

Evaluation of Tracking Algorithms Using Heterogeneous Technologies

EU funded project:

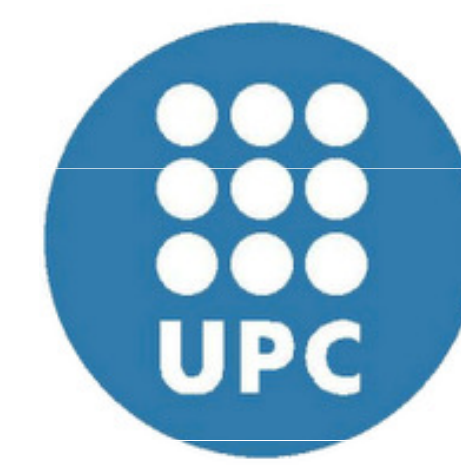


Network of Excellence in Wireless COMMunications

Workpackage WPR.B:
"Localization and Positioning"

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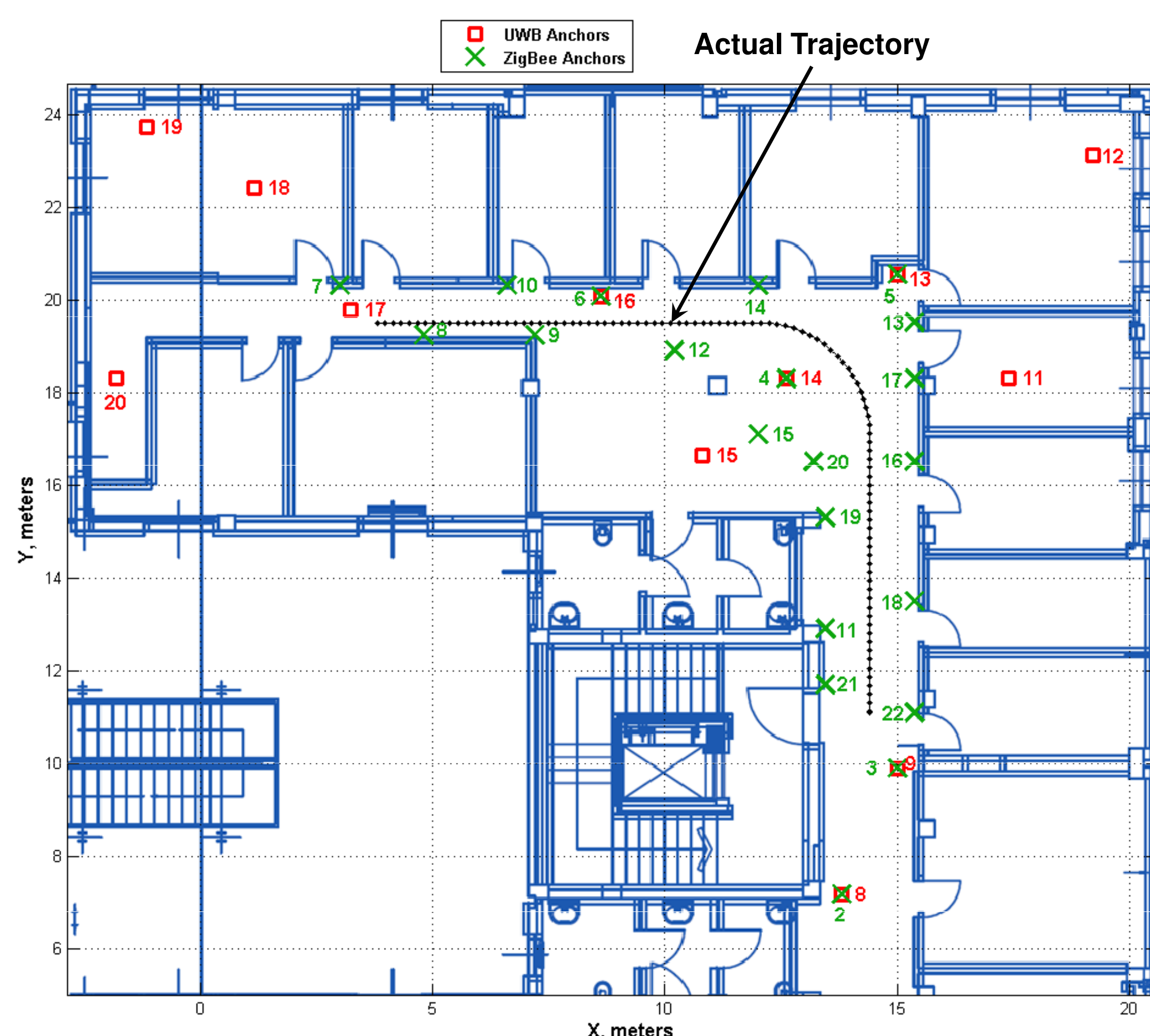
Partners:



