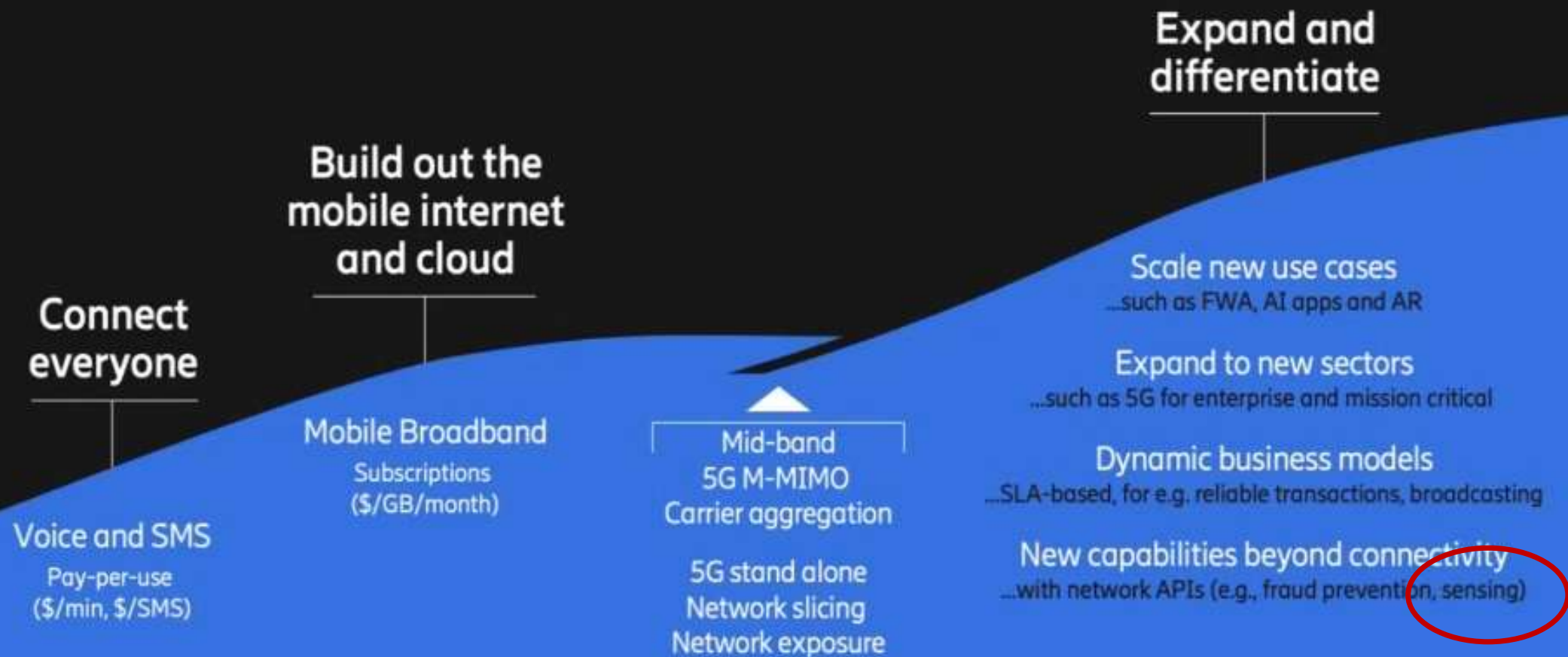


Integrated Sensing and Communication (ISAC)



