OPTICON RadioNet Pilot

JA1:Towards a Strategy
JA3:Striving for Excellence

Gerry Gilmore (UCAM,FORTH)

Funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004719.

JA1 activities

- **Strategy**: Deliverable 2.3 [funding models] to EC;
- partnership with the 3 Pilots (ORP, AtmoChem, NFFA-NanoFabrication), reporting on Pilot experiments to EC (Jan 2024, Sept 2025);
- future plans – Coordinator Report.

- Major work on **Accessibility, equal opportunities and diversity**, later presentation (Francesca Primas)

- **Sky Protection** – report through JA2.

JA3 activities

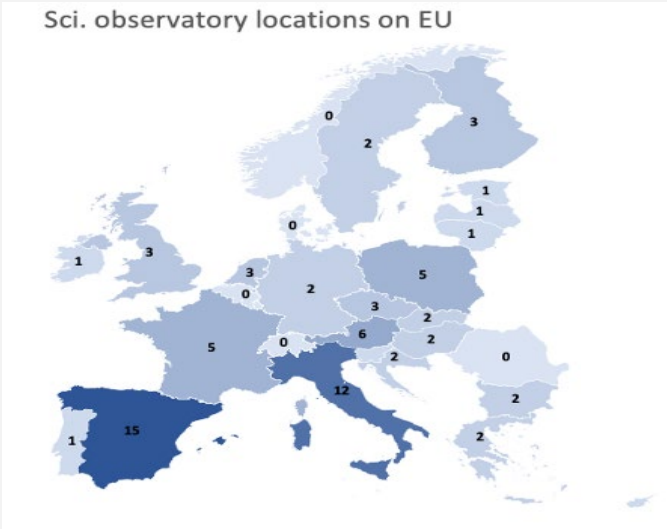
- **optimizing dispersive elements**. Retain unique VPHG production capability in Europe. Assess "market", via observatory census; build several key systems; upgrade facility.
- **enhancing ESO's VLTI**. Expand field-of-view (Gravity+); improve on-axis contrast (NOTT); enhance MATISSE sensitivity.
- **enhanced adaptive optics for users**. World-first smart optimization developments; first community-wide telemetry-data format agreement; active workshops & schools growing, training community.

JA3 activities

- **optimizing dispersive elements**. First observatory census
- *distribution per country of 81*
- *astronomical observatories*

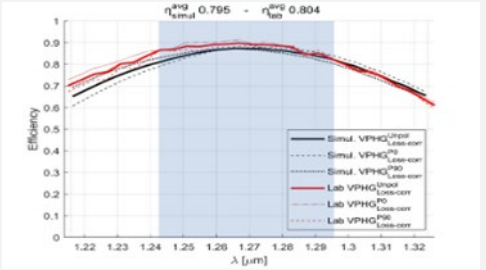
- Quantify instruments to benefit from
- Performance improvement

- Future VPHG demand knowable



JA3 activities

- **optimizing dispersive elements**.



- Deliver new optimized systems – eg Modra, Slovakia
- Upgrade characterization facilities
- Improve contacts with telescope owners – OPTICON Alliance

JA3 activities

- **optimizing dispersive elements**. Retain unique VPHG production capability in Europe. Assess "market", via observatory census; build several key systems; upgrade facility.

- **enhancing ESO's VLTI**. Expand field-of-view (Gravity+); improve on-axis contrast (NOTT); enhance MATISSE sensitivity.

- **enhanced adaptive optics for users**. World-first smart optimization developments; first community-wide telemetry-data format agreement; active workshops & schools growing, training community.

JA3 activities

- **enhancing ESO's VLTI**. Expand field-of-view (Gravity+);

- Increase the sky coverage of this nobel-class facility
- in full public use from 2022.
- Further upgrades developed for 2024 commissioning

JA3 activities

- **enhancing ESO's VLTI**. improve on-axis contrast (NOTT);

- Asgard/NOTT: formally recommended for visitor-focus use
- Substantial technical, scientific, planning documentation
- Significant community building

- Substantial progress towards delivery

JA3 activities

- **enhancing ESO's VLTI**. enhance MATISSE sensitivity

- Development of a correlated flux mode for MATISSE to reach faint targets.
- Optimised MATISSE observing templates delivered, user advice available
- Data files and software systems available
- Work has been completed by September 1, 2024

JA3 activities

- **optimizing dispersive elements**. Retain unique VPHG production capability in Europe. Assess "market", via observatory census; build several key systems; upgrade facility.

- **enhancing ESO's VLTI**. Expand field-of-view (Gravity+); improve on-axis contrast (NOTT); enhance MATISSE sensitivity.

- **enhanced adaptive optics for users**. World-first smart optimization developments; first community-wide telemetry-data format agreement; active workshops & schools growing, training community.

JA3 activities

- **enhanced adaptive optics for users**. World-first smart optimization developments;

- **Two world premieres** have been realized:
- an optimal predictive AO controller on a 10m-class telescope,
- an auto-tuned optimal predictive AO controller, tested in February 2025!

- This impressive progress is described in detail in Deliverable 4.8.

JA3 activities

- **enhanced adaptive optics for users**. first community-wide telemetry-data format agreement;
- first release of the *aotpy* AO telemetry data exchange format
- reviewed by the community and extended
- Being adopted
- This is the first step towards a virtual AO observatory

JA3 activities

- **enhanced adaptive optics for users**. active workshops & schools growing, training community.

- "European AO Summer School", July 2024, Paris
- "European AO Summer School", OHP, Oct 2024
- "Wavefront Sensing in the VLT/ELT Era VIII", Durham, Sept 2024
- "Horizons for Optical Long Baseline Interferometry" Jan 2025


ORP
Thank you very much
© Beabudai Design