The AEROSPACE Programme

Delta Project in the Context of Space Applications Strategy for Human Security

Vlad Vladimirov
Romanian Space Agency
Institute for Space Sciences

Space Application for Health Security
Space Applications for Health - Premises

• Institutional Basis:
  • Government Strategy;
  • National Programs Funding;
  • ROSA - ESA agreements;
  • ROSA - MITAC agreement;
  • Romanian Government - NASA agreement.

• Premises:
  • Development of IT&C infrastructure and services;
  • Awareness of the public and medical community;
  • Political will and support.

Attraction Effect Expected

“Gravity” Pattern:
  • coherent strategy,
  • common projects,
  • technological needs,
  • societal needs ...

Critical mass irradiation:
  • competence
  • solutions
  • education
  • opportunities ...

Attention of international partners

A public / private partnership pool
The Strategy Roadmap

Integration of Medical, Welfare and Environmental Applications with Romanian and International Partners

Mobile Telemedicine
- Continuous Medical Education
- Intensive IT (GRID) Applications

Mobile Telemedicine oriented Projects
- GRID facilities installation
- Clinic, Educational and Dissemination Actions

The Fundeni Telemedicine Pilot
- The Centre for Surgery and Liver Transplantation
- The Fundeni Medical Imaging Department

The first Telemedicine Projects under ROSA support

Other medical partners
- The Institute for Space Sciences
- Technological Private Companies
- The National Institute for Sport Research
- Independent professional personalities

New members from public and private area

The Strategy Initiation
- 2001
- 2002
- 2003
- 2004
- 2005

Mobile Telemedicine in Romania

"Telemedicine Applications in Remote Areas" Workshop – Constanta 2005
The Telemedicine Need in Romania

• Environment:
  • Remote undeveloped, inaccessible zones;
  • Disaster (flood, seismic activity) hazard;
  • Medical assistance to be improved.

• Needs:
  • Resource sharing and management;
  • Mobile, remote medical assistance;
  • Integration of clinical databases;
  • Training & education of medical personnel;
  • International integration and compatibility.

Mobile Telemedicine Related Projects

Public/Private Partnerships and Consortia developing Telemedicine and Life Protection projects

• The AEROSPACE Programme:
  • DELTA - mobile telemedicine services in remote, infrastructureless areas;
  • SMOPERR - mobile monitoring of humans in conditions of high vital risk.

• The National Trauma Network:
  • Mobile, Critical & Trauma Medicine;
  • Rescue and Pre-clinic Services.
Mobile Telemedicine Resources

- Practice in “classical telemedicine” such as tele-diagnostics, tele-radiology, tele-consulting and continuous distance medical education;
- Rescue, Critical & Trauma Services;
- Integrated Medical Procedures & Protocols;
- IT&C infrastructure and know-how;
- Wireless Data Communication resources including Mobile Telephony and Satellite Data Communications;
- WEB based technology and applications.

Mobile Telemedicine Specific Goals

- Medical assistance in remote areas and/or in critical situations (disasters, terrorism, etc.)
- Fast response for Critical and Trauma Medicine;
- Integration of in-situ medical assistance with clinical response at the hospitals;
- Interoperability of medical procedures at all levels of Critical and Trauma Medicine;
- On-line connection with major Medical Units as source for tele-consulting and tele-mentoring;
Mobile Telemedicine Integrated Goals

- Integration in the National Telemedicine System;
- Integration in the National Health-Care System;
- Telemedicine Productivity;
- Regional & International Integration;
- Strategic connections with other Applications for Human Life Protection: GMES, Border Security, Anti-Terrorism, Disaster Management, etc.

The Delta Project
DELTA Project Ground

- Funding: The AEROSPATIAL Programme
- Under the coordination of the Romanian Space Agency (ROSA)
- National consortium partnership:
  - Constanța County Emergency Hospital (project coordinator)
  - Fundeni Clinical Institute - Bucharest
  - Tulcea County Hospital
- With Partners:
  - Virginia Commonwealth University, Communication Companies, IT&C Applications Companies and independent professional personalities

DELTA – Geography

- Carpathian Mt.
- Ukraine
- Danube Delta
- Black Sea
- Danube River
- Bulgaria
"Telemedicine Applications in Remote Areas" Workshop – Constanta 2005

DELTA – Geography

- Bucharest
- Constanta
- Tulcea
- Danube Delta
- Black Sea

DELTA – Data Communication Support

- Fix Telemedicine Center
- Mobile Telemedicine Unit

- Internet Communication via Satellite (fast deployment - 10/15 min.)

- Mix-Media Telemedicine Communication Barebone

- Constanţa
DELTA – Telemedicine Functions

- Fix Telemedicine Center
- Mobile Telemedicine Unit
- Tele-diagnostics
- Tele-imaging
- Tele-mentoring
- Distance learning
- Tele-profilaxy
- Tele-epidemiology

DELTA – National System Integration

- Fix Telemedicine Center
- Mobile Telemedicine Unit

Other Telemedicine National Centers:
- Fundeni
- Floreasca
- Cluj
- Timisoara
- Craiova etc.

Mix-Media Telemedicine Communication Barebone
DELTA – International Integration

- Fix Telemedicine Center
- Mobile Telemedicine Unit

National Integration

International Integration

Black Sea Telemed Area

Mix-Media Telemedicine Communication Barebone

DELTA – Project Schedule

- Telemedical productivity of the DELTA Pilot
- Regional integration of the DELTA Telemedical System
- National Integration of DELTA telemedcal System

- Final Reports to NASA and ESA
- Joining Agreement of DELTA to the Excellence Centre for Space Appl.
- Evaluation and Advocacy Report to the Ministry of Health
- Workbench for other telemedical projects MTU, SMOPERR
- Evaluation of telemedical productivity
- Mid-road Workshop

- First Report to NASA and ESA
- Telemedical productivity of the DELTA Pilot
- In-field communication and medical facilities deployment
- ROSA – MITAC Cooperation Agreement on Space Applications for Health
- Communication solutions
- Project kick-off (September 2004)
Thanks for your kind attention!

Contact:
Vlad Valeanu
The Excellence Center for Space Applications in Medicine and Human Biological Welfare
e-mail: vlad@donnamaria.ro