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- ☾ SatNEx is a 6th FP network of excellence on satcom
 - ☾ Fosters research and collaborations among satellite experts
 - ☾ Existing since January 2004
 - ☾ 24 partners all over Europe
 - ☾ The industry is represented through the Advisory Board



<http://www.satnexus.org>



- ☾ Some bare facts about emergency situations:
 - ☾ It happens anytime, even during days off and snow storms
 - ☾ It happens anywhere: in urban areas and remote places
- ➔ Stressing conditions and a lot of challenges for personnel and equipments.

- ☉ Several types of missions exist, for example:
 - ☉ Scouting
 - ☉ First aid
 - ☉ People evacuation
 - ☉ Psychological assistance
 - ☉ Logistics support
 - ☉ Water sanitisation
 - ☉ Emergency lodging
- ➔ Call for different services, at different scales and different rates.

- ☉ Whatever the mission, emergency response displays the following characteristics:
 - ☉ Quickness
 - ☉ Possibly multi-site
 - ☉ Adaptive (the situation and requirements change over time)
 - ☉ Involving multiple organisations
 - ☉ With professional, semi-pro and untrained personnel
- ➔ Call for rapidly deployable, adaptive and simple telecommunication systems.

☾ Satcom strengths

- ☾ (Mostly) immune to terrestrial catastrophic events
- ☾ Wide, broadcast coverage (including frequency regulation aspects)
- ☾ Broadband

☾ Satcom weaknesses

- ☾ Often relies on line of sight
 - ☾ Can be tricky to deploy
 - ☾ Costly (both TX equipments and services)
- ➔ Not the does-it-all solution, the key is in interoperability.

- ☾ Core sat based services are:
 - ☾ Voice and video transmission
 - ☾ Ex: GSM or TETRA connectivity, tele-medecine
 - ☾ Localisation and navigation
 - ☾ Ex: rescue team tracking
 - ☾ Bulk data transmission
 - ☾ Ex: reporting from medical outposts to HQs

- ☉ Examples of sat based value added services:
 - ☉ Advanced scouting: the scouting team annotates interactively a map with data and multimedia content
 - ☉ Victim assessment tracking: RFID based victim assessment with tracking
 - ☉ Victim flow management: data aided decision system for victim dispatching to medical outposts and fixed hospitals
 - ☉ Relatives finding: helps people to find where their relatives are located after a disaster
 - ☉ Water sanitisation monitoring: water quality is permanently monitor, alerts are sent when needed

- ☉ A quick recap on the system challenges:
 - ☉ **Quickly deployable and easy to use** (self configuration, auto-pointing, neighbour discovery)
 - ☉ **Affordable when necessary** (small message based services, asynchronous, low QoS operations)
 - ☉ **Robust with respect to the environment** (fault resilience, self healing, rugged-ised terminals)
 - ☉ **Interoperable with terrestrial technologies** (protocol negotiation, performance enhancement proxies)
 - ☉ **Capable of disconnected/connected operations** (delay tolerant and ad-hoc networking)
 - ☉ **Energy saving** (power management, power aware networking)
- ➔ Addresses the whole spectrum of satcoms, from services down to the physical layer.

Thanks !



Thank you for listening