

# FIRE SERVICE FACILITY, CZECHIA

MESH & TRACKING CAPABILITIES IN BASEMENT



## OBJECTIVE

Show the indoor tracking working in an underground scenario where there is no GPS or cellular connectivity. Two firefighters, each fitted with a mesh radio and Thesia tracker enter the facility and move around - walk, crawl - as if in real life scenario.

## EQUIPMENT USED

**Thesia trackers** (1 per person)

**HyphaRex Kit:**

- HyphaMap outside
- 3 500mW HyphaCap units inside
- 2 PPT 500mW radios (1 per person)



# TEST 1: FROM INSIDE BUILDING DOWN IN TO BASEMENT, ALONG CORRIDORS AND ADJOINING ROOMS, AND OUTSIDE

Two firefighters start in the building at ground level and proceeded downstairs, through a number of angled corridors and proceeded along the corridor into rooms off it. They came back up and walked around the outside of the facility.

## Total paths:

- **Walker:** Distance walked; time walked
- **Walker 1:** 562m; 22:20mm:ss
- **Walker 2:** 488m; 21:41mm:ss



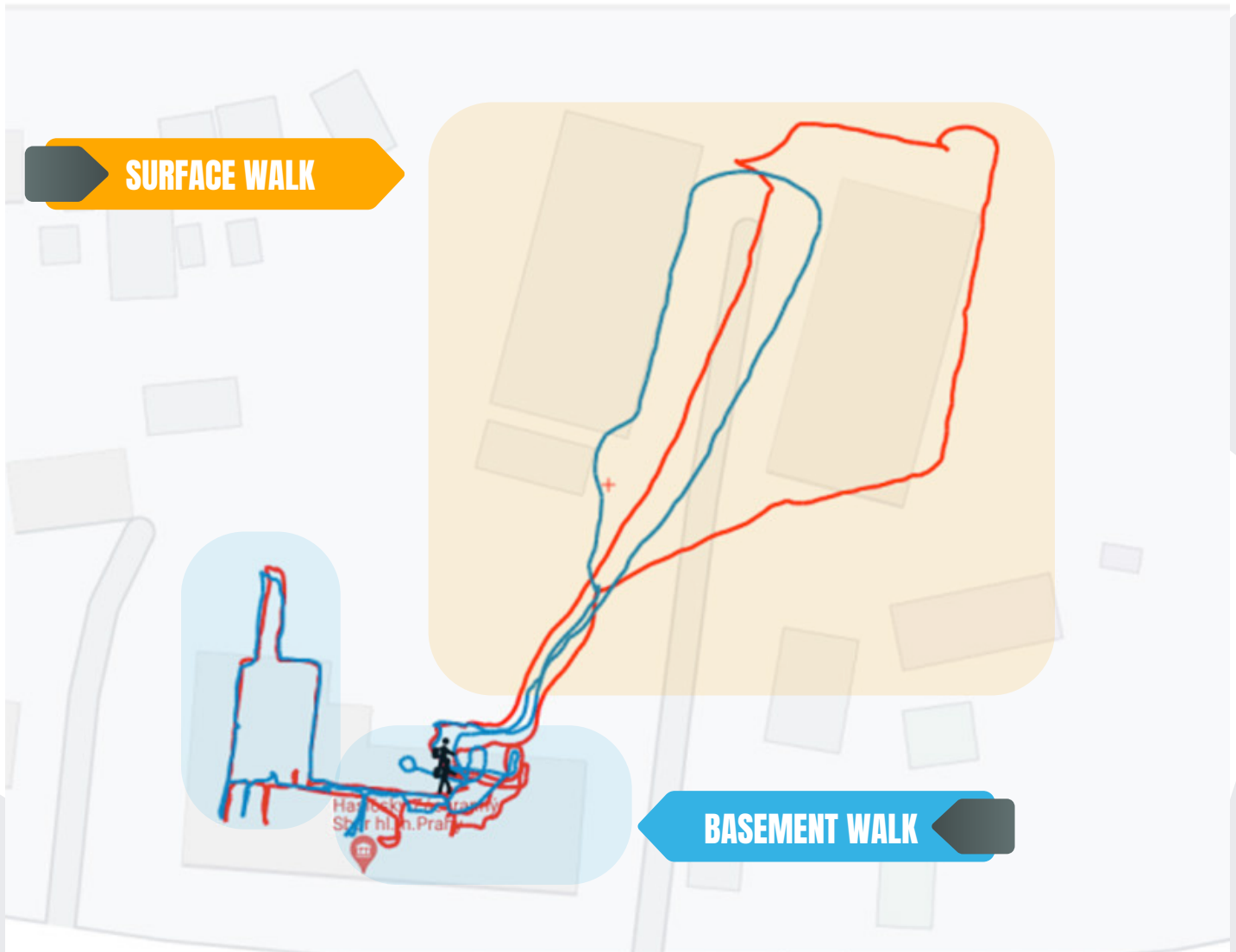
## USER INTERFACE

### UI showing:

- Users (tracker wearers) on the left, 1 blue, 1 red
- Elevation of the walk on top
- Route overlaid on map

### Note:

In places, basement area extends outside map/satellite footprint view. Some holes in communication but the two paths are quite complete.

