

Telemedicine in the German Armed Forces Network of experts for disaster medicine

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Institute of Aerospace Medicine 1



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Institute of Aerospace Medicine

Our task: Health and efficiency of humans in the mobile society



**Long duration stay
Outside the earth**

**Improvement in effectiveness and efficiency of
sociological and technical systemes**





Definition of Telemedicine

Telemedicine is practice of health care using interactive audio, visual and data communication (WHO)

Telemedicine is the capacity to practise medicine at a distance through the utilisation of telecommunication (H.C.Holoway, NASA)

Status - The German Armed Forces Telemedicine Network

Europe

Since 1998
52 TW in Germany

Until 2007, EUFOR
3 TW in
FLaz Rajlovac

Since 2000, KFOR
3 TW in
FLaz Prizren
Until 2003,
1 TW in RZ Eribino

Asia

Since 2002/2003, ISAF
3 TW in FLaz
Mazar-e Sharif
Since 2004
3 TW in RZ Feyzabad
Since 2003/04
3 TW in RZ Kunduz

Africa

Gabun and Kongo in 2006



The Telemedicine Workstations inside the Locations

Supplier



Training vessel



Field hospital

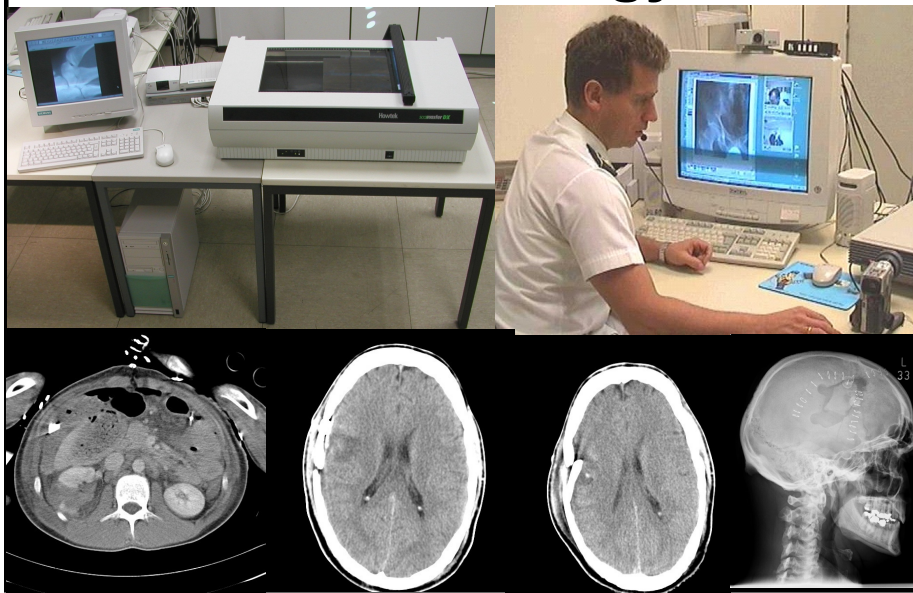


Frigate



Realised Applications in the Telemedicine Network

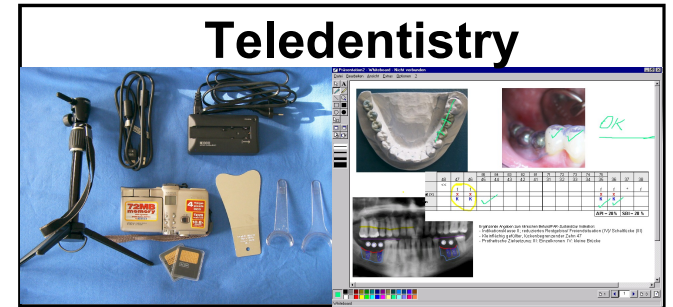
Teleradiology



Teledermatology



Teledentistry



Realised Applications in the Telemedicine Network

Telemicrobiology



Tele-laboratory



Teleradiobiology





Prospects - New Applications in the Telemedicine Network

Development of

- **Tele - Surgery**
- **Tele - Neurosurgery**
- **Tele - Gynaecology**
- **Tele - Otorhinolaryngology (ear, nose, throat medicine)**

for

- **improvement of acute care in accident surgery and disaster medicine**
- **intraoperative Tele - Tutoring**
- **Tele - Education and Tele - Training**