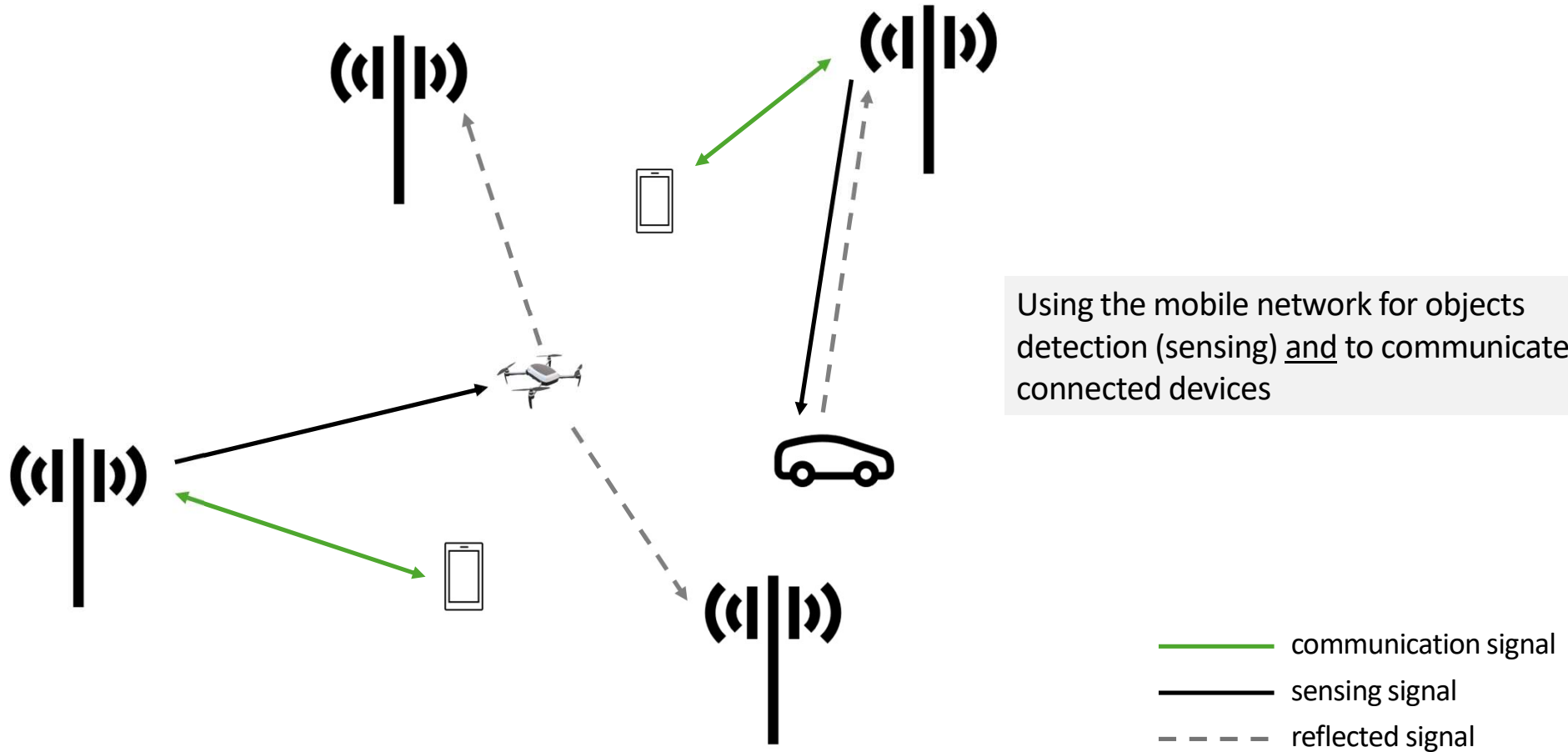
Peter Almers, Ericsson AB

Mobile, unlocking the next wave of innovation

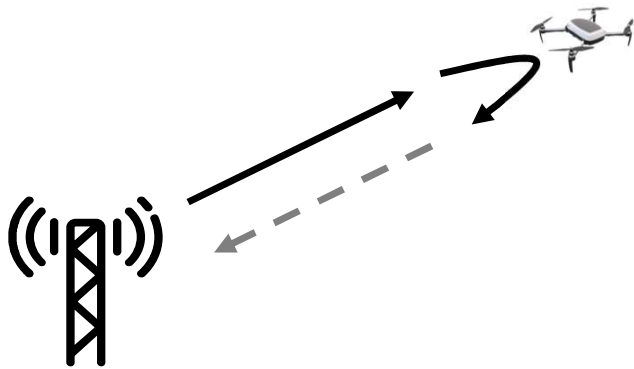


What is ISAC?

