
Pokémon GO
Single track
here
280
GPS

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
INDOOR NAVIGATION SYSTEMS

NAiSE

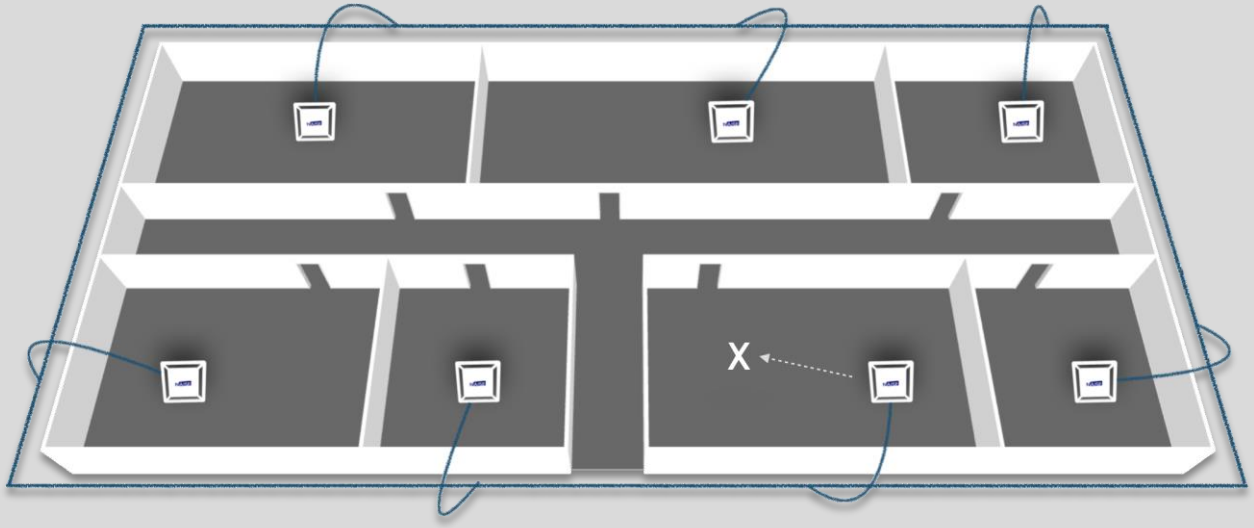
GPS SYSTEM

COMPLEX SATELLITE-TECHNOLOGY
IN ONE LITTLE BOX

REAL GPS

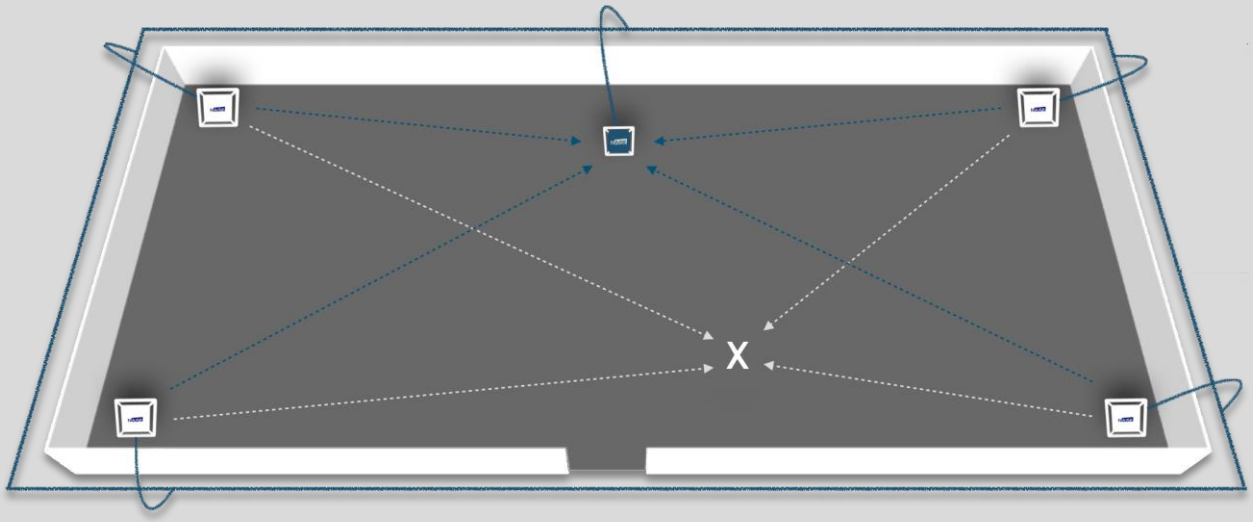
- Same **syntax**
- Same **carrier frequency**
- **Compatible** with **end devices**
- **Compatible** with available **applications**

NAiSE ONE POSITION SYSTEM



One position in one room.

