DISASTER MANAGEMENT

Real time information about people localization in case of disaster or distress reduces drastically intervention time.



### INTELLIGENT LIGHT SETTINGS FOR EMPLOYEES

Automated activation of pre-programmed light scenarios such as ambient or power saving as well as motion detection. Dynamic lighting to enhance day-night sleep rhythm.



## USER ORIENTED EXAMPLES



### STAFF

- ») Where is a specialist? **See status:** available/not available
- ») **Where is** my patient?
- ») **Find someone** who can help you
- ») **Additional information** about patients' status in combination with sensors
- ») **Proof of care** from the nursing staff (e.g. 3x15 minutes per day)
- ») Doctor's visit (**frequency and duration** detectable)
- ») Maintenance person (**track dwell time** per room)
- ») Emergency availability: **current position** of staff members



### PATIENTS

- ») **Indoor navigation** with application
- ») Where do I go next: **Shows the way** to the x-ray station
- ») When is your turn: **Appointment management**
- ») Your doctor is busy: better use of time, e.g. go for a coffee - **receive a push notice** as soon as doctor is available again
- ») Wearable **SOS Button**: alert trigger in case of emergency improves safety
- ») **Proximity marketing**
- ») **Personalized discounts**
- ») **Patients flow** throughout hospital



### VISITORS

- ») **Indoor navigation and Turn-by-Turn**
- ») **Proximity marketing**
- ») **Personalized discounts**
- ») Relevant **information based on location** (Geo Messenger)
- ») **Way-finding** back to parking
- ») **Average waiting times** in certain areas
- ») **Increase of turn-over** by leading visitors to dining areas



### ASSETS

- ») **Where is equipment?** Additionally **see status** if available/not available, e.g. wheel chair, patient's bedside
- ») **Pressure sensors** (bed free or occupied)
- ») **Micro-fencing**: triggers notification when an item leaves a specified area (theft protection)

## MANAGEMENT EXAMPLES



### LIGHT AND ENERGY MANAGEMENT

- ») **LED light link**
- ») **Mounting in lamp:** power supply already exists, low installation effort
- ») **Light can be adjusted** to people present e.g. bright for employees, dimmed for guests
- ») **Emergency light activation**
- ») **Motion detection**
- ») **Reduce energy consumption** (of PCs, monitors and lights)



