

GNSS for Policy and Decision Makers

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GNSS Challenges

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Challenges

Technical	Human Resource	Research	Policy and Regulation
<ul style="list-style-type: none">• Interference• Jamming• Spoofing• Meaconing	<ul style="list-style-type: none">• Limited number of institutes to provide<ul style="list-style-type: none">• GNSS specific education and training• Capacity building at end-user level, stakeholders	<ul style="list-style-type: none">• GNSS research in Asia is rather new• Limited or very low funding and resources	<ul style="list-style-type: none">• Lack of Policy and Regulations related with GNSS<ul style="list-style-type: none">• Data usage• Privacy issues• Equipment import / export

We will focus discussion on Spoofing Issues since this is quite new and not much known

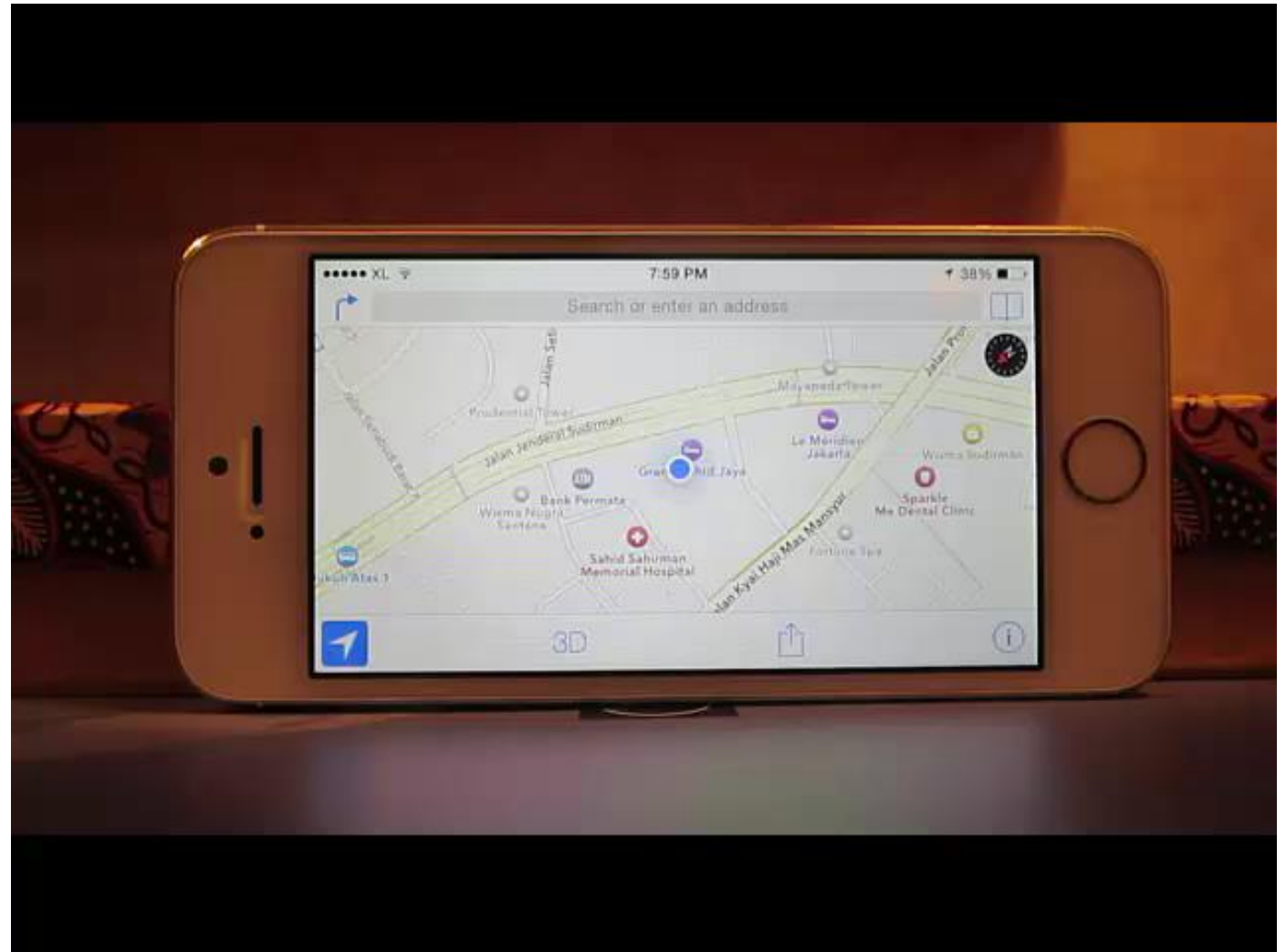
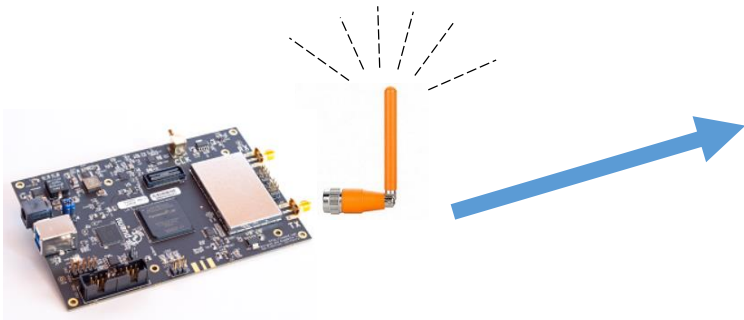
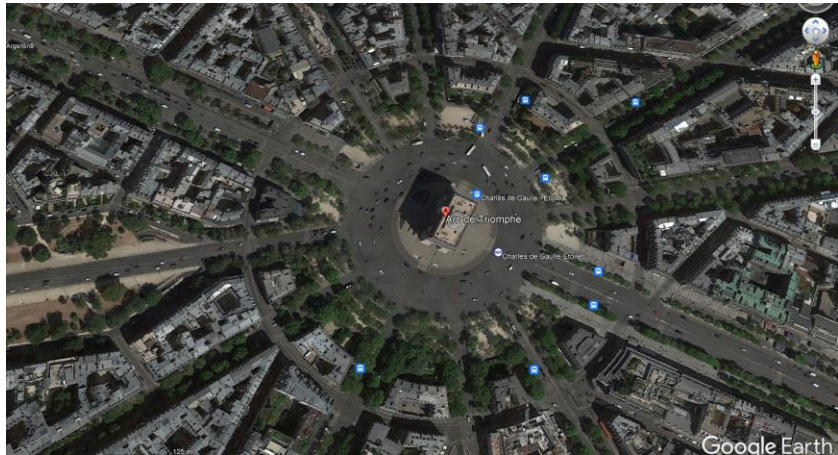
GPS Spoofing