(Integrated Sensing And Communication)

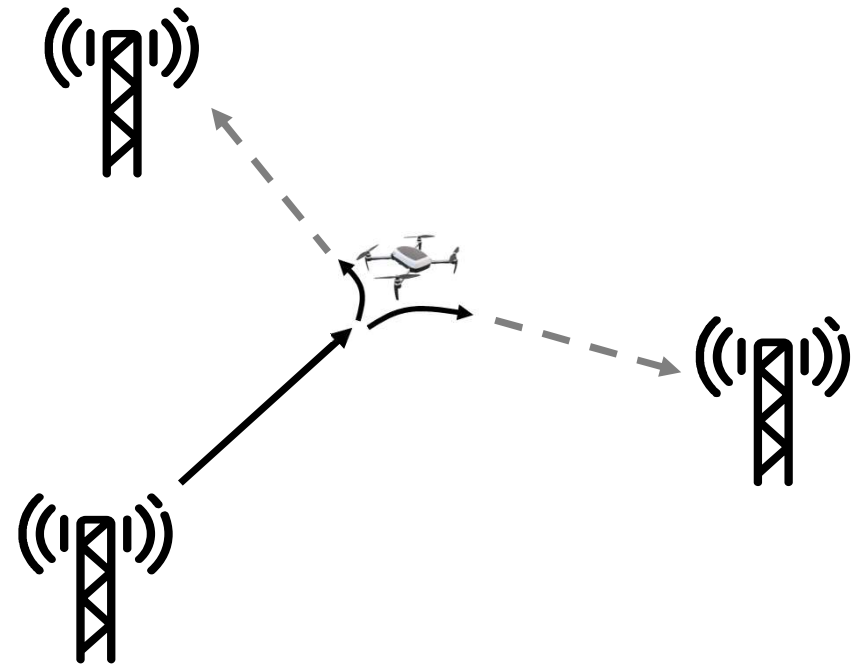


Different ISAC modes



Mono-static radar

Reflected signal received by transmitting node

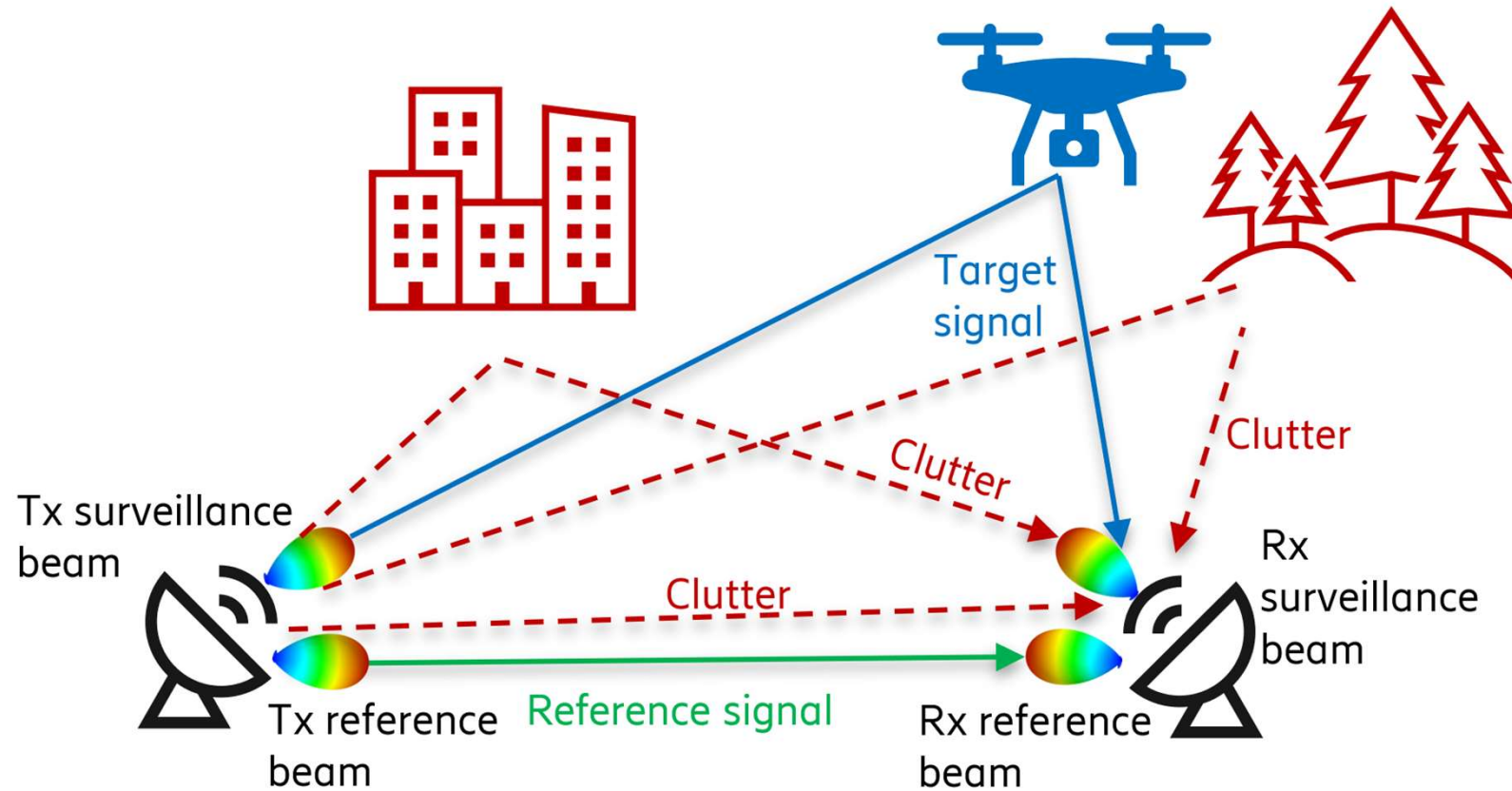


Bi-/Multi-static radar

