Ocean Exploration and Research

NOAA Report 2015
DeSSC

NOAA OER Vehicle Upgrades for Sampling

September 11, 2015

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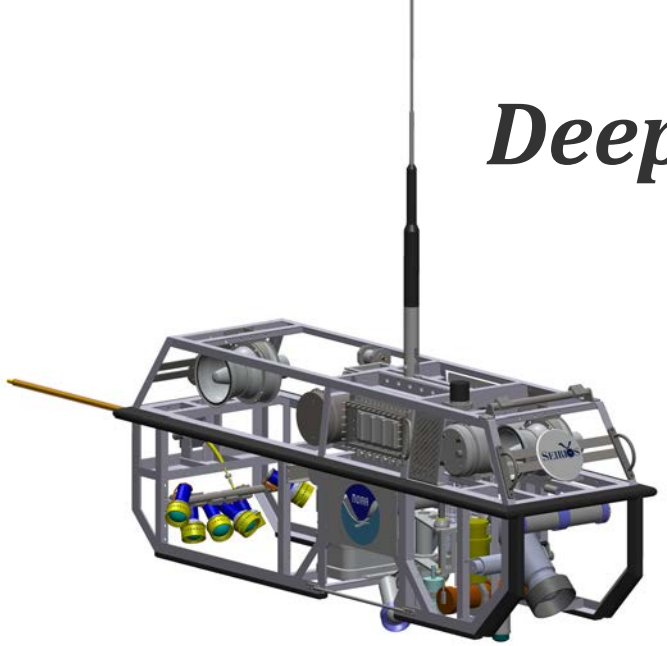
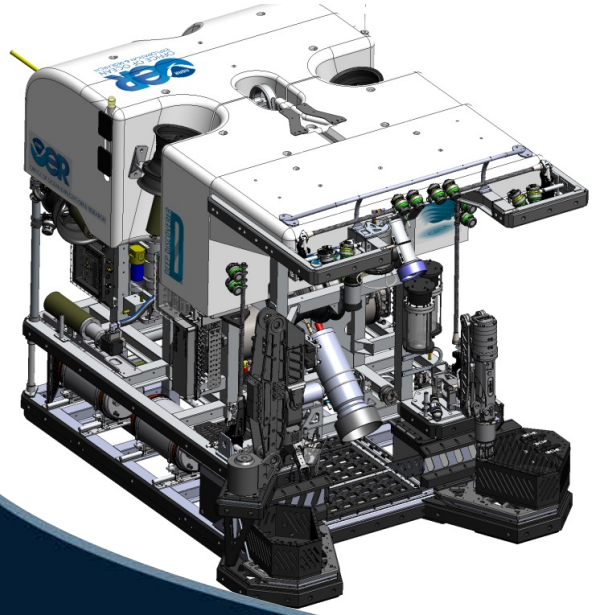
RI Regional Program Manager
NOAA Office of Ocean Exploration & Research

Deep Discoverer (D2) & Seirios





- Dual Body System
- 6,000 meter rated
- 250,000 lumens LEDs
- 12 cameras - 4 HD
- Dual frequency scanning sonars
- CTDs and other sensors

Spec sheets available

Deep Discoverer (D2)

