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AGRÉMENT CANADA
Driving Quality Health Services
Force motrice de la qualité des services de santé
Accreditamento di eccellenza 2007-2010

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The satellite as a driver for quality and universal eHealth services

Dr. Claudio Dario

Director General
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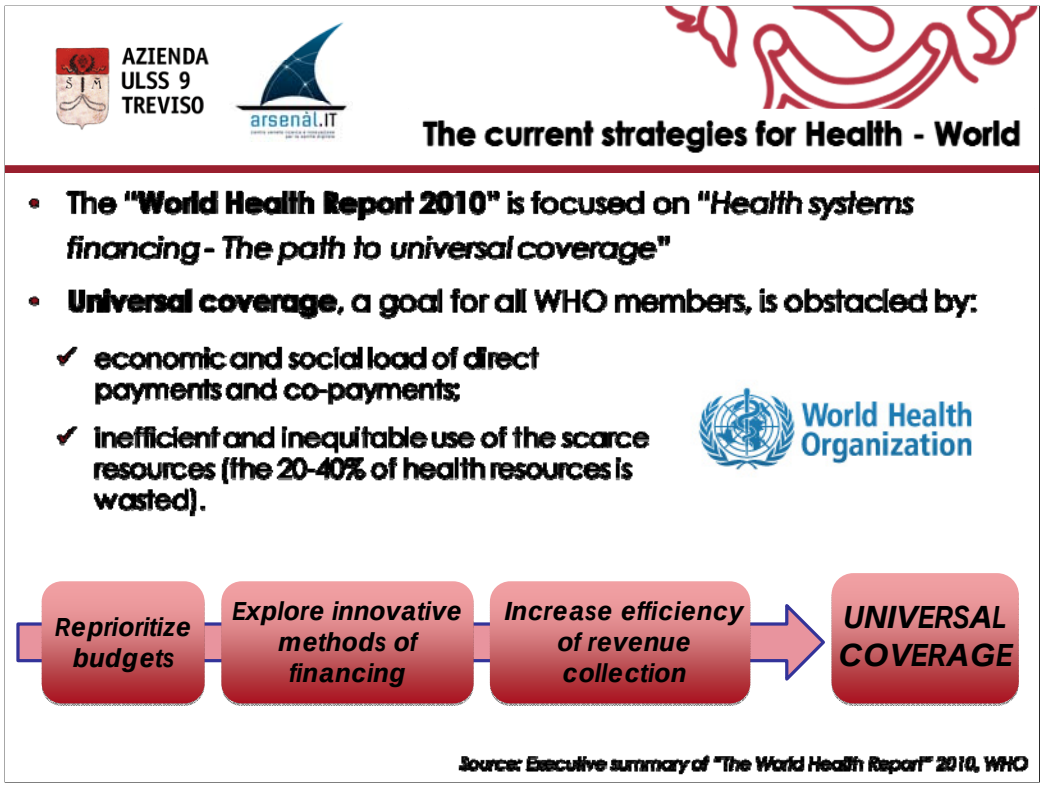
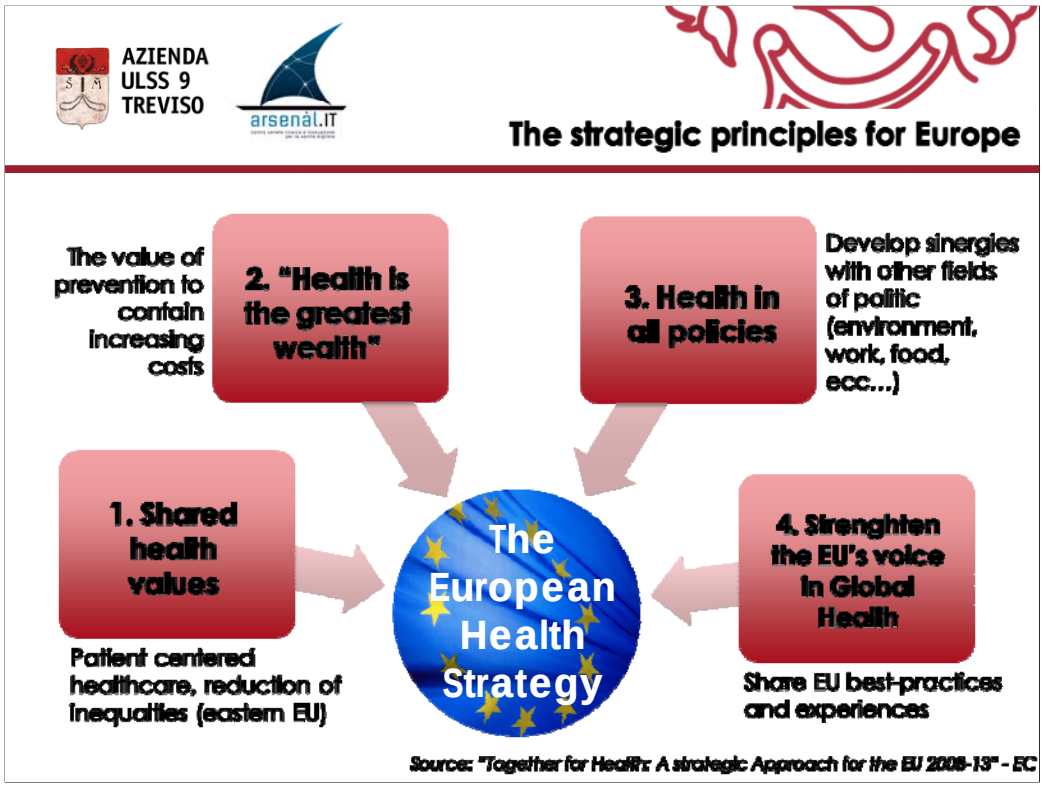