### SECURITY MANAGEMENT

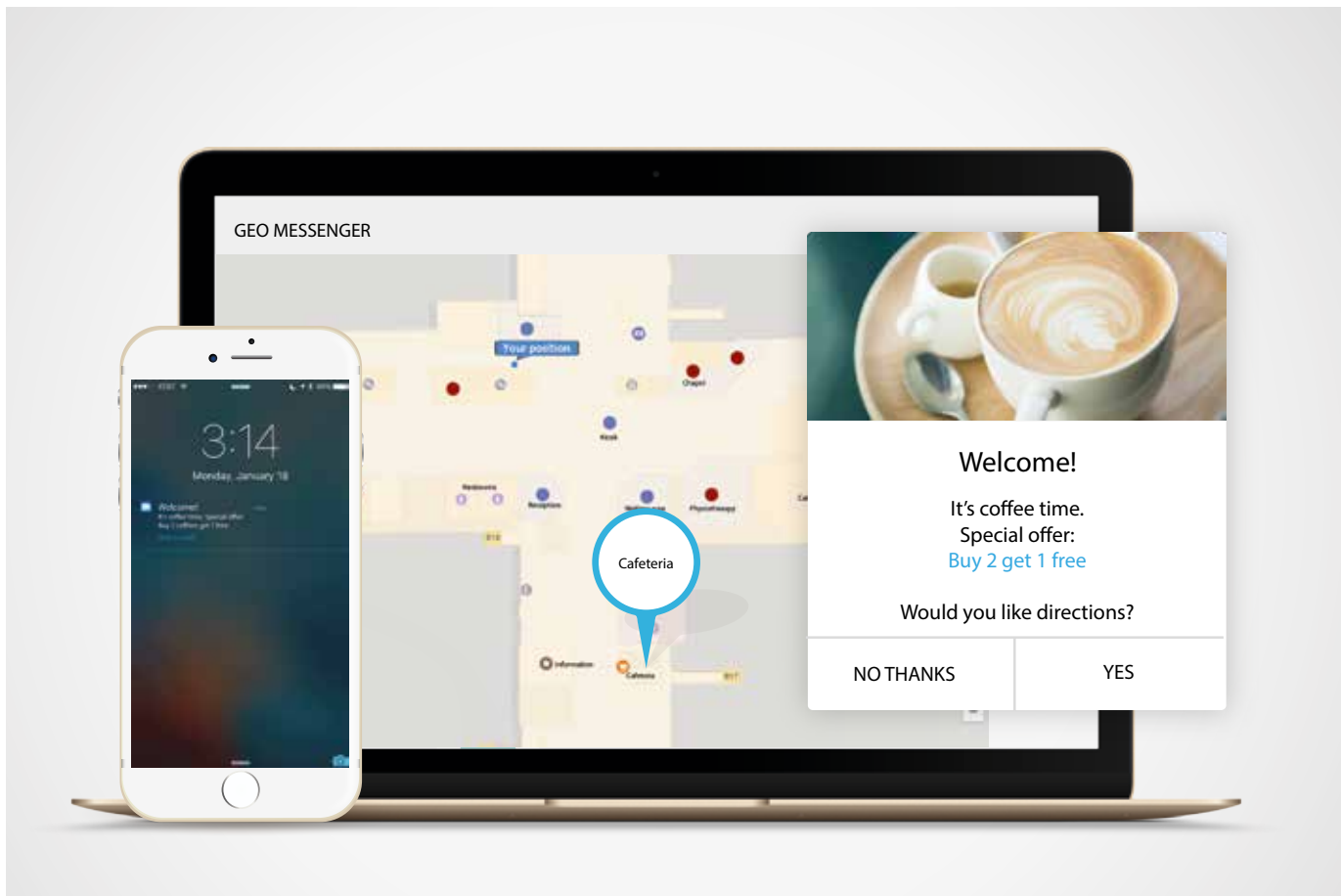
- ») Information about **visitor flows, access control, dead man's circuit**
- ») Evacuation: **finding persons in case of evacuation**, where are people right now?
- ») **Emergency calls include location information** to guarantee quickest response possible
- ») **Activity monitoring** and alerts in case of changes in routine



### ACCESS MANAGEMENT

- ») **Access Management:** manage access rights
- ») **Microfencing**
- ») **Automatic locking system** based on locating information
- ») **User density:** number of users that are located in a certain area at a certain time