- Falsify GPS Position Data as If it were True Position



Mobile Phone Spoofing (Jakarta or Paris?)

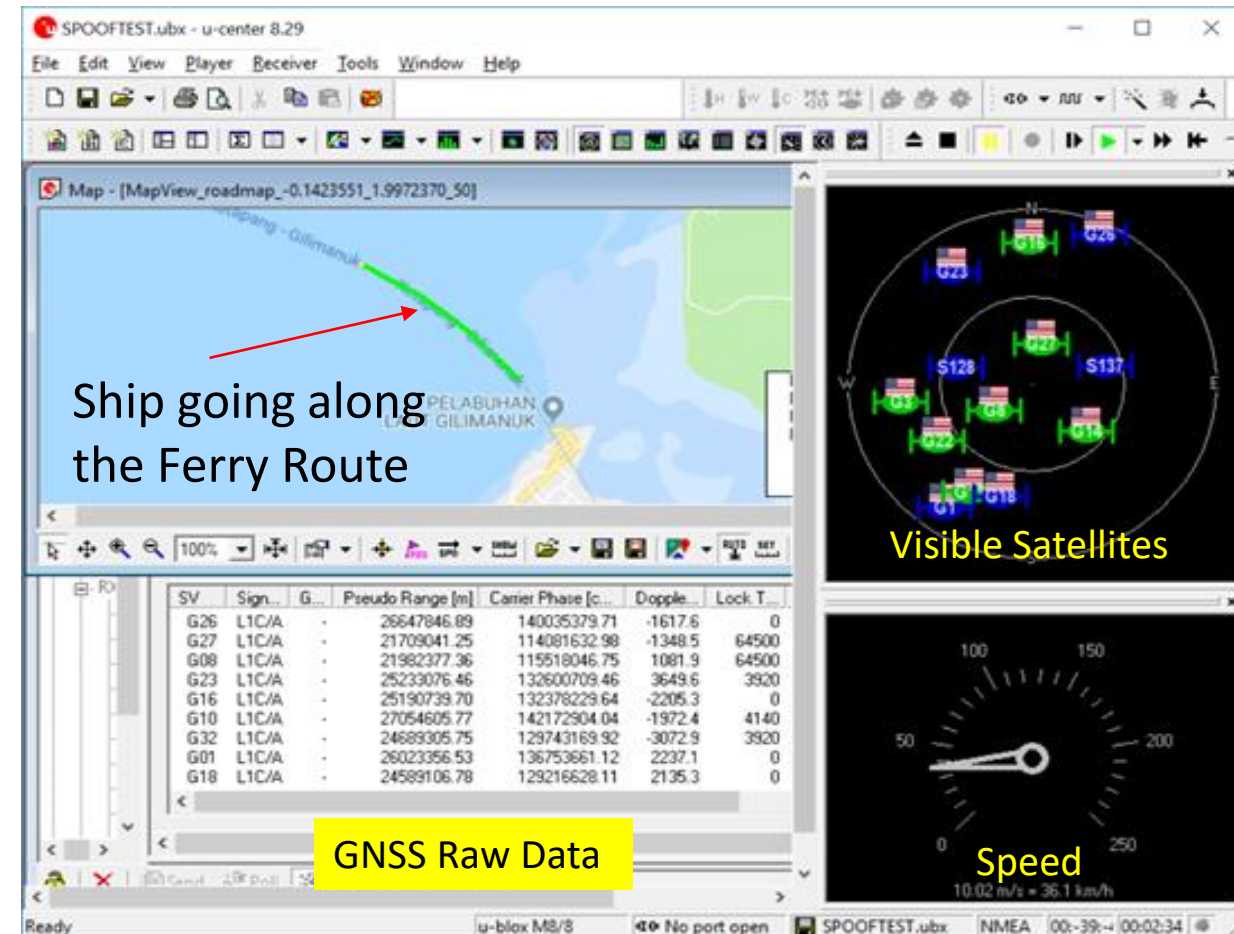
