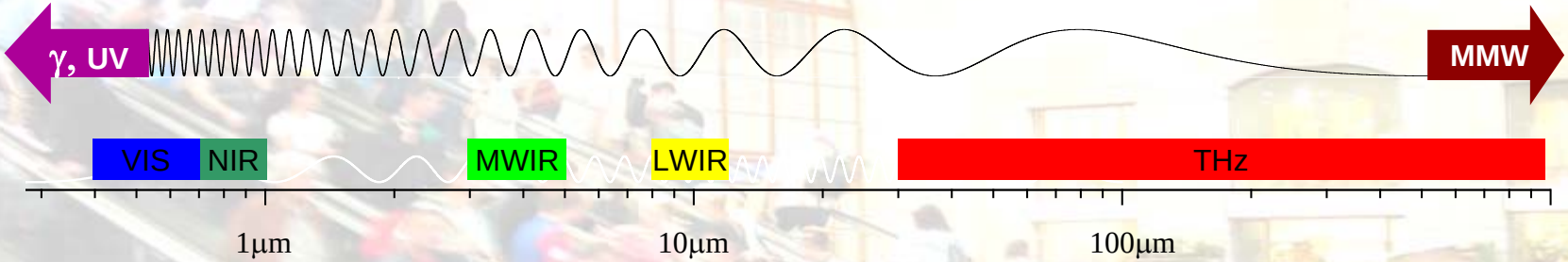
European Funded Project

MUTIVIS

MUltispectral **T**erahertz, **I**nfrared,
Visible **I**maging and **S**pectroscopy

Multispectral sensing



- CCTV surveillance
- Car night vision
- Biological studies
- Inspection (NDT, production control)

Image from ULIS-IR.

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- Car night vision
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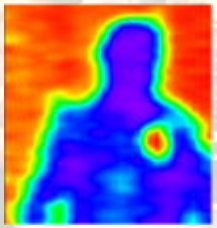
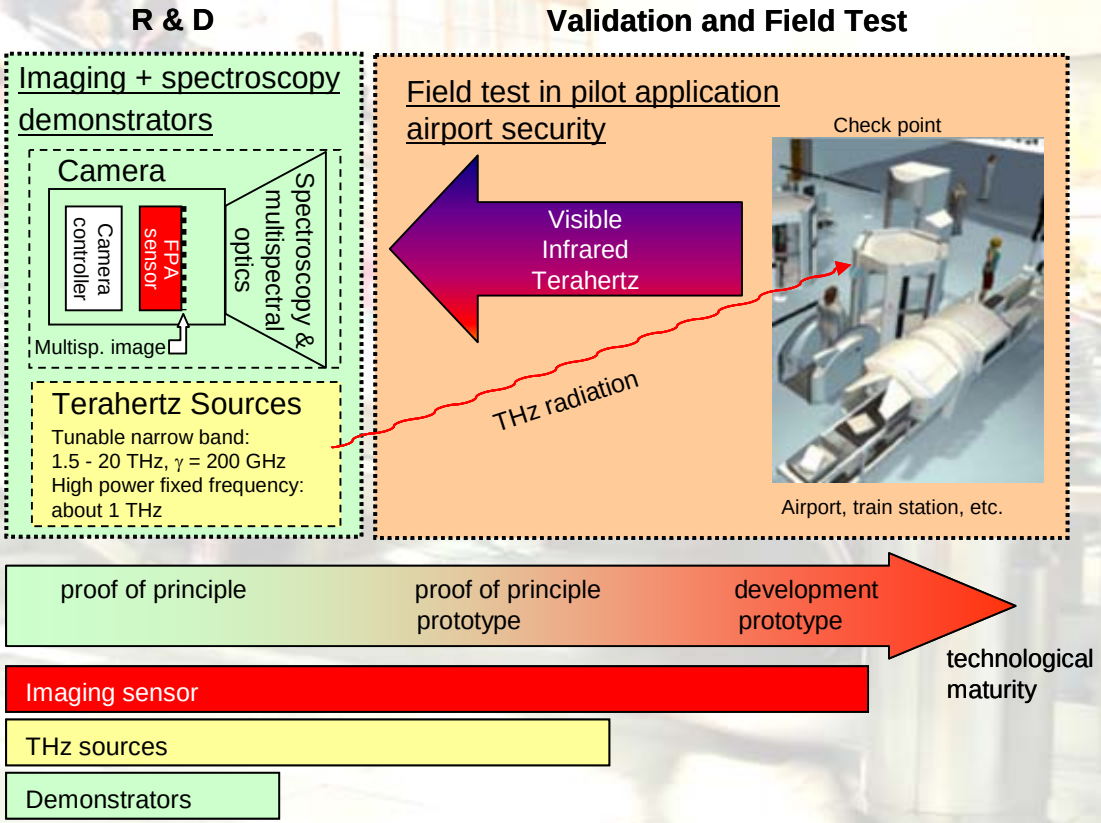


