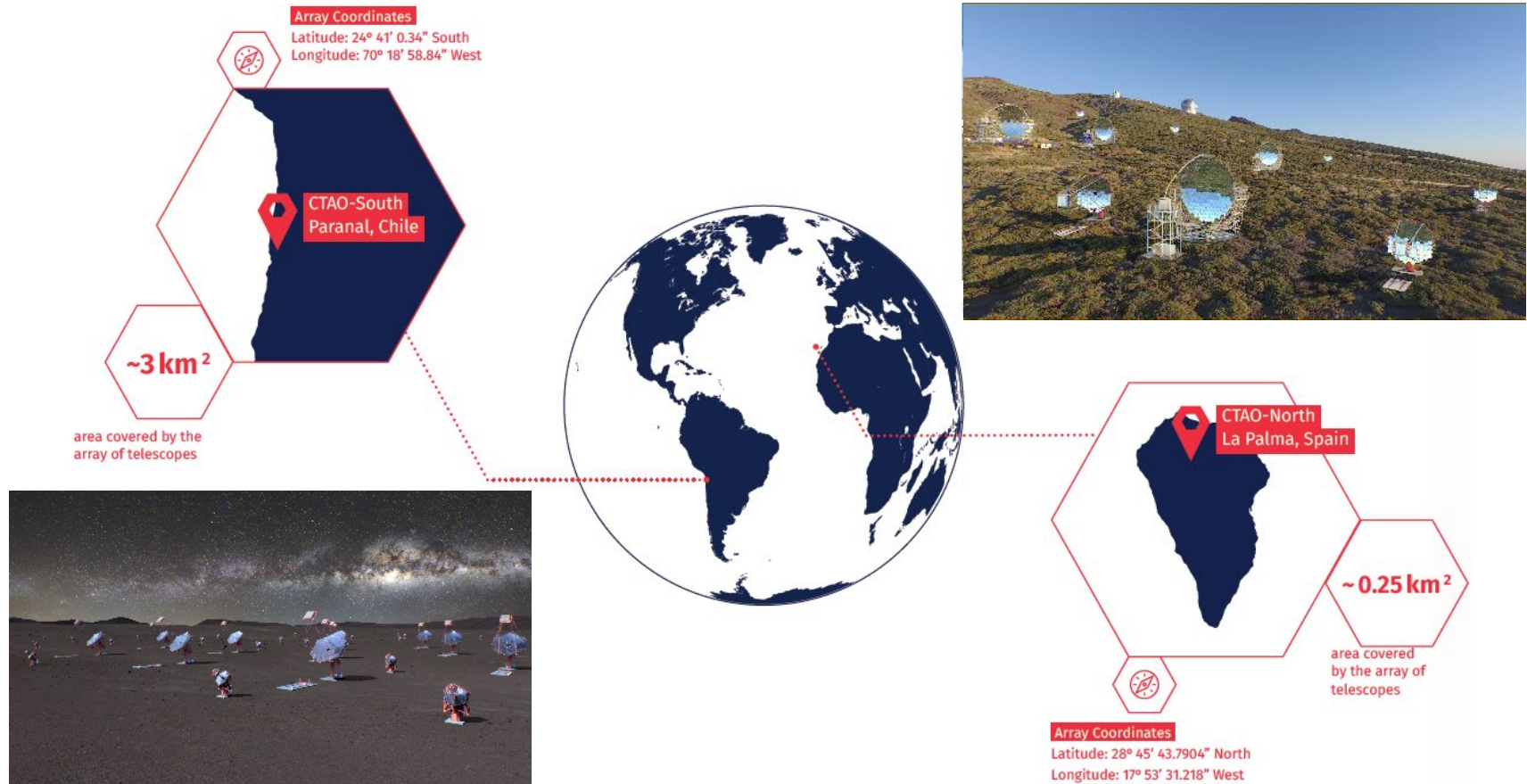


Cherenkov Telescope Array Observatory - Building Upon MAGIC



Stuart McMuldroch

Two CTA Arrays in One Observatory



Alpha Configuration: 51 telescopes spread out over ~3 km² (37 SSTs & 14 MSTs *plus...*). It will span CTAO's **mid- and high-energy** range (150 GeV – 300 TeV).