Reflected signal received at different node(s)

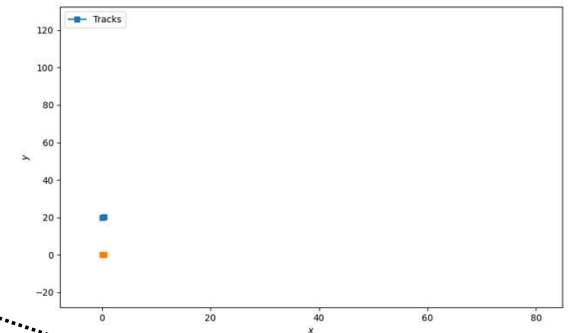
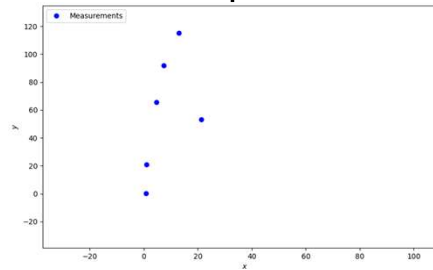
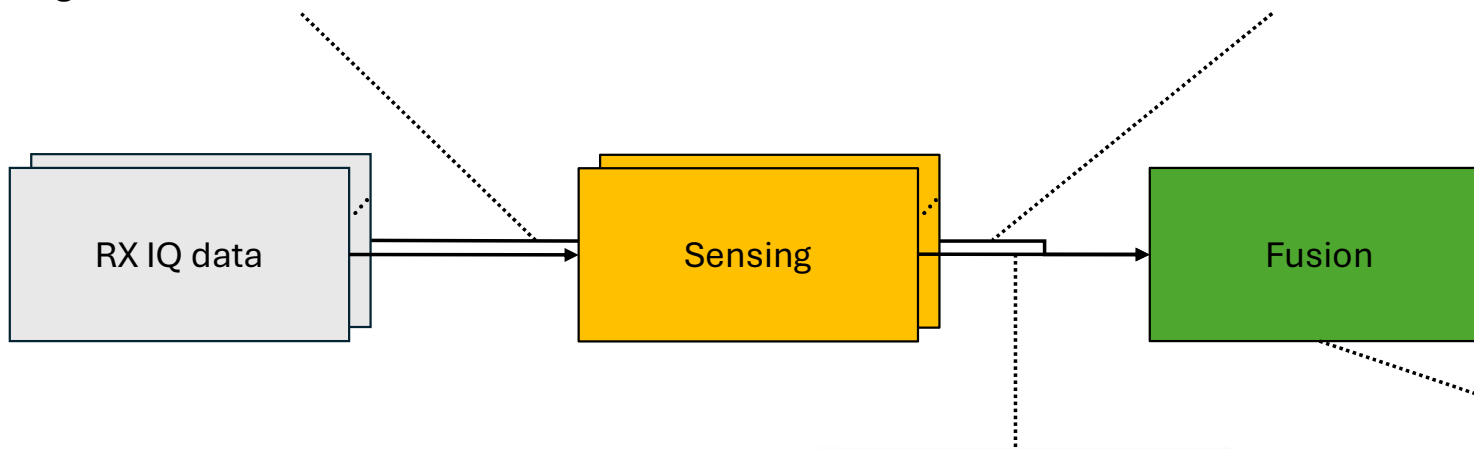
Mono-static and Bi/Multi-static radar can be combined