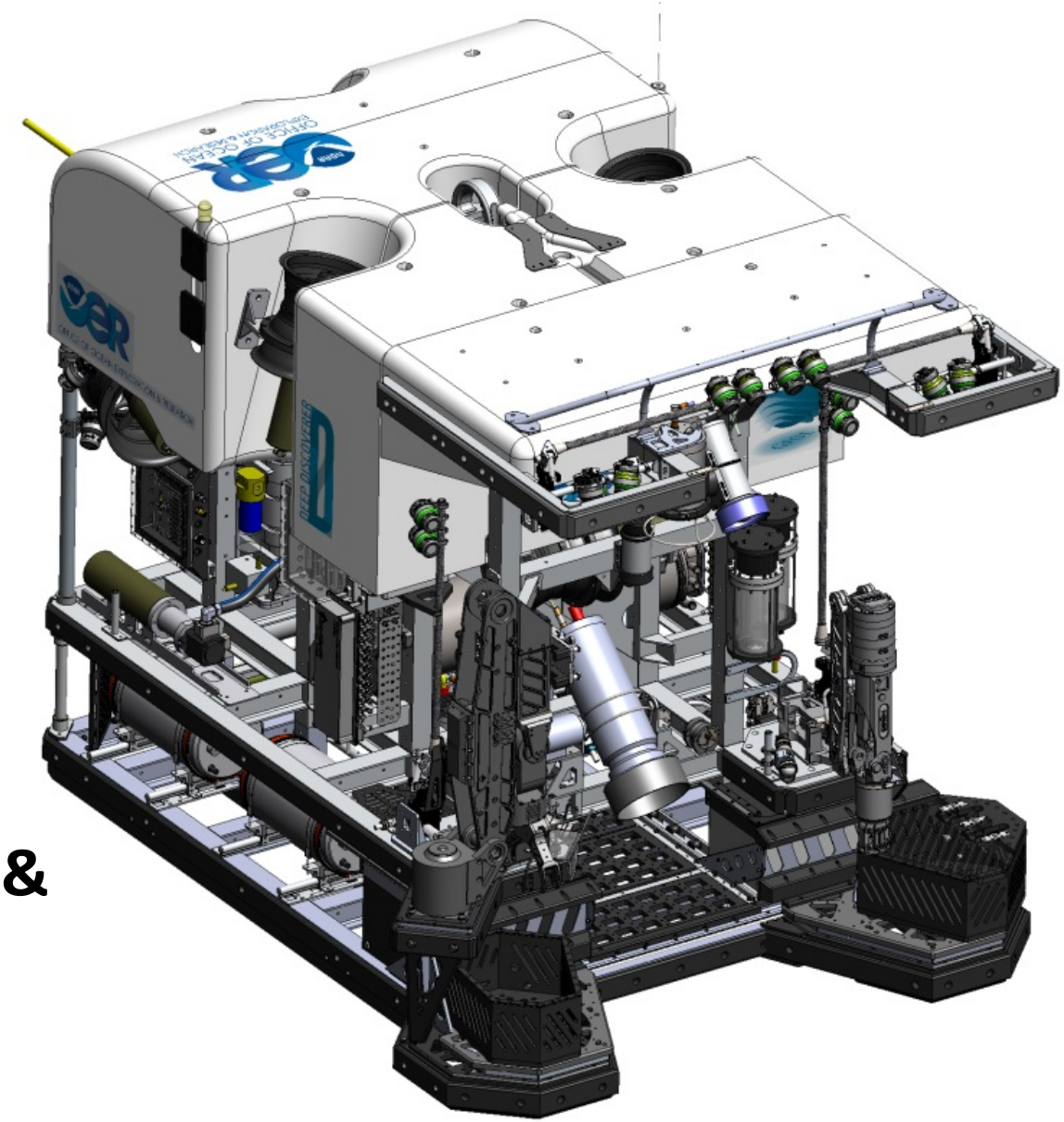
- **Size**: ~10'L x 6.5'W x 8.5'H
- **Air weight:** 9150 lbs
- **Max Payload:** 400 lbs. (in water weight)

Hydraulic 7-Function Manipulators:
- Shilling "Orion"
- Kraft "Predator" w/Force Feedback

