



STREITKRÄFTEBASIS
IKT & Cybersicherheitszentrum



SatNav and Secure Position-Navigation-Timing (PNT): The Basis for a Secure Digital Future

IDSF 2020

Brigadier-General Friedrich Teichmann
MoD AUT

Vienna, 03 Dec 2020



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Executive Order by the President of the United States

Executive Order on Strengthening National Resilience through Responsible Use of Positioning, Navigation, and Timing Services

INFRASTRUCTURE & TECHNOLOGY

Issued on: February 12, 2020

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. The national and economic security of the United States depends on the reliable and efficient functioning of critical infrastructure. Since the United States made the Global Positioning System available worldwide, positioning, navigation, and



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ON THE ROAD



ON THE WATER



ON THE TRAIN



IN THE AIR



ON TIME



INTERNET OF THINGS



GOING MOBILE



ON THE FARM



ON THE MAP



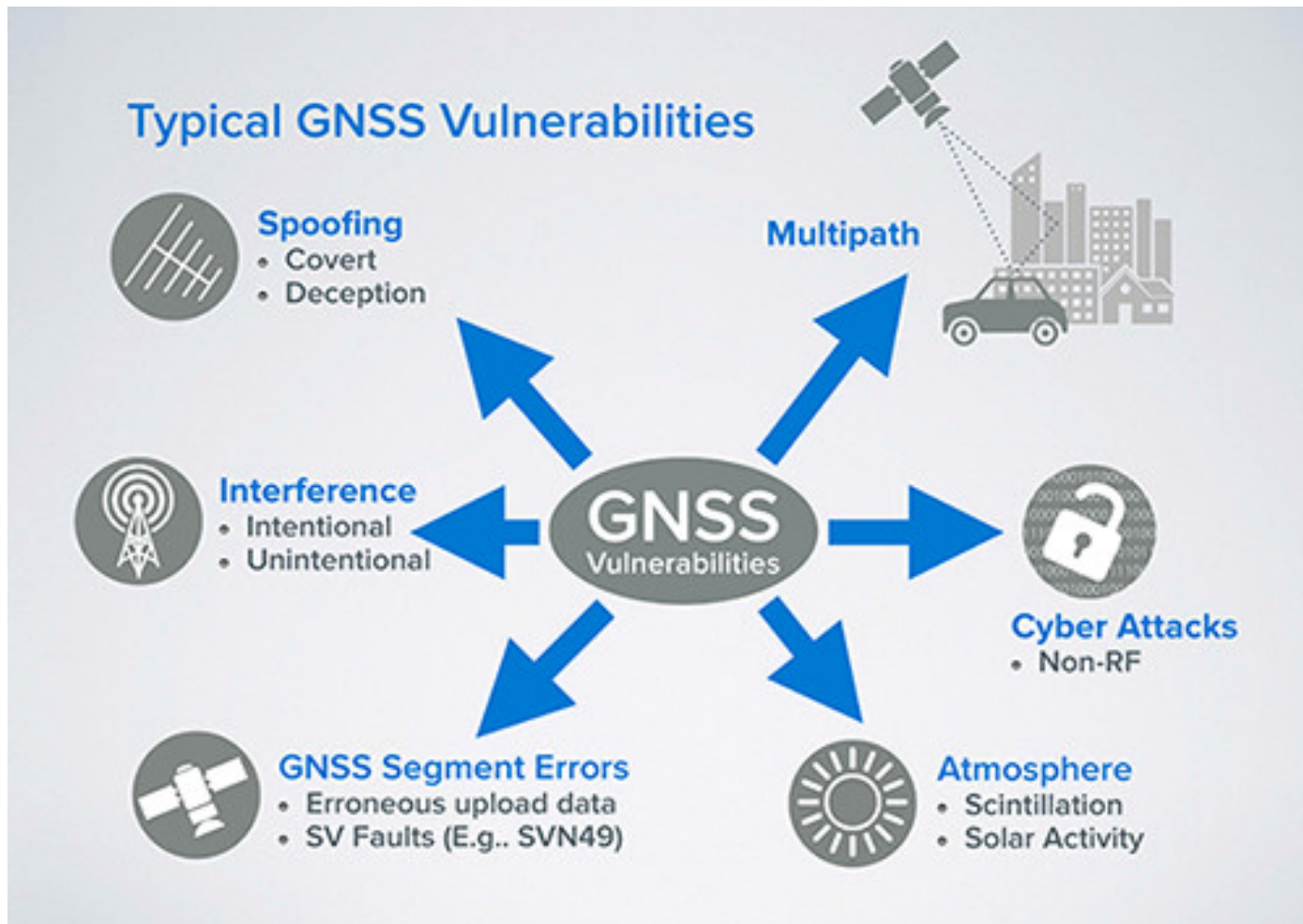
DURING AN EMERGENCY



SPACE APPLICATIONS

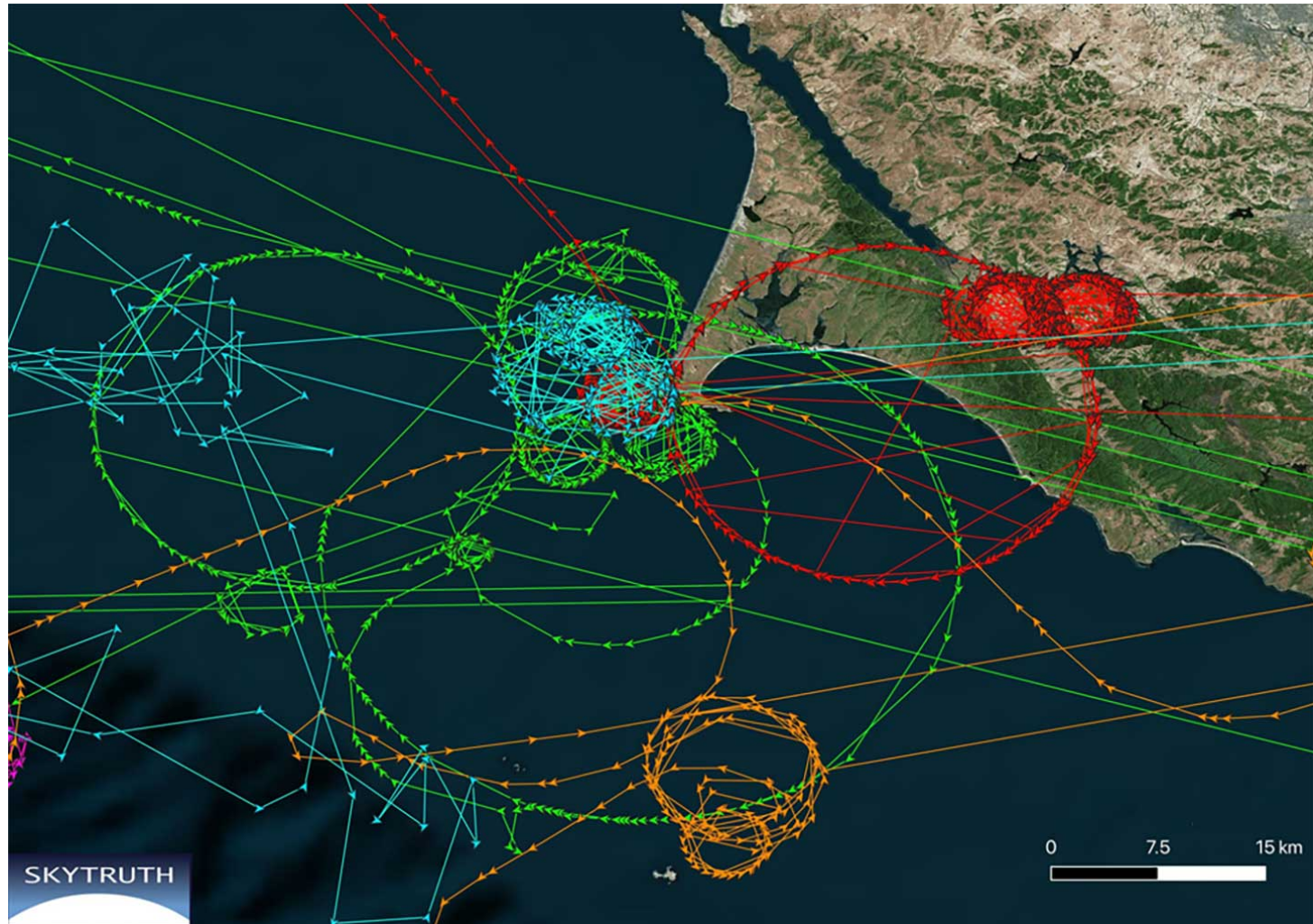


Vulnerabilities of Global Navigation Satellite Systems (GNSS)





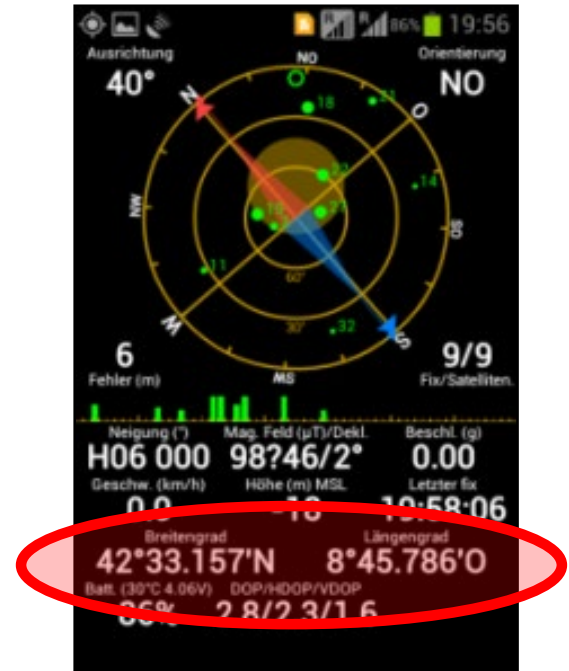
Ship Track observations by Skytruth

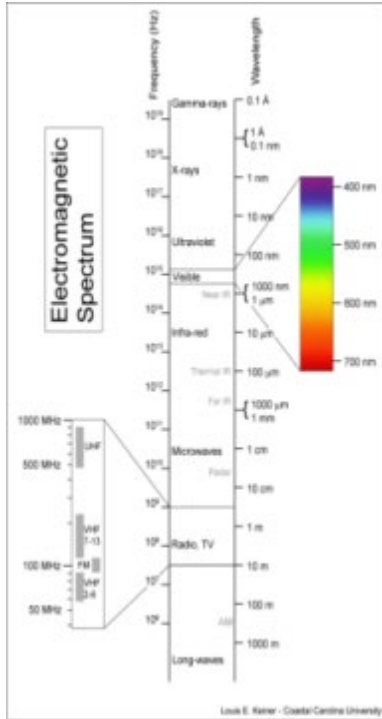




Potential Action items for Secure PNT:

1. Awareness
2. Research and Development
3. Testing and Evaluation
4. Risk Management
5. Countermeasures
 - Hardware
 - Software
 - SatNav Multi-constellation and Multi-frequencies
 - PNT sensor fusion
 - Crypto like EU GNSS Galileo PRS
 - Cooperation – pool our efforts





Questions?

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