

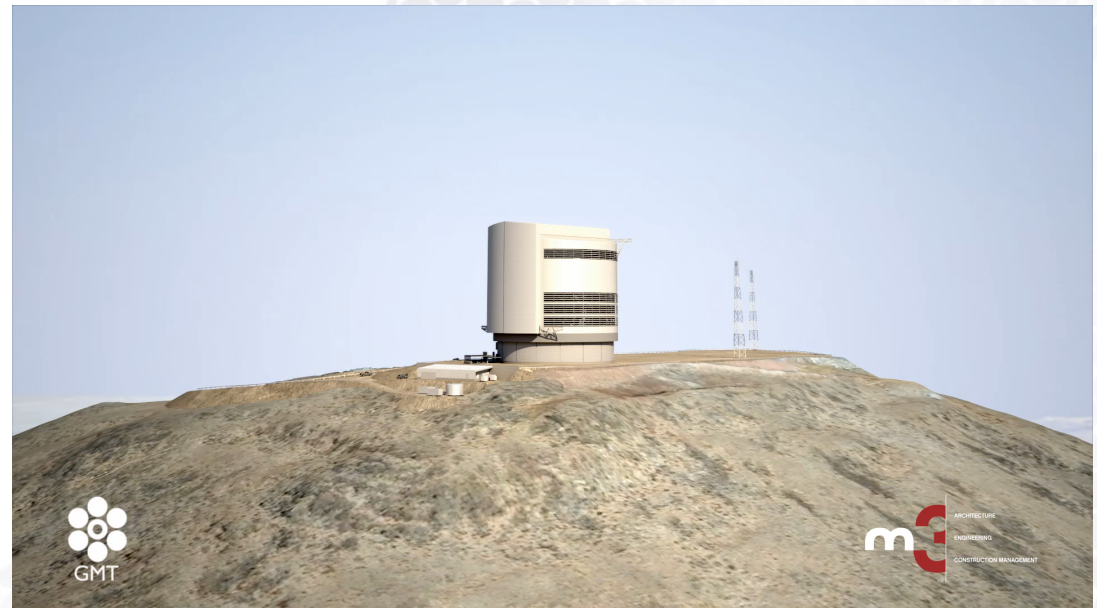


The Giant Magellan Telescope. Status 2020

By **Dr. Mauricio Pilleux**
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