## ADD-ONS AND EXTENSIONS



### ADD-ONS

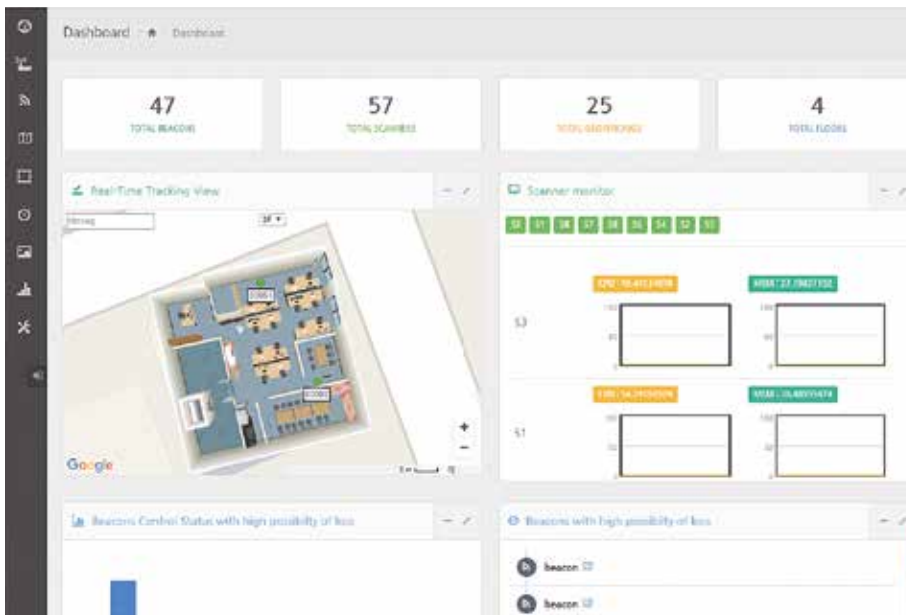
- ») Indoor positioning system combinable with outdoor positioning
  - GPS/LORA
  - Geofencing (interaction, push notification)
- ») GPS outdoor location and tracking linked to LORA or GPRS (offered by SWISSTRAFFIC) from the scanner to the server.
- ») Geomessenger (welcome visitors as they enter)



### SENSOR EXTENSION

- ») Patient monitoring e.g. temperature, humidity, heartbeat, acceleration
- ») Environment monitoring: CO<sub>2</sub>, NO, fine dust
- ») Storage areas where climate control has a great impact
- ») Monitor temperature of critical healthcare storage environments

# SOFTWARE MANAGEMENT



DASHBOARD SHOWING REAL TIME TRACKING

The easy to install software of the Indoor Positioning System shows you everything you want to track in just one click.

- ) Accounts
- ) Assets
- ) People
- ) Tags
- ) Indoor Map (customized floor plan, heat map)
- ) Location tracking und logging
  - Microfencing
  - Statistics



REAL TIME TRACKING



TRACKS



HEATMAP



GEOFENCING

## SET-UP

The Indoor Positioning System can be integrated into existing infrastructure in most cases. Each localizing solution is set-up individually by experienced traffic engineers.