The contents of the World Health Report 2010”



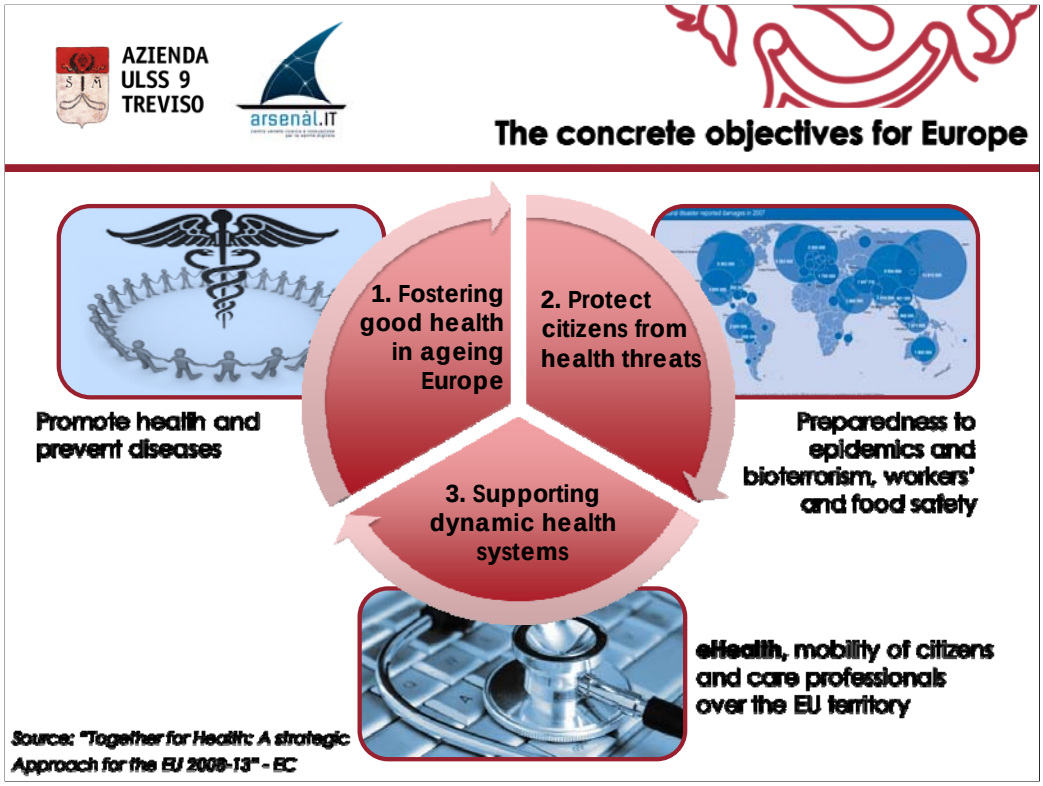
Also the European Commission focused the Community Health Strategy for 2008-13 over 4 principles:

1.Shared health values: empowerment of patient, patient-centerend healthcare, reduction of inequalty on the level of cares (Eastern euope)

2.Health is the Greatest Wealth (Virgil): the value of prevention to contain increasing economic and social costs

3.Health in all policies: develop sinergies with the other fields of politic, as environment, work, food safety, research and innovation, agricultural policy, ecc…

4.Strenghten the EU's voice in global health, sharing EU's best practices and strategies with the other international organizations (WHO)