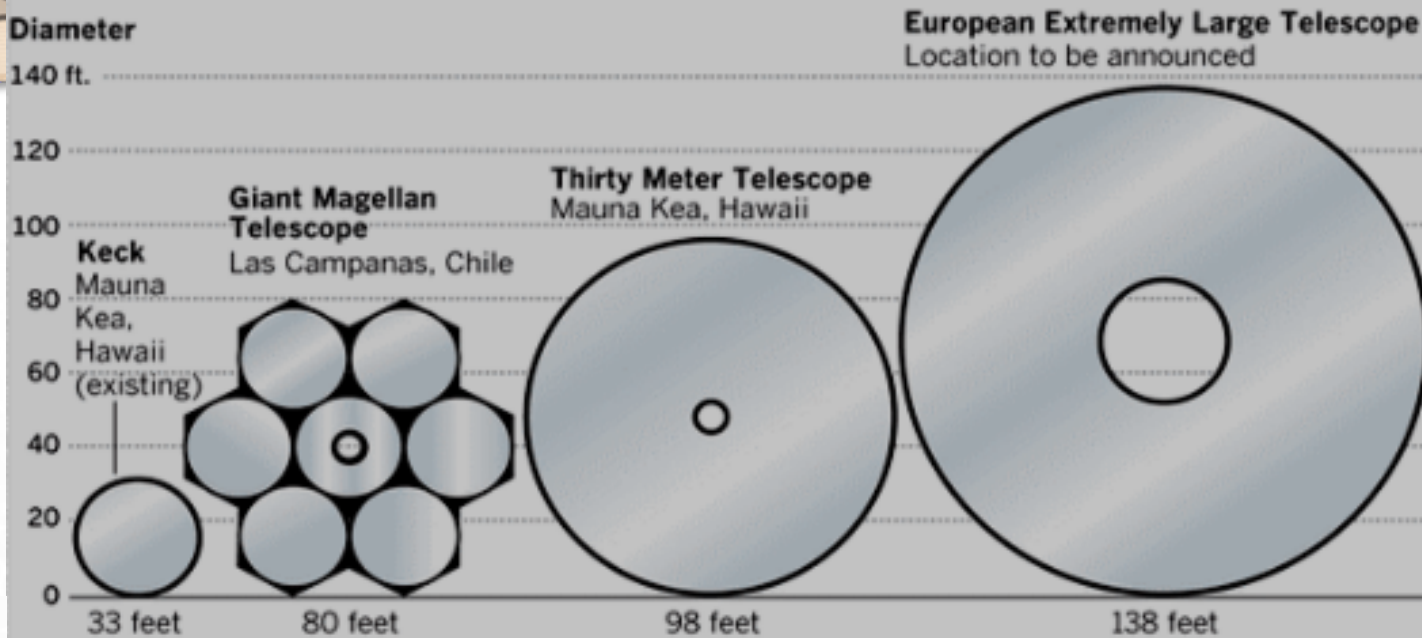
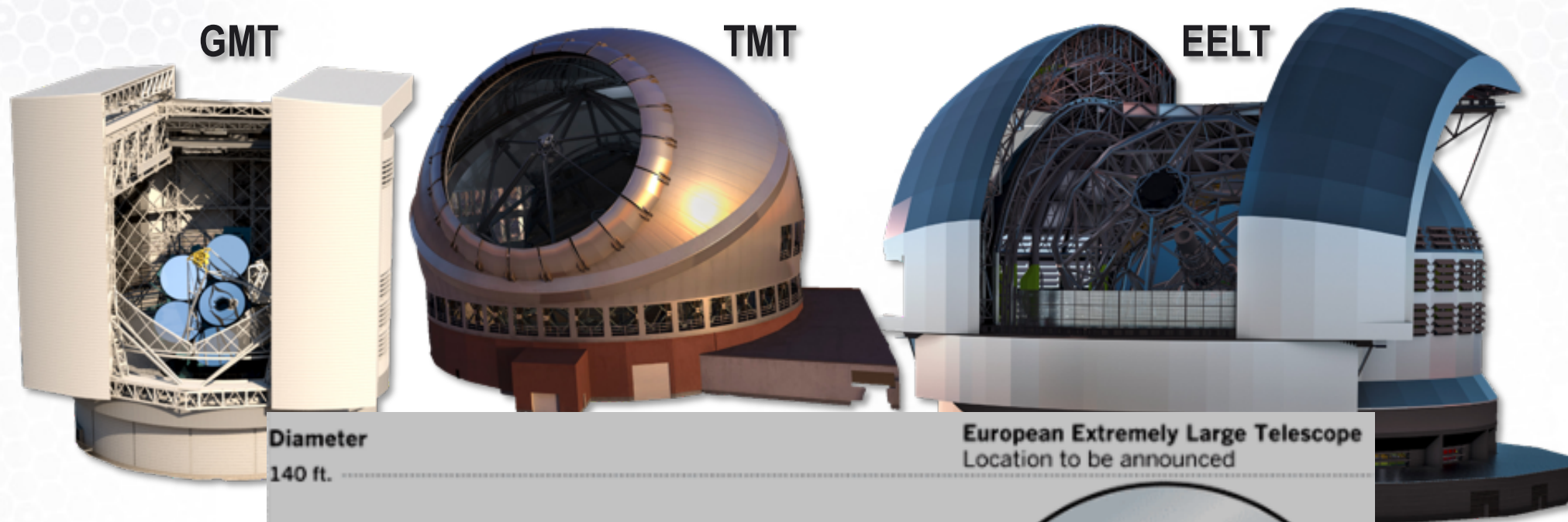
Sam Chan
IT Director
schan@gmto.org

April 21, 2020



What next?