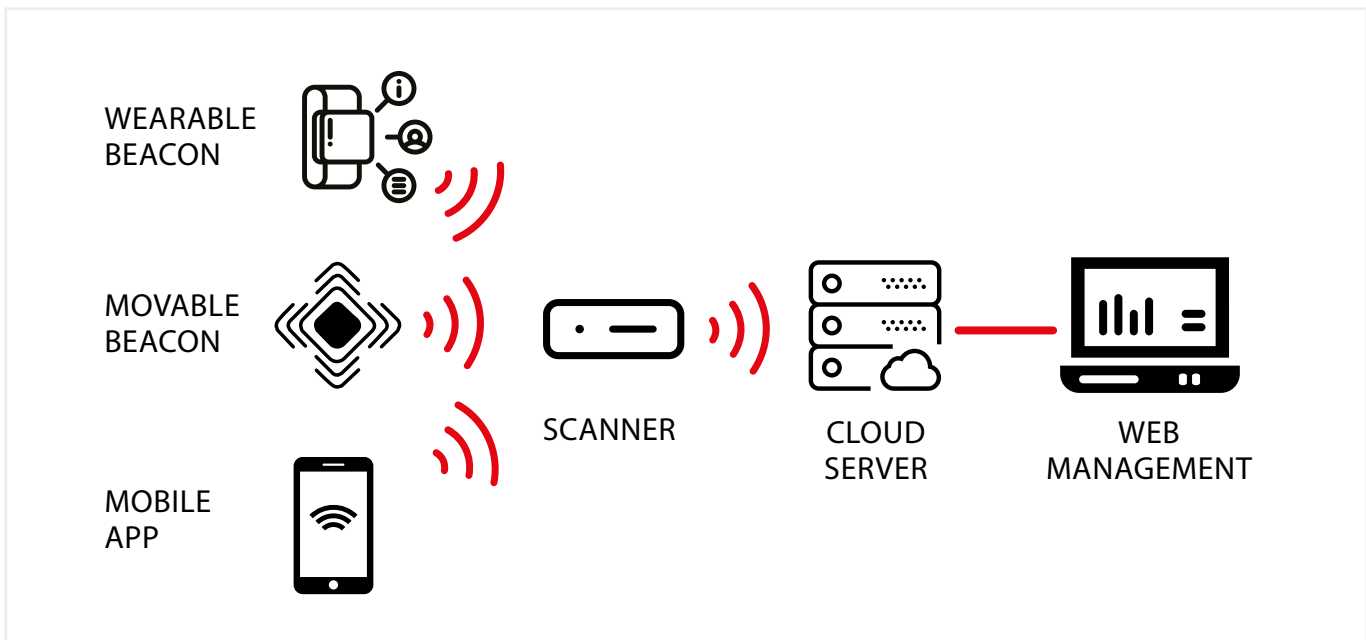
### PROCESS OF IMPLEMENTATION



\* software development kit

### INTELLIGENT ENVIRONMENT FOR BUILDINGS

Server-side position determination through people, object and asset tracking based on movable beacon and fixed beacon scanner.



Alain Bützberger

## FREE CONSULTATION

Get a **free** consultation phone call with one of our Indoor Positioning System experts: dial **+41 44 200 90 20**.

Or write us an email to [info@swisstraffic.com](mailto:info@swisstraffic.com) and our client advisors will contact you.

[www.swisstraffic.com](http://www.swisstraffic.com)

# HARDWARE

## BEACONS/TAGS



### IoT Tag Bracelet

- people tracking
- wearable (Bluetooth, Wifi, GPS, LoRa) IP65 - water resistant
- integrated push button for emergency notification
- sensors: temperature, heartbeat, acceleration
- movable and wearable, battery



### IoT Tag

- asset tracking

TYPE	THICKNESS	WEIGHT	BATTERY LIFE	RANGE	PROTECTION
label	1.6 mm	2 g	3 years	10 m	IP68
coin	5 mm	8 g	3 years	30 m	IP54
card	1 mm	8 g	1 year	30 m	IP68



### IoT Tag Card

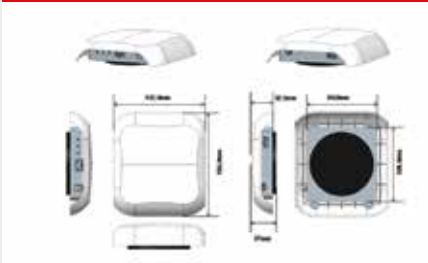
- people tracking



### iSensor Beacon

- environment monitoring
- iSensors Beacon
- CO<sub>2</sub>
- NO
- fine dust

## SCANNER



### Scanner

The indoor scanner has an outreach from 20 to 50 m depending on wall construction.

ACCURACY OF POSITION	SCANNER TYPE
1,5-2 m	Bluetooth low energy (BLE) linked to Wifi or Ethernet

## LED LIGHT



### LED light

- scanner integrated into LED light
- fully integrated into LED light
- light intensity/color programmable

SWISSTRAFFIC is a planning and consulting corporation operating internationally in the field of mobility, road safety and signalization. Since 2008 SWISSTRAFFIC is furthermore working in the area of Mobility 4.0 – smart city, smart mobility and internet of things.

With the development of in-house mobility analytic tools SWISSTRAFFIC also offers analysis and prediction of big data.

SWISSTRAFFIC combines innovative planning with state-of-the-art technology to meet the highest demands of quality. SWISSTRAFFIC focuses on customer orientated and on-time services while providing continuous development of optimized solutions.

With SWISSTRAFFIC you can always rely on experienced traffic engineer specialists providing trusted expert planning and consultation to satisfied clients since 1999.

The logo for SWISS TRAFFIC, featuring a red swoosh above the word "SWISS" in a smaller font and "TRAFFIC" in a larger, bold font.



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