Bi-static



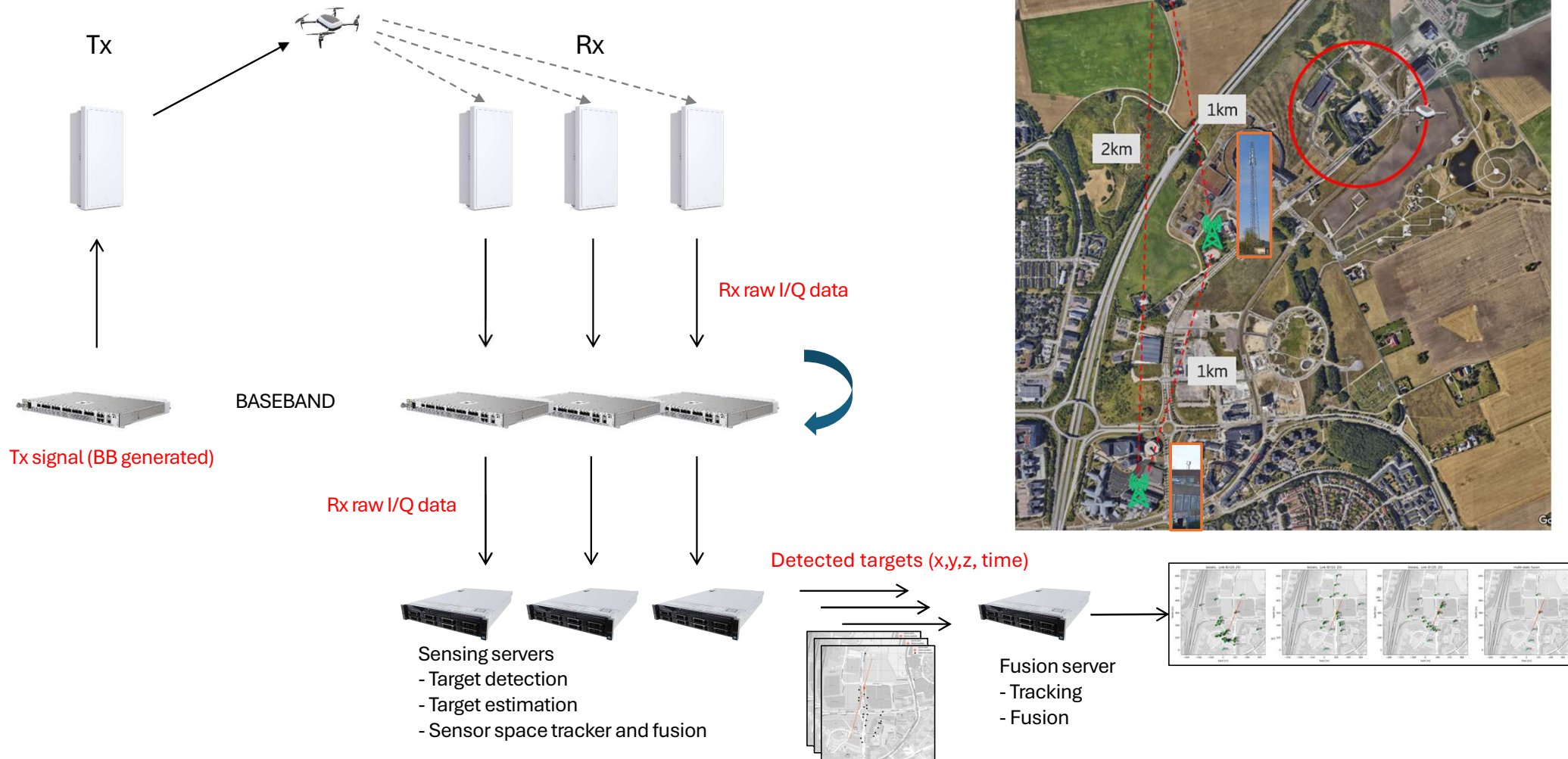
Sensing and fusion

All RX sensing nodes have their own sensing processing.
High data rate.