Size (physical)



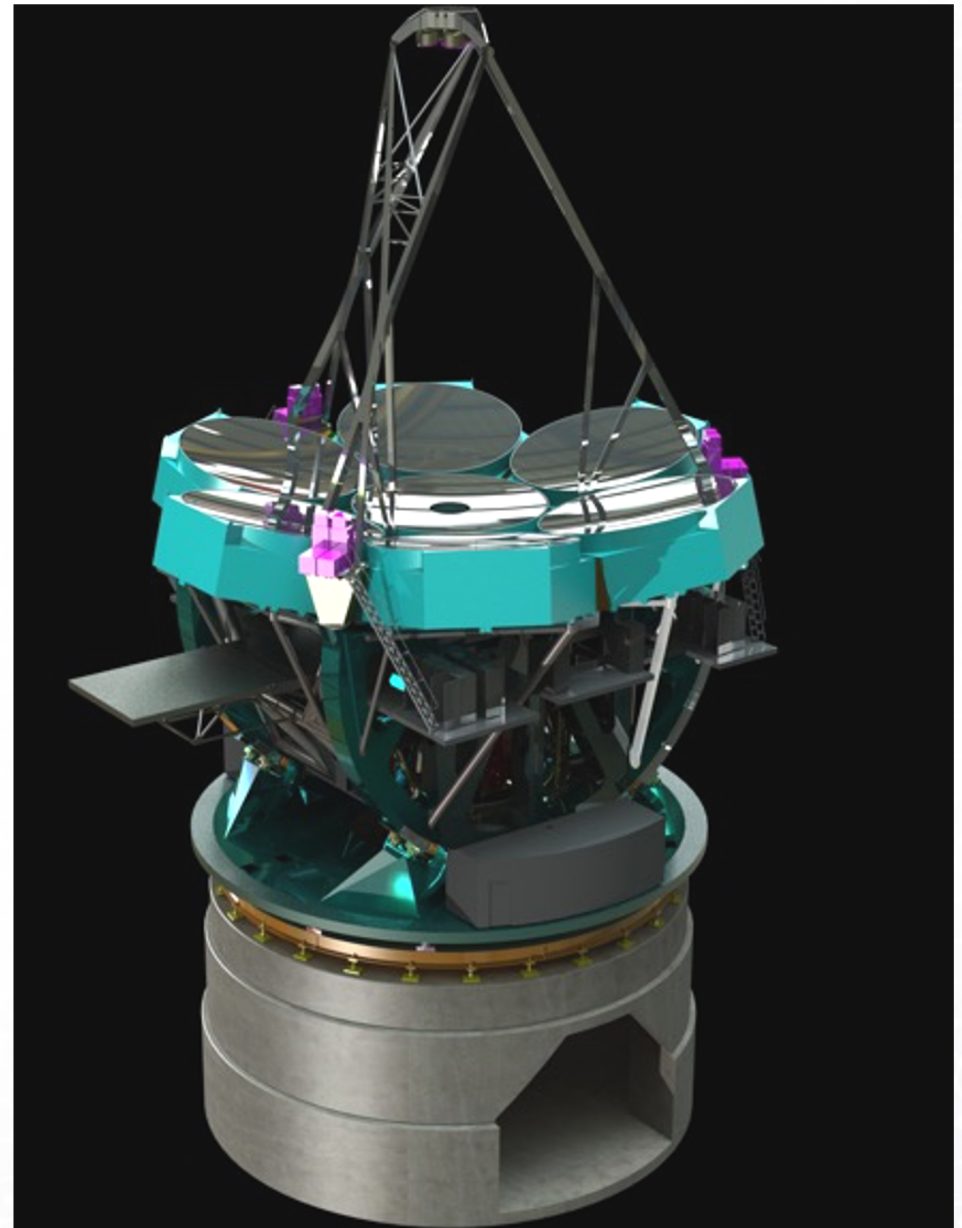
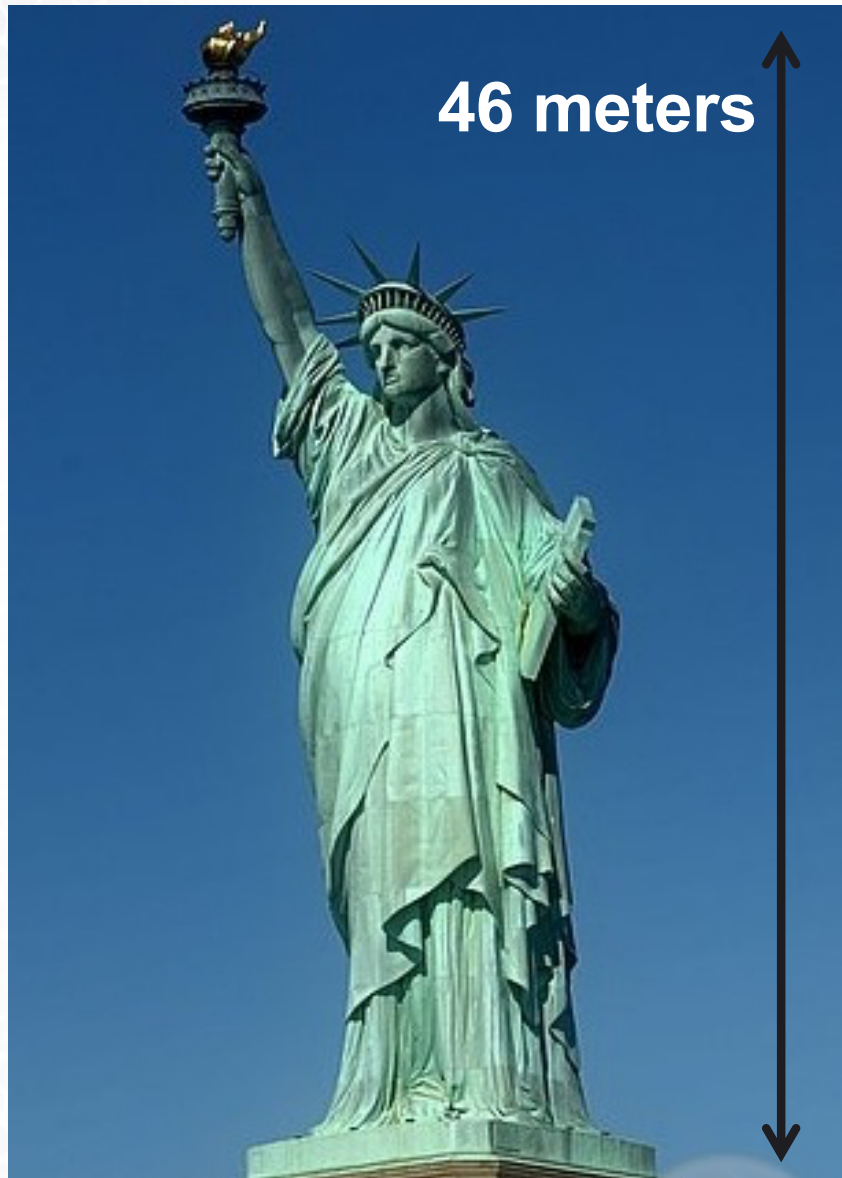
Giant Magellan Telescope (GMT): Will be the largest in the world in 2022



