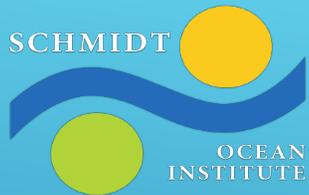


ROV SUBASTIAN

SOI's REMOTELY OPERATED VEHICLE (ROV) 2020 UNOLS & DeSSC YEAR END UPDATE





Introduction

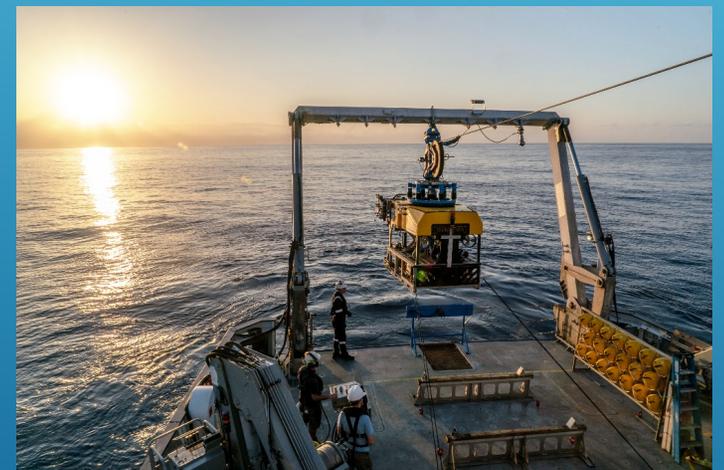
➤ Errol Campbell – ROV Manager

➤ Schmidt Ocean Institute

- Not for Profit Organization
- Goal to advance global marine research
- Provide state of the art operational, technological and information support
- Pioneering Ocean science and technology projects
- Share what we discover
- Help the world better understand our oceans

➤ ROV Subastian

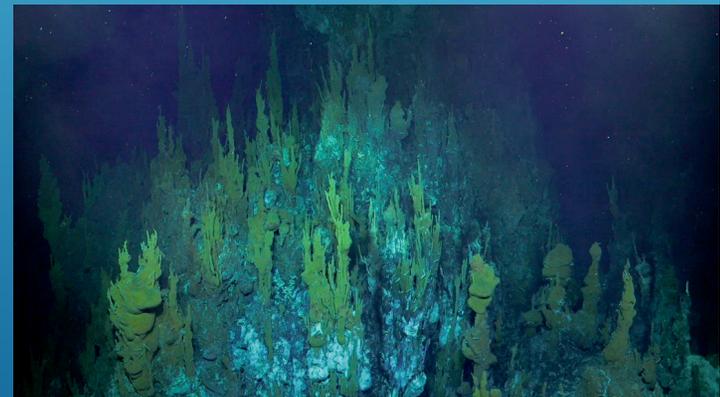
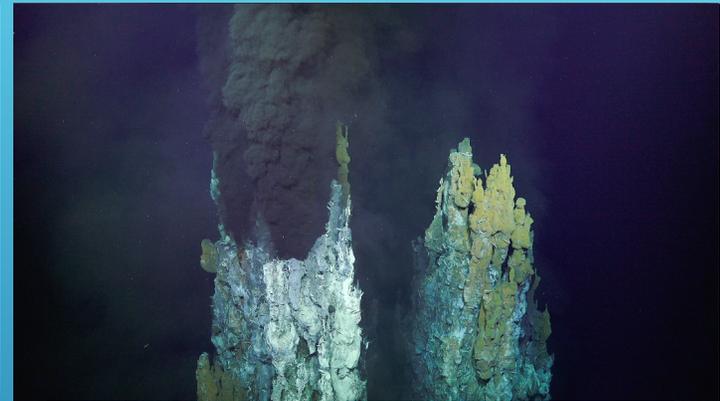
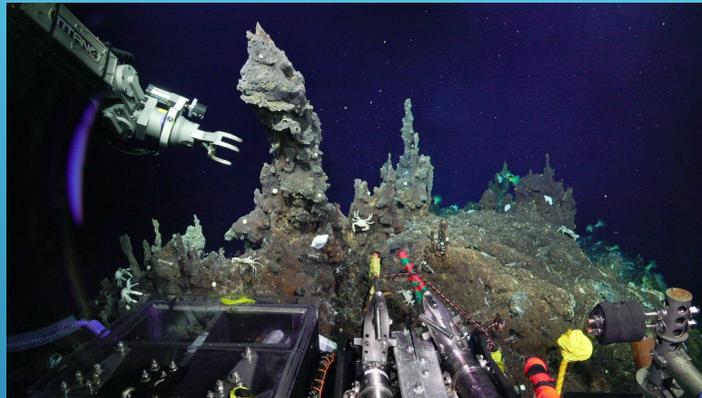
- 4500m depth rating
- Development started in 2015
- Integrated onto R/V Falkor in summer of 2016
- Successfully completed 402 Dives to date



ROV SuBastian's Tool Box - 2020

➤ Large array of calibrated sensors and tooling:

- Water samplers 2.5 & 5 L
 - Suction Sampler
 - Temp-Heat Probe
 - Bio-Boxes
 - Scoops
 - Rock Boxes
 - Mini-Temp Recorders
 - Push cores
 - O2 Sensors
 - CTD
 - PH
 - SV Probe
 - Mini IPS
 - Photomosaicing
- And the ability to integrate a vast array of other science sensors & samplers!