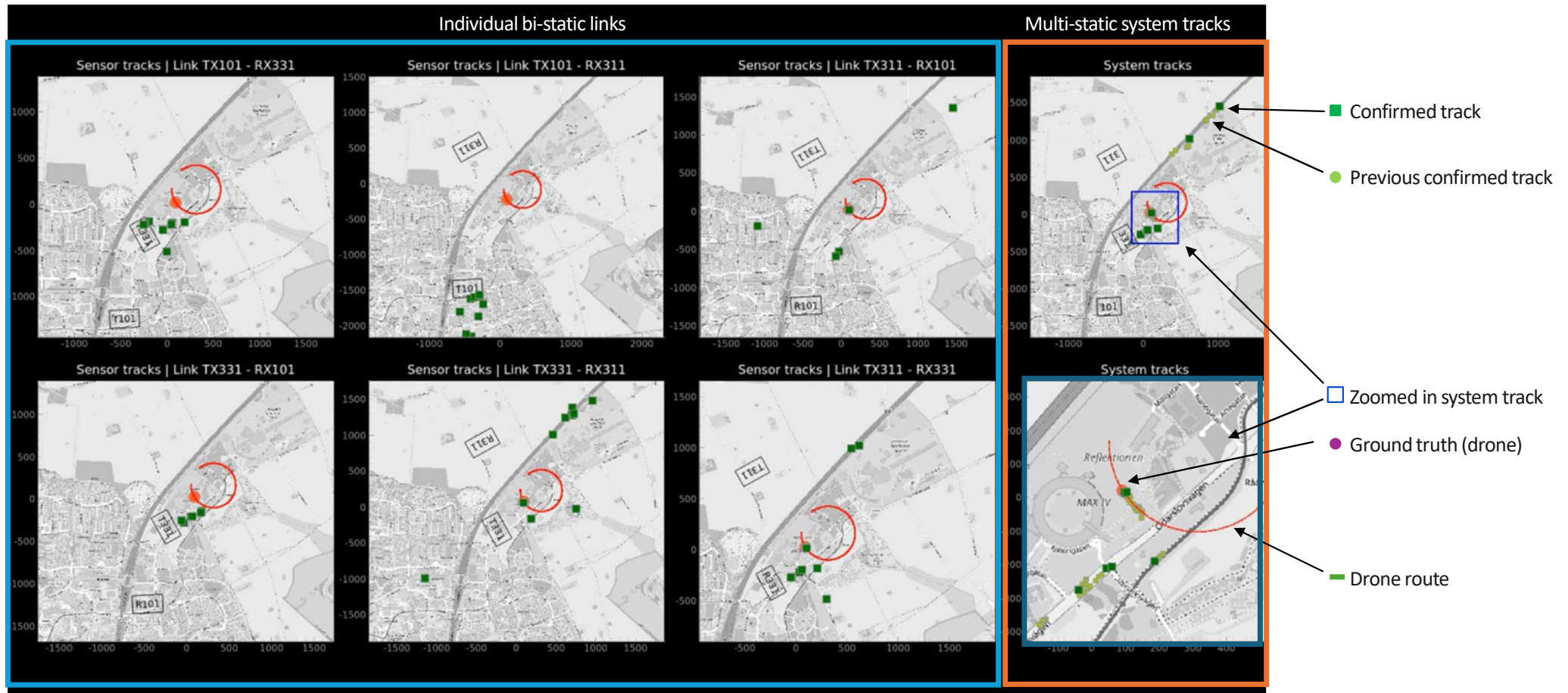


T&F adds physical models to the detected and estimated targets. That will tie detections over sensing occasions together and filter out targets that does not adhere to physical models

Lund Test Network (LTN) Setup



Video explanation



With detections

— Drone route

● Ground truth (drone)

■ Confirmed track

● Previous confirmed track

□ Zoomed in system track