- 25 meters in diameter
- “Price”: US\$1950 million
- First light: 2029
- Enclosure: 62 m high
- Groundbreaking research in:
 - Exoplanets and their atmospheres
 - Dark matter
 - Distant objects
 - Unknown unknowns



Just how tall is the GMT?



Giant Magellan Telescope (GMT): The world's largest optical telescope



New partners are welcome!

Enclosure and wind screen design concept



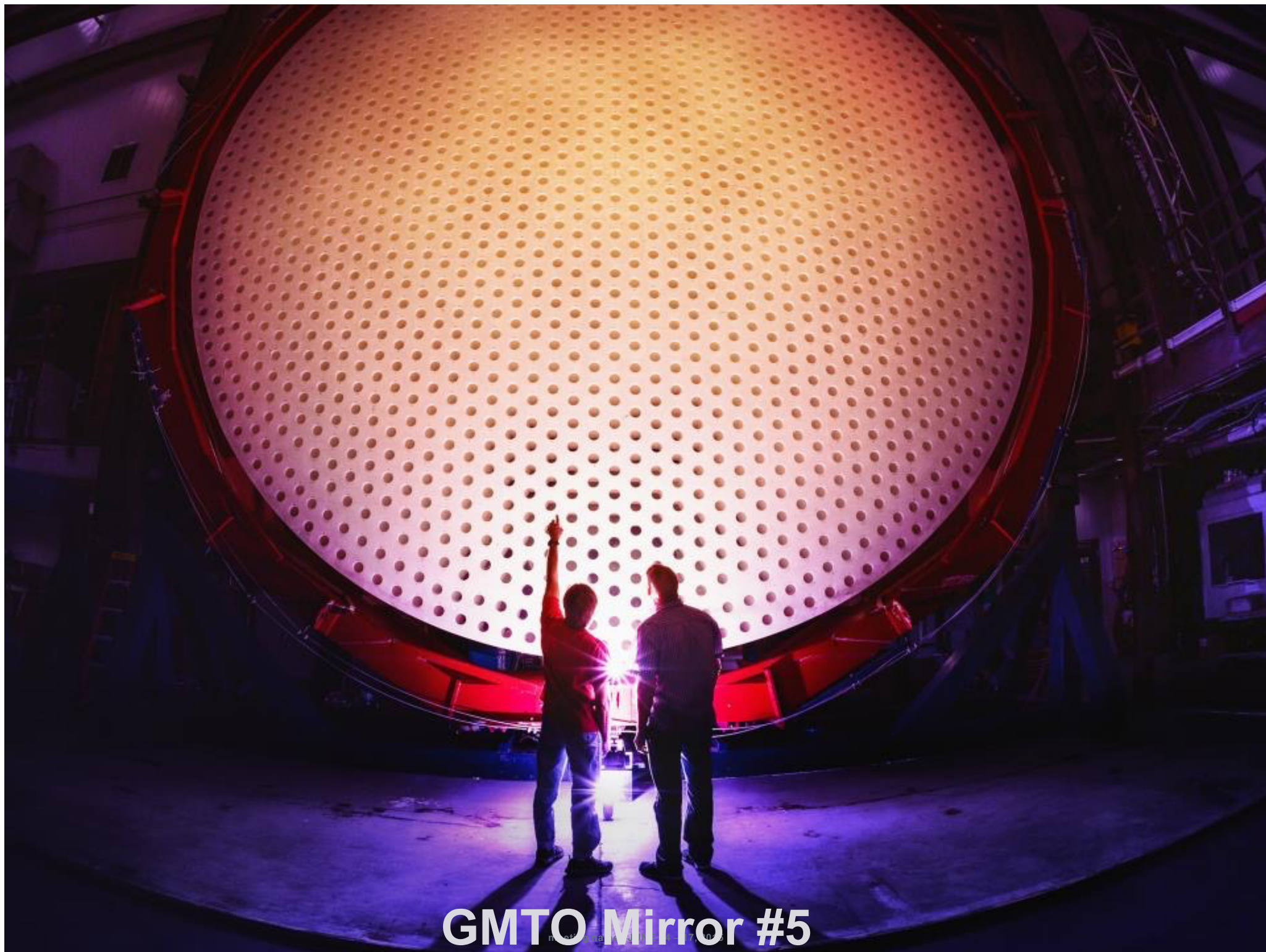


Central mirror casting – Sep 2015



Casting of Mirror #5 – Nov 2017





GMTO Mirror #5

Test Cell at Mirror Lab in Tucson (August 27, 2019)



Barbara Fischer, M1 Manager

Mirror Simulator moved to Tucson (February 27, 2020)



2007



Dec 2019

Las Campanas Observatory



Meteorological towers

**Summit
offices**

**Enclosure diameter
GMT – 56 m**

**Telescope
foundation –
22 m**



Excavation of the telescope enclosure

August 2018-January 2019







Water Tank In January 2020



How it looks today (since February 2020)





