

# mmWave CW Radar Testbed

## What can you do

- Range/velocity/direction measurement
- Motion detection
- Collision avoidance
- Vital signal detection
- SAR/inverse SAR

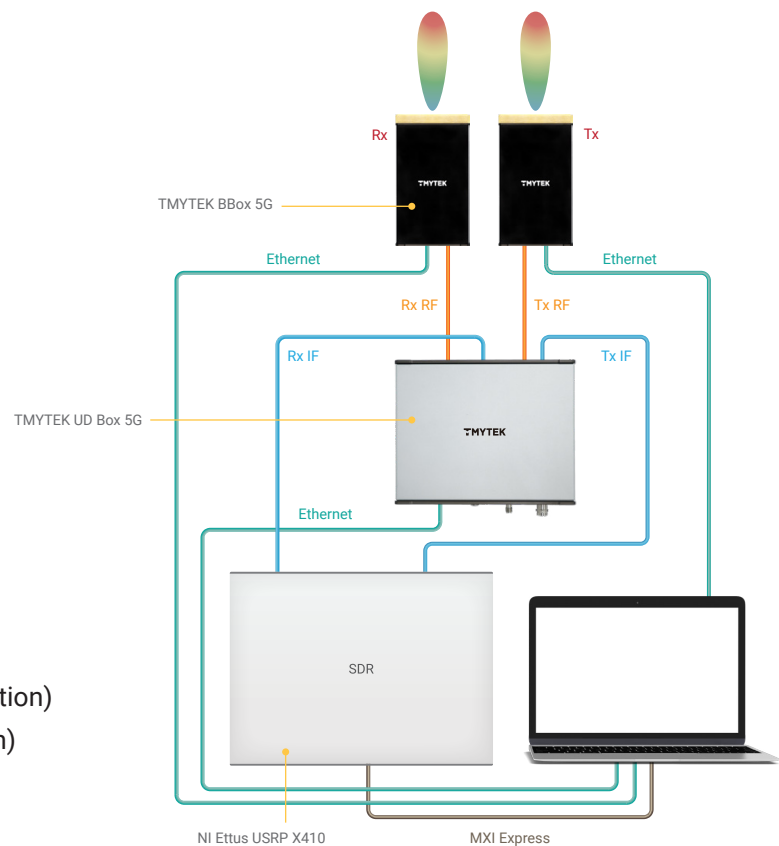
## Who need this testbed

- Consume prototyping
- Automotive prototyping
- Academic and research institutions

## Getting start reference

- Detection range : < 100m for RCS = 1m<sup>2</sup>  
(\*optimized by algorithms with good Tx/Rx isolation)
- Range resolution : > 0.37m (400 MHz bandwidth)

## What's inside



### Hardware:

- TMYTEK UD Box 5G Dual:  
Frequency up/down convertor



- TMYTEK BBox:  
3D scan beamformer as 4x4 AESA  
(26/28/39 GHz)



- NI Ettus USRP X410:  
Signal transceiver & digital processor



### Software:

- TMYTEK UD Box/BBox Control GUI
- TMYTEK UD Box/BBox Control API: Python, LabView, C++, C#, MATLAB
- [GNU radio reference code](#)