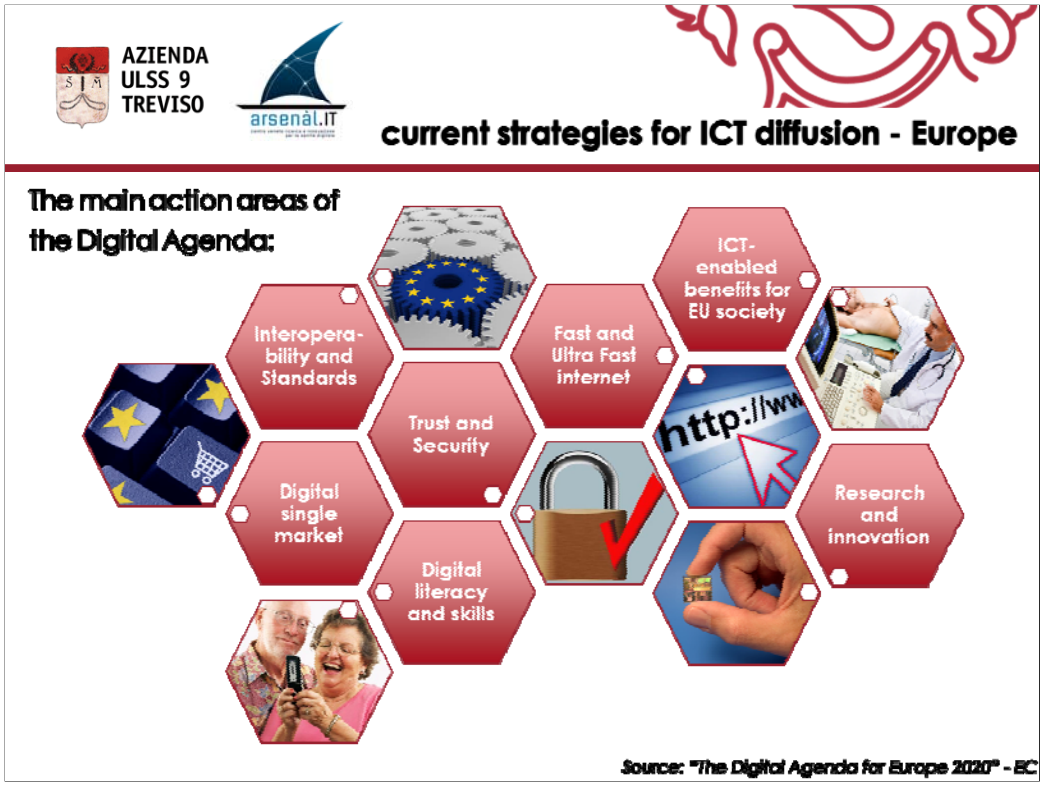


Starting from the 4 principles three main concrete objectives has been identified by the commission:

1.Fostering good health in an ageing Europe: promote health and prevent disease (fight poor nutrition, promote physical activity, increase alcohol and tobacco taxation, etc…)

2.Protecting citizens from health threats: safety and security, preparedness and response to epidemics/bioterrorism, workers' safety, food safety.

3.Supporting dynamic health systems and new technologies: eHealth to provide citizen-centred care, follow the mobility of citizens and care professionals over EU and lower the costs of healthcare. In this field a big objective is to create an European wide eHealth area.



eHealth, connecting healthcare facilities, professionals and citizens, allows to:

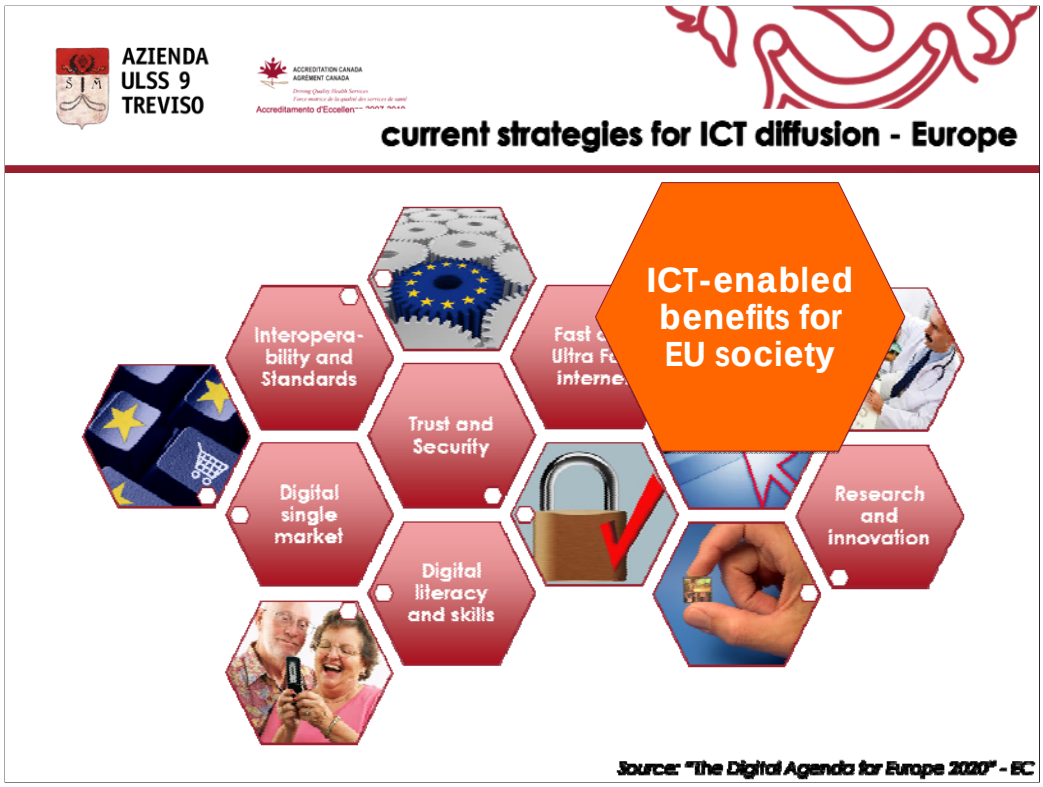
- extend the access to health data;
- improve the quality and the continuity of care
- increase the quality and the reliability of collected data;
- reduce costs (economic and organizational)

Telemedicine. The delivery of healthcare services, where distance is a critical factor, by healthcare professionals using information and communications technologies for the

exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of healthcare providers,

all in the interest of advancing the health of individuals and their communities (WHO 1997).

The European Commission recognizes the key role of eHealth and the



eHealth and telemedicine are identified as enabler of benefits for the EU society and some concrete actions are suggested by the Digital Agenda:

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Some concrete actions are identified to develop susstainable healthcare and ICT-support for independent and dignified living:

•develop secure online access for Europeans to their medical data (*empowerment*);

•widespread telecounselling and emergency care;

•develop Ambient Assisted Living (AAL) services for elderly and disabled people to be intependent and active (*eInclusion*): tele-monitoring, fall prevention, support for dementia;

•widely adopt standards, interoperability and common semantics for medical data.

European Commission and Its Member countries identified these key areas and allocated funds for their development with several means: 7th framework Workprogramme, Interreg, AAL, etc...

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needs for the delivery of eHealth services

Some technological requirements for the delivery of good eHealth services

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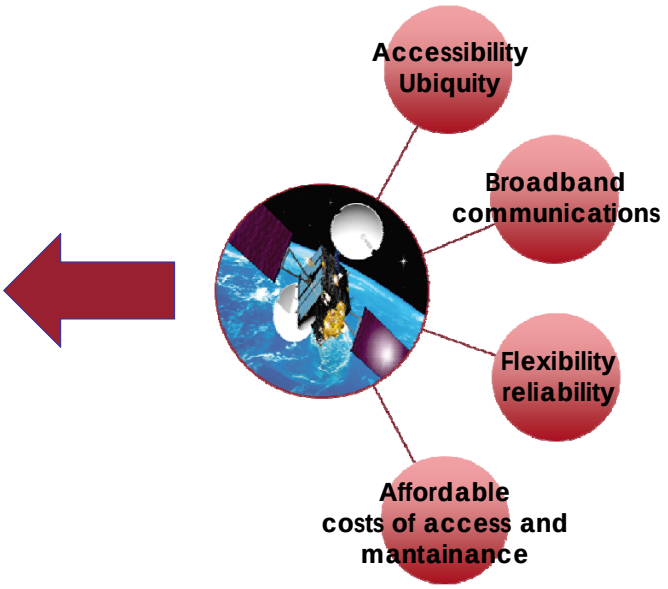
needs for the delivery of eHealth services

The use of satellite satisfies to many of these requirements



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Insights

What limited the adoption of satellite on eHealth and Telemedicine applications?

- **high costs** for access to the technology and to the connectivity **(now costs are decreasing)**
- investments are often made in **narrow healthcare applications;**
- even if technology is mature there are **few providers of affordable end-to-end services and turnkey solutions**: the **market is fragmented;**
- telemedicine initiatives are often driven at a **local level;**
- **the benefits are often not passed to potential investors** (private companies, etc...);
- low interoperability (proprietary standards) and few sinergies.

