

CAETS 2026 Annual Meetings and the Public Convocation

14–17 September 2026 | Munich, Germany

Hosted by acatech – National Academy of Science and Engineering

CAETS 2026 Annual Meetings and the Public Convocation



Aim

- to communicate major international advances in *Breakthrough Technologies for the prosperity of mankind*
- to encourage the cooperative efforts in the interest of sustainable economic growth

Audience

- International fellows of CAETS members
- International experts from research and business
- Decision makers from the political arena
- Interested society

Benefit

- Highlight the latest developments and innovations in various thematic areas
- Present CAETS topics and results
- visibility

Foster collaboration and development of programs between member academies



Public Convocation

**From a distance:
Earth observation for Monitoring,
Comprehension and Change**

BASIC IDEA...

...behind the convocation topic is that:

- by systematically monitoring our planet from space, air, and ground-based systems, we can collect objective, continuous, and large-scale data on Earth's physical, chemical, and biological systems
- this reliable stream of information is essential for understanding how our planet is changing, anticipating future risks, and addressing complex global problems such as climate change, biodiversity loss, resource scarcity, natural disasters, and food security

Earth observation

- science of obtaining information about an object, area or phenomenon without directly touching
- uses instruments or sensors to detect and measure energy reflected or emitted by the target object
- sensors can be installed in aircraft or satellites



Applications of earth observation (I/II)

Examples

agriculture

- to detect diseases or pests in the fields
- measure the chlorophyll concentration in the leaves

geology

- identifying and mapping mineral deposits
- monitoring geological processes (earthquakes, volcanic activity)

urban planning

- to create detailed 3D urban models
- cartography and cadastre

Applications of earth observation (II/II)

Environmental technology

Monitoring of river courses, lakes and reservoirs regarding water level, temperature and quality

Tracking deforestation and reforestation, assessing the condition of forests and recognising forest fires.

Tracking animal and bird migrations over long distances

Monitoring and evaluation of land use change and urban expansion

Detection of oil spills and other hazardous substances in the sea or on the earth's surface

Agenda in a broad outline – CAETS 2026



September 14	September 15	September 16	September 17
<i>Lunch, Board of directors</i> Board of Directors Meeting	Working group meetings	Convocation <i>Session III</i>	Council Meeting
	Convocation <i>Session I and II</i> <i>Award ceremony</i> <i>"Communication Prize"</i>	Convocation <i>Session IV</i>	Technical Tour
Get together for interested people	Gala Dinner	Council Dinner	



CAETS 2026

Venues in Munich

acatech, Karolinenplatz 4

- Board of Directors Meeting
- Working Group/ Committee Meetings
- Council Meeting
- Bilateral Meetings

Amerikahaus, Karolinenplatz 3

- Public Convocation



acatech, Karolinenplatz



...sufficient space for the board meeting, working group meetings, council meetings, bilateral discussions...



History of the Amerikahäuser



- Amerikahäuser were originally established all over Germany right after the end of World War II
- to re-educating and democratising Germans according to the American model

Amerikahaus Munich



- With the start of the Cold War, focus moved to strengthening transatlantic relations, while using cultural activities
 - Concerts (especially jazz), exhibitions, and lectures
- 1997: U.S. government ended its work (budget cuts)

→ Continued as a Bavarian Institution as a modern meeting place for networking and dialogue

