

Florian Fuchs | Götz Bokelmann | Petr Kolínský | Gidra Gröschl | Maria-Theresia Apoloner | AlpArray Working Group

## AlpArray project

AlpArray is a unique transnational research initiative to study the geodynamics and subsurface of the Alps with a large-scale temporary broadband seismic network which complements the existing permanent stations.

64 research institutes from 17 countries join their expertise to advance our knowledge about the structure and evolution of the lithosphere beneath the entire Alpine area.

AlpArray in Austria and Slovakia is coordinated by the Department of Meteorology and Geophysics (IMGW) at the University of Vienna and funded by the Austrian Science Fund (FWF).



## Scientific goals

AlpArray Austria will shed light on the detailed geological structure and geodynamical evolution of the Eastern Alps and the subsurface of Austria. Utilizing seismic analysis methods such as shear wave splitting, receiver functions and body wave dispersion, the AlpArray Austria working group at IMGW will, together with the international partners, focus on seismic anisotropy in the upper mantle, the location of interfaces and tomography, to answer outstanding questions on slab geometry and subduction polarity under the Eastern Alps.

While the primary scope of AlpArray Austria is fundamental research the unique dataset will also improve our knowledge about near-surface geologic structures and help to assess the seismic hazard in Austria.

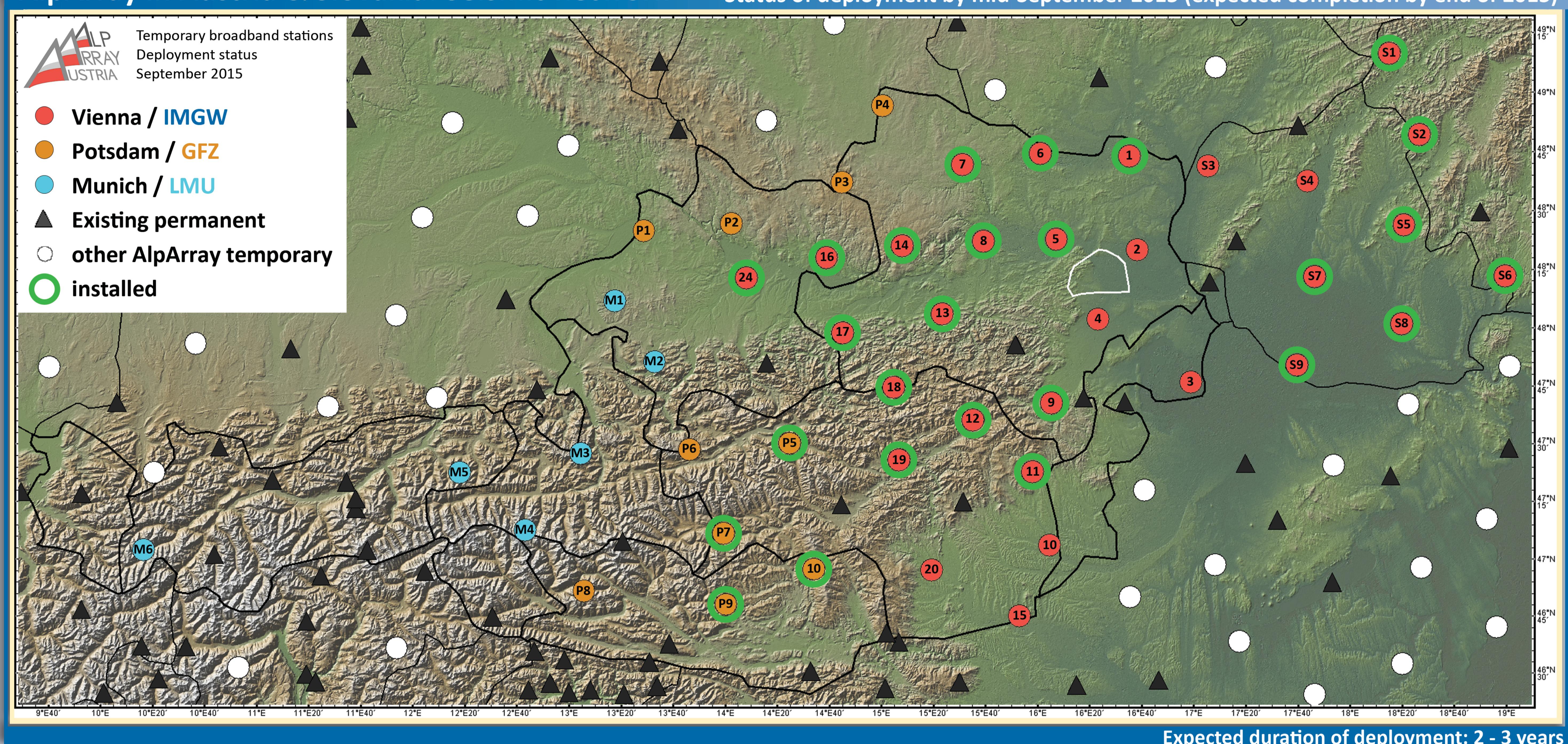
## AlpArray Austria facts

- ▶ 37 temporary broadband stations (by **IMGW**, **GFZ**, **LMU**)
- ▶ 12 permanent stations operated by **ZAMG**
- ▶ 2 new permanent stations planned by **ZAMG**