Source: Market and Regulatory Study of Telemedicine Via Satellite, 2006 - ESA

These are also the area of application of many and many projects funded by ESA in the ARTES Programme:

•Telemedicine, homecare and emergency consultation for: remote or isolated areas (patients, small hospitals, prisons, oil platforms, developing countries, peace and war missions) and means of transport (aircrafts, boats, spacecrafts, etc…)

•Continuing medical education, enhancing the broadcast capability of the satellite: one teacher and many sites served contemporary. This can be applied also to patients at home, with prevention campaigns promoting healthy lifestyle

•Epidemiology, environmental studies for prevention, health early warning, preparedness to epidemics and bioterrorism

•Extensive access to clinical data for patients (EHR in mobility) and healthcare professionals (EHR in mobility, distribuited databases for clinical research)

European Journal of Medical Research

Official Organ » Deutsche AIDS-Gesellschaft«

VOLUME 10 / SUPPLEMENT I MARCH 15, 2005

Opportunities and Challenges of eHealth and Telemedicine via Satellite

C. Dario[1], A. Dunbar[2], F. Feliciani[3], M. Garcia-Barbero[2], S. Giovannetti[1], G. Graschew[4], A. Güell[5], A. Horsch[6], M. Jenssen[7], L. Kleinebreil[8], R. Latifi[9], M. M. Lleo[10], P. Mancini[11], M. T. J. Mohr[12], P. Ortiz García[13], S. Pedersen[7], J. M. Pérez-Sastre[13], A. Rey[14]

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[2]WHO Regional Office for Europe, Division of Country Support, Barcelona, Spain,
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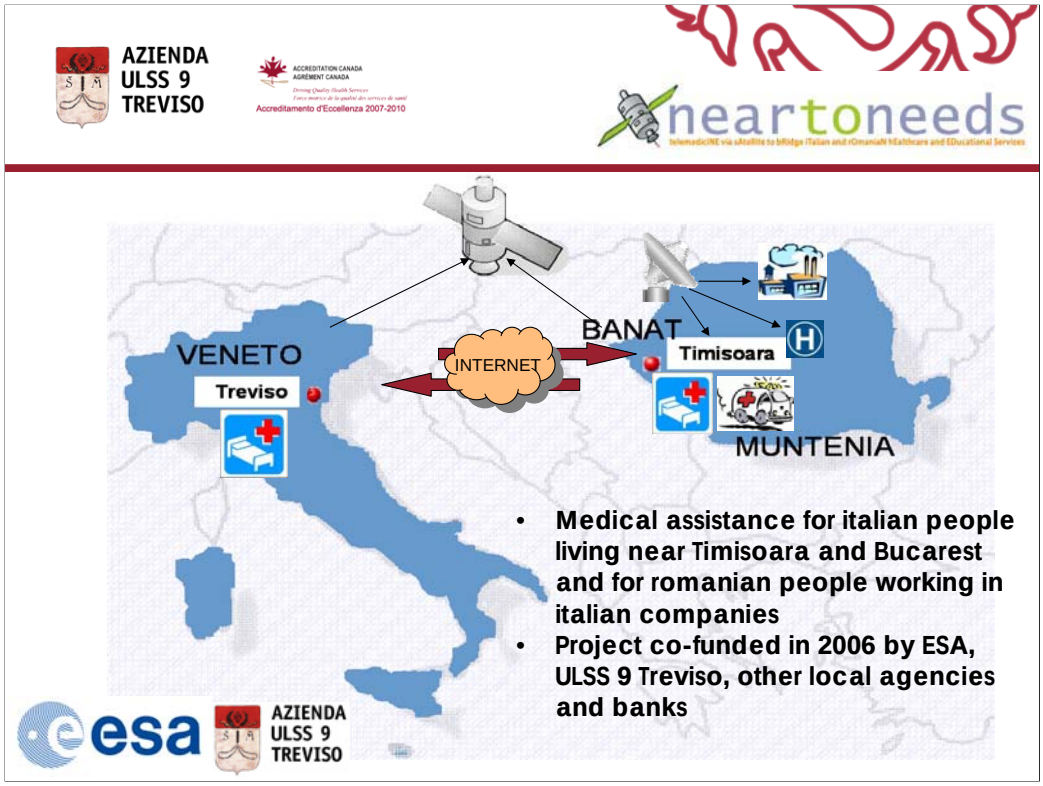
[6]Department of Medical Statistics and Epidemiology, Munich University of Technology, Germany,
[7]Norwegian Center for Telemedicine, Tromsø, Norway,
[8]L'Assistance Publique Hôpitaux de Paris, France,
[9]Surgical Department, University of Arizona, Tucson, USA,
[10]Department of Pathology, Section of Microbiology, University of Verona, Italy,
[11]European Space Agency, Paris, France,
[12]International Center of Telemedicine, Regensburg, Germany,
[13]Iberia Medical Service, Spain,
[14]Geneva University Hospital, Switzerland



