

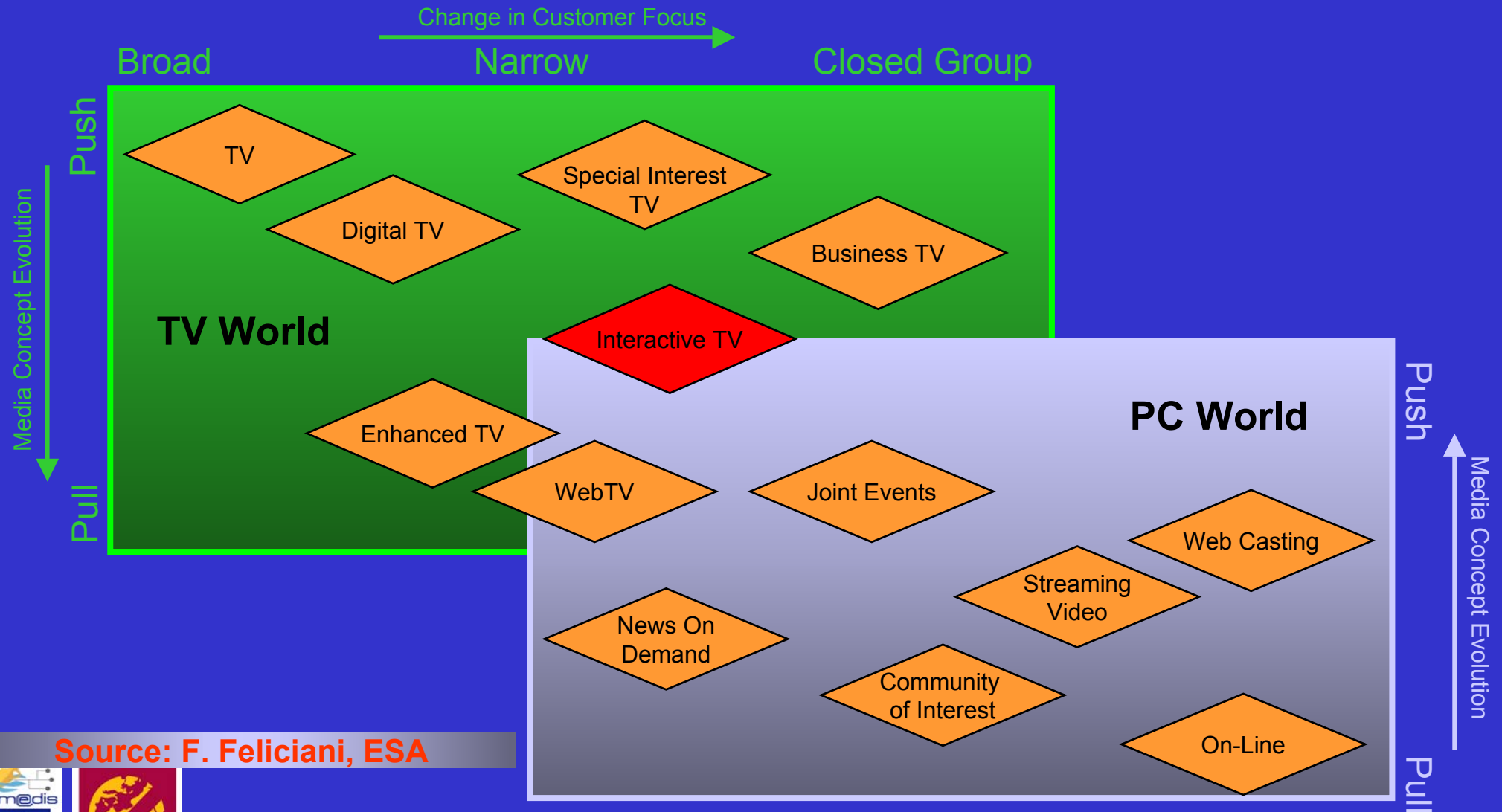
Communication Platform for Global Health Care in the VEMH