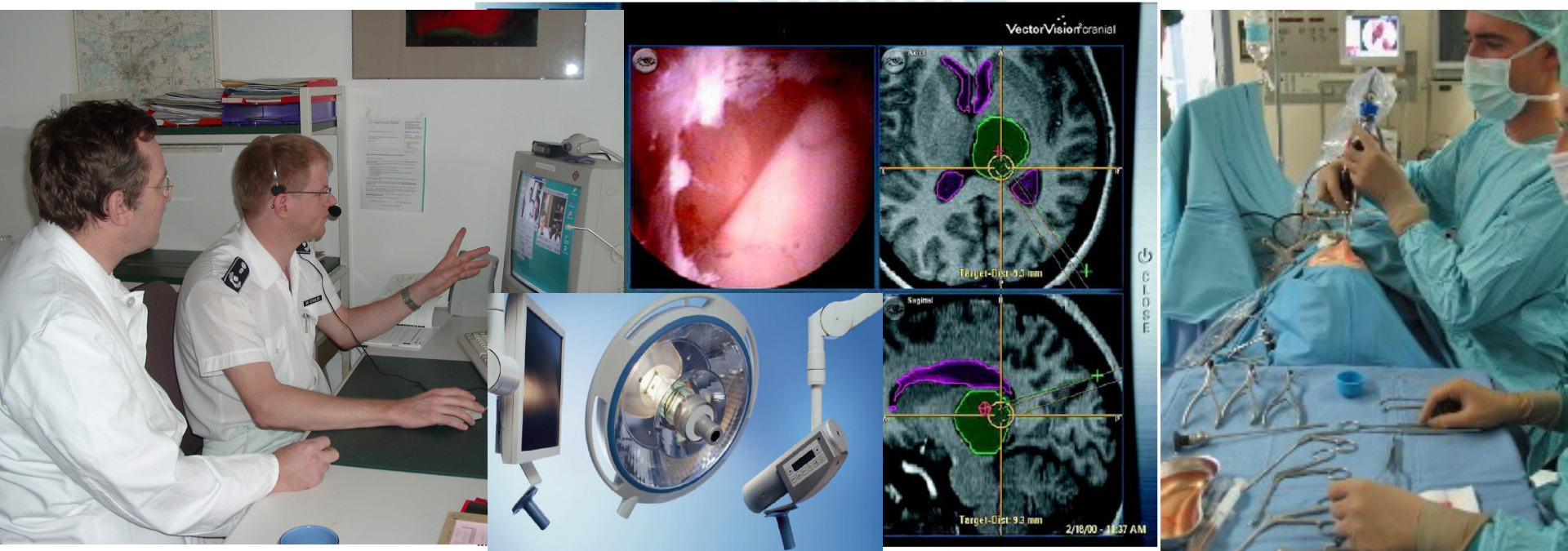
Tele - Surgery – Emergency Situations

- Surgical and radiological online expertise
- Improvement of acute care in accident surgery



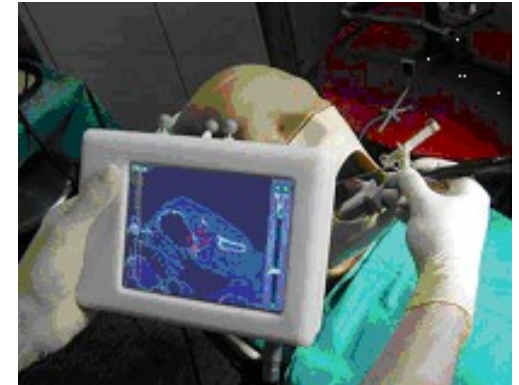
Tele - Neurosurgery – Intraoperative Tele - Tutoring

- Neurosurgical expertise throughout the world
- Supporting general surgeons performing cranial surgery



Tele – Education and Tele - Training

- Ultrasound Diagnosis
- Dentistry and Internal Medicine





Status of the Telemedicine Network

- **More than 100 systems operating**
- **Medical and technical 24/7 combined hotline is available**
- **First and second opinion service is everyday life**

Efficiency and costs

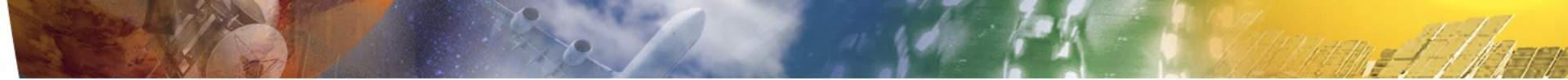
- **More than 2 € saved per 1 € spent in direct costs**
- **Decrease of repatriations**
- **Increase of treatment quality by expert teleconsultations**
- **Cost reductions of secondary care/rehabilitation**



Conclusions

Telemedicine abilities and advantages

- **Support diagnosis und therapies in emergencies and disasters**
- **Triage help after accidents and attacks**
- **Common education and training**
- **Contributions to the reconstruction of the health care systems**
- **World - wide available**



Thanks for your attention.

Telemedicine support in the pediatric surgery

After the operation

7 days later

Today



Football