Near to Needs project

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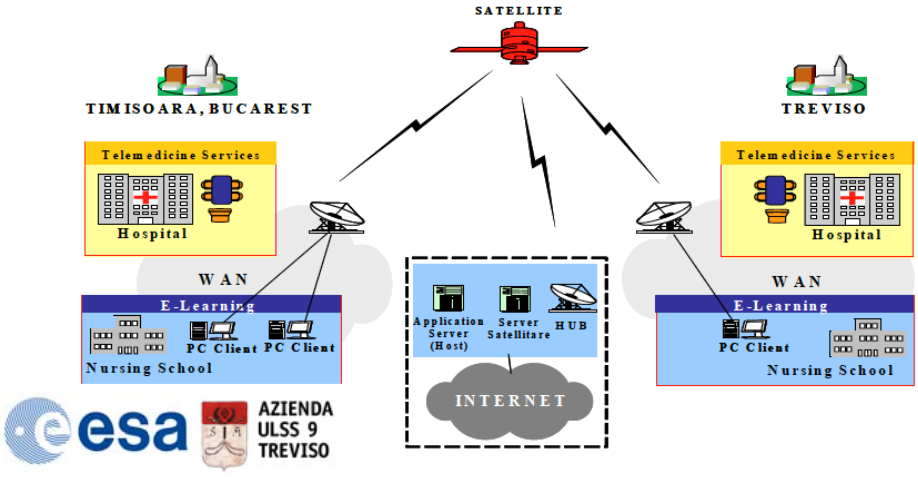
neartoneeds

- **Applications:** Telelaboratory, Teleradiology, Telecounselling, Patient Health Record, eLearning
- **The network:** 1 satellite station in Italy and 5 stations in Romania



esa AZIENDA ULSS 9 TREVISO

Near to needs project

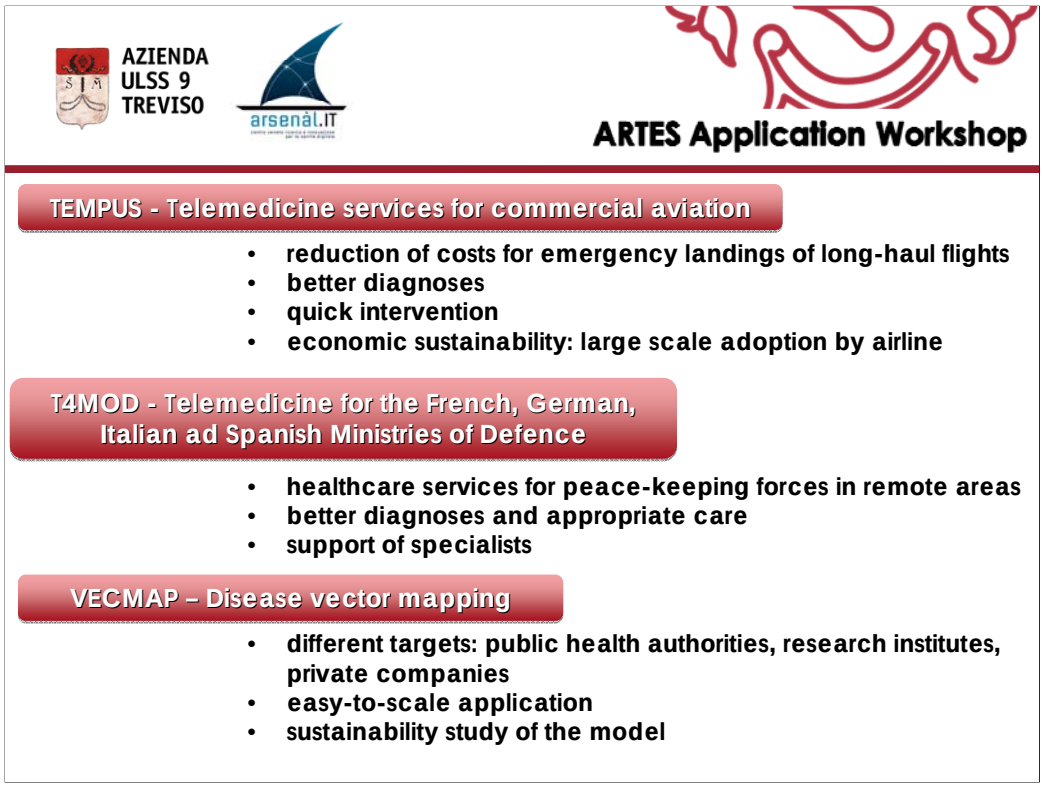
Some key factors for the success of eHealth applications via satellite:

