

To improve the safety of navigation

promarine

GNSS Integrity monitoring
platform

- Small and innovative privately owned company active in communication systems field for maritime
- Goal to improve communication systems performance and efficiency by reducing interference and producing high performance products
- Was established in 2006, operated the first years in living room closet after which moved to garage and eventually to small workshop
- Today employs 4-5 persons
- Goal is to grow and become a significant player in chosen field

Importance of accurate and reliable position

IF NOT

CRITICAL USERS WHERE CONSEQUENCES COULD BE FATAL

- Aviation
- Autonomous shipping
- Self driving cars
- Communication networks (synchronisation)

Sources of GNSS Signal Degradation

Satellite payload

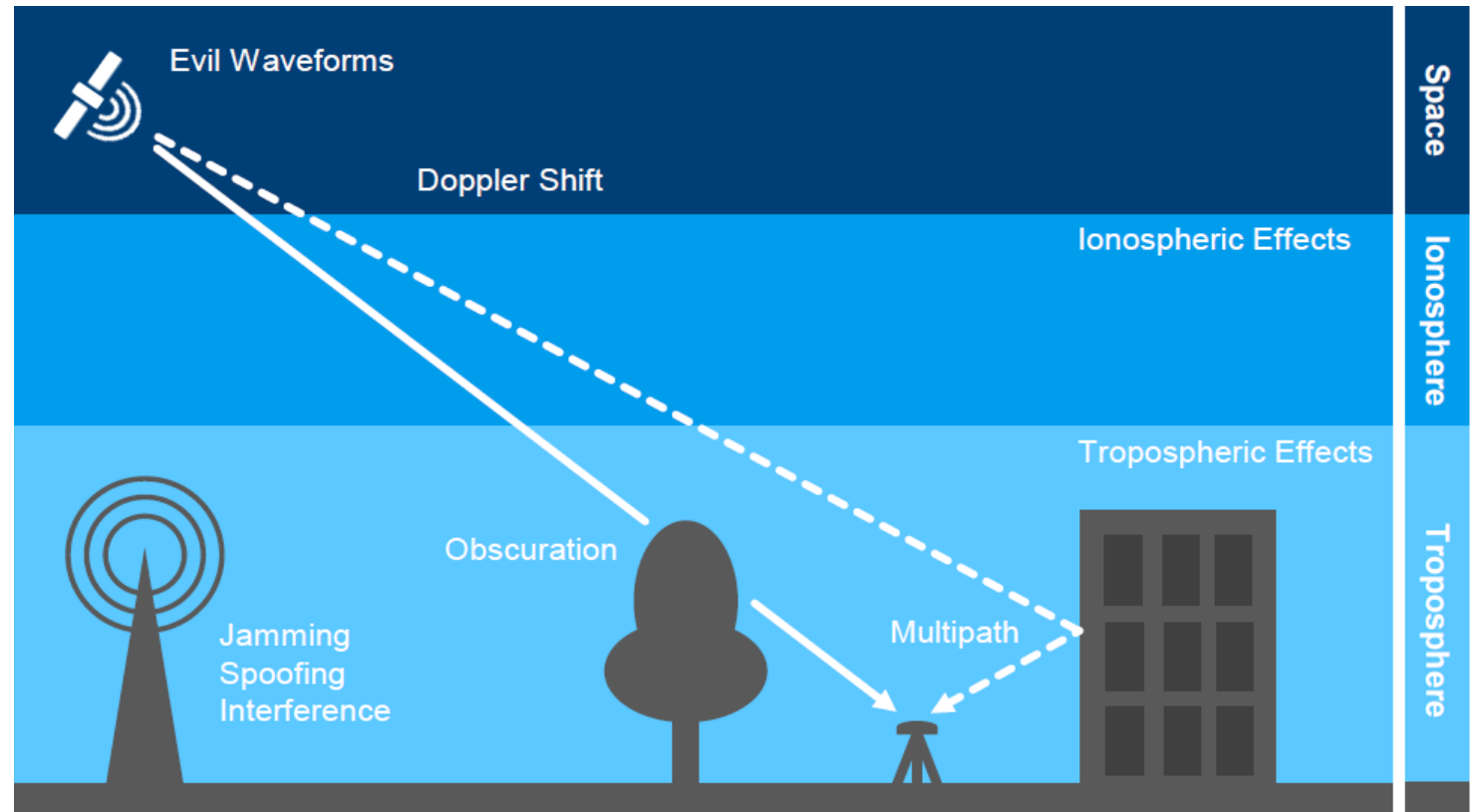
Evil waveforms

Degradation along signal path

Ionospheric influences
Tropospheric influences
Doppler shift

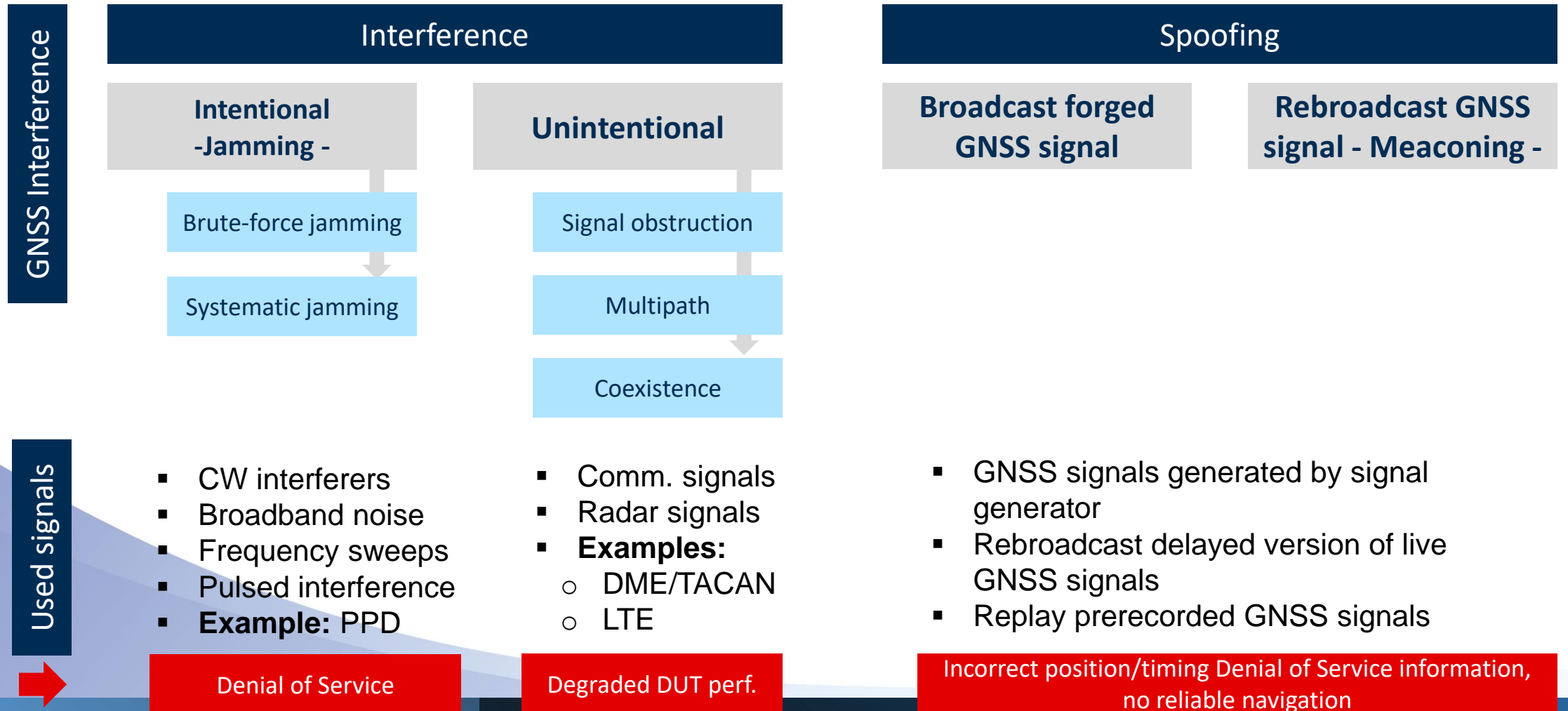
User environment / man-made threats

Signal obscuration
Multipath
Jamming (criminals)
Interference (electronics, leds...)
Spoofing (military)



Resource: Testing Adaptive Antenna Arrays for GNSS Receivers - Rohde & Schwarz

Classification of Man-made Threats



Requirements for the system

- Well documented (the code and instructions as well as description)
- Well known tools should be used
- Flexible and modular structure to make possible future development

What do we offer

- We are interested in acquiring full rights for the system
- In certain case possibility to employ person to carry on future development