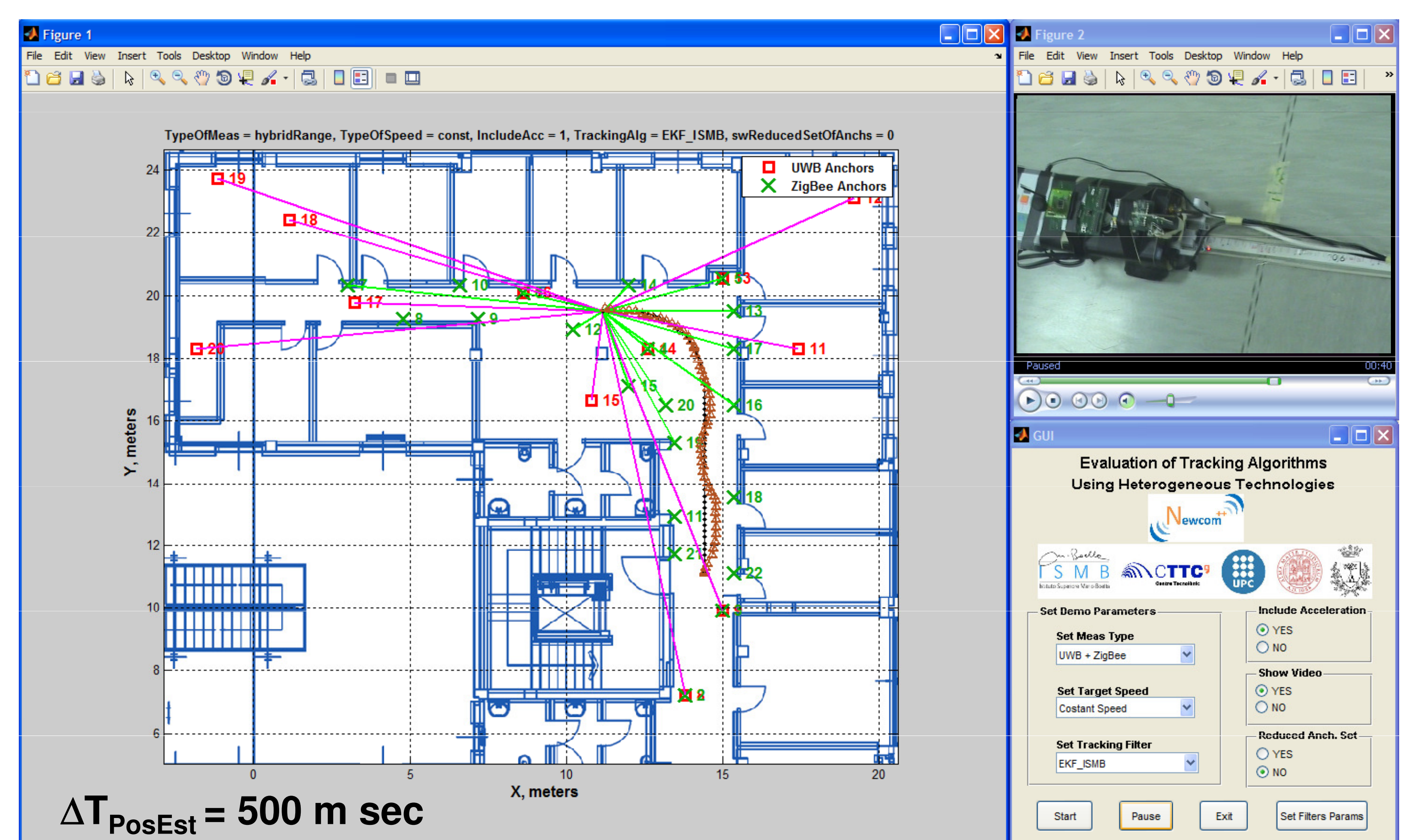
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Environment, Mobile Target, Matlab GUI