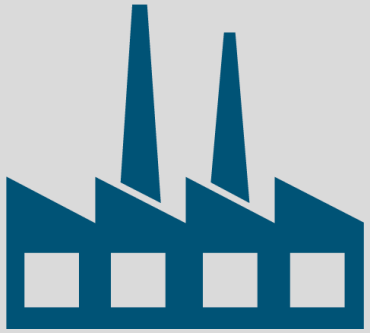
NAiSE AREA SYSTEM



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
HOSPITAL
HOSPITALS
Navigate to patients or tracts
P
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*

* AGV

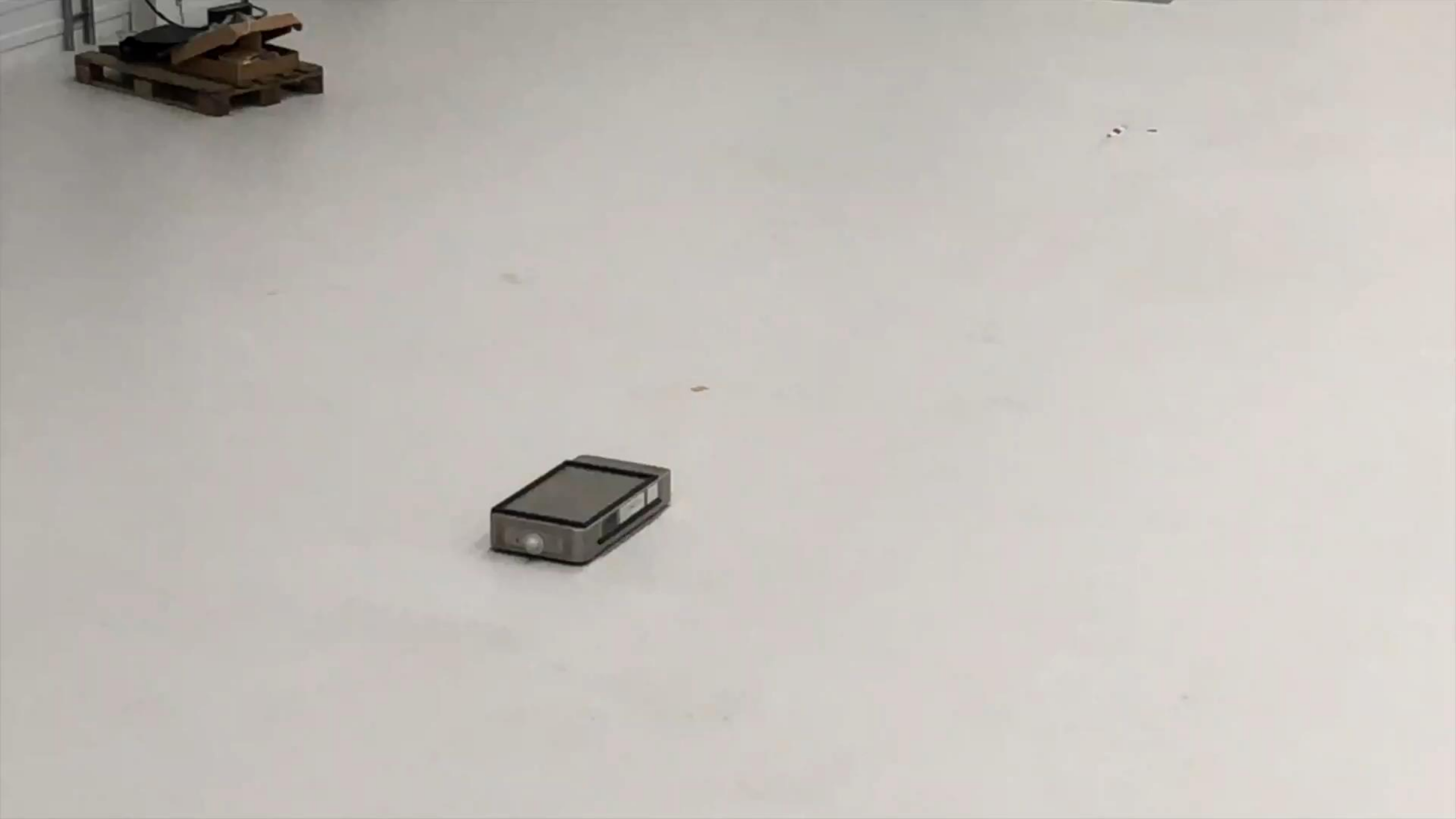
PROBLEM

AGVs in Intralogistics

AGV only drive on
fixated lines

Lack of flexibility
