



The **IEEE** Aerospace and Electronic Systems Society (**AESS**)

and

The **C**enter for **T**ele**I**n**F**rastructure (**CTIF**) network

**a possible cooperation scenario**

Marina Ruggieri

**President, AESS 2010-2011**

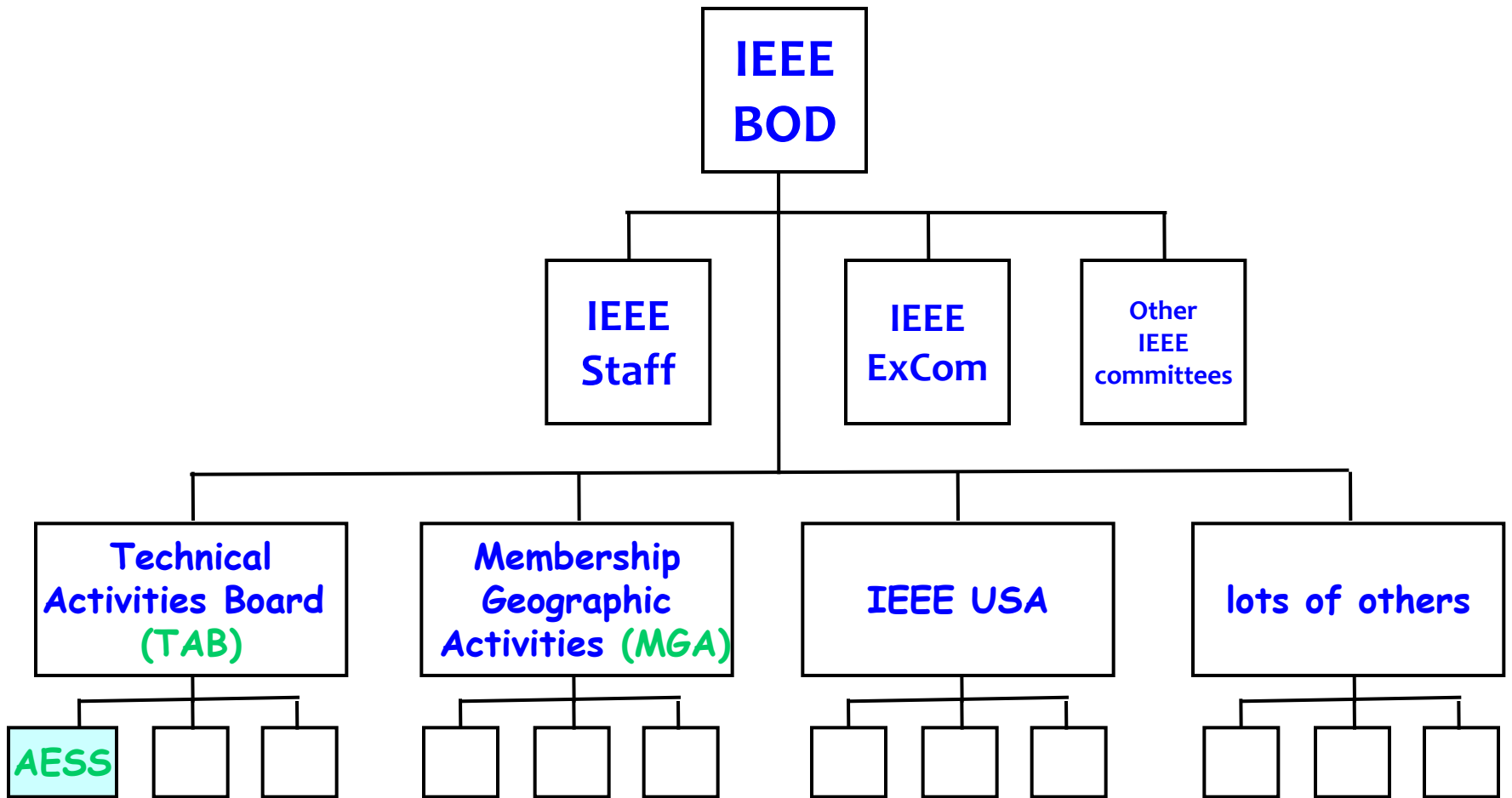
Member, IEEE TAB Strategic Planning Committee