Public Convocation

Amerikahaus, Karolinenplatz 3, Munich



Overview Sessions

I

Opening

Igniting
Innovation from
Above and
Beyond

II

Bridging Perspectives

Earth
Observation
for Decision-
Making,
Security, and
Resilience

III

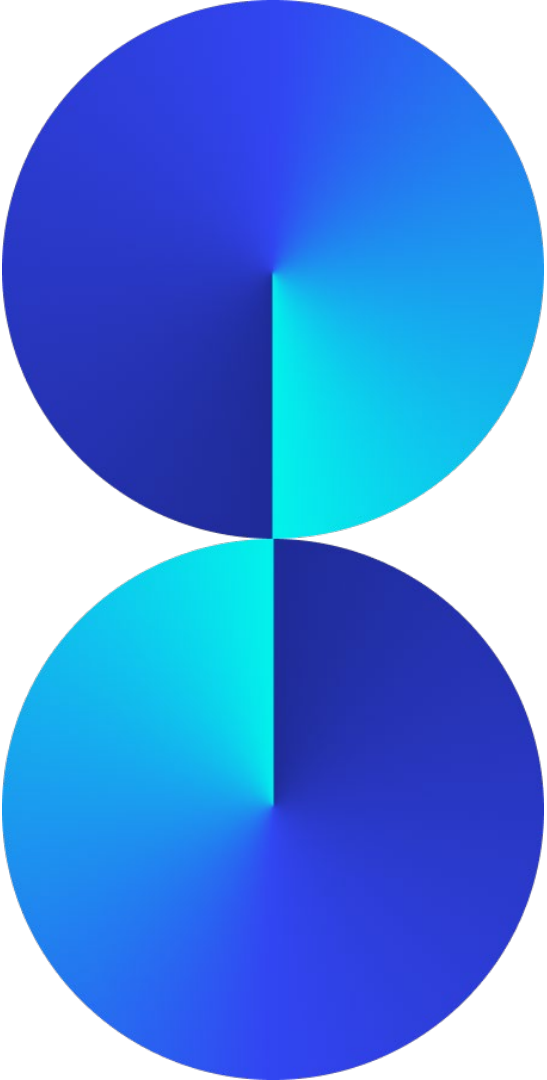
Soil

Perspectives
through Remote
Sensing and
Global Insights

IV

Natural Hazards

From Early
Warning to
Recovery



Session I

■ Opening Ceremony

- distinguished keynote speakers will introduce to the conference and celebrate international collaboration in engineering and technological innovation
- experts from science, politics and business will consider the topic from their respective perspectives

Session II

- **Bridging Perspectives**

- experts from research, government, and the private sector will explore and discuss how satellite technology, remote sensing, and advanced data analytics can help monitor global changes—and strengthen societal resilience in the face of complex risks

Session III

▪ Soil

- to highlight the vital role of soil as a foundation for life
- to explore how remote sensing technologies support soil analysis, protection, and sustainable management
- topics: soil ownership, technological innovations, financial aspects, food security, knowledge transfer, and emotions





Session IV



■ Natural Hazards

- detection & forecasting of extreme events using satellite data, AI, and modelling
- rapid situational awareness & damage assessment for emergency response and recovery
- integration of Earth observation into disaster risk reduction and management systems

PROGRAM *Committee*



Jan Wörner



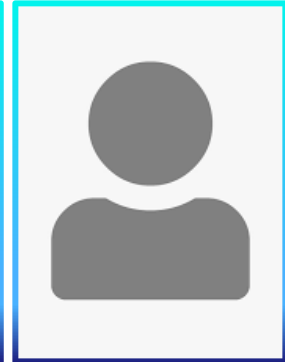
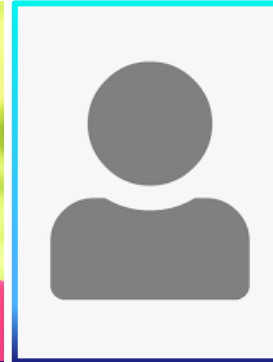
Ulrich Wagner



Frank Behrendt



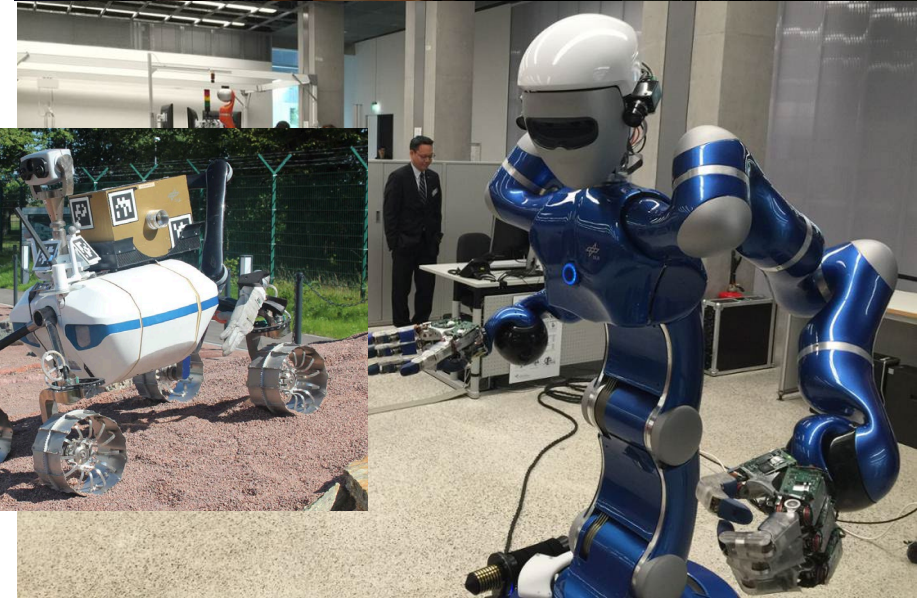
Karen Wagner



Technical Tour

German Aerospace Center
September 17, 2026 (tbc)

- Galileo control centre
- DLR control centre (link to ISS)
- Quadrocopter
- Humanoid robot
- Flight simulator
- Autonomous vehicle
- DLR School Lab