in transportation of goods

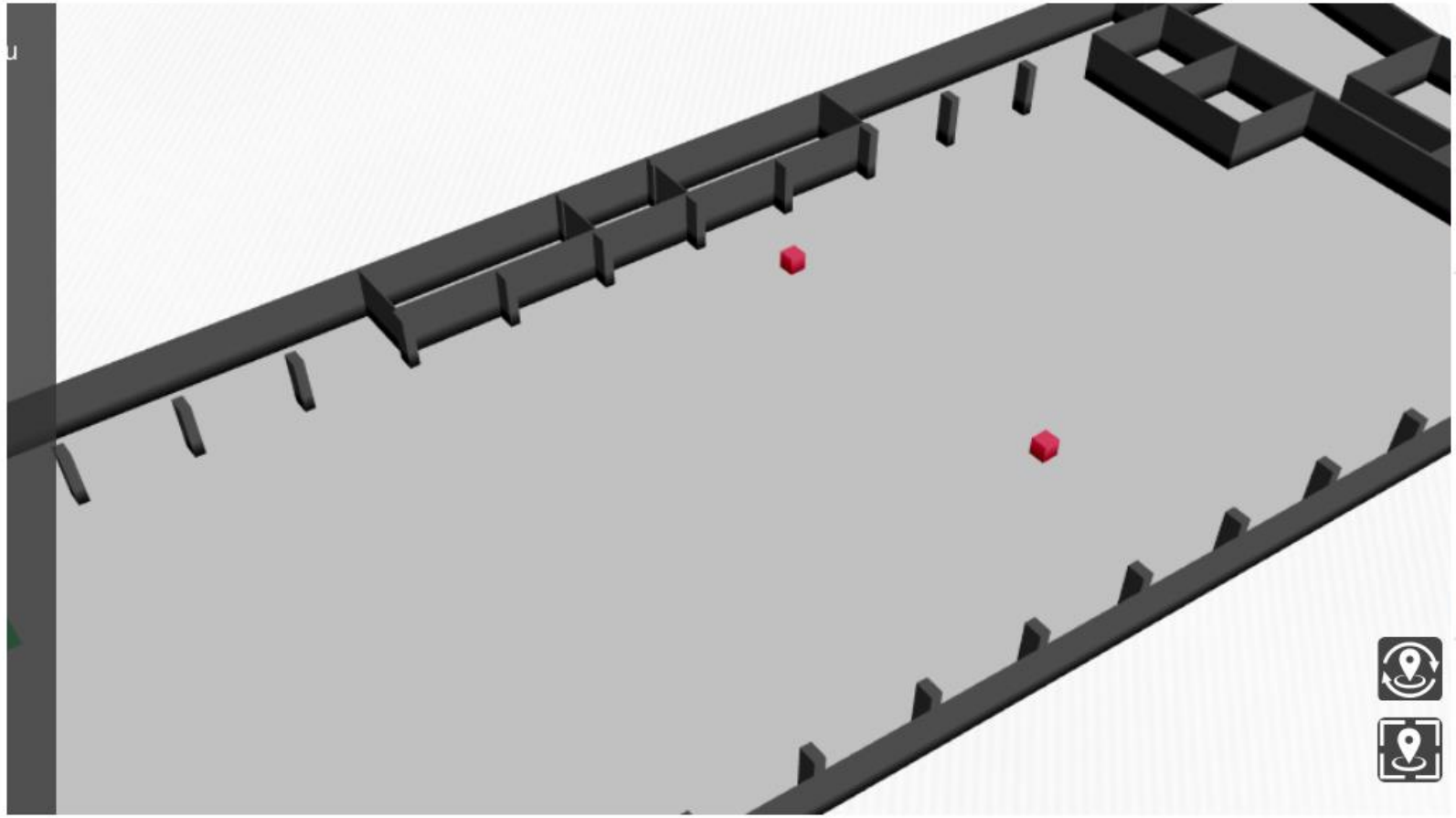
Modifications are
time-consuming & costly



NAISE - SOFTWARE

TRACKING
ANALYSE
NAVIGATION

3D KARTE IN ECHTZEIT



PERSONEN

TAG_001
TAG_002

FTF

TAG_003
TAG_004
TAG_005
TAG_006
TAG_007
TAG_008

SONSTIGE FLURFAHRZEUGE

TAG_009
TAG_010
TAG_011
TAG_012

TAG_001

PERSON
WARTUNGSARBEITER
LICHT:

9KM/H

TAG_002

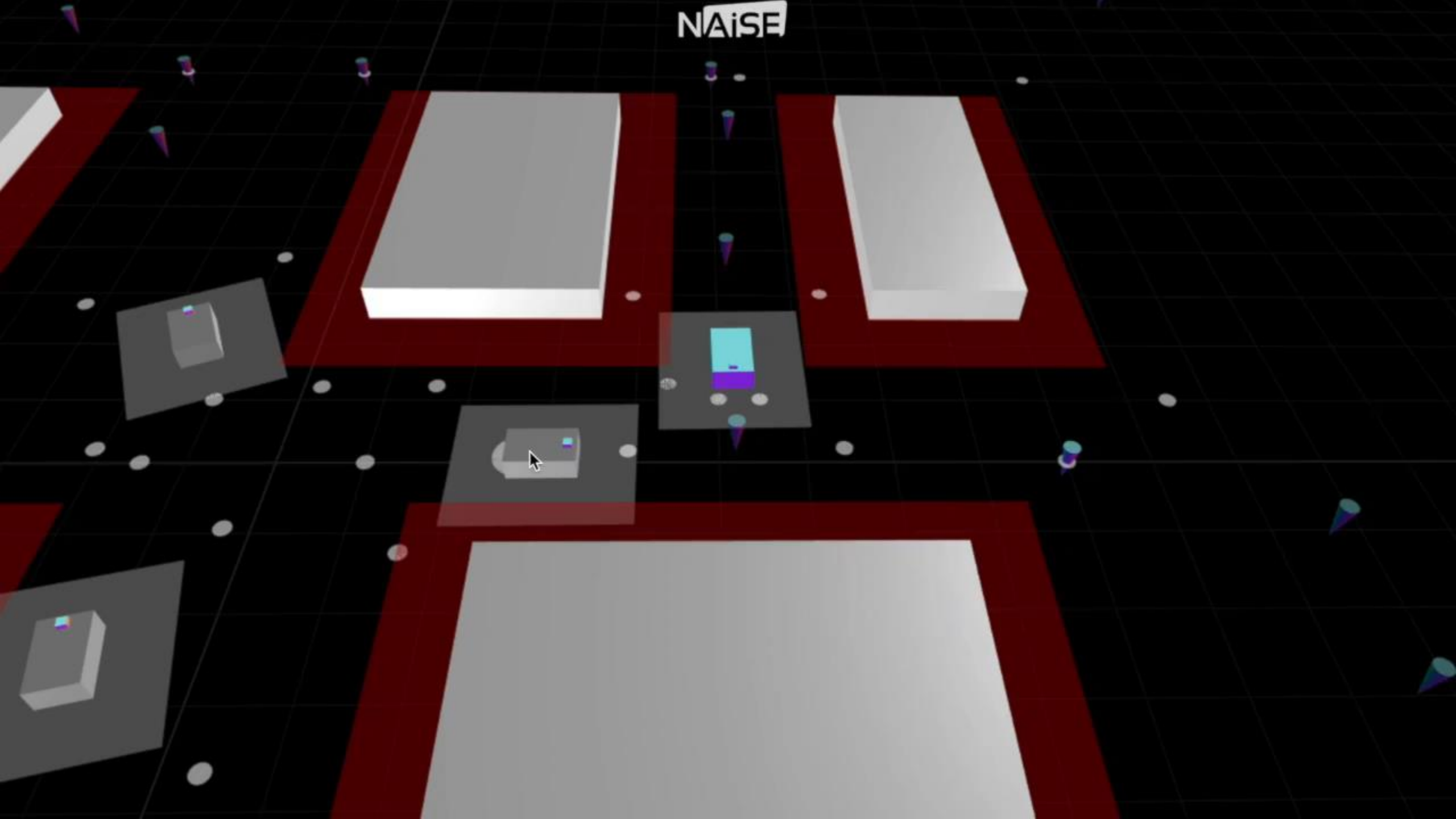
PERSON
WARTUNGSARBEITER
LICHT:

4KM/H

TAG_003

PERSON
WARTUNGSARBEITER
LICHT:

3KM/H


NAiSE

AiSE

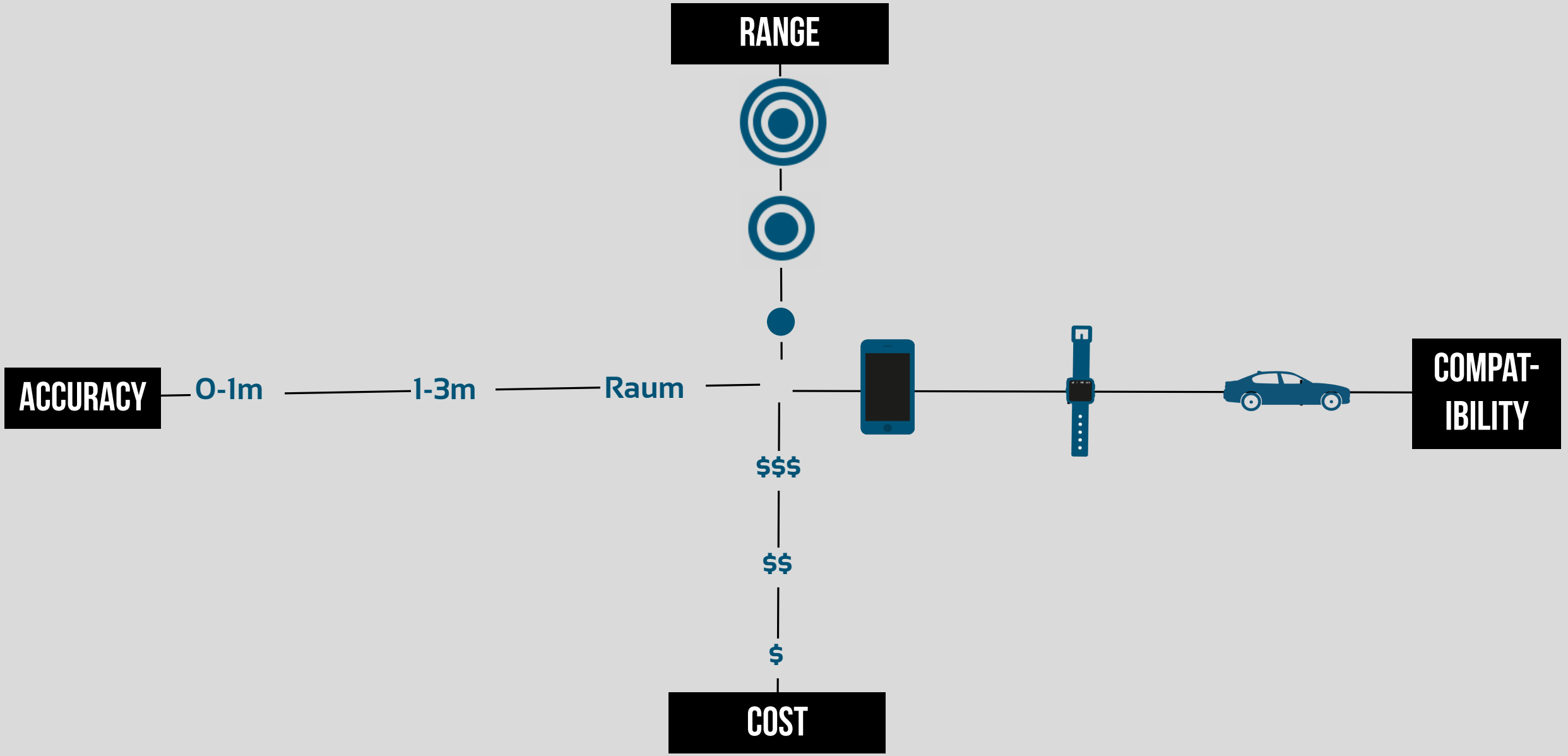
SUBSTITUTES FOR GPS?