TAB Representative, IEEE Women in Engineering Committee

AESS International Director, Italy&Western Europe

**CTIF\_Italy Director**





**AESS belongs to Division IX**

**an organizational unit of IEEE administered by TAB**

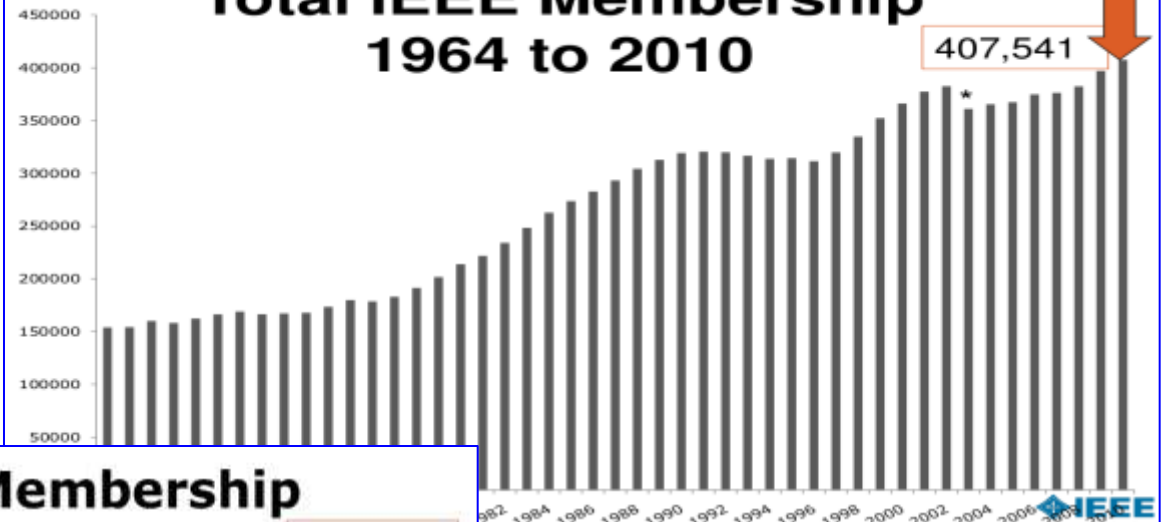


## Division IX Societies

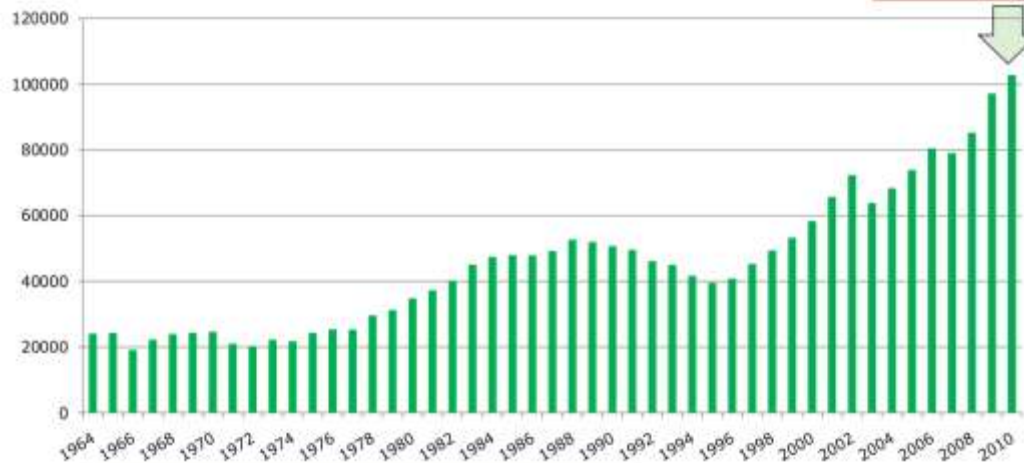
- [Aerospace and Electronic Systems Society](#)
- Geoscience and Remote Sensing Society
- Information Theory Society
- Intelligent Transportation Systems Society
- Oceanic Engineering Society
- Signal Processing Society
- Vehicular Technology Society



# Total IEEE Membership 1964 to 2010



# IEEE Student Membership 1964 to 2010



### % of student members to total membership

- 1970 : 14.6%
- 1980 : 16.3%
- 1990 : 15.9%
- 2000 : 15.9%
- 2005 : 21.5%
- 2010 : 25.2%

Note increase in % of students over the past 10 years



# Just some of IEEE activities

## IEEE new Products

- National Electrical Safety Code for Android, Blackberry, iPhone
- IEEE Spectrum on iPad
- IEEE Standards Wireless Dictionary on Iphone
- IEEE Xplore improvements

## IEEE Initiatives (some examples)

- Smart Grid
- Life sciences
- Cloud computing
- Humanitarian activities: EPICS – South Africa wind project



IEEE.org | IEEE Xplore Digital Library | IEEE Standards Association | IEEE Spectrum Online | More IEEE Sites

**IEEE lifesciences** **IEEE**

Home About Areas of Convergence Publications Conferences Education

Search IEEE Life Sciences  Search [Share](#) [Get Involved in Life Sciences](#)

## Identifying Patient Segments Who Respond to a Drug

The Genomics and Personalized Medicine Act of 2010 (GPMMA) defines personalized medicine, in its limited scope, as "any clinical practice model that emphasizes the systematic use of preventive, diagnostic, and therapeutic interventions that use genome and family history information to improve health outcomes." [Read more](#)

Life Sciences Technology Spotlight | Life Sciences Feature Article | Upcoming Events  
22 2011 International

# IEEE Signal Processing MAGAZINE

2010 年 IEEE 信号处理学会论文摘录

## THE IEEE TECHNOLOGY TIME MACHINE

WHAT'S AHEAD AT HONG KONG, JUNE 1-3, 2011

CYBERMEDIA

**CIOL** MAKING IT YOUR ADVANTAGE

Quick and easy power supply design with **SIMPLE SWITCHER®** products and **WEBENCH®** designer tools.

Home News Technology Developer Education IEE Sessions Custom Sites C-Change Enterprise Awards 2011 Spark IT 2011

Sendmail Biz Watch Product Watch Tech Watch Seen Pipes Design Trends Special Reports

search   [Twitter](#) [Newsletters](#) [Videocast](#) [Audiocast](#) [Specials](#) [RSS](#)

**Ju**

### Global industry to improve solar energy efficiency

#### Solar PV poised to challenge fossil fuels: IEEE

The solar energy experts from IEEE said that within the next 20 years, solar photovoltaic systems have the potential to be the most economical form of generating electricity, even compared to traditional fossil fuels

Wednesday, June 15, 2011

[Print](#) [Email](#) [Comments](#) [RSS](#) [Digg](#) [StumbleUpon](#)

**NEW DELHI, INDIA:** Within the next 20 years, solar photovoltaic (PV) systems have the potential to be the most economical form of generating electricity, even compared to traditional fossil fuels, say solar energy experts from IEEE, the world's largest