Lighting:
- 150,000 lumens LEDs
- 8 LEDs on hydraulic swing arms

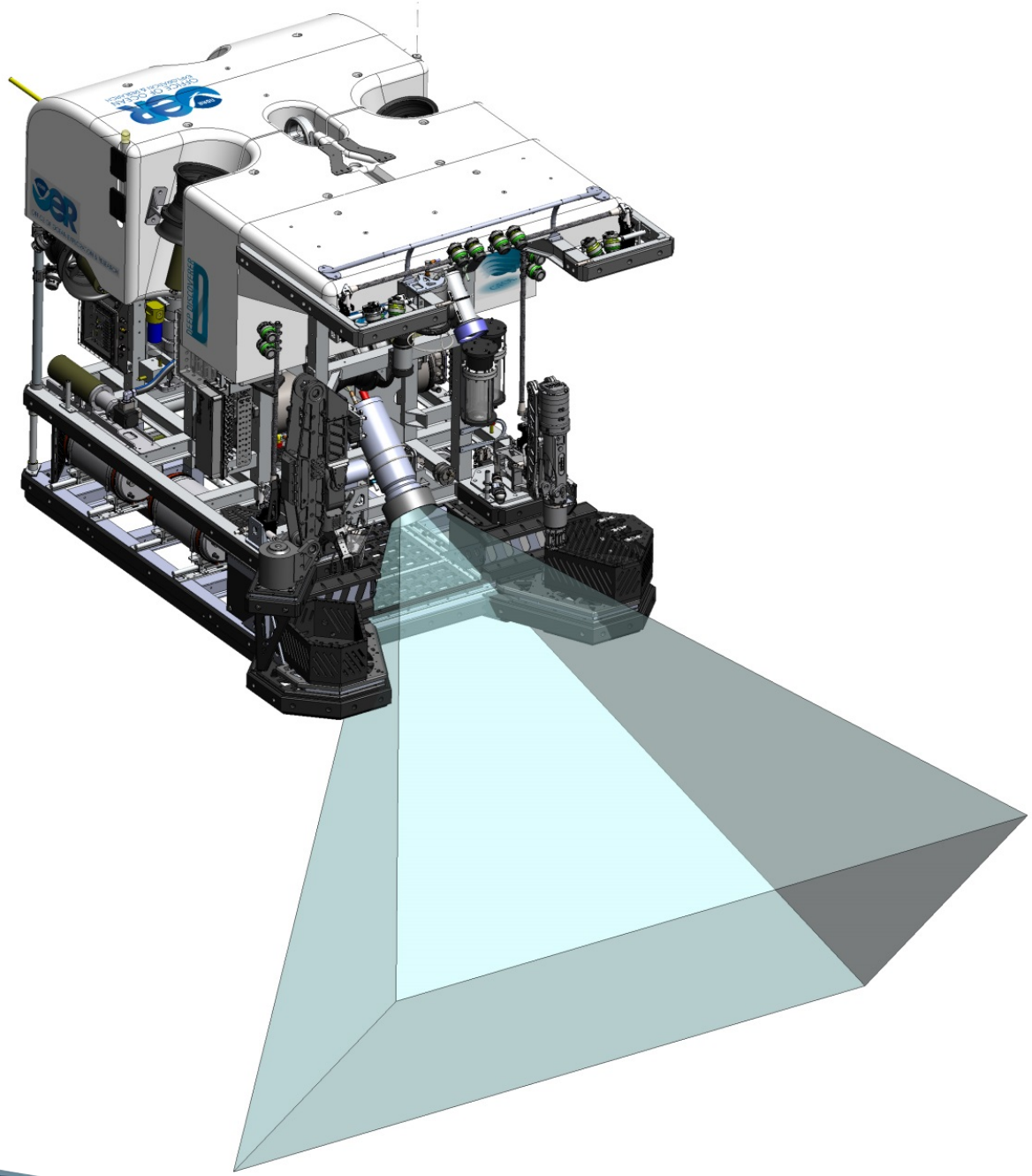
Video:
- Insite Pacific "Zeus Plus" HD
- Insite Pacific "Mini Zeus" HD
- Insite Pacific "Titan Plus" HD
- Kongsberg Tilt/Rotate SD
- (3) Insite Pacific Aurora SD

D2 Upgrades for sample collection



New specimen collection system & Kraft arm

HD Video unobstructed view



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