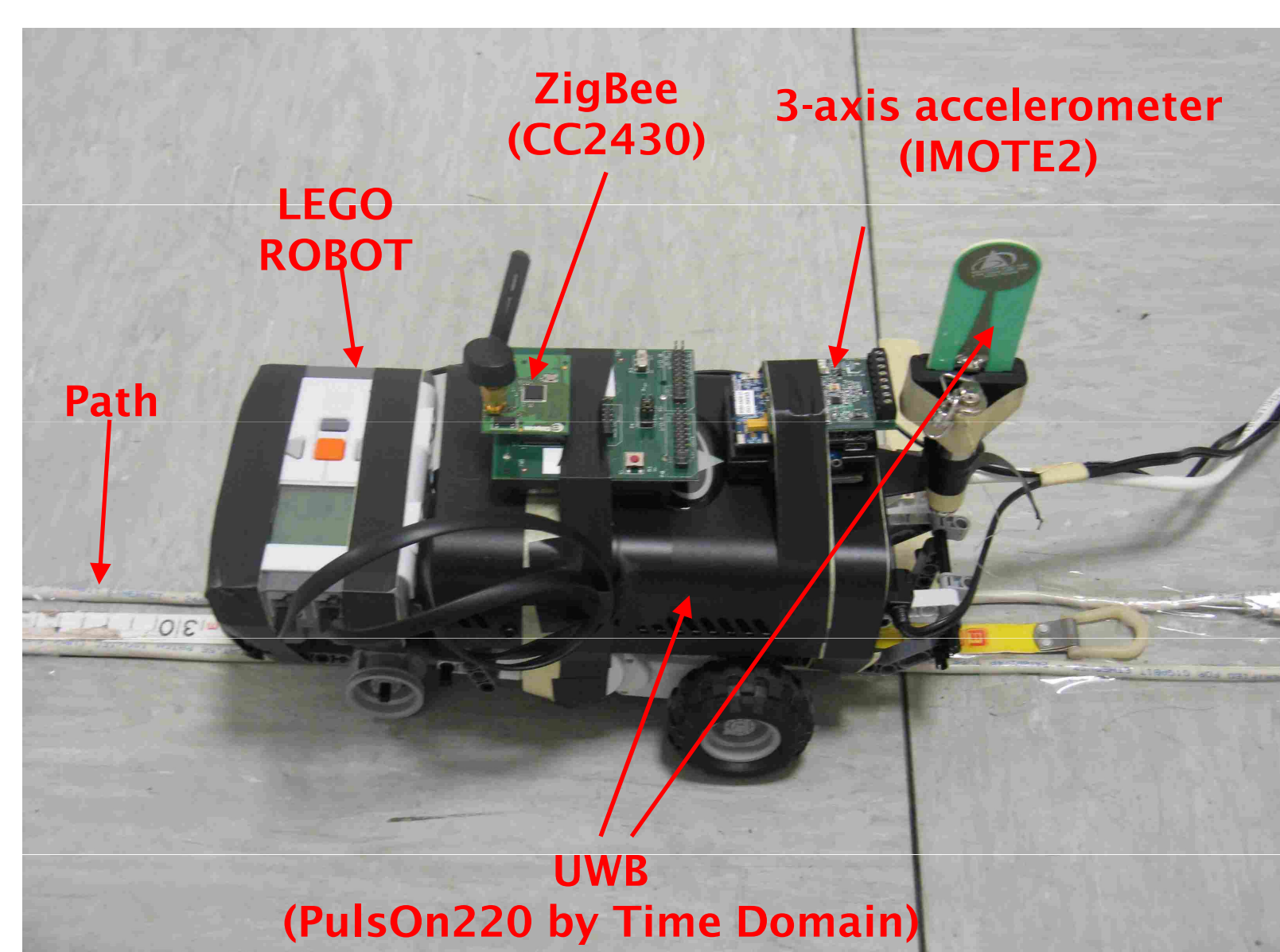
Indoor Office Environment



Matlab GUI



Mobile Target



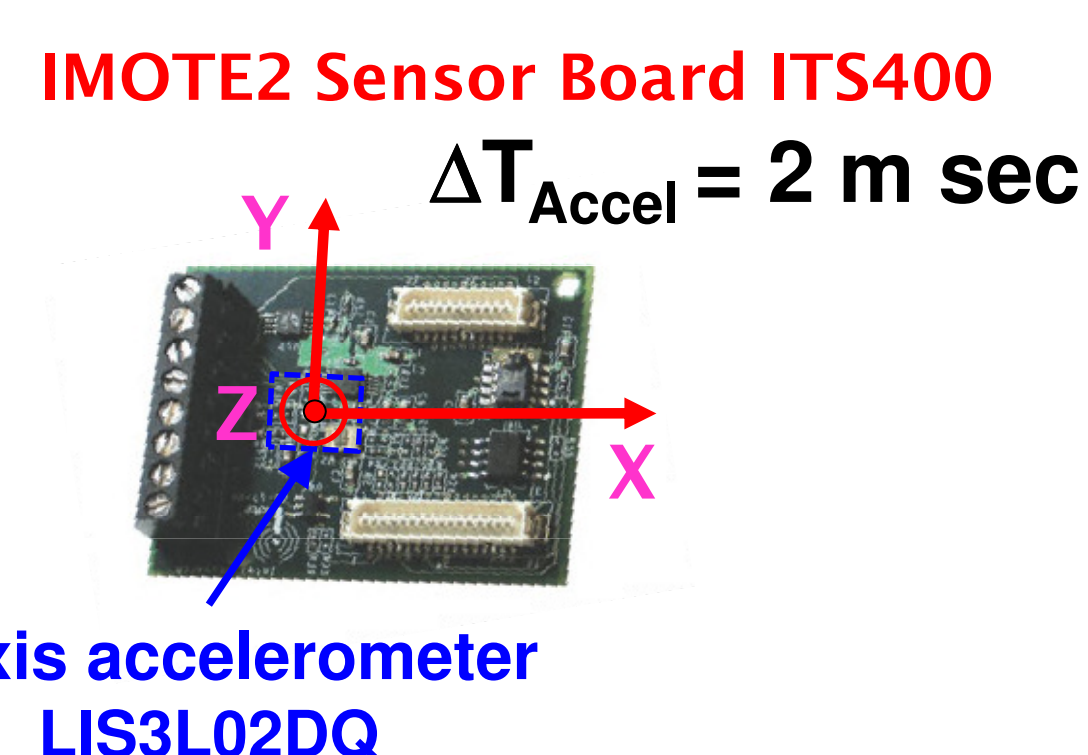
Max Speed: 0.44 m/sec

CC2420 ZigBee Module



$\Delta T_{RSS} = 50$ m sec