**CLICK. VNX. NOW.**  
Step into the future with your own VNX for desktop.

**EMC<sup>2</sup>**

**Most Commented**

- Mobile launches new dual SIM handsets in India

**The Latest Gadgets Delivered to Your Inbox**


Internet

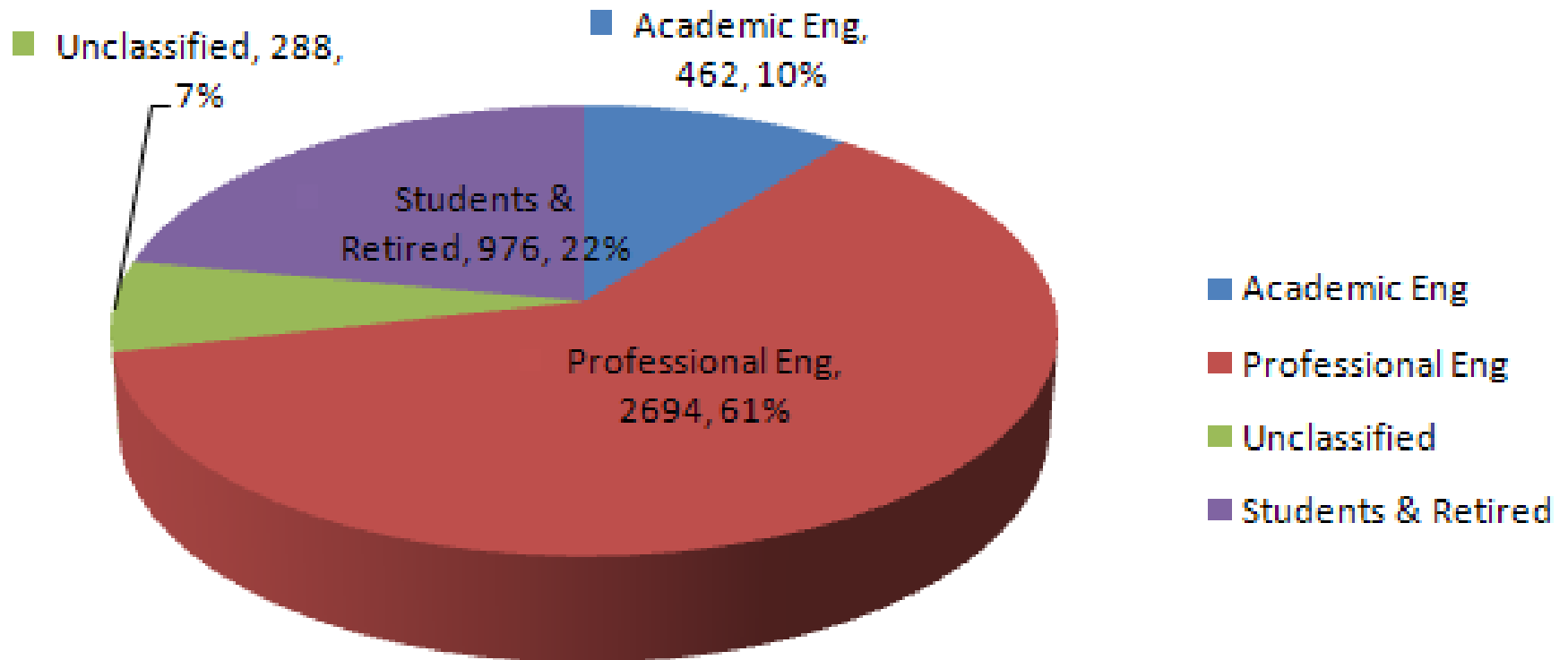


## **AESS Field of Interest**

**“The field of interest shall be the organization, systems engineering, design, development, integration, and operation of complex systems for space, air, ocean, or ground environments. These systems include but are not limited to navigation, avionics, mobile electric power and electronics, radar, sonar, telemetry, military, law-enforcement, automatic test, simulators, and command and control.”**

# AESS Membership

 Society	Academic Eng	Professional Eng	Unclassified	Students & Retired	Total
<b>MEMAES010</b>	462	2694	288	976	<b>4420</b>







# AESS Board of Governors

Spring 2011 meeting



# AESS Technical Panels

Technical Panel	Chair/Co-Chair
Gyro and Accelerometer	Randall K. Curey (Chair)
Radar Systems	Michael C. Wicks (Chair)
Space Systems	Cosimo Stallo (Chair) Marina Ruggieri (Vice Chair)
Target Tracking Systems (New)	Hody Lambert
Aerospace Systems Integration Engineering	Barry Greenberg (Chair)
Aerospace Control & Guidance Systems	Gary Balas (Chair)
SAR and IED Detection	Mark Yeary
Aerospace Workforce (New)	Russell Lefevre (Chair) Theodora Saunders (Vice Chair)
 Standards (New)	Rich Hochberg (Chair)
 Cyberspace / Cyber Security Panel	Fred Wright (Chair)
UAV Panel	George Dean

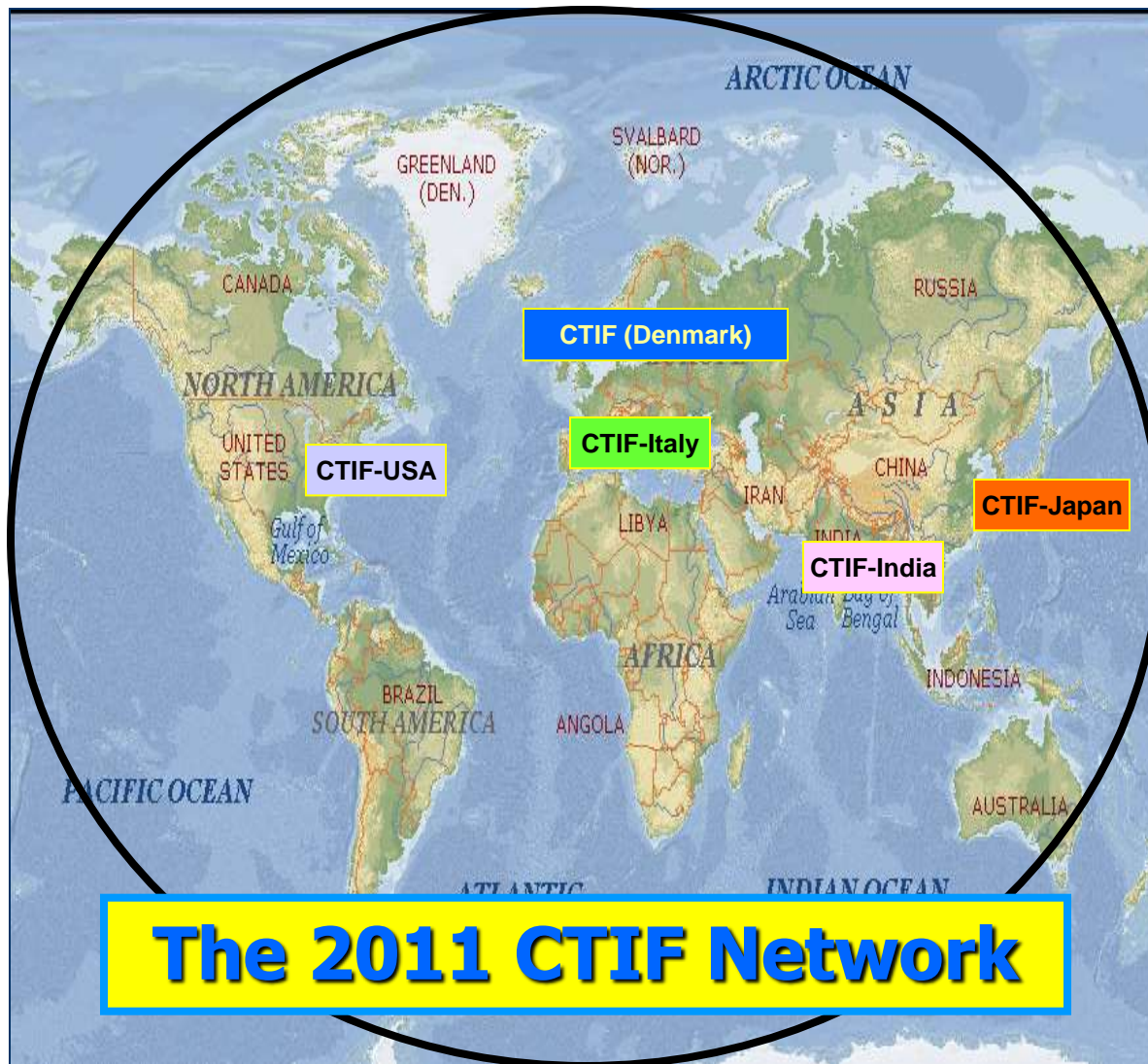
# AESS, GOLD and Students



## Balloon Mission

Design of a payload to be launched with a balloon with very strict weight constraints (<4Kg)