MISUSED TECHNOLOGIES

=

NO RELIABLE NAVIGATION

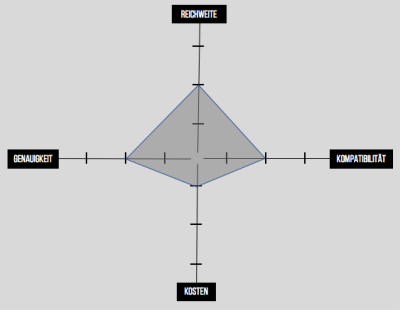
NO STANDARD FOR INDOOR NAVIGATION



* Günther Retscher und Michael Kistenich: Vergleich von Systemen zur Positionsbestimmung und Navigation in Gebäuden

RECEIVED SIGNAL STRENGTH INDICATOR (RSSI)

RADIO



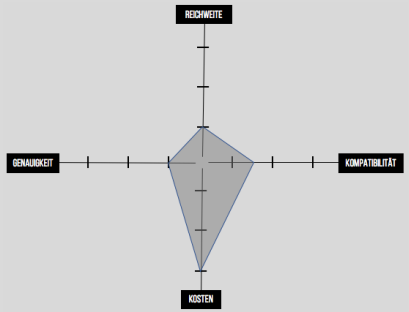
RANGE:
ACCURACY: 1-3m
COST: $$$
COMPATIBILITY:

GIMBAL

Navizon
ACCURATE POSITIONING ANYWHERE

CELL OF ORIGIN (CoO)

INFRARED, RADIO



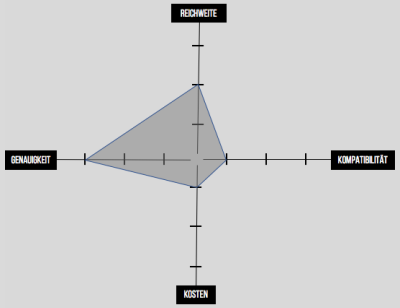
RANGE:
ACCURACY: Room
COST: $
COMPATIBILITY:

estimote

kontakt.io

TIME MEASSUREMENTS (ToA , TDoA)

ULTRASONIC, RADIO

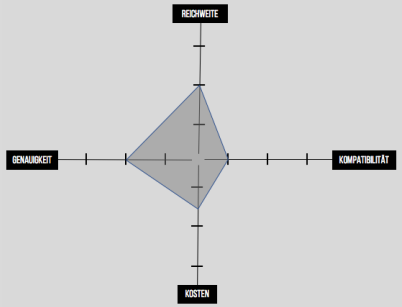


RANGE:
ACCURACY: 0-1 m
COST: $$$
COMPATIBILITY:

Locata

VISUAL & AUDITIVE (V&A)

LIGHT, SOUND

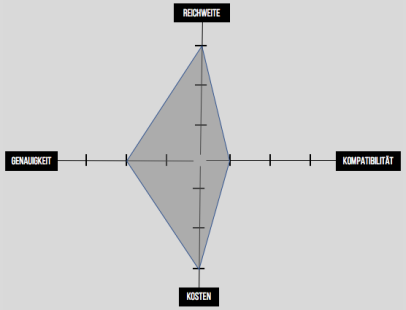


RANGE:
ACCURACY: 1-3m
COST: $$$
COMPATIBILITY:

telocate

SENSORS (SEN)

MAGNETIC FIELD, ACCELERATION



RANGE:
ACCURACY: 1-3m
COST: $$$
COMPATIBILITY:

NAVISENS

IndoorAtlas

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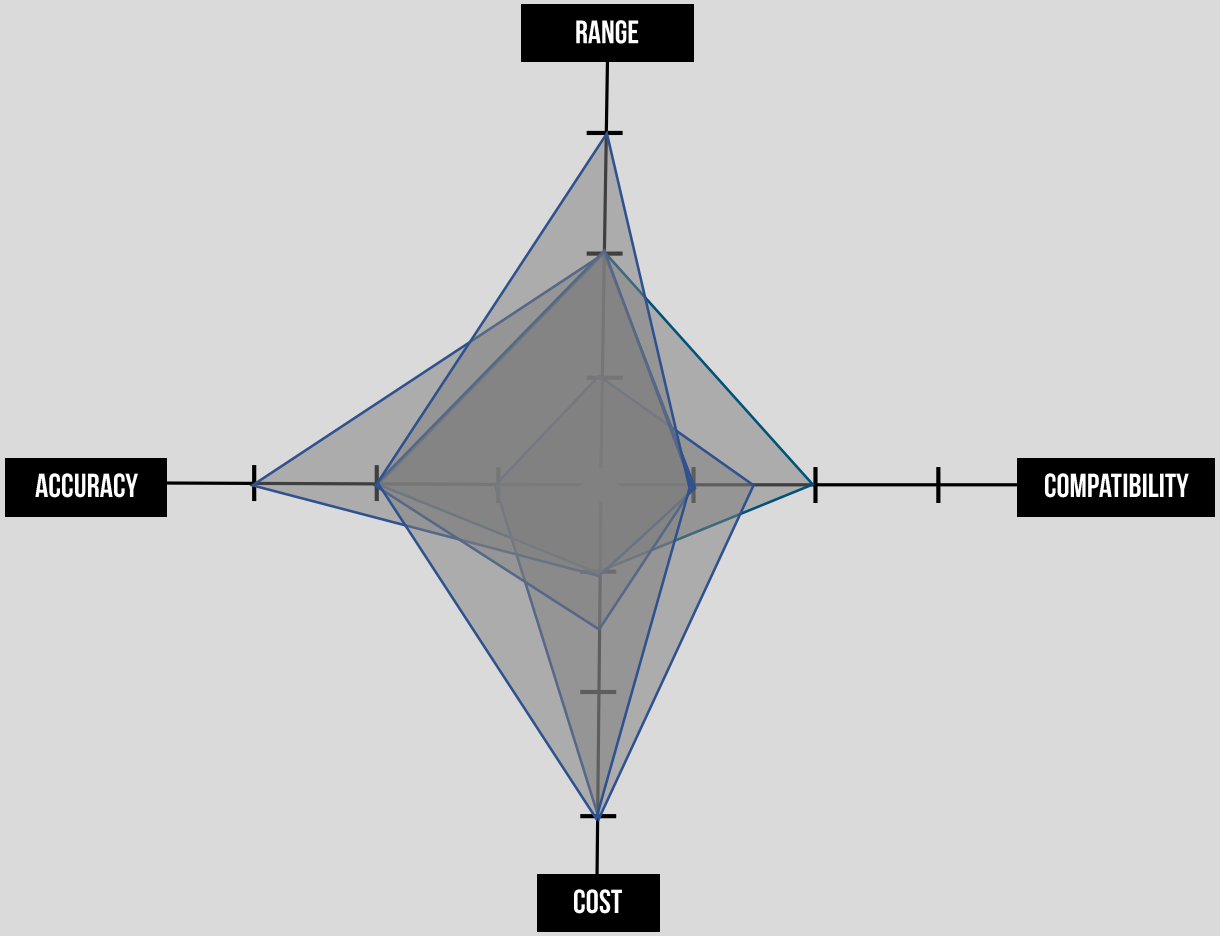
RECEIVED SIGNAL STRENGTH INDICATOR (RSSI)	CELL OF ORIGIN (CoO)	TIME MEASSUREMENTS (ToA , TDoA)	VISUAL & AUDITIVE (V&A)	SENSORS (SEN)
RADIO	INFRARED, RADIO	ULTRASONIC, RADIO	LIGHT, SOUND	MAGNETIC FIELD, ACCELERATION