•before to start an application, study an appropriate business model to grant economical sustainability, cost savings, demand aggregation

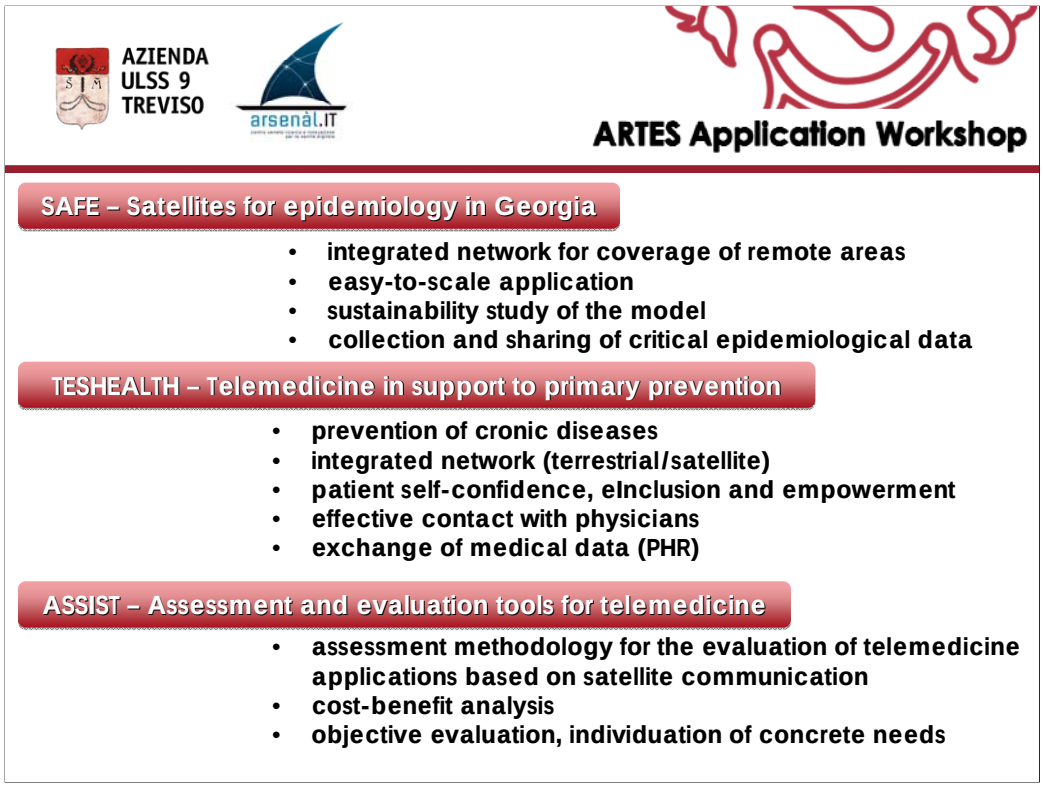
•the satellite has to be considered complementary (integrated) and not substitutive to the terrestrial network

•response to concrete needs (mainly clinical and economic, rather than demographic and political):

- "global" systems for public health (epidemiology and environmental surveillance)
- "local" systems for assisted medical support (couselling, ECM)



In this workshop we will look in the applications developed in the ARTES Programme for some of these success factors and for how user needs have been met.