- Hidden objects and explosives detection
- Biological studies
- Inspection of plastic parts (NDT)

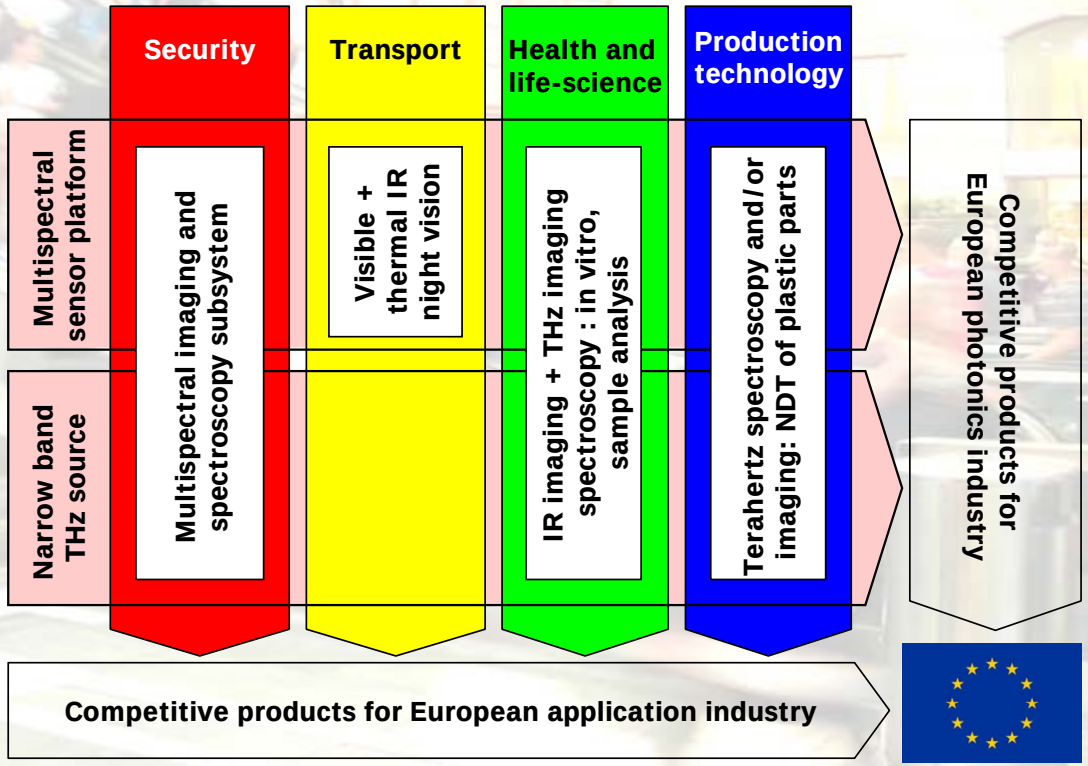
Project overview



Technical objectives

- Develop a **monolithic multispectral** terahertz, infrared, and visible focal plane array detector based on a CMOS substrate working at room-temperature
- Develop a **tunable narrow band** and a **high-power fixed frequency** terahertz sources using components with the potential of getting a low cost technology in future
- Design of **two subsystems** capable of doing visible, infrared, and terahertz imaging as well as an active stand off terahertz spectroscopy
- **Validation** of multispectral imaging and spectroscopy system for use in an airport security environment

Application domains



Partners of the consortium

- **CEA**: detector design and fabrication
- **FBK**: ROIC design
- **Rainbow Photonics** and **ETHZ**: Source design and prototyping
- **Bosch**: coordination, multispectral optics, and building of the system demonstrator
- **Zurich airport**: coordination of the field test and its evaluation.

Duration: May 2008-February 2012

Cost: 4.64 M€

Funding: 3.2 M€