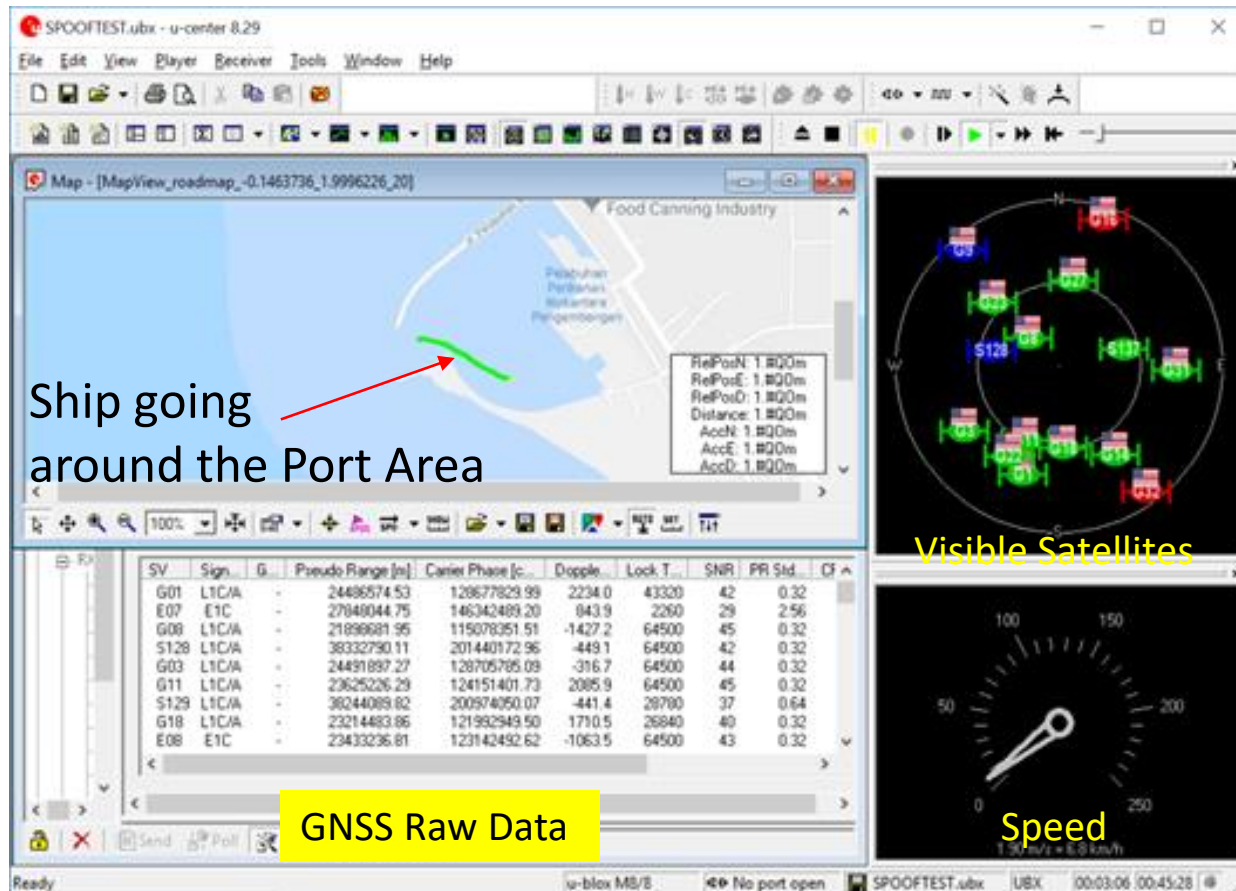
Spoofers were programmed to broadcast signal so that location data will be changed to a driving car in Paris, Triumph Square