Co-funded by  
AESS Student Initiatives  
and AFCEA\_Rome Chapter



**The 2011 CTIF Network**

**Aalborg**  
**Copenhagen**

**Roma**

**Kolkata**  
**Mumbai**

**Tokyo**

**Princeton**

**The Center for TeleInFrastruktur (CTIF) is a world-wide research center with headquarters at Aalborg University (AAU), Denmark.**

**CTIF is a paradigm shift in innovative research and higher education in the area of emerging communication technologies.**

**Its pioneer concept of world-wide distribution of research and educational activities, combined with commercialization of the results, provides entrepreneurship at the level of Masters Education and innovation at the PhD level.**

**CTIF mission is to serve as a platform for joint activities in the convergence of networks, technologies, services and applications field through regional, national and international cooperation.**

**CTIF has strong ties with national and international industrial partners and is an integrated and active part of the association of mobile and wireless industry.**



## **Wireless communications :**

- Future Broadband Communications
- Radio Networking and Security
- Satellite Communications and Integration with terrestrial systems
- Short-Range Communications
- Medical Applications

## **Aerospace Systems (Telecom, GNSS, Earth Observation):**

- Satellites, HAPs, Constellations, Formations
- Architectures, payloads, components
- Software
- Receivers
- Applications and services (including dual use)
- Experimental trials
- Data analysis

## **Information and Communication Technology for Quality of Life**

- Biotechnology
- Energy
- Disaster Ahead Management



# CTIF\_Italy @University Roma Tor Vergata





## CTIF\_Italy Office in Space Engineering (Tito Scalo, PZ, Italy)



Experimental use of EHF  
(Q/V and W band)  
communications



# Nano and microsattellites



- MENU PRINCIPALE
- Home
- E-learning
- Annunci & Proposte
- Articoli
- Forum
- Galleria Multimediale
- Cerca nel sito
- Requisiti PC
- Contatti

Home

**Benvenuto**  
Scritto da IMT srl

Il programma, si svilupperà attraverso 3 moduli didattici e sarà rivolto agli studenti che frequentano gli ultimi 3 anni della **Scuola Media Superiore**. Ognuno dei moduli, sarà suddiviso a sua volta in **LEZIONI TEORICHE** ed **ESERCITAZIONI DI LABORATORIO**.

**Il primo modulo, in cui saranno coinvolte le terze classi degli Istituti, verranno illustrati gli argomenti di base relativi allo SPAZIO :**

Partendo da un excursus storico della presenza dell'Uomo nello spazio, si

LOGIN FORM

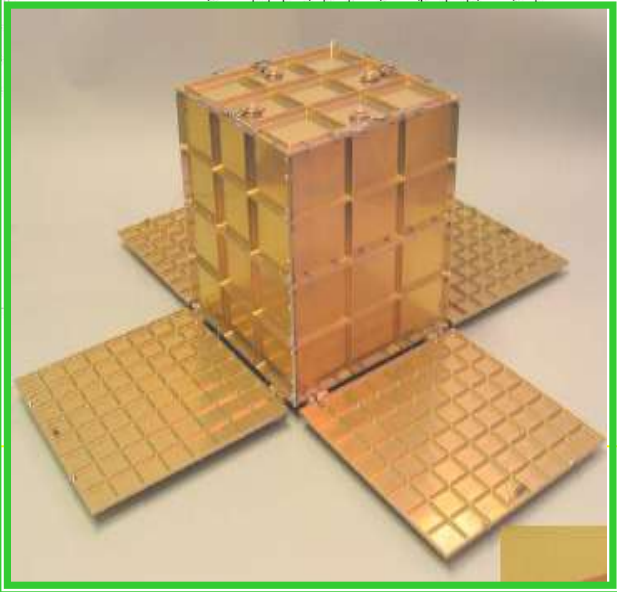
Per ottenere un account, contattare la IMT srl.

Username

Password

Ricordami

[Password dimenticata?](#)



ANNUNCI & PROPOSTE

**Esperimento SAT**

Proposta rivolta alle scuole medie superiori per la progettazione di un esperimento scientifico o tecnologico da imbarcare sul satellite EduSAT (lancio previsto nel 2010).

Cerca nel sito...

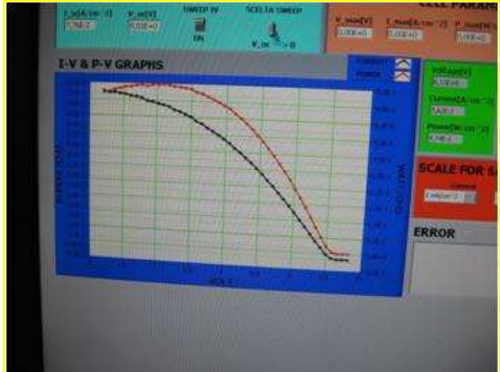
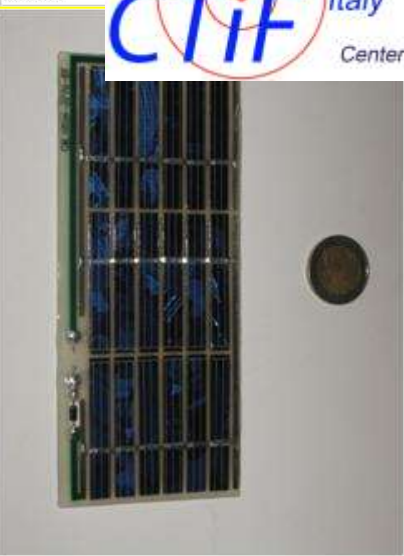
IMMAGINE DEL GIORNO

VISITATORI ON LINE

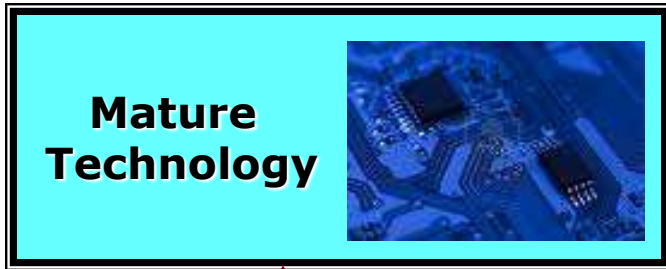
Sei il visitatore N° ... dal giorno ...