Coming soon

www.caets2026.org

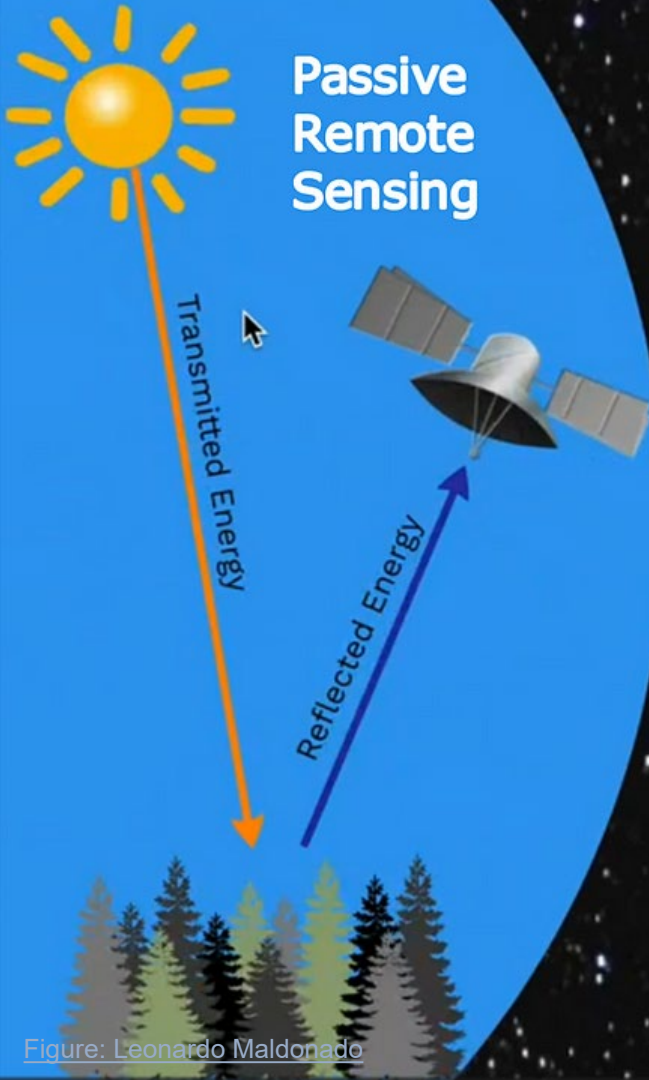


A photograph of a white wall with two colorful, stylized figures holding a string across it. The figures have large, round heads with colorful patterns and a central 'X' mark. They are standing on a dirt ground. To the right is a large blue door with decorative panels. Above the figures is a small window with a metal grille. The text 'THANK YOU' is overlaid in the center.

THANK YOU

TINHO.
@tinho23pp





Methods can be categorised according to

- their mode of operation,
- the technology used, and
- their specific area of application

Passive remote sensing

- utilises natural energy, such as that emitted by the sun and reflected by the earth
- Most passive remote sensing systems operate in the wavelength ranges of visible light, infrared and microwaves.
- Passive systems measure the intensity of radiation in different wavelength bands.



Active remote sensing:

- a sensor is used that has its own energy source to illuminate the target area, e.g. active sensors as radar and lidar
- active sensors measure the energy scattered back from objects and also use the time of flight of the energy to determine their distance from the sensor

...further classification of remote sensing sensors includes multispectral, hyperspectral, thermal and microwave sensors...

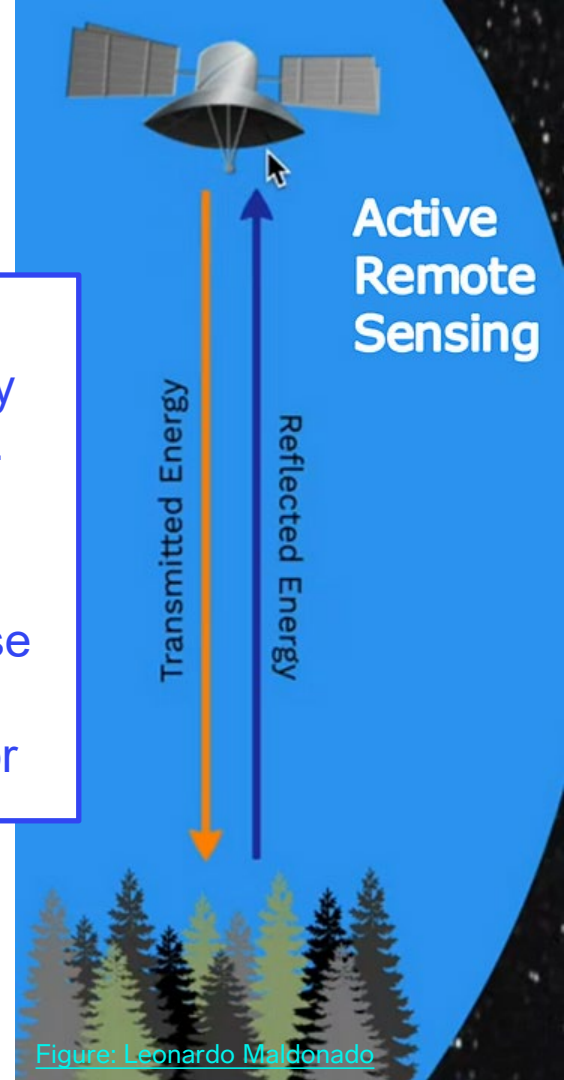


Figure: Leonardo Maldonado

Further Highlights

TechnikRadar

**Innovation
Carousel**

**Espresso
Talk**

**High-
lights**

Magic with AI

**unknown
beneath
surface**

NextGen