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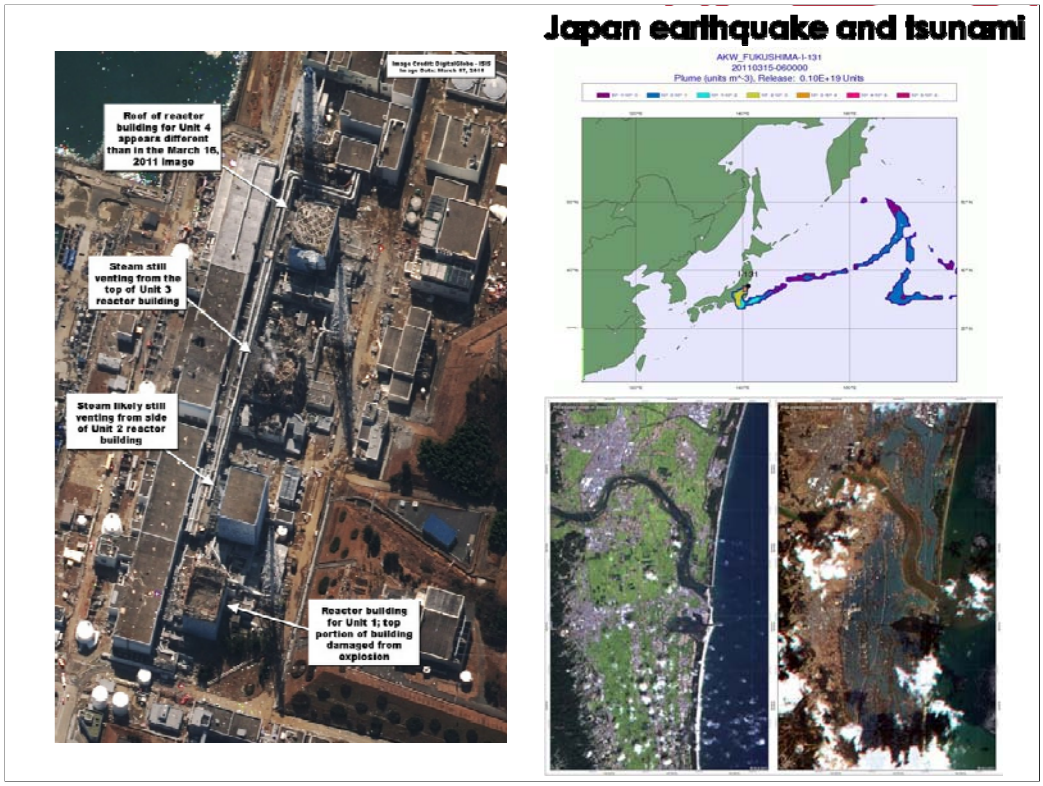

The role of satellite applications in emergency relief operations in Japan.

•hearth observations: how the landscape is changed after the tsunami

•nuclear fallout monitoring: how the nuclear fallout cloud is changing and travelling over the Pacific Ocean

•nuclear central monitoring: satellite photos to detect the damages to the nuclear implants

•telecommunications: submarine and terrestrial cables damaged, cellular communications out of order, etc… → satellite communications essential

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Japan earthquake and tsunami

ITU Deploys Emergency Telecoms To Japan

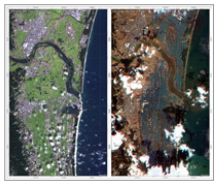
March 16, 2011 by Sophie Curtis

The UN agency for ICT is providing emergency telecoms for victims of the Japan earthquake

The International Telecommunications Union is deploying emergency telecoms in Japan, to help people in areas severely affected by the recent earthquake and tsunami.

The ITU, which is the United Nations agency for information and communication technology issues, has dispatched satellite phones made by Thuraya and Iridium – some of which are also equipped with GPS to facilitate search and rescue efforts – as well as Broadband Global Area Network (BGAN) terminals from Inmarsat.

esa news



Before and after the tsunami

Mapping Japan's changed landscape from space

16 March 2011
Following the massive earthquake and tsunami that hit Japan on 11 March, satellite imagery has been vital in providing a clear picture of the extent of devastation to aid the relief effort now underway.

In response to this event, which turned out to be the biggest earthquake Japan has suffered in living memory, the International

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Project Topics index

March 17, 2011 Updated

KIZUNA supports disaster relief measures after Tohoku Region Pacific Ocean Coastal Earthquake

On March 17, JAXA dispatched two sets of movable ground antennas, two teleconference systems, four radio LANs and other equipment for the Wideband Internetworking Engineering Test and Demonstration Satellite "KIZUNA" with five personnel necessary for setting up and operating communication systems to Iwate Prefecture, which has been severely damaged by the Tohoku Regional Pacific Ocean Coastal Earthquake. The dispatch this time was based on a request by the Ministry of Education, Culture, Sports, Science and Technology, who received a petition from Iwate Prefecture. The support activity is part of KIZUNA's experimental utilization.

Press Release index

- January 29, 2010 (15:00) St. Valentine's Day Mail Delivery from Space Using KIZUNA (WINDS) With Cutting-edge Technology "Cloud Computing"
- January 7, 2010 (14:00) Wideband InterNetworking engineering test and Demonstration Satellite "KIZUNA" (WINDS) International Symposium -- Asia-Pacific Area Linked by KIZUNA --
- May 16, 2008 (16:30) Wideband InterNetworking engineering test and Demonstration Satellite "KIZUNA" (WINDS) Successful Satellite Data

Article:

Japan Disaster Recovery Efforts Get Help From Satellites

SPACE.com Staff
Date: 16 March 2011 Time: 02:01 PM ET

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Thanks for your attention!