Drone Center Sweden

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Why UAV R-zone in Västervik? No Military or Civil Flight zones!

To ensure that no flights arrive without notice in the test area, we suggest creating a restriction area for UAVs. 40 x 60 km with maximum flight altitude 2500 m (GND-7000 ft MSL). In four sectors: A, B, C & D.

Available landscapes, infrastructure and activities in the TUVA testbed area:
- All common Northern European landscape types
- Coastal areas, lakes, rivers and wetlands
- Agriculture, forestry, fishing
- Urban and rural areas
- Industries of various kinds
- Infrastructure like roads, railways, power lines ...
- Outside military and civilian restriction zones
- Mobile infrastructure
- Paved 1,199 m airfield
- Good communication with railways, highways and in the sea. Oil, freight and passenger ferries.

The municipality has extended the runway to 1199 meters.
Test activities performed with different UAVs, sensors and Navs

Control tower, offices, hangars and workshops within fences
Blood samples and medication will arrive faster
The hospital will be closer to the patient
Nordic Testbed Network
Supporting digital transformation in the Nordic bioeconomy
Telia’s and Ericsson’s vision:
Why do we need Cellular & UAS Innovation Zone?
To develop a UTM!

- To identify business opportunities with stakeholders - how we can develop and manage "Airspace as a service"
- To apply important safety aspects that enable failure, but to prevent risks of accidents and collisions
- To apply the necessary performance improvements that optimize LTE & 5G connectivity - 3GPP antenna support features
- More efficient connectivity for UAVs while maintaining the performance of existing commercial mobile services
- Developing and applying security rules for autonomous and BVLOS UAV operation initiated by industry bodies and global aviation authorities with mobile spectrum - the common goals of the aviation and telecommunications industry
What is UAS Innovation zone?

- A small-scale cellular infrastructure with great flexibility to perform interoperability verifications on new / enhanced 4G LTE, 5G NR 3GPP candidate releases for aerial support
- A development environment that will accelerate innovation and evaluation activities together with potential customers and partners with Safety, Standard and Control in focus
- An environment that enables demonstration of standard UTM and cellular capabilities for key stakeholders – e.g. authority bodies and customers
- A validated Reference Model for implementation in other environments, e.g. urban environments and national-scale commercialization
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Västerviks Kommun

- Number Inhabitants: 36,551
- Urban and rural areas, buildings, industries, ports, district heating plants, biogas production
- Railways, national roads, power lines, fibre networks, GSM / LTE / 5G networks
- Farms, forests and waterways, research projects - Baltic Sea and agriculture, hospitals and health care with high quality, differentiated industries

Wishlist:
- Training of pilots - operators - technicians
- Support for a UAV Business Cluster
- Support for workshop facilities at ESSW
- High definition geo data infrastructure
- Support for a mobile innovation zone
Suitable areas for agricultural and forestry research and testing

The Farming Society’s agricultural school in Gamleby and Ogesta Hyllela property with 1700 dairy cows, 1300 other cows, 2000 ha of agricultural land in the AFarCloud test bed.

The forest industry is expected to earn SEK 100 billion/year with UAVs, and improved information from Remote Sensing, UAVs and Image & data processing.
New technology enables for new analysis

LiDAR for forest applications and for search and rescue

Glana-Hyperspectral Sensor, SLU with MAIA; EOPTIS Sentinel-2 compatible hyperspectral sensor 400-900 nm

Micasense Rededge and Medusa Systems gamma camera to map clay content in the ground

Wireless soil probes that measure water and nutrient in the farmland

Weather stations that deliver detailed local temperature, wind, air pressure, solar influx etc. to optimise agricultural practices
Research and development: UAVs, navigation, sensors and communication systems

TUVA testbed UAV Västervik Drone Center Sweden Västervik
Cellular & UAS Innovation zone

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Research Institutes of Sweden RISE
Vinnova & Swedish Transport Administration

ECSEL Joint Undertaking Electronic Components and Systems for European Leadership