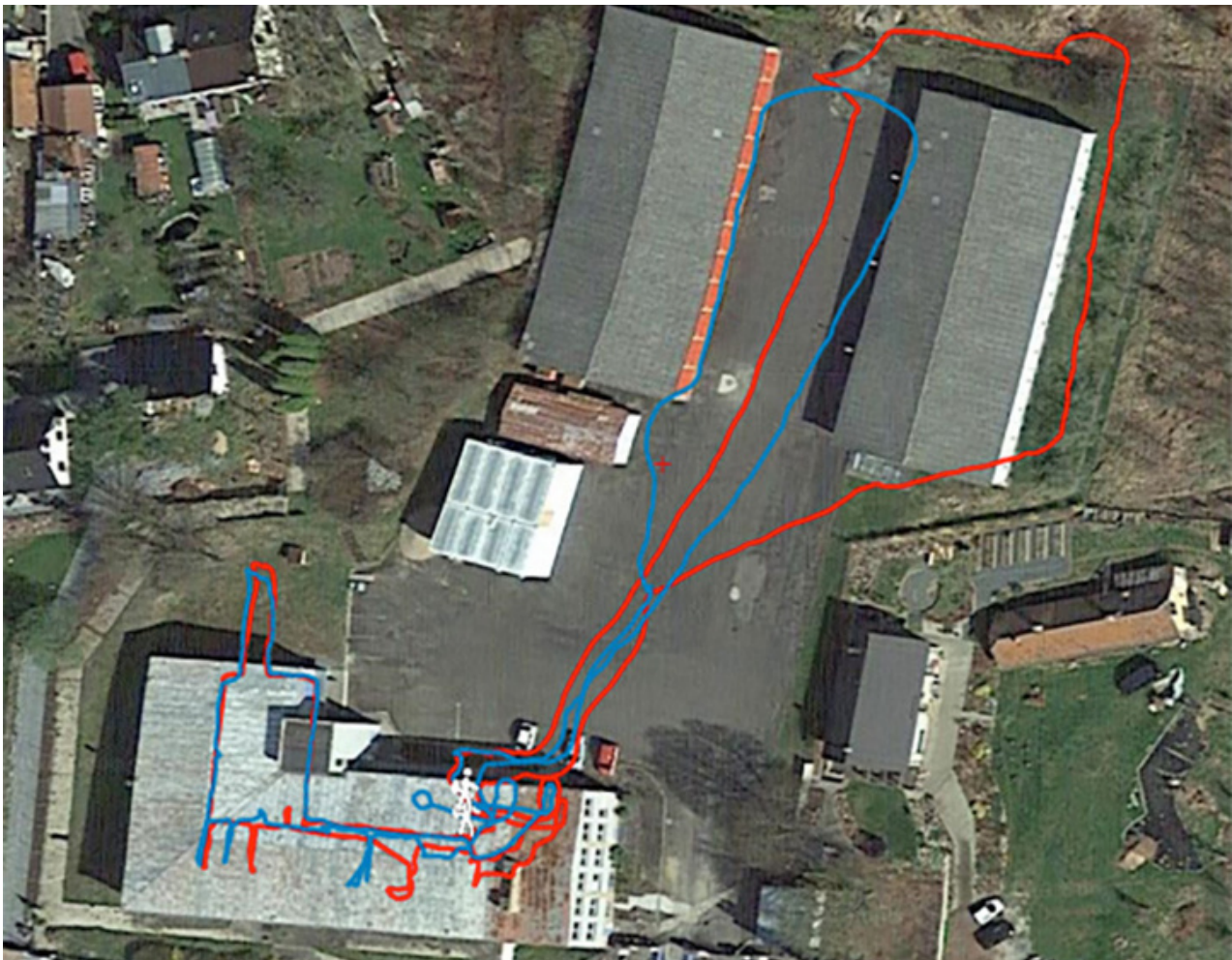


**SURFACE WALK**

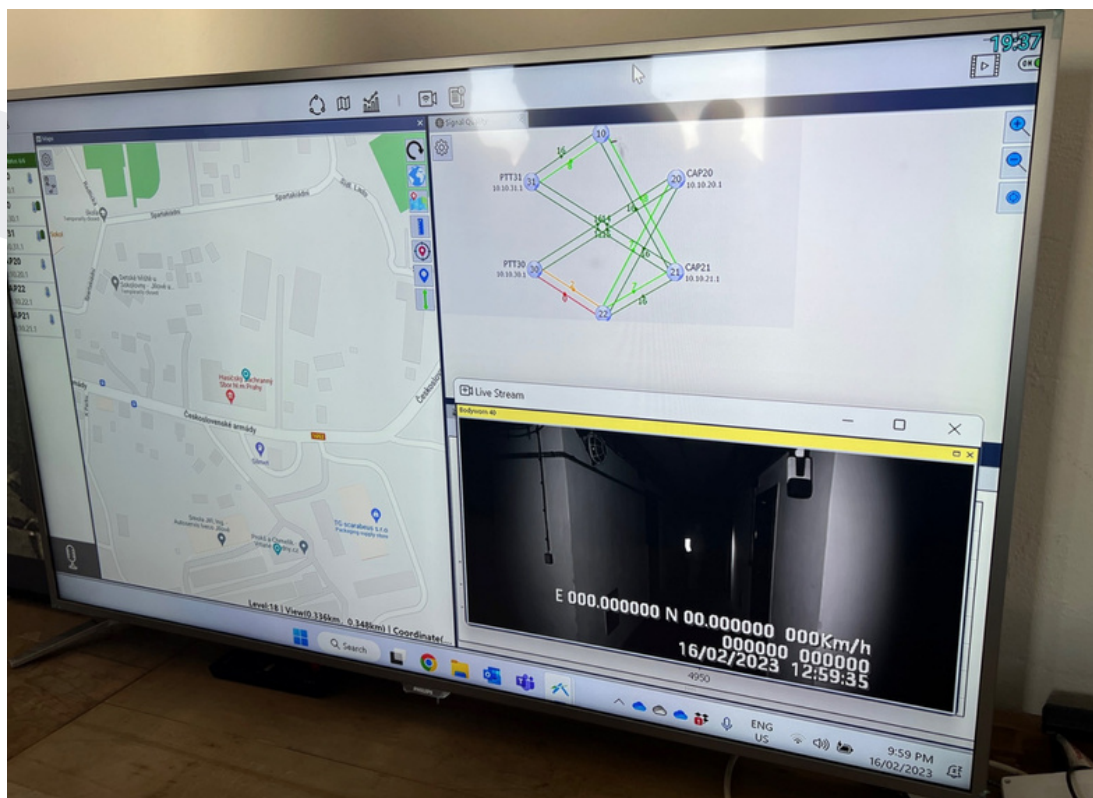
**BASEMENT WALK**

**ZOOM IN OF PREVIOUS