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Guerkan Engineering Germany

**Euro-Mediterranean Virtual Hospital
Hight Piloting Committee Meeting
8. – 10. of April 2005, Algiers, Algeria**



Change in the Video World



Source: F. Feliciani, ESA

Bridging the Digital Divide of the World

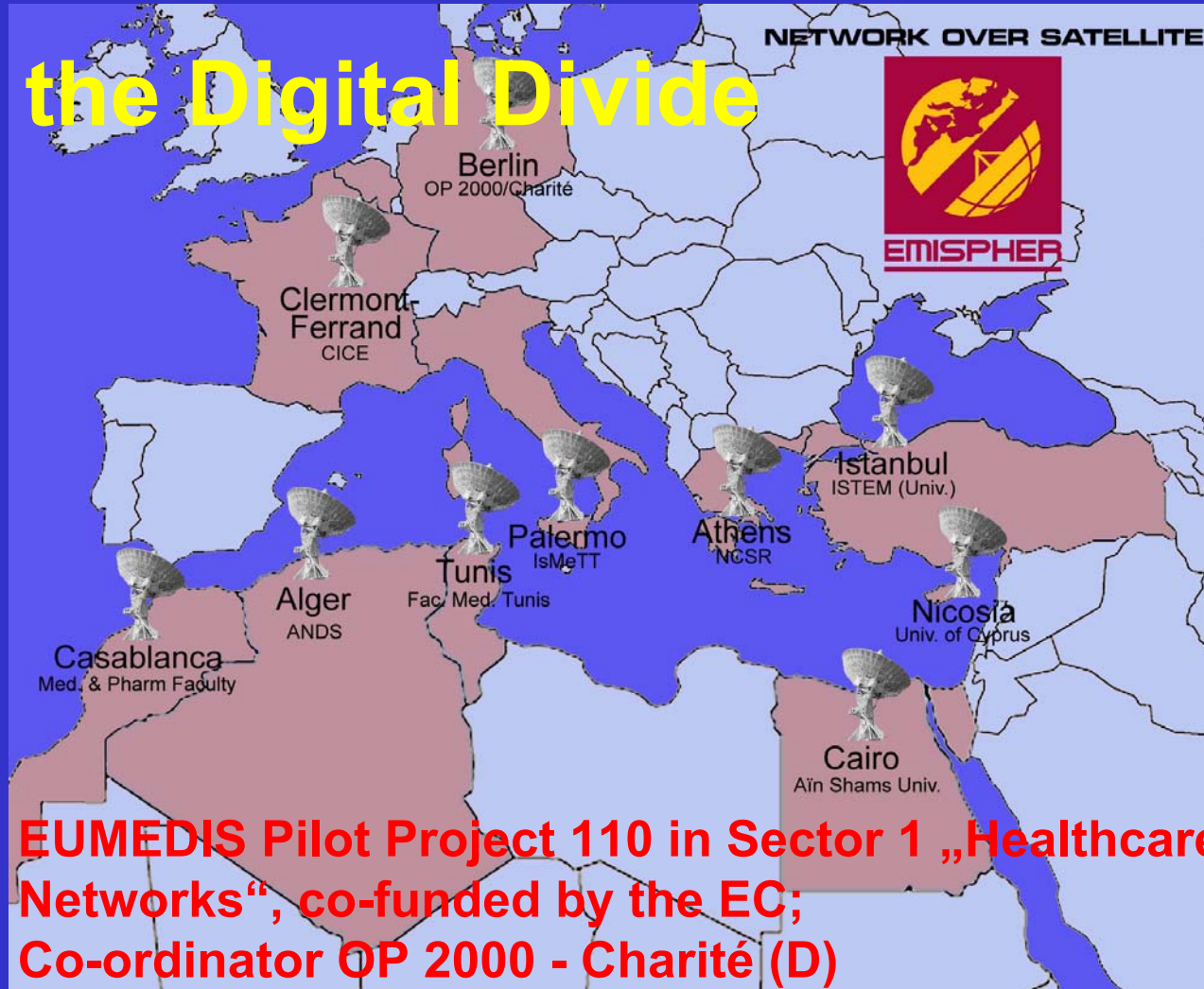
- Training centers and use of new medical devices from distance
- Remote treatment of patients
- Integration of medical competence
- Application centers for new treatments
- Centers of distributed medical intelligency



EMISPHER

(2002 – 2004)

Bridging the Digital Divide



**EUMEDIS Pilot Project 110 in Sector 1 „Healthcare Networks“, co-funded by the EC;
Co-ordinator OP 2000 - Charité (D)**

Guerkan Engineering Germany



EMISPHER Project Infrastructure

- Integrated Internet and Satellite platform
- Dedicated to Health Applications
 - Medical eLearning
 - Real-time Telemedicine
 - Medical Assistance
- Covering the Euro-Mediterranean area
- Using mature cutting-edge European technology