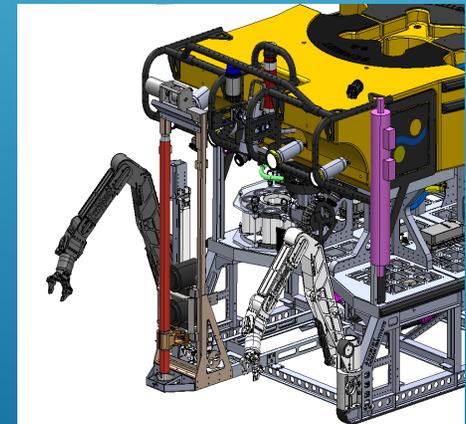
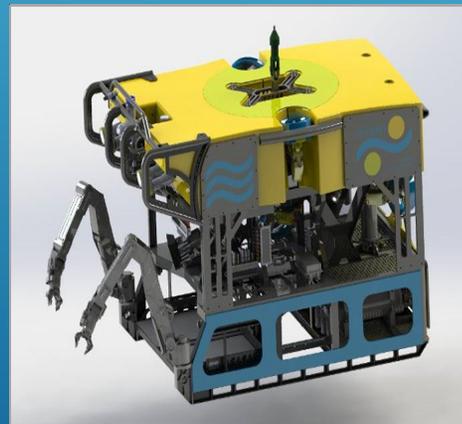
2020 R & M rebuild and upgrades

➤ Rebuild and Inspections

- Complete strip down, inspection & repair
- Structural inspection of frame & load path, thrusters, manipulators, all major components
- Science, equipment, tooling & sensors

➤ Upgrades

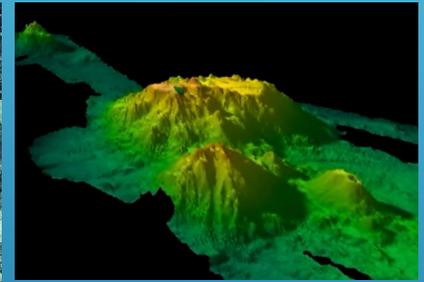
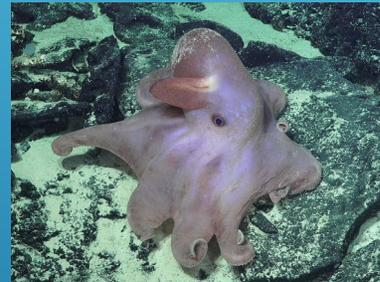
- New 6000m Umbilical (Currently Spare)
- Replaced all ROV oil filled trunk cables
- Rewired all ROV junction boxes & installed new PCB's
- Oil / Water Separator (Feb 2021)
- Science tooling & topside integration upgrades
- Built a Vibracore (1.5m cores)



2020 ROV Science Missions

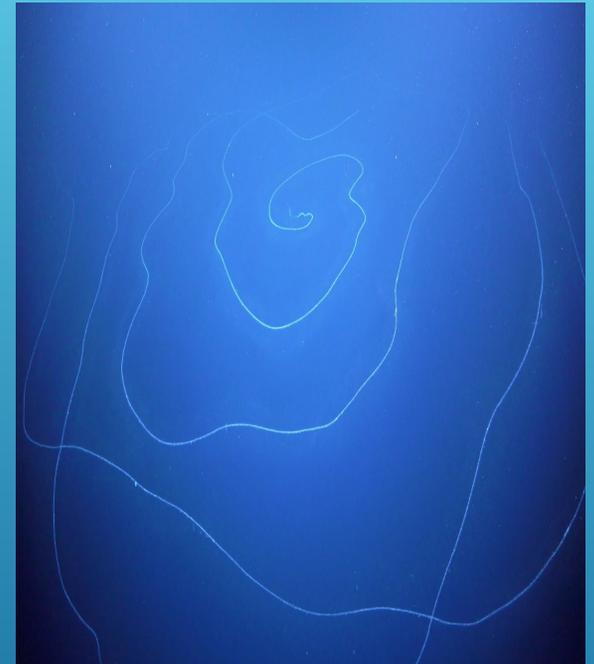
➤ 2020 ROV Science Missions

- ROV & Vessel Sea-Trials
- Jullie Trotter – Submarine Canyons – Southwest Australia.
- Nerida Wilson - Submarine Canyons – Western Australia.
- Rob Beaman – Opportunistic Mapping & ROV Dives – Queensland Plateau, Australia.
- Mardi McNeil – Mapping the Southern Great Barrier Reef, Australia.
- Utilized Remote Telepresence.



2020 Cruise Highlights

- **Maintained Offshore Operations as best as possible despite the Global COVID 19 Pandemic**
 - Discovered a massive detached coral reef over 500m high.
 - Viewed the deepest regions of the Great Barrier Reef Marine Park.
 - Discovered five undescribed species consisting of black corals and sponges & 150-foot siphonophore—seemingly the longest animal ever recorded.
 - First recorded live observation of Spirula, aka ram's horn squid, alive and in its natural environment.



THANK YOU!
Stay Safe!

SUBASTIAN

- www.schmidtocean.org
- Livestreaming ROV Dives
- Facebook
- YouTube