Accel. Module



$\Delta T_{Accel} = 2$ m sec

PulsOn220 UWB Module



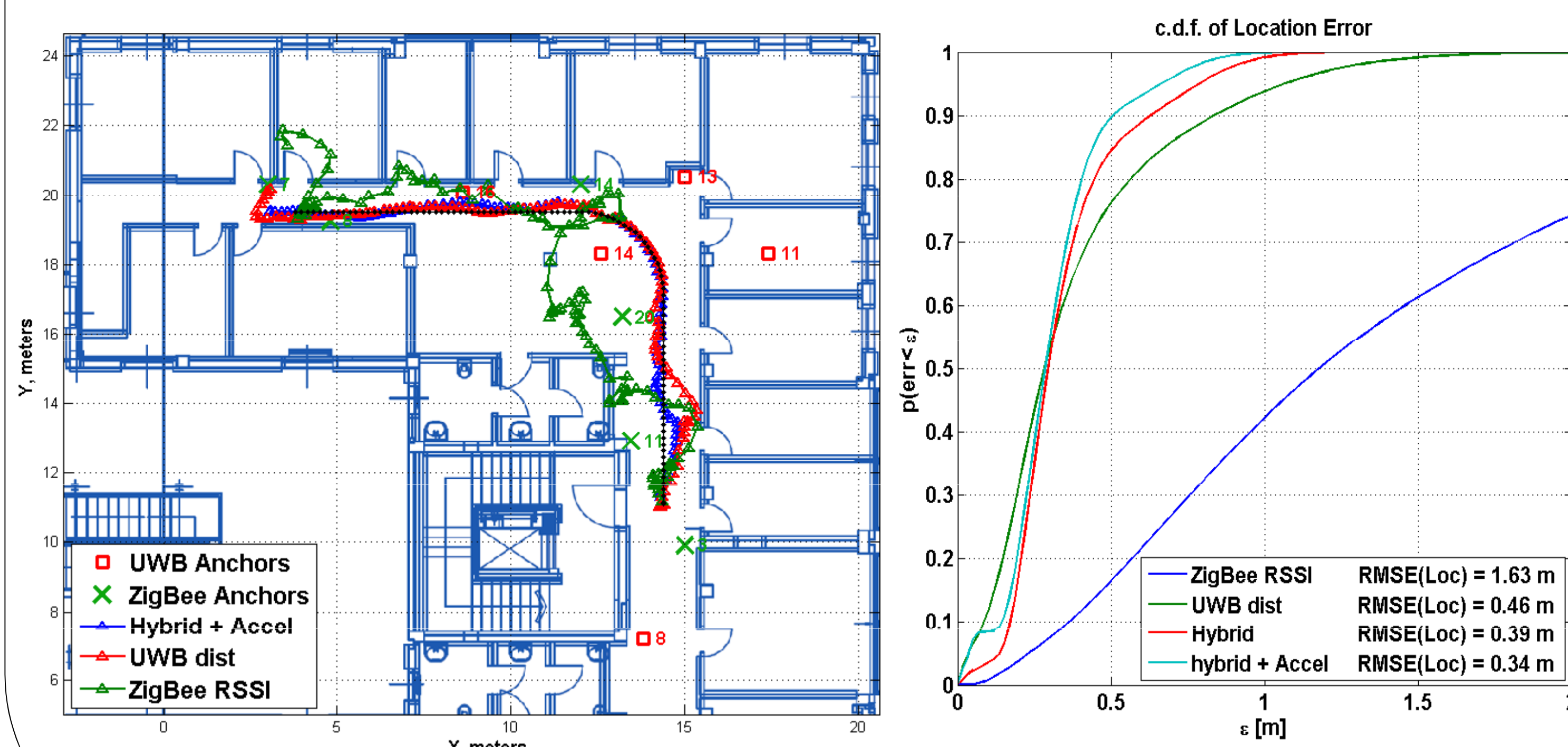
$\Delta T_{UWB} = 50$ m sec

Algorithms Tested Using Hybrid Data: ZigBee-RSS, UWB-dist, Acc.

- EKF (Extended Kalman Filter)
- EKF-BT (EKF Bias Tracking)
- PF (Particle Filter)
- CRPF (Cost Reference PF)
- CKF (Cubature Kalman Filter)

Performance

Constant Speed, Reduced Set of Anchors



Variable Speed, Reduced Set of Anchors