Centro per le TeleInfrastrutture



# Quality of Life (QoL)

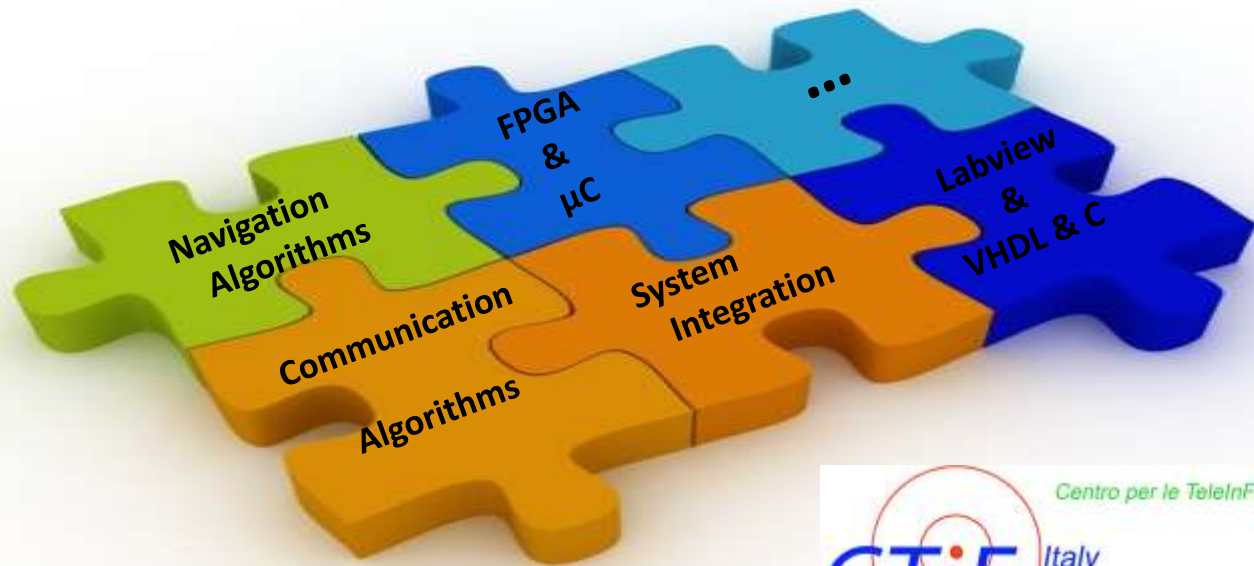


Technology Enhancement

Service/Appl Enhancement

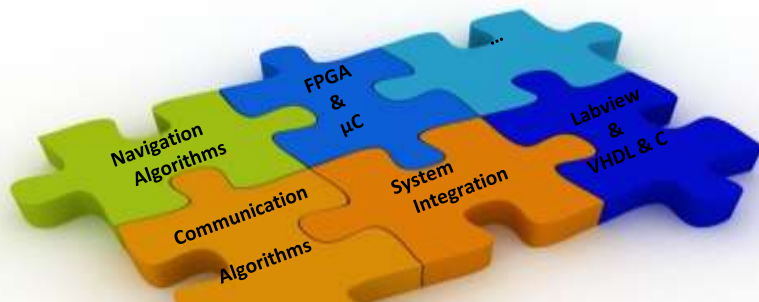
# HASCoN- The CITF\_Italy Lab

## Hardware and Algorithms for Systems of COmmunications and Navigation



## Advanced Approach for Applied Research Development:

- Push the Research Center contribution forward in the *from-concept-to-industrial-product* translation chain
- Cross-fertilization of research capabilities and products



Development of Integrated Navigation and Communication Prototypes

### Cross fertilization areas:

- Biotechnology and Medicine
- Energy
- Geology

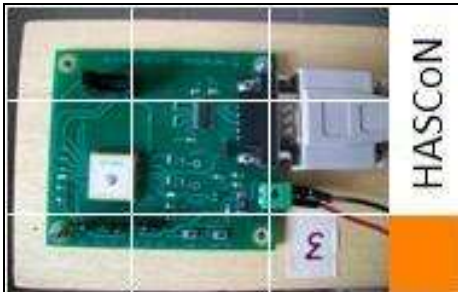
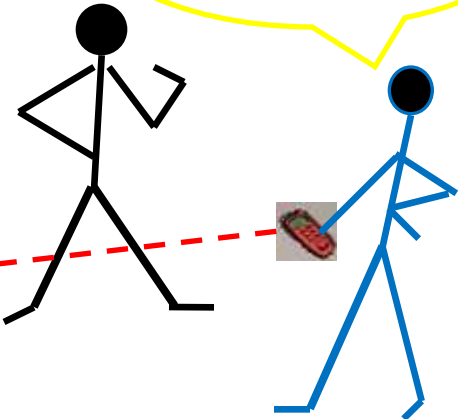
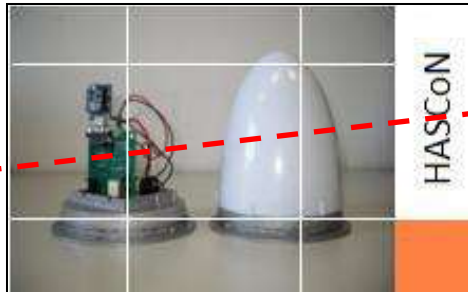
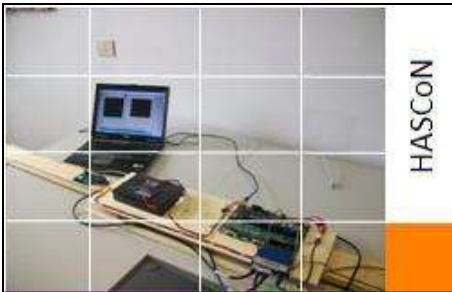