Sensor tracks | Link TX101 - RX331 SSI=116



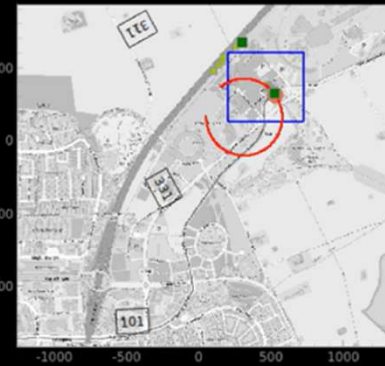
Sensor tracks | Link TX331 - RX101 SSI=117



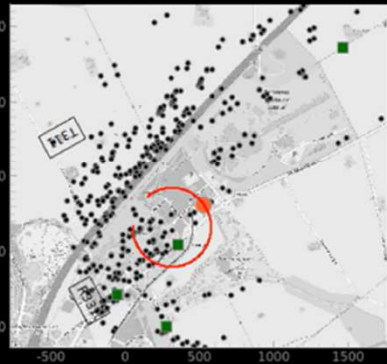
Sensor tracks | Link TX101 - RX311 SSI=118



System tracks



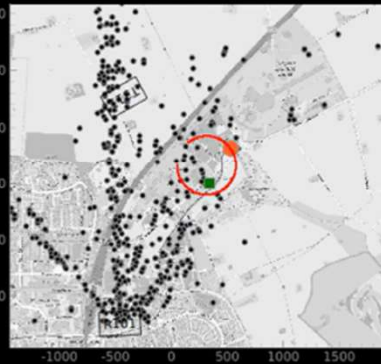
Sensor tracks | Link TX311 - RX331 SSI=117



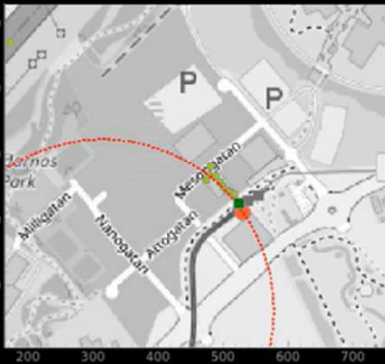
Sensor tracks | Link TX331 - RX311 SSI=117