PAGE**





**SATELLITE VIEW**



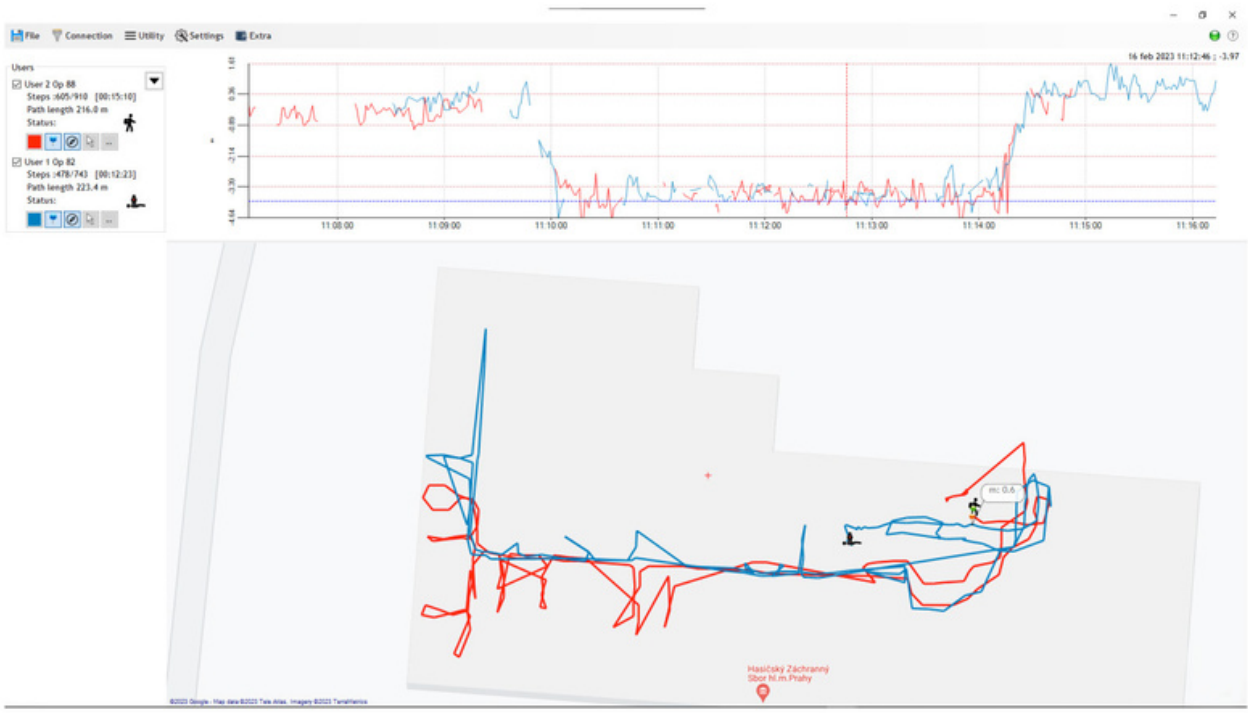
**MESH NETWORK OF 6 RADIOS AND CAMERA IN DARK BASEMENT**

# TEST 2: INSIDE BUILDING DOWN IN TO BASEMENT, ALONG CORRIDORS AND ADJOINING ROOMS

A rerun of the first test, just doing the basement test.