Alpha Configuration: 13 telescopes spread out over ~0.25 km². It will focus on CTAO's **low- and mid-energy** ranges with 4 LSTs and 9 MSTs.

CTAO Locations with Full Team Spread Worldwide



CTAO LOCATIONS

- Array Sites
- Headquarters
- Science Data Management Centre

Full team includes partners/IKCs from all over the world

CTAO is Moving Forward

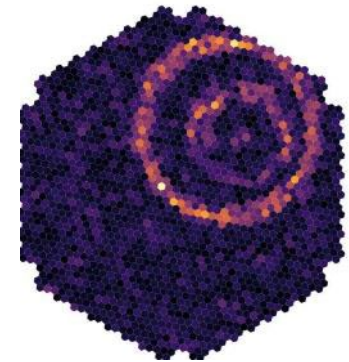
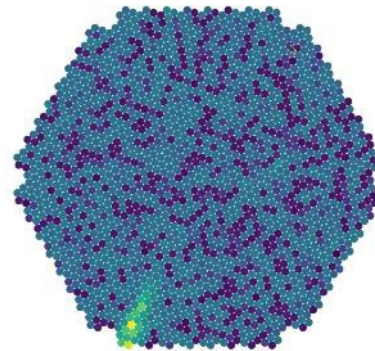


- Many partner groups making progress, albeit limited by funds.
- CTAO central project is moving forward
- South site infrastructure (Paranal) starting
- Design reviews with multiple IKC
- Software real-world testing – ACADA on LST-1 in earnest next week!



South site road –
need a destination

Power systems and eventual
link to existing ESO PV plant



Camera images from
LST-1 ACADA test

SDMC Continues To Advance



SDMC in March 2023



SDMC now

DESY is making excellent progress
Building expected to be complete
in summer 2024



LST Getting Ready



LST-1 first of four telescopes

IAC currently managing the construction of three sets of foundations and camera towers



LST-2

LST-4 foundation, furthest along



LST-3

CTAO gGmbH Historically Has Been Waiting – No More



- At top levels, emphasis appropriately on getting new ERIC organization in place
 - Facilitates funding
 - VAT exemption

- Current organization's goal is to prepare for ERIC with only limited construction focus
 - Minimal funding with limited staff leading to inadequate progress and IKC support

- Recent delay in ERIC, coupled with desire to complete the observatory, has led to increased new funding next year
 - **CTAO gGmbH efforts will now progress in parallel**

-
- Focussing on construction enabled by increased funding
 - Infrastructure development in the south
 - Even more importantly, doubling the staff size

 - South site infrastructure – earthing grid, power systems, trenches, foundations

 - But what about the north site and the current LSTs under development?
 - General support from a larger team– systems engineering, software...
 - New emphasis on increasing interaction with IKC groups – having dedicated internal leads including for LST

 - **Goal of leading to LST-1 acceptance readiness by end of 2024**

Hiring is Everything – People Make a Project



Goal to hire 29 people this year

Timing for job announcements:

- Now
 - PM, Lead systems engineer, Senior HR
- Autumn
 - Legal officer
 - Requirements jockey, systems engineer
 - South and North Site staff - start
 - IPT leads - start
 - Software engineer
- December/January
 - South and North Site staff remainder
 - Software engineers
 - IPT engineers
- February
 - Deputy PM, deputy PS

- **Many of these will support the North site and LST efforts**
 - LST Internal Lead
 - Software engineers
 - LST systems engineer
 - Site staff
- **Work with LST team so they can deliver a telescope to CTAO**
 - A major milestone for everyone

The Next 12 Months Are A Critical Team Effort



- Form a new team with a different focus on working with IKCs and science
- Change in organization (hopefully) so more countries can support the project and IKC groups get increased funding from their countries
- Lead to LST-1 acceptance
- Maintain construction focus while not forgetting science is our eventual goal
 - Meeting in Berlin in November – more hardware/software than science in a workshop topic specific style
 - Science symposium in April - includes substantive science portions in addition to more public events