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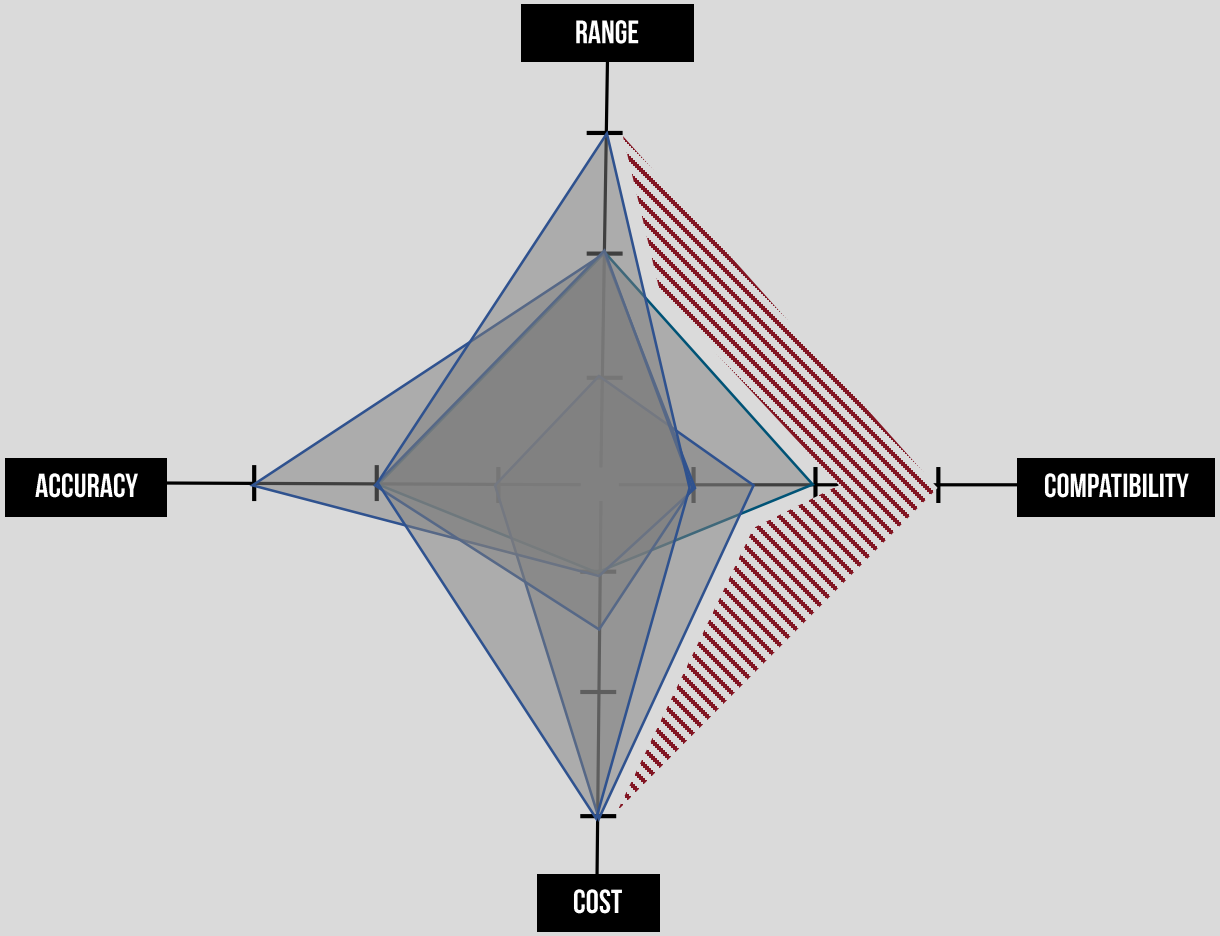

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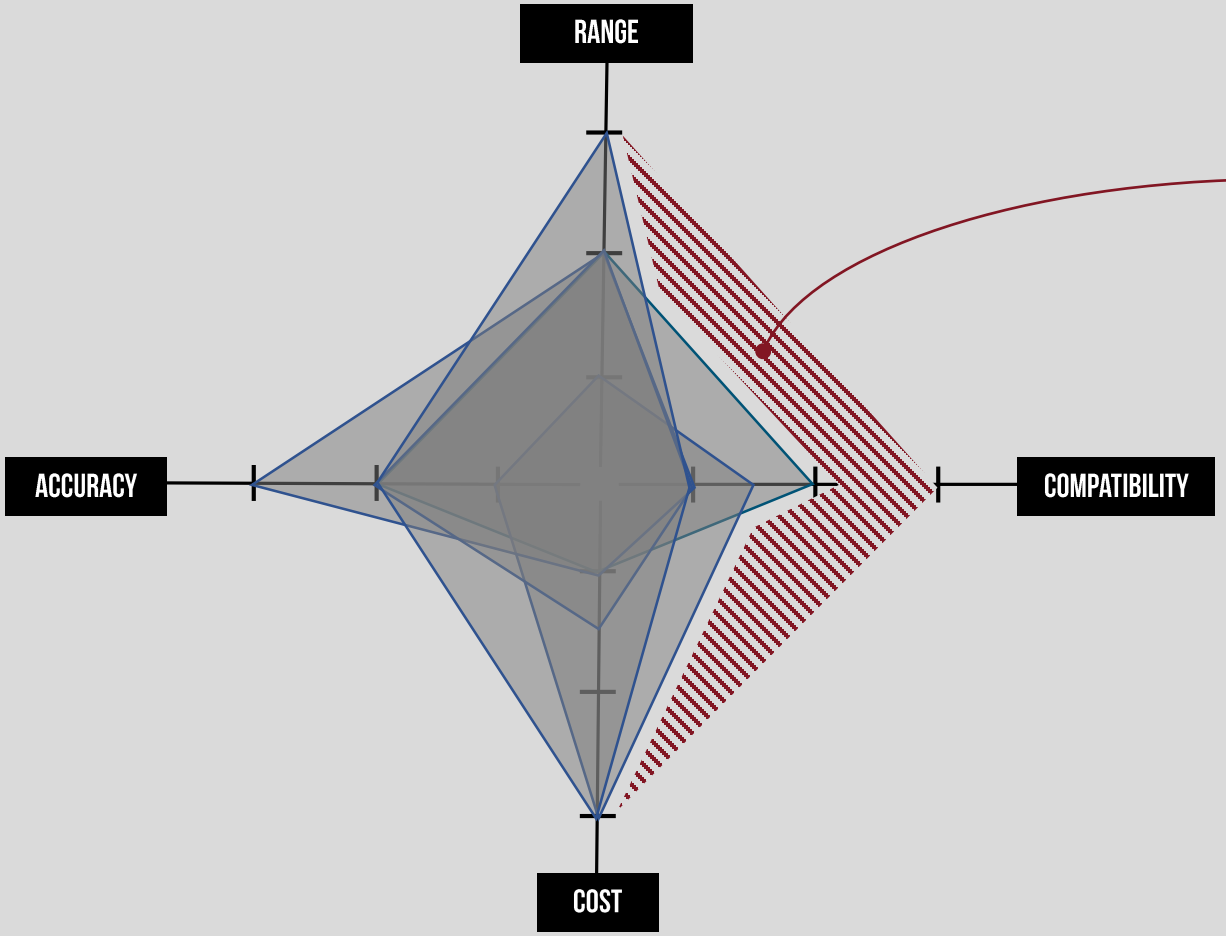