GRID for VEMH

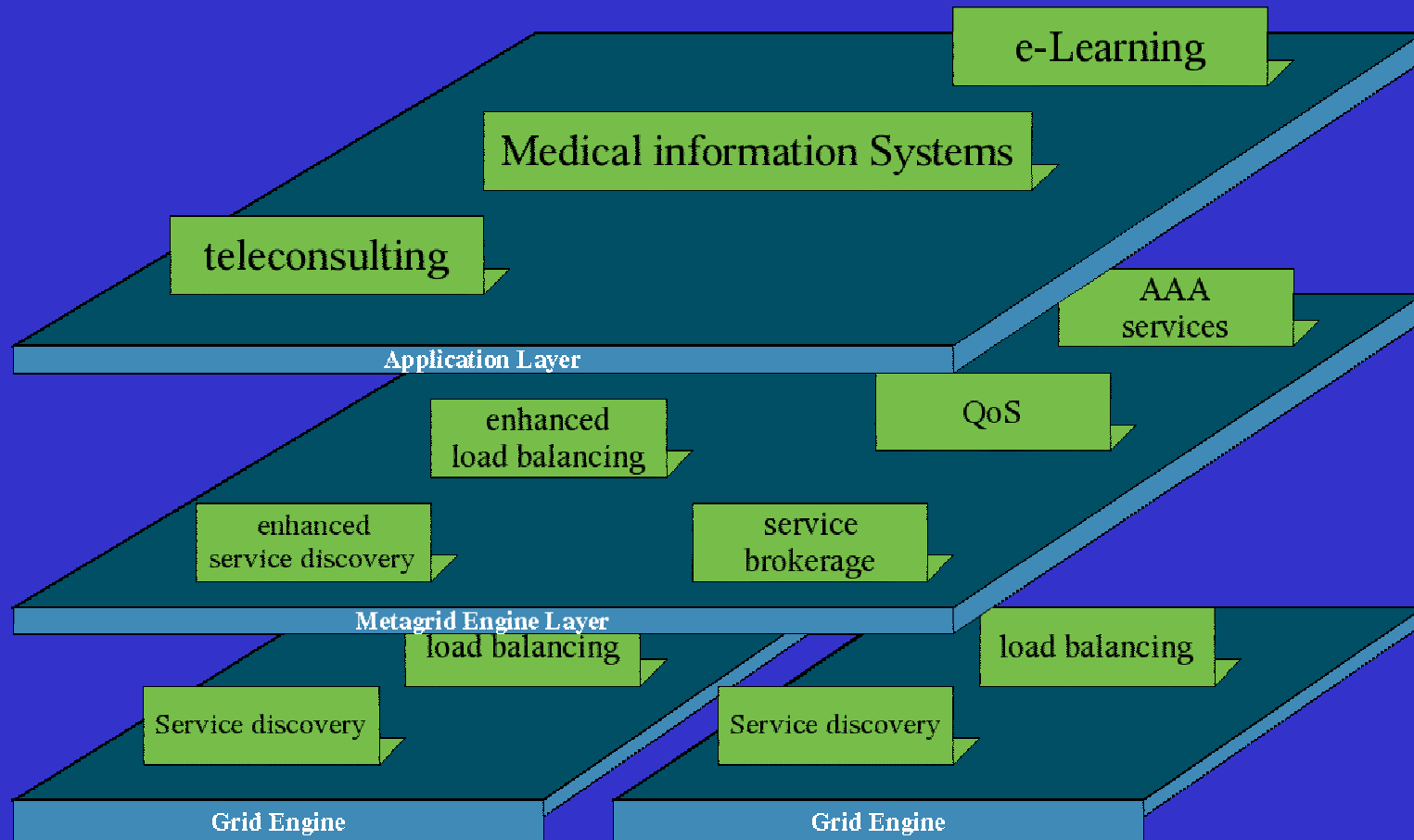
- **Medical Services need higher computing capabilities**
- **Grid is a suitable approach to realize Medical Services**
- **Existing Grid approaches are not sufficient for developing Medical Services**
- **The idea behind the Euro-Mediterranean Virtual Hospital is to provide citizens with sufficient Medical Services in every place**
- **Medical Services have to be useable via divert devices and networks, that means seamless**



Source: DAI, TU Berlin

Guerkan Engineering Germany

Approaches



Source: DAI, TU Berlin

Guerkan Engineering Germany

VEMH: Global Health Network

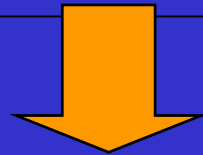
- **Communication platform with global coverage**
- **Interactive multimodal and multimedia communications**
- **Point-to-point and multipoint communications**
- **Meshed topology**
- **Tools and services for health professionals and authorities**
- **Personalised health systems for patients and citizens**



Elderly people

Demographic dynamics:

need of healthcare services is constantly increasing with the aging of European population: in 1998 in EU the percentage of over-65 was about 15%, in 2020 it will reach the 22%.