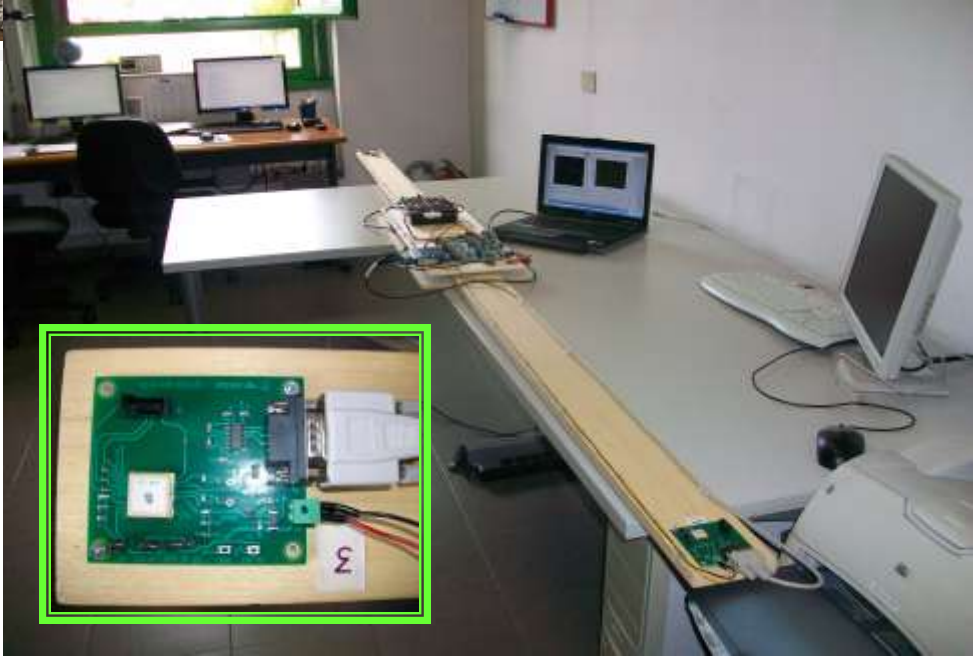
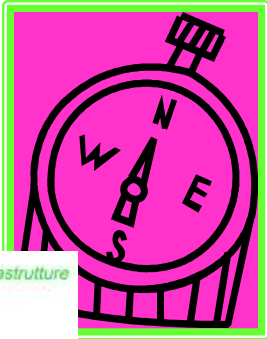
# Some on-going projects

- SoHa Pen
- Satellite Compass
- GPS-based localization system for a fleet of mobile units
- WyWyGo (NavCom for Cultural Heritage)

My **Smart Pointer** says these are the statues of Canopo in Villa Adriana

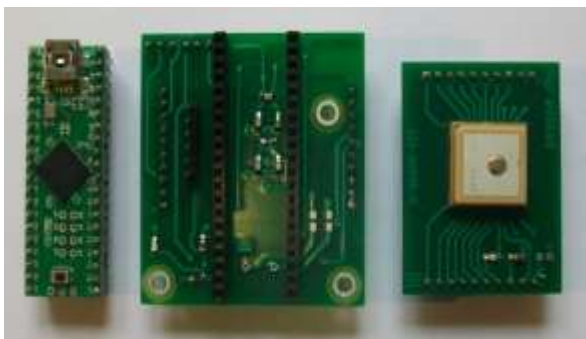
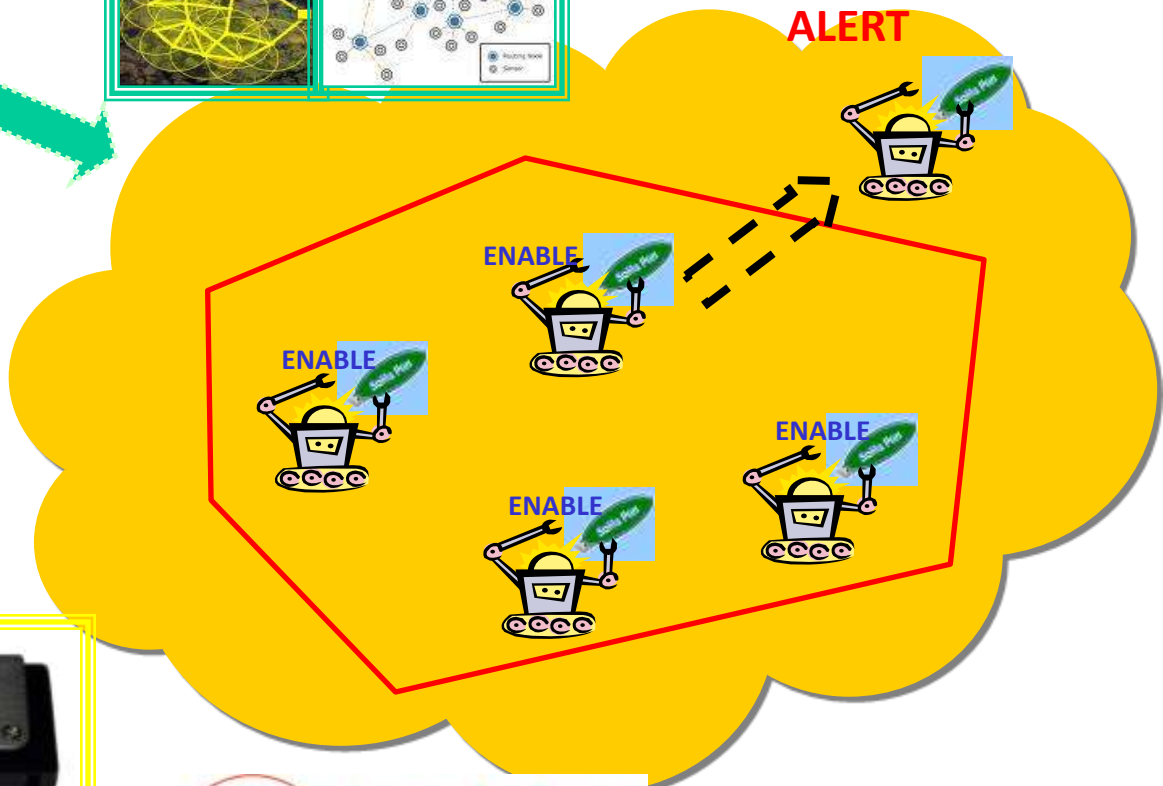
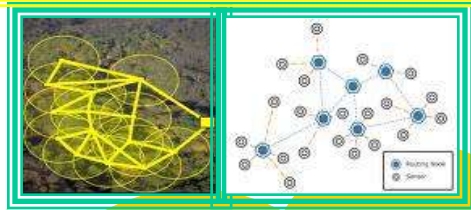


