Indoor-Navigation
Navigation and information through precise mapping of interiors

1) EXPLORE: SCAN THE SPACE
Indoor mapping is done "en passant" using the M3 mapping trolley, which records 360° panoramas and 3D laser scans of interiors, measures them to the centimetre and maps them out. Post-processing is completed automatically during recording.

2) EDIT: FILL CONTENT MANAGEMENT SYSTEM WITH CONTENT – ROUTE CREATION
Once a room or building has been mapped, various navigation services such as positioning, targeted route guidance, thematic tours and much more are created by the NavVis software.

Information of any type is extremely easy to integrate using the intuitive user interface:
• On your PC, navigate through the virtual space to your chosen destination
• Right-click on your chosen location to set a new "Point of Interest" (POI)
• You can then immediately edit, rename and categorise the POI in the editor window
• Add multilingual text and/or other media (images, videos, sound files) through simple file selection or drag 'n' drop. You can do this immediately or at a later date

3) NAVIGATE: USE IN MUSEUM OR INDUSTRIAL SECTORS
The app can be made readily available to visitors and staff:

3.1. Download the NavVis NAVIGATION APP to your smartphone or tablet
• Available for all operating systems
• The app includes navigation data captured by the M3 mapping trolley

3.2. Start the NavVis NAVIGATION APP
• Immediate, exact pinpointing of location within milliseconds
• Software matches the images seen by the camera to the data captured by the M3 trolley in real time
• The positioning engine uses all the data from the various sensors in smartphones and tablets (WiFi, gyroscope, accelerometer, compass, magnetometer, barometer)
• Precise positioning and accurate detection of the viewing direction enable the provision of location-based service applications and augmented reality applications to a hitherto unachievable level of precision

3.3. Easy navigation through buildings and interiors
• Enter or look up your destination in the NavVis NAVIGATION APP browser
• Once you have selected your destination or POI, the app will show you the way: visitors can move freely around the space and use their smartphone or tablet to interact with any exhibit, accessing background information via audio, video, image and text files
• Selection of predefined routes
• Determination of location in building overview, schematic 2.5D view of the entire building or the relevant parts of the building, and accurate indication of location
• App shows the shortest route to the nearest emergency exit

4) INTERACT: USE IN BUILDING SERVICES
The software makes use of smartphone and tablet sensors by referring to WiFi data, IMU data (Inertial Measurement Unit = gyroscope, accelerometer, compass), magnetic field sensors and barometric data to establish a precise current location.

Facility management and building services:
The NavVis virtual ticketing system uses the captured 3D panoramic image data. Employees can interact with any POI via their smartphone or tablet, enabling them to access background information such as damage reports, repair instructions etc. via audio, video, image and text files.
• Employees are guided to the location in the building via 3D navigation
• POI tags indicate if background information such as damage reports or repair instructions have been stored
• Touching on the POI accesses the corresponding information e.g. a circuit diagram and/or instructions
• Employees can then update the information, for example after carrying out a repair
• Switch between 3D and 2D view at any time

Orientation and advertising in shopping centres, airports etc.:
• Passers-by can find the locations and shops they are looking for using 3D navigation
• POI tags indicate if shops have provided background information on e.g. product lines, availability and product information
• Touching on the POI accesses the stored information