GPS AS THE STANDARD FOR NAVIGATION

COVERAGE: WORLDWIDE

NOT IN ZONES OF SHADOW: EVERYTHING INDOORS
WE SPEND UP TO 87% OF OUR TIME INSIDE OF BUILDINGS
GPS IS NOT USABLE INDOORS
THERE IS NO STANDARD FOR INDOOR NAVIGATION
NAiSE
GPS SYSTEM
COMPLEX SATELLITE-TECHNOLOGY IN ONE LITTLE BOX
REAL GPS

- Same syntax
- Same carrier frequency
- Compatible with end devices
- Compatible with available applications
One position in one room.

Every position in every room.
THAT’S NICE, BUT IS THERE A USE FOR IT?
CURRENT TRENDS

LOCATION-BASED SERVICES
LOCATION-BASED MARKETING
INDUSTRY 4.0
INTERNET OF THINGS
AUTONOMOUS DRIVING
BIG DATA
MARKETS

INDUSTRY & LOGISTICS
Locate goods and machinery

RETAIL
Get guided through shopping malls and stores.

PUBLIC BUILDINGS
Locate goods and machinery

EXHIBITION Halls
Find your desired booth and your colleagues

HOSPITALS
Navigate to patients or tracts

CAR PARKS
Find your next free spot
**FURTHER MARKETS**

- Community facilities and public places, as navigation assistance
- Train stations and airports, as directory to the connecting train or flight
  - Tunnels, for GPS retention
- Museums and exhibitions, as a quicker to get to the desired sample
  - Supervision of autonomous driving cars in roofed areas
- Supervision of drones, for a better utilization in indoor environments
  - Street canyons, as enabler for GPS retention in large cities
  - Sports stadiums, allows location of premises and persons
- Theme parks, allows parents to never lose track of their children
  etc.
INDUSTRY 4.0

INTRALOGISTICS

AUTOMATED GUIDED VEHICLES*
AGVs in Intralogistics

**PROBLEM**

AGV only drive on fixated lines

Lack of flexibility in transportation of goods

Modifications are time-consuming & costly
SUBSTITUTES FOR GPS?
MISUSED TECHNOLOGIES = NO RELIABLE NAVIGATION

NO STANDARD FOR INDOOR NAVIGATION
LACK OF COMPATIBILITY

- Bad usability
- No everyday usage
- Missing acceptance from the users

<table>
<thead>
<tr>
<th>RECEIVED SIGNAL STRENGTH INDICATOR (RSSI)</th>
<th>CELL OF ORIGIN (CoO)</th>
<th>TIME MEASUREMENTS (ToA, TDoA)</th>
<th>VISUAL &amp; AUDITIVE (V&amp;A)</th>
<th>SENSORS (SEN)</th>
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<tr>
<td>RADIO</td>
<td>INFRARED, RADIO</td>
<td>ULTRASONIC, RADIO</td>
<td>LIGHT, SOUND</td>
<td>MAGNETICFIELD, ACCELERATION</td>
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„WE ENABLE GPS INSIDE YOUR BUILDING!“
By applying a technology that is almost known to everyone, we’re reducing the familiarization time drastically.
As a proprietary technology GPS is easily accessible in every commercially available smartphone.
The expansion of the outdoor navigation standard GPS for indoor purposes offers a whole new world of possibilities.
Our technology is both compatible with already existing web mapping services like Google Maps and with in-house apps.
No technology break from the outside to the inside.
WHERE ARE WE CURRENTLY?

Bundesnetzagentur

NAiSE
THE NAiSE SYSTEM

NAiSE ANCHORS

NAiSE TAGS

NAiSE SOFTWARE
NAiSE HARDWARE

Precise localisation & robust communication

< 10cm Positioning accuracy

Autarkic localisation of the tag

Intelligent communication between all participants
WHAT WE ARE LOOKING FOR

1. SUPPORT FOR GPS LICENSING

2. PEOPLE WITH INTERESTS IN AUTONOMOUS INDOOR NAVIGATION
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THANK YOU FOR YOUR ATTENTION