# Satellite compass & seaport access

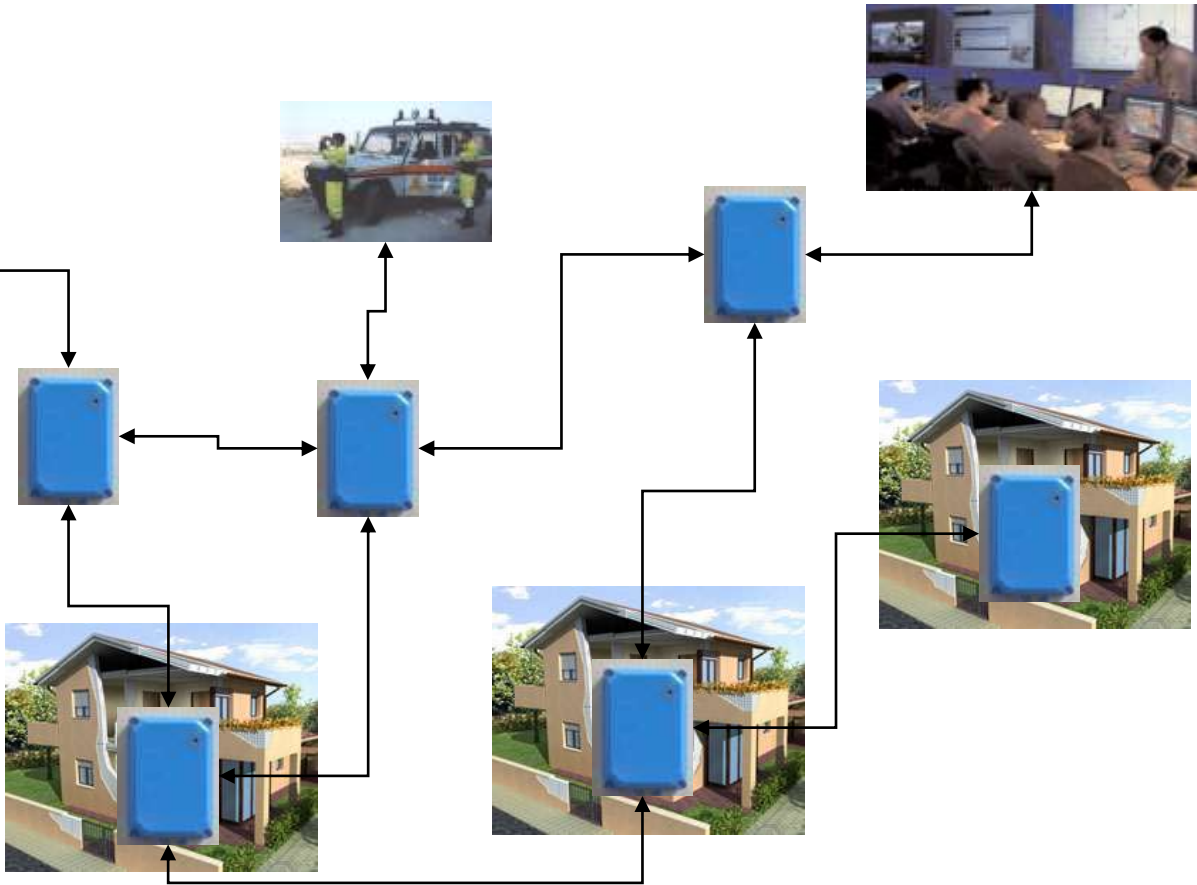
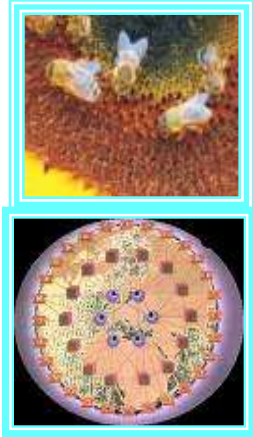