40 km average station spacing

## AlpArray in Austria & Slovakia: Seismic network

Status of deployment by mid-September 2015 (expected completion by end of 2015)

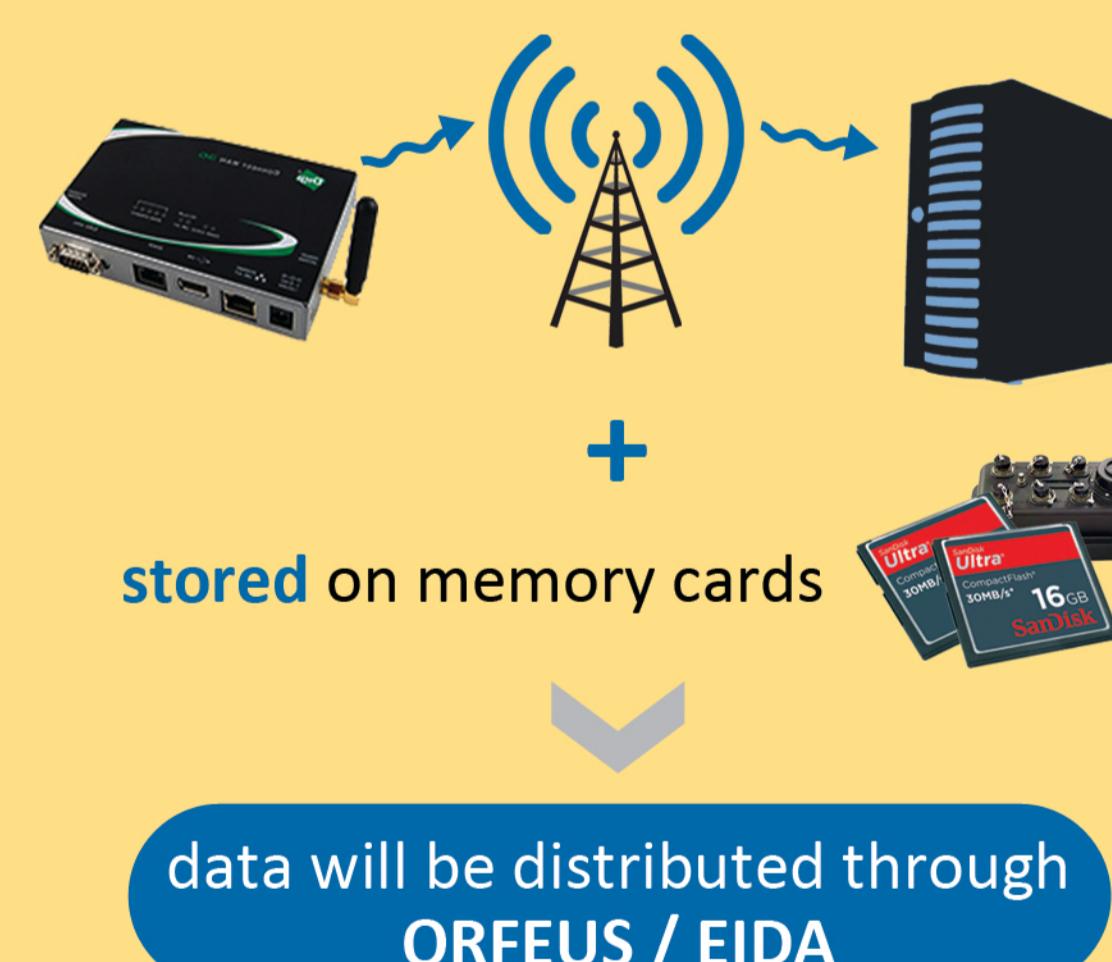


## Instrumentation

The temporary network will be equipped with

**30 instruments from **IMGW******10 instruments from **GFZ******6 instruments from **LMU****

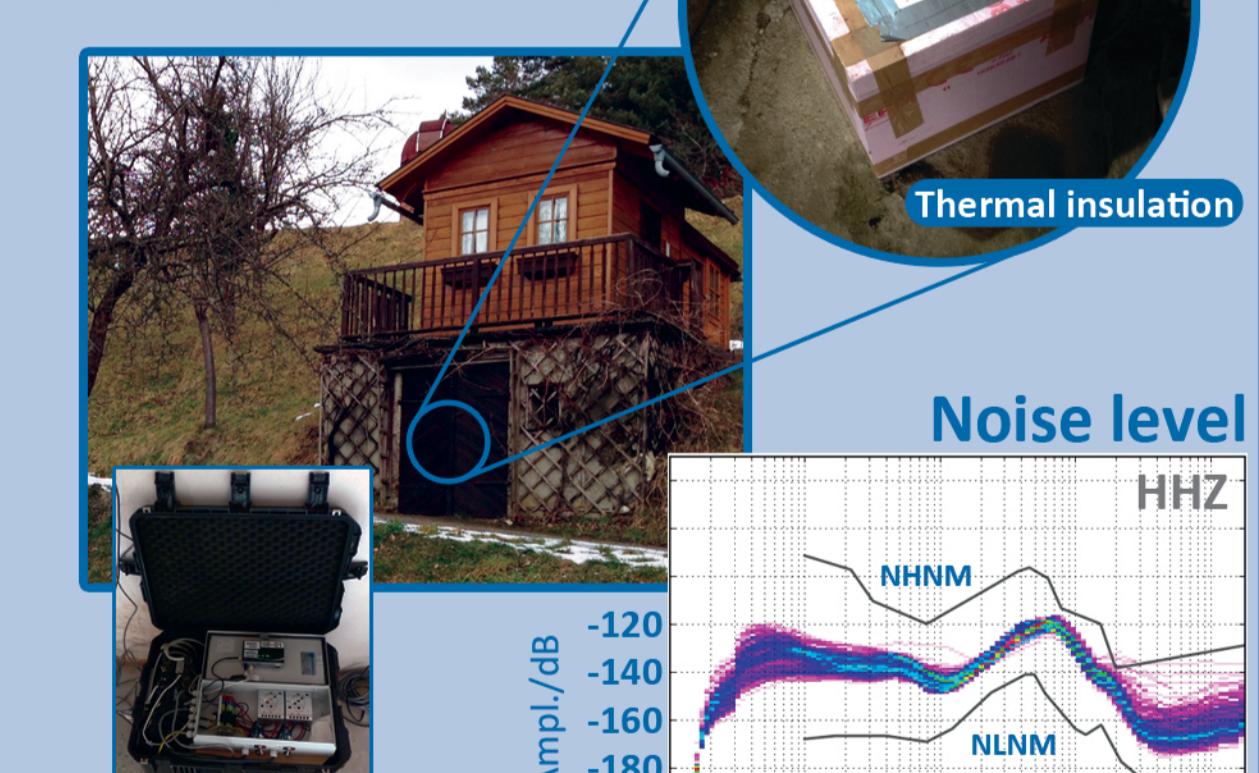
## Data acquisition

Live data transmitted via **cellular network**

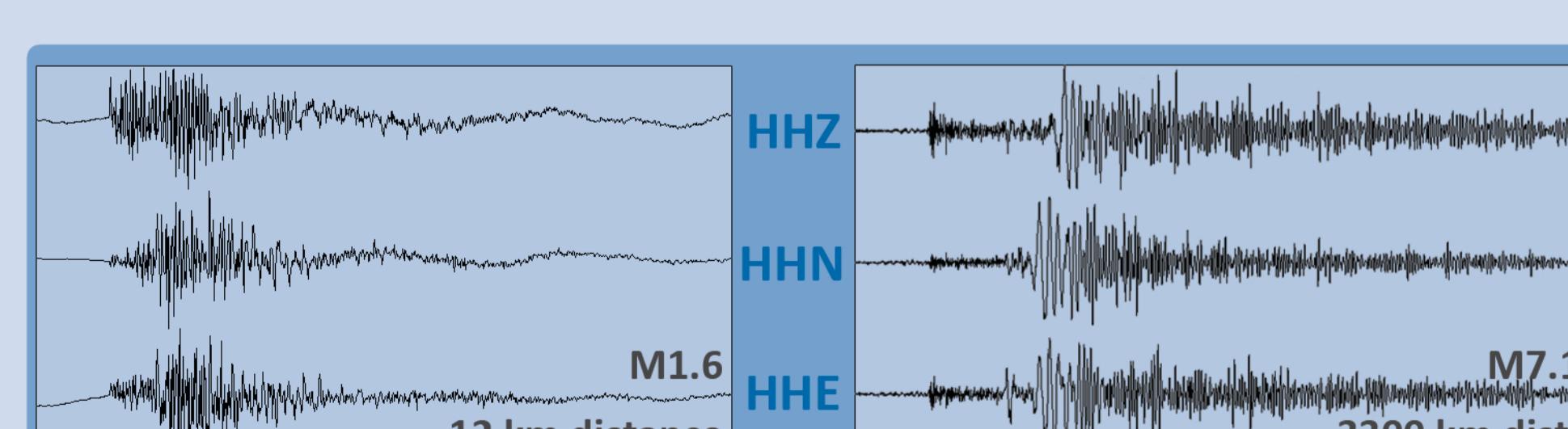
data will be distributed through  
**ORFEUS / EIDA**

## Installation

Typical installation inside  
**basements**, unused  
**huts** or **wine cellars**



Sample events  
recorded at this station



## Abbreviations

**GFZ** = Seismology Section | German Research Centre for Geosciences | Potsdam, Germany

**IMGW** = Department of Meteorology & Geophysics | University of Vienna | Vienna, Austria

**LMU** = Department of Earth and Environmental Sciences | Munich University | Fürstenfeldbruck, Germany

**ZAMG** = Zentralanstalt für Meteorologie & Geodynamik | Federal Ministry of Science, Research and Economy | Vienna, Austria