SPOOFing a Car: Is he driving the car?



Can you identify TRUE Data and SPOOF Data?



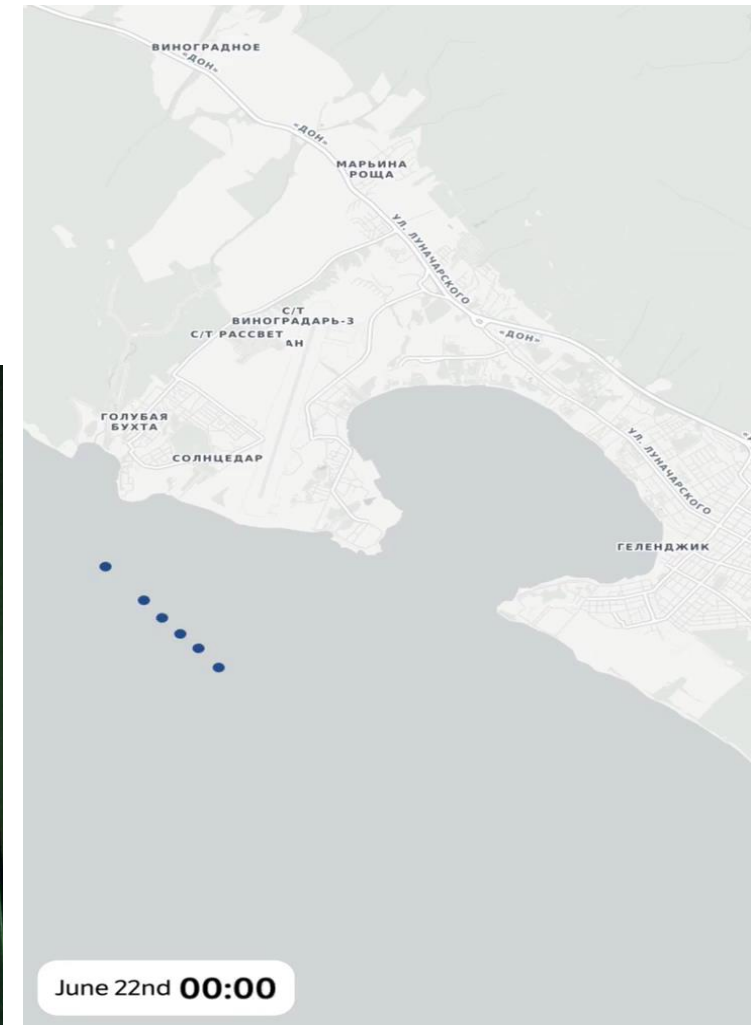
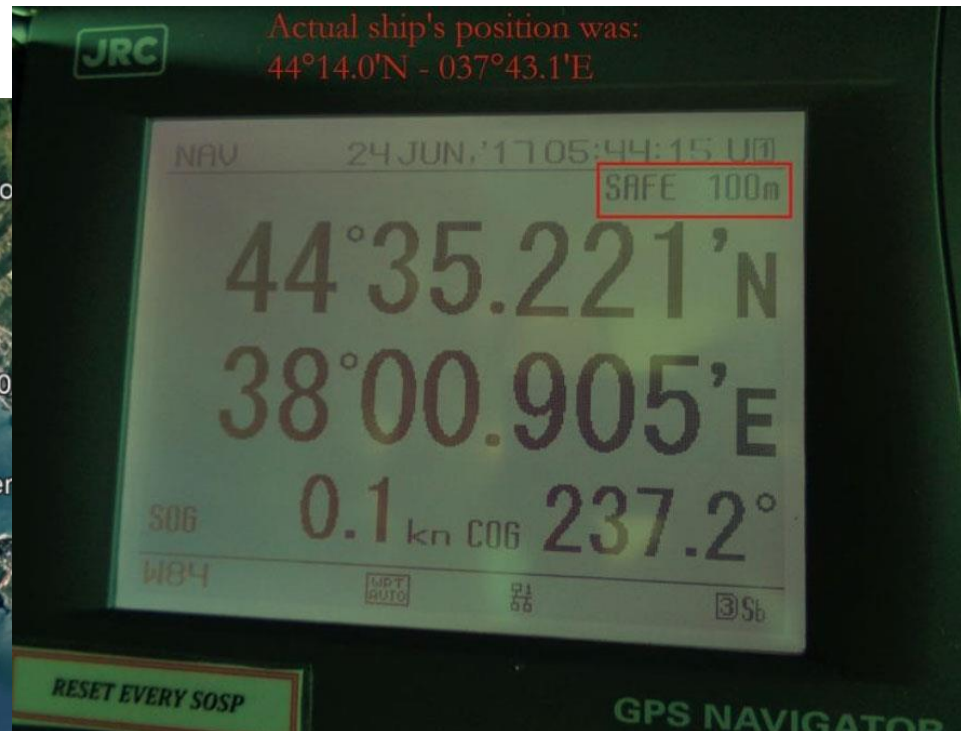
GPS Spoofing in Black Sea?

24th June 2017

A GPS spoofing attack in June, involving over 20 vessels in the Black Sea, has been reported. Probably the first official record of spoofing. More.....



Black Sea



<https://www.rin.org.uk/newsitem/4969/GPS-Spoofing-in-Black-Sea>

Our Solution for Anti-Spoofing → Signal Authentication



Solution developed for
Spoofing Check / Authentication