

Using space to save lives on Earth

GOVSATCOM Crisis Management Service Pack



Funded by the European Union

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The GEXTECS project aims at demonstrating an end-to-end GOVSATCOM service supporting Extreme Events Crisis Management



GEXTRECS rationale



- Ensuring an adequate level of action in terms of provision of proper SATCOM services and response time in the event of natural or manmade disasters
- High risk of network saturation and deficiency of SATCOM resources in crisis management situations due to multiple and simultaneous requests from different End-Users
- Necessity of end-to-end solutions to preserve the security of the EU citizens in such conditions
- Harvesting synergies resulting from the use of services and products offered by different components of the EU Space Programme

What is the GOVSATCOM Crisis Management Service Pack?



- A set of telecommunication services required in disaster and emergency response provided through EU GOVSATCOM
- Defined together with End-Users who manage and respond to extreme and massive disaster events to address their specific requirements and expectations
- GOVSATCOM services supporting the usage Copernicus geointelligence products and Galileo secure positioning services
- Demonstrated and validated in the context of two disaster scenarios:
 - a land cross-border disaster
 - a multinational maritime disaster

GOVSATCOM Crisis Management Service Pack – key telecommunication services



Voice communication

Video conferencing

Video sharing on-the-move

Real-time content sharing

High-resolution image transmission

Remote & secure access to information systems

Low data rate communications

IP services

High data rate communications

Use case scenarios

LAND: Destruction of the Niedów Dam in a terrorist attack

- Huge flood wave in Poland and Germany
- Over 100,000 people affected

Selected response actions:

- Search and rescue
- Operational coordination

End-User involved in the use case:

- I.S.A.R. Germany
- Virtual On-Site Operations Coordination Centre (OSOCC) simulator



MARITIME: Undersea earthquake in the Mediterranean Sea

- Massive environmental devastation and infrastructural damage
- Death toll exceeding 200,000 people

Selected response actions:

- Evacuation of tourists from cruise ships
- Containment of oil spillage from a tanker

End-User involved in the use case:

- Marine Technology Unit (UTM) of CSIC
- "Sarmiento de Gamboa" –
 a multidisciplinary research vessel

Ensuring robust communications for emergency response



Dynamic Planner – expected results:

- Dynamic and optimal allocation of the most suitable SATCOM resources to service requests
- Maximisation of usable throughput of a satellite system while securing acceptable communication quality to users

Network Balancer – expected results:

- Preservation of secure communications while switching between different communication networks
- Distribution of internet traffic across multiple WAN links based on predefined rules to direct the traffic

Initial GEXTRECS demonstrations

When: **15-18.11.2024**

Where: Training Base Weeze (DE) and Port of Vigo (ES)

Meeting format: hybrid

Participants: GEXTRECS partners, Advisory Board members , EUSPA

Scope:

- Capacity-building through dedicated training
- Testing GEXTRECS Service Pack (i.e., selected telecommunication services based on SATCOM, Copernicus emergency products and Galileo OSNMA and PRS services)
- Emphasis on data transfer integrity, technological innovations (i.e., Dynamic Planner and Network Balancer), procedures, technical performance and relevant KPIs
- Followed by Stakeholder Workshop 1









Lessons learnt from initial demonstrations

Pre-demonstration test campaign:

- A sufficiently long testing period needed
- Reducing the need for a daily setup devices as much as possible (e.g., setting & dismantling of antennas)

Preparation of End-Users:

- Explanation of key factors and their interrelation for decision-making regarding a requested GOVSATCOM service (bandwidth, security, cost, performance)
- Implementation of awareness raising activities, focusing also on demonstration limitations to manage End-Users' expectations

Demonstration activities:

- Incorporation of realistic details in a use case scenario and appropriate visual means to make demonstrations credible and engaging
- Adequate reflection of threats accompanying performed operations (in the crisis area) in the score assigned to service criticality and, consequently, in the GOVSATCOM service priority level

Final GEXTRECS demonstrations

When: 20-24 October 2025

Where: Voerde (Germany) and Port of Vigo (Spain)

Meeting format: **hybrid** (possibility to join online)

Participants: GOVSATCOM End-Users, stakeholders, and CGAs

Aim & scope:

- Focus on End-User's evaluation of the GOVSATCOM Crisis Management Service Pack and proposed solutions (acceptance, performance functionality, user-friendliness, etc.)
- Possible use of the GOVSATCOM-Hub
- Followed by Stakeholders Workshop 2

Join us!

GEXTRECS

GOVSATCOM EXTREME EVENTS CRISIS MANAGEMENT SERVICE



Horizon Europe Research Project

Grant Agreement no. 101129626

Leader: GMV Aerospace and Defence SA

Duration: 24 months (February 2024 – January 2026)

Consortium members: 8 partners from 4 EU Member States

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