



## BROCHURE FOR IDEX NSIN

### Introduction to Saltenna's Technology

- Our revolutionary underwater communication technique uses Surface Electromagnetic Waves (SEW) or Plasmonics
- Plasmonics can transmit high-bandwidth data along mediums not currently supported by acoustics, lasers, Wi-Fi, or any other technology
- Plasmonics propagate wherever there is a gradient of conductivity across an interface between two materials or liquids:
  - Seawater-air
  - Seawater-seafloor
  - Metal-dielectric interfaces
  - Interfaces on the seabed
- Plasmonics move close to the speed of light, even underwater, underground and through dense materials or metal, making them over 100x faster than acoustics
- Experiments demonstrate broadband radio communication underwater at 10x greater depth compared to the current state-of-the-art in applied RF technology
- Similar experiments suggest 10x to 100x greater bandwidth improvements possible in underwater communications compared to acoustics

### Saltenna Technology Enables an Array of New Capabilities for Warfighters

- Wireless high-definition video transmitted underwater in near real time
- Wireless high-fidelity audio transmitted underwater in near real time
- Wireless dielectric detection, identification, and characterization of man-made materials (metal, plastics, fiberglass, mines, etc.), living matter (humans & marine life, combat swimmers, etc.), ice, and seafloor topography as examples
- Complementary to acoustic and laser communications and sensing capabilities
- Impervious to water turbidity or multiple reflections
- Exceptional stealth – Plasmonics are virtually undetectable and support Low Probability of Jamming, Interception, and Detection (LPJ/I/D)
- Energy efficient – can meet or exceed Size, Weight, and Power (SWaP) requirements
- Unlike acoustics, no negative effects on the auditory systems of marine life or humans

### Saltenna Technology Third Party Validation

- Two patents, four patents pending, multiple in development
- Published Articles in 16 scientific, peer-reviewed publications such as Scientific Reports (Nature Group journal), IEEE Antennas and Wireless Propagation Letters, IEEE Journal of Oceanic Engineering, PIER, and MS&E