GMT Enclosure



Altura: 60,5 m

Catwalk
50.0m

Catwalk
45.9m

Catwalk
36.2m

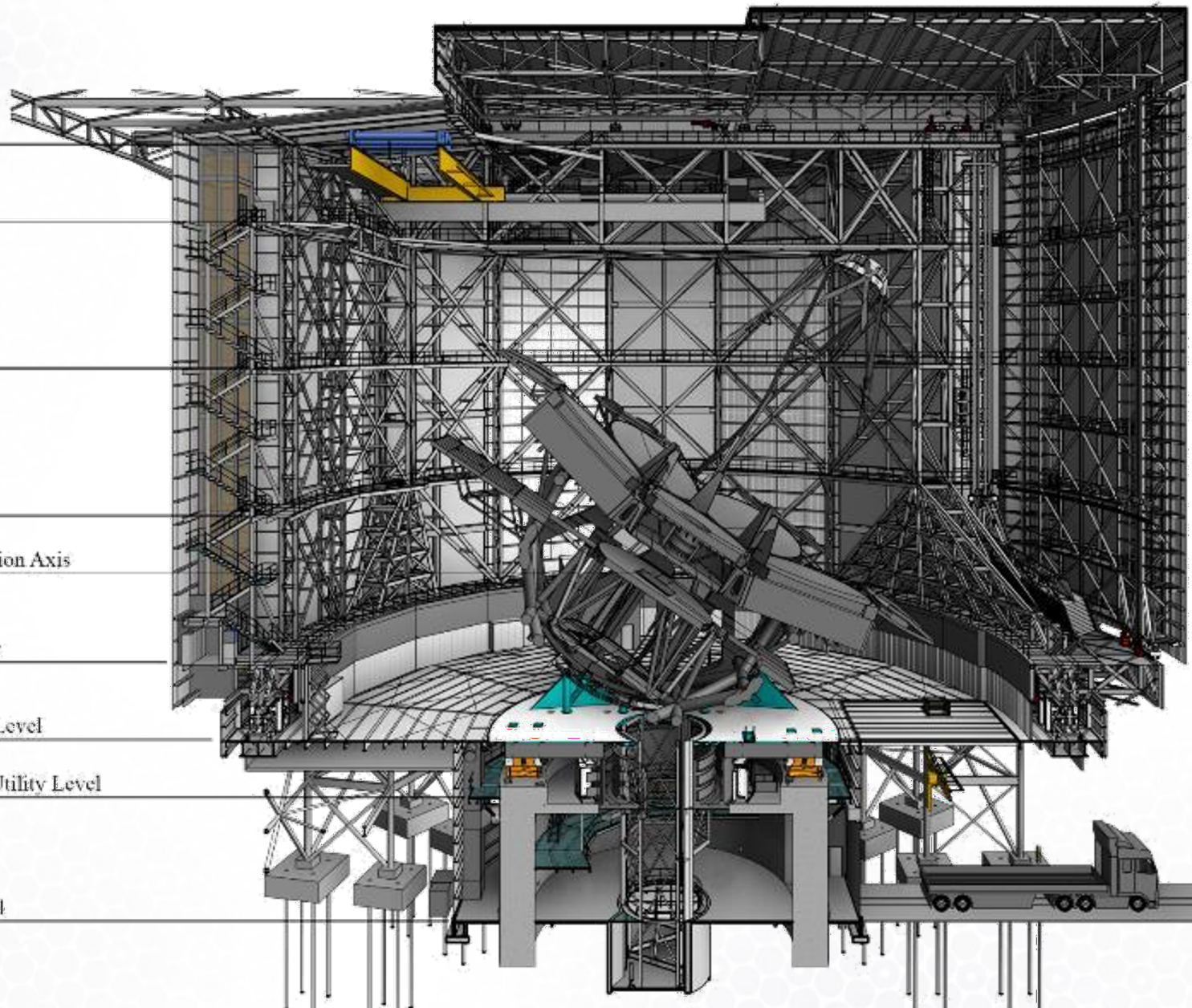
Catwalk
26.5m
OSS Elevation Axis
22.5m

Ring Girder
16.8m

Observing Level
11.8m

Telescope Utility Level
8.1m

Grade Level
0.0m



GMT Facilities

■ Site

- Residence with 92 rooms – maximum capacity: 228 ✓
 - Large kitchen and dining room
 - Recreation area
- Wide road ready – allows access to wide loads ✓
- Hard-rock excavation for telescope enclosure and auxiliary buildings is ready ✓
- Water and telescope/enclosure cooling system utilities

■ IT

- Datacenter:
 - Main: Pasadena
 - Backup: Las Campanas, Chile
- AWS
 - Corporate services
 - Non-Profit
- Wifi: WiFi 6 – 5G
- Communications: TBD

¡Muchas gracias!