LACK OF COMPATIBILITY

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

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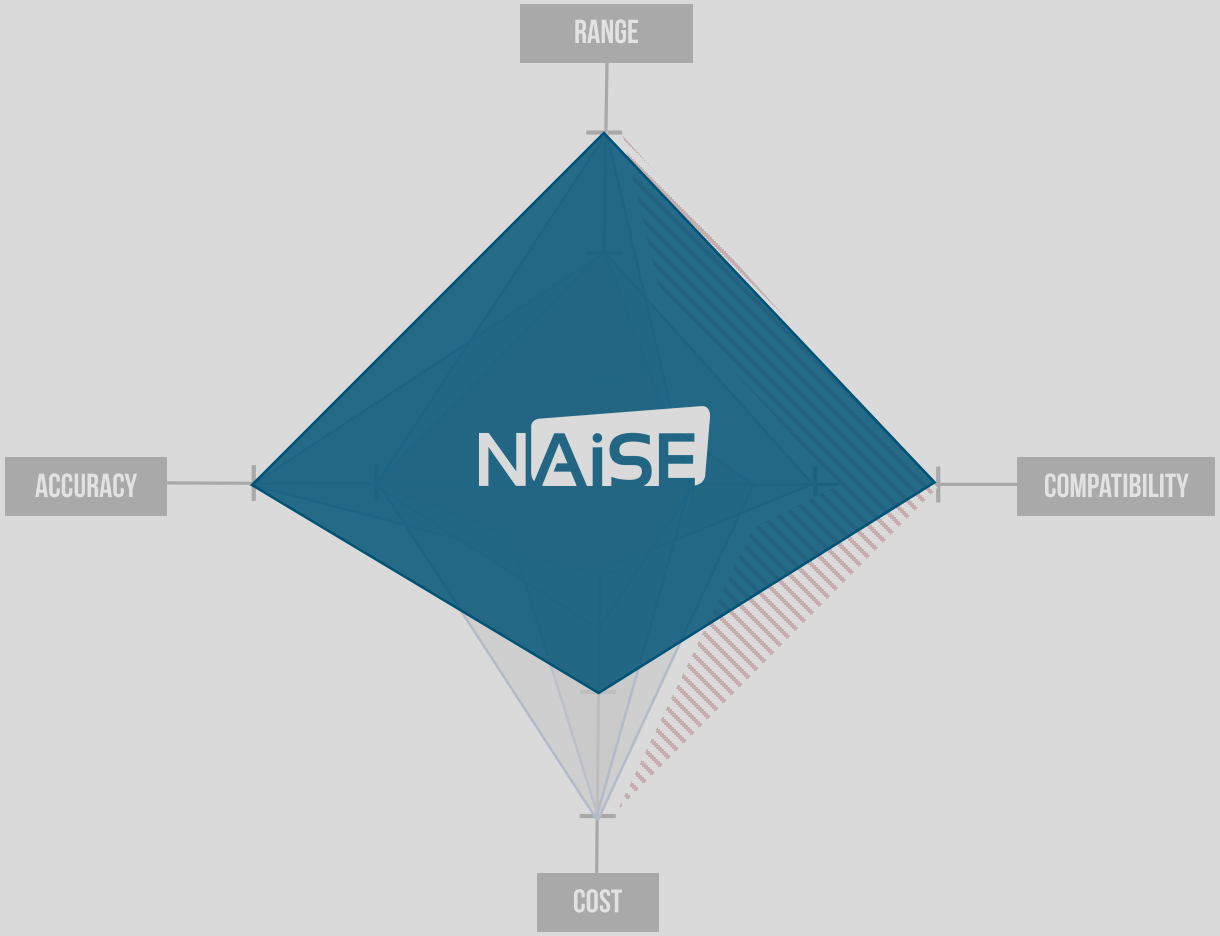

„WE ENABLE GPS INSIDE YOUR BUILDING!“

FAMILIARITY

By applying a technology that is almost known to everyone, we're **reducing the familiarization time** drastically

FAMILIARITY

SIMPLICITY

As a proprietary technology GPS is **easily accessible** in every commercially available smartphone

FAMILIARITY

SIMPLICITY

COMPLETION

The expansion of the outdoor navigation standard GPS for indoor purposes offers a whole **new world of possibilities**

FAMILIARITY

SIMPLICITY

COMPLETION

FLEXIBILITY

Our technology is both **compatible with already existing web mapping services** like google maps and with in-house apps

FAMILIARITY

SIMPLICITY

COMPLETION

FLEXIBILITY

SEAMLESS TRANSITION

No technology break from the outside to the inside.

FAMILIARITY

SIMPLICITY

COMPLETION

FLEXIBILITY

SEAMLESS TRANSITION

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

NAiSE