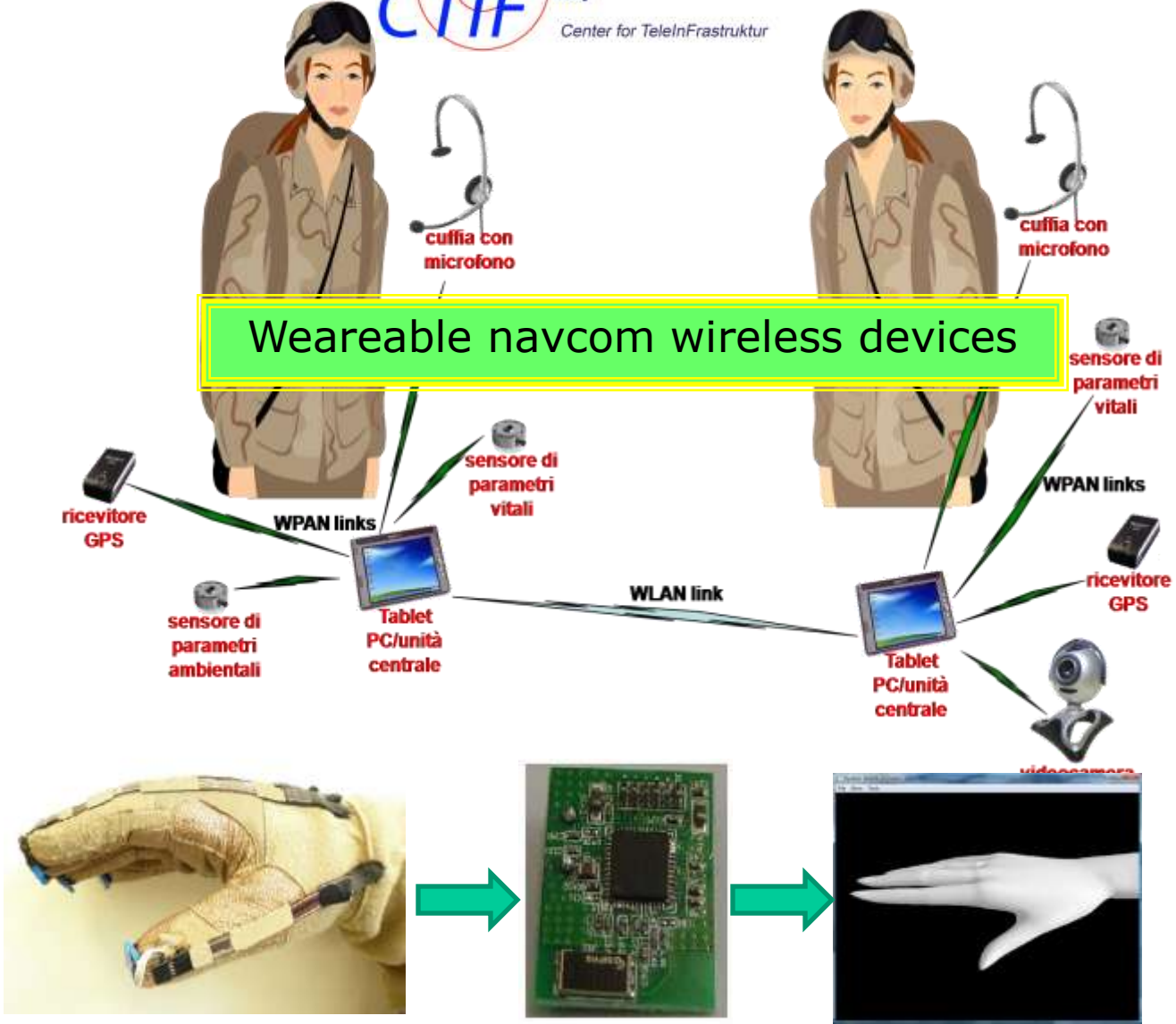
# Swarm controller



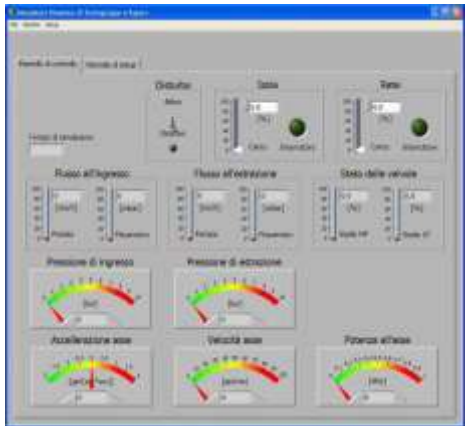
# Swarm-based Disaster Ahead Management



Weareable navcom wireless devices



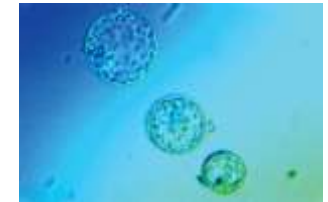
# ICT devices and networks for Energy



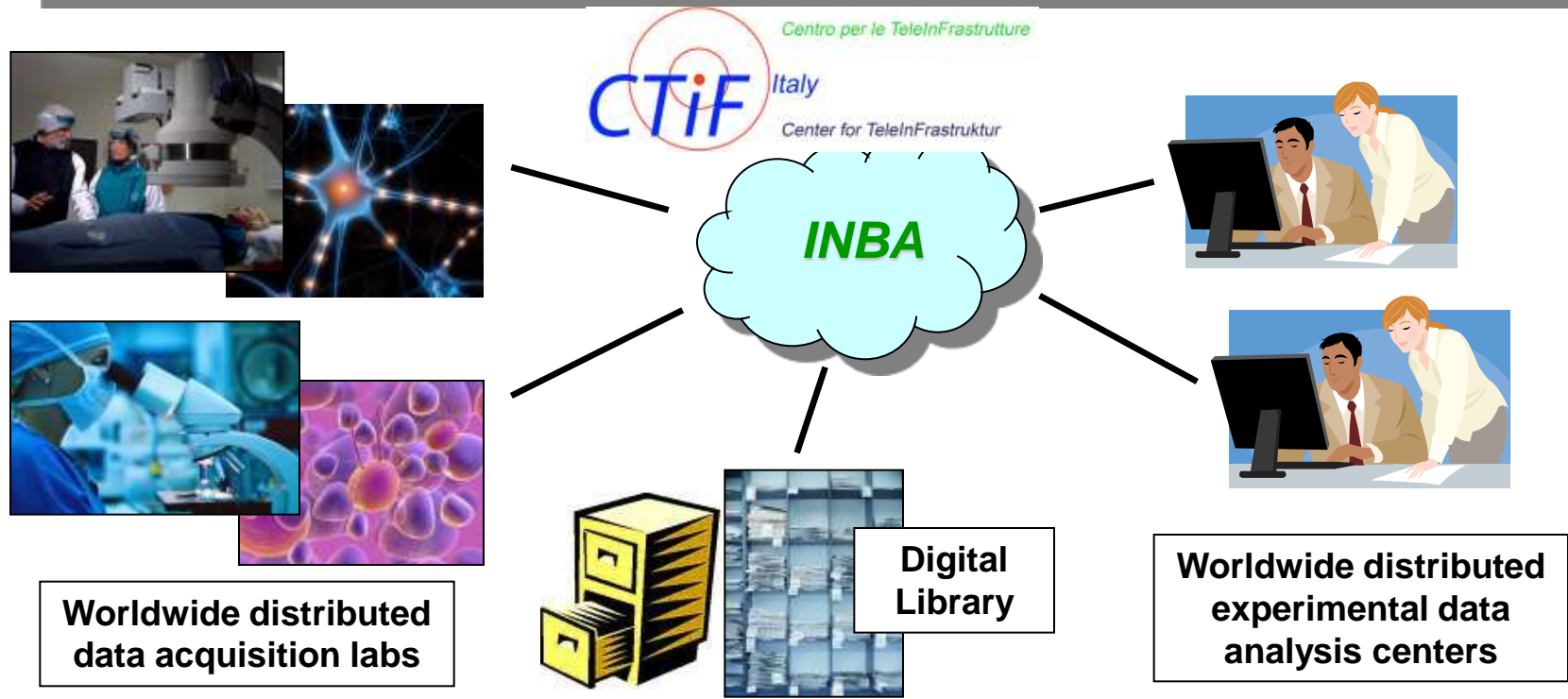




## ICT devices and networks for Stem Cell Systems



# INBA: Infrastructural Network for Biotech Advancement



# Fly with us!

## M.Sc (second level) in Advanced Communications and Navigation Satellite Systems

### Cermet Quality Certification UNI EN ISA 9004:2000

### IX Edition (2011-2012)

[www.masterspazio.it](http://www.masterspazio.it)



[ruggieri@uniroma2.it](mailto:ruggieri@uniroma2.it)  
[cianca@ing.uniroma2.it](mailto:cianca@ing.uniroma2.it)



# Thank you

# What AESS and CTIF could do together?

- International Events (Conferences, Workshops)
- Students activities (Summer Schools, Lectures, Training, Awards)
- Standards
- Interleaving between AESS and CTIF networks for membership growth
- Technical Panels
- *more...plz suggest....*