Sensor tracks | Link TX311 - RX101 SSI=116

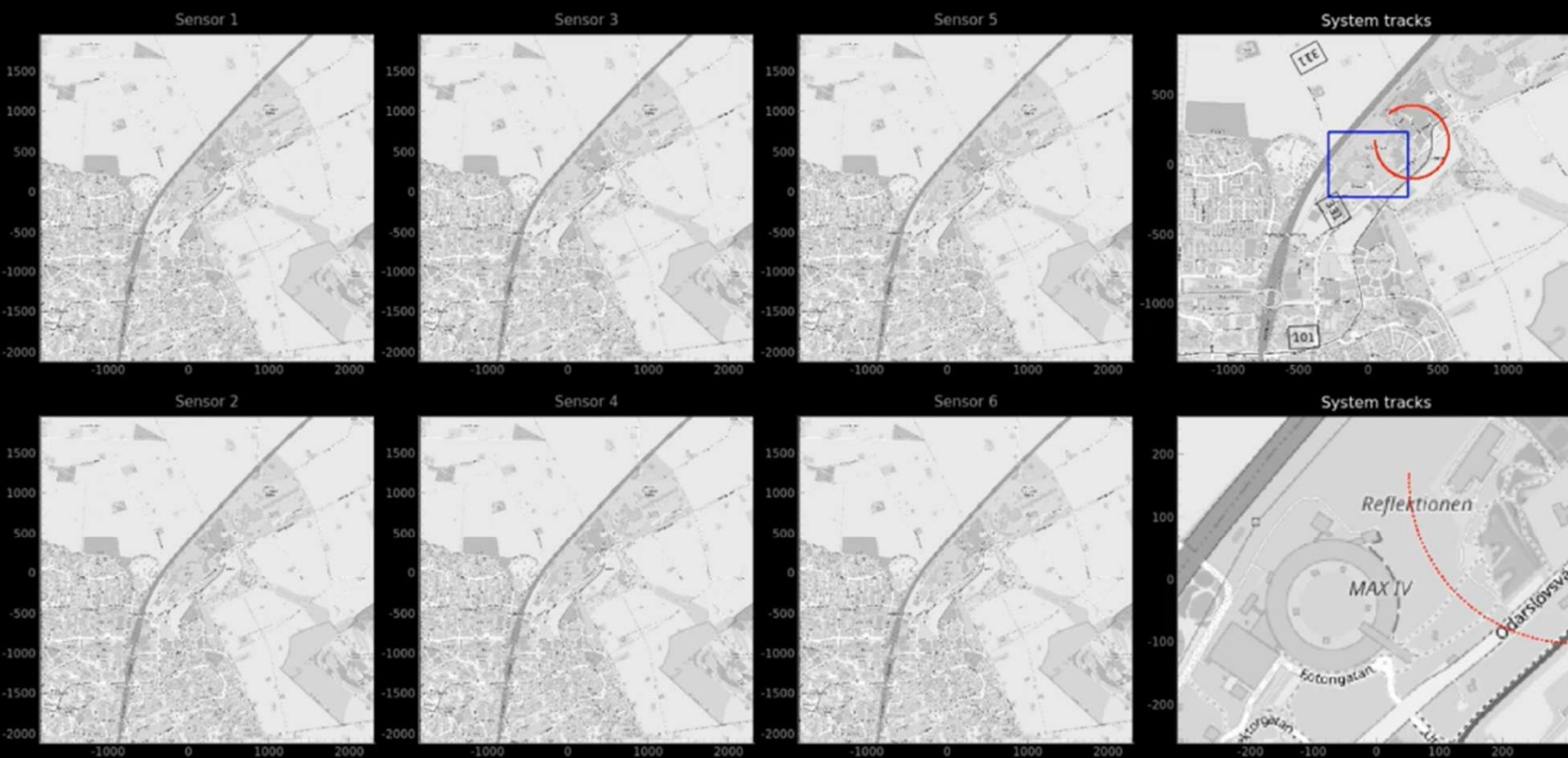


System tracks



Tracks

— Drone route
 ● Ground truth (drone)
 ■ Confirmed track
 ● Previous confirmed track
 Zoomed in system track



Track examples

9-30 sec: car on highway
 60 sec: all 6 links
 30 sec - end: drone in path
 52 sec - end: cars on Odarlövsvägen
 1.08-1.16: tram close to drone
 1.10: tracking 6 objects

Recorded at different time than the system video



3x speed

Measurements in Lund, August 2025

THANK YOU!