**a challenge and an opportunity to develop
new products and services**

Source: ESA, ESRIN Meeting

Telemedicine for Disaster Relief and Emergency Applications

Disaster emergencies, (fires, earthquakes, floodings, explosions, war, etc.) occur mostly unexpected and the disaster site is hard to predict. Most of the times a large number of persons gets injured and needs medical treatment. At the disaster site the terrestrial communication infrastructure is often severely damaged, cellular phone networks risk to suffer capacity overload and satellite-based phones allow only for a limited bandwidth.

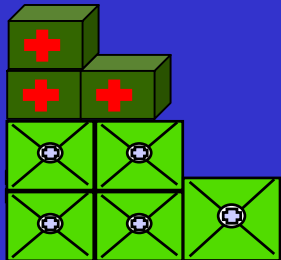
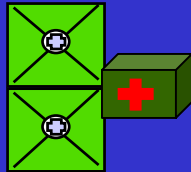
Source: ESA, ESRIN Meeting



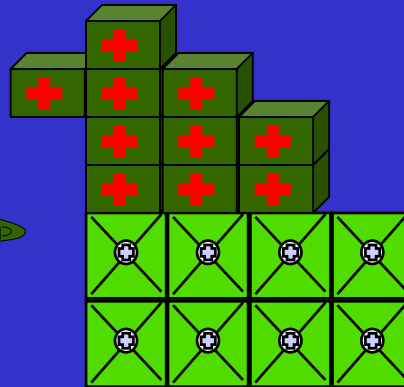
Telemedicine for Hospitals in Remote Areas

Area of Operation

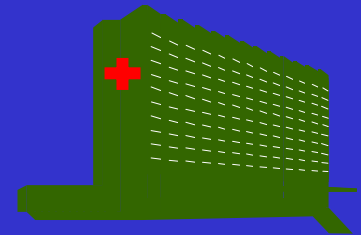
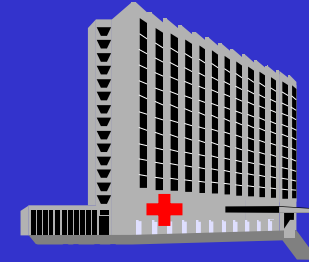
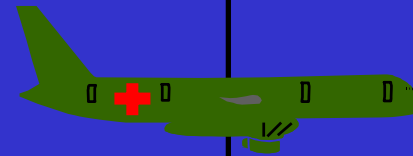
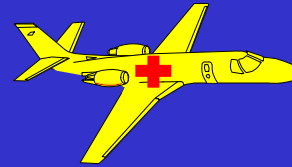
Germany



A



B



C

Preclinical Care

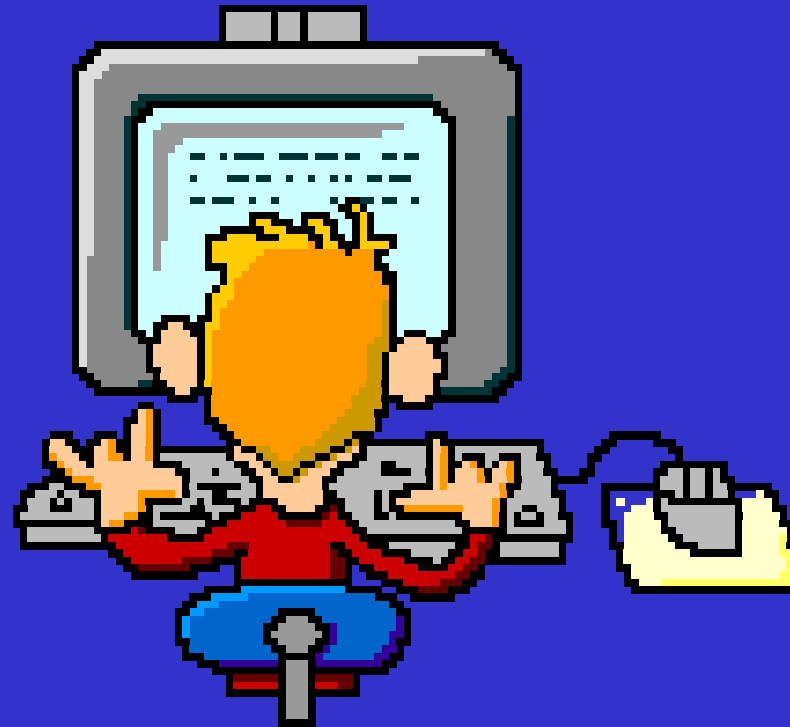
Immediate Clinical Care

Follow on Clinical Support and Rehabilitation

Source: ESA, ESRIN Meeting



The Future ???



Source: ESA, ESRIN Meeting

