

# mmWave Pulsed Doppler Radar Testbed

## What can you do

- Velocity/range/angle measurement
- Drone, UAV, air fighter detection
- Weather monitoring

## Who need this testbed

- Defense and military prototyping
- Automotive prototyping
- Aviation prototyping
- Academic and research institutions

## Getting start reference

- Detection range : < 300m for RCS = 0.5 m<sup>2</sup>  
(\*optimized by algorithms and scalable BBox architecture is preferable)
- Range resolution : > 0.375m (400 MHz bandwidth)

## What's inside

### Hardware:

- **TMYTEK UD Box 5G Single:**  
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](#)

