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NeTS-NOSS: Mobility NOSS: Mobility-assisted Network assisted Network

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NeTS-NOSS: Mobility-assisted Network Deployment and Maintenance

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Goal: Support for communication, monitoring & surveillance in areas that lack infrastructure

Research Challenges:

Deployment: Distributed algorithms for mobility-assisted network deployment with desired topological properties

Topology Control: Distributed algorithms for mobility-based adaptive self-organization of the network nodes to support desired information flow

Link-level Communication Modeling: Development and analysis of a suite of localized algorithms that monitor the connectivity properties of the network locally and give global link characterization for the network

Strategy : Exploit modeling and mobility to efficiently deploy and maintain a sensor network

Deploy sensor network along such areas (using humans or flying drones) to maintain a global view of key attributes in the environment

Individual sensors monitor their local space but local data can be harvested and stitched into a global map, using the communication infrastructure provided by the network.

Sensor triggers can be discriminated by guiding a mobile node (e.g. a flying drone) equipped with a high-resolution sensor (e.g. camera) to the location of the trigger event

Develop and analyze a suite of localized algorithms that monitor the connectivity properties of the network locally and give a global link characterization for the entire network

Use link characterization to estimate coverage and connectivity thereby identifying repair sites and guiding further robotic (or human) deployment