## Total paths:

- **Walker:** Distance walked; time walked
- **Walker 1:** 216m; 15:10mm:ss
- **Walker 2:** 223m; 12:23mm:ss



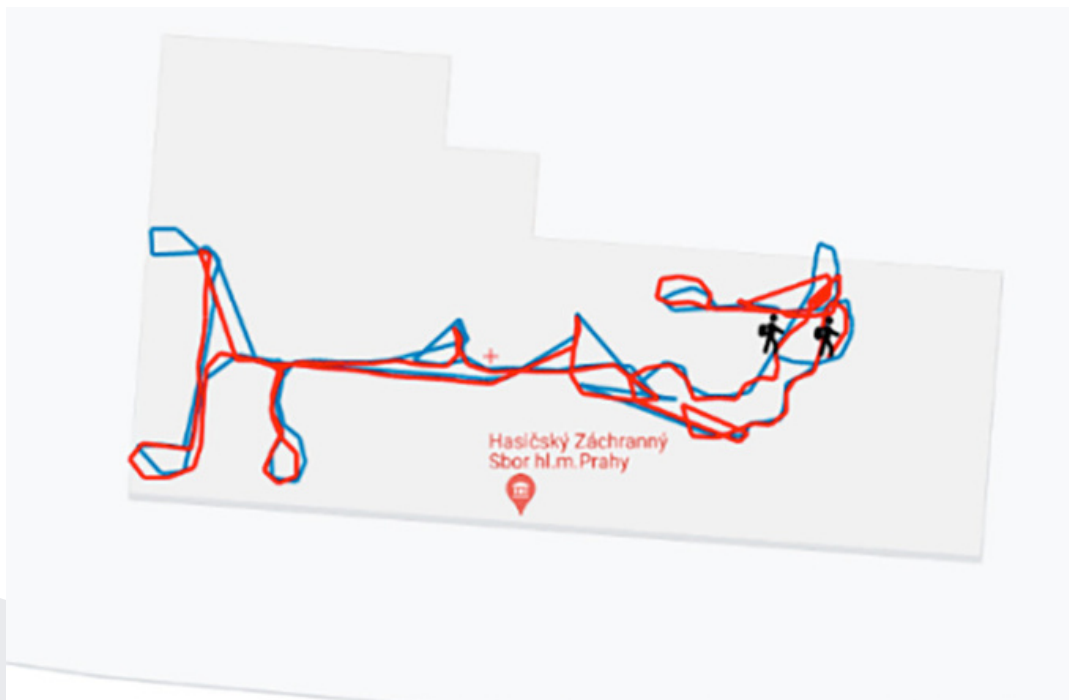


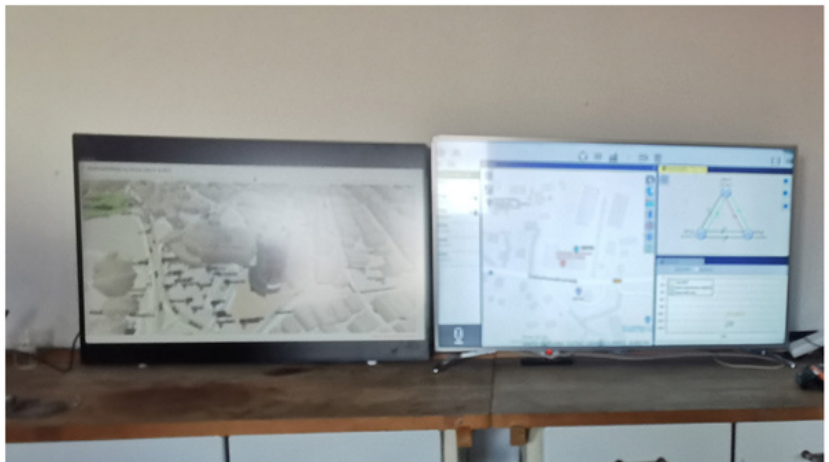
## TEST 3: INSIDE BUILDING DOWN IN TO BASEMENT, ALONG CORRIDORS AND ADJOINING ROOMS WITH ONE USER

A rerun of the first test, just doing the basement test, with just ONE firefighter wearing two sensors.

### Total paths:

- **Walker:** Distance walked; time walked
- **Walker 1, Tracker 1:** 230m; 08:04mm:ss
- **Walker 1, Tracker 2:** 227m; 07:52mm:ss







## CONCLUSION

The trial of both the tracker and the mesh radio solution impressed, as a combined solution and as two standalone solutions.

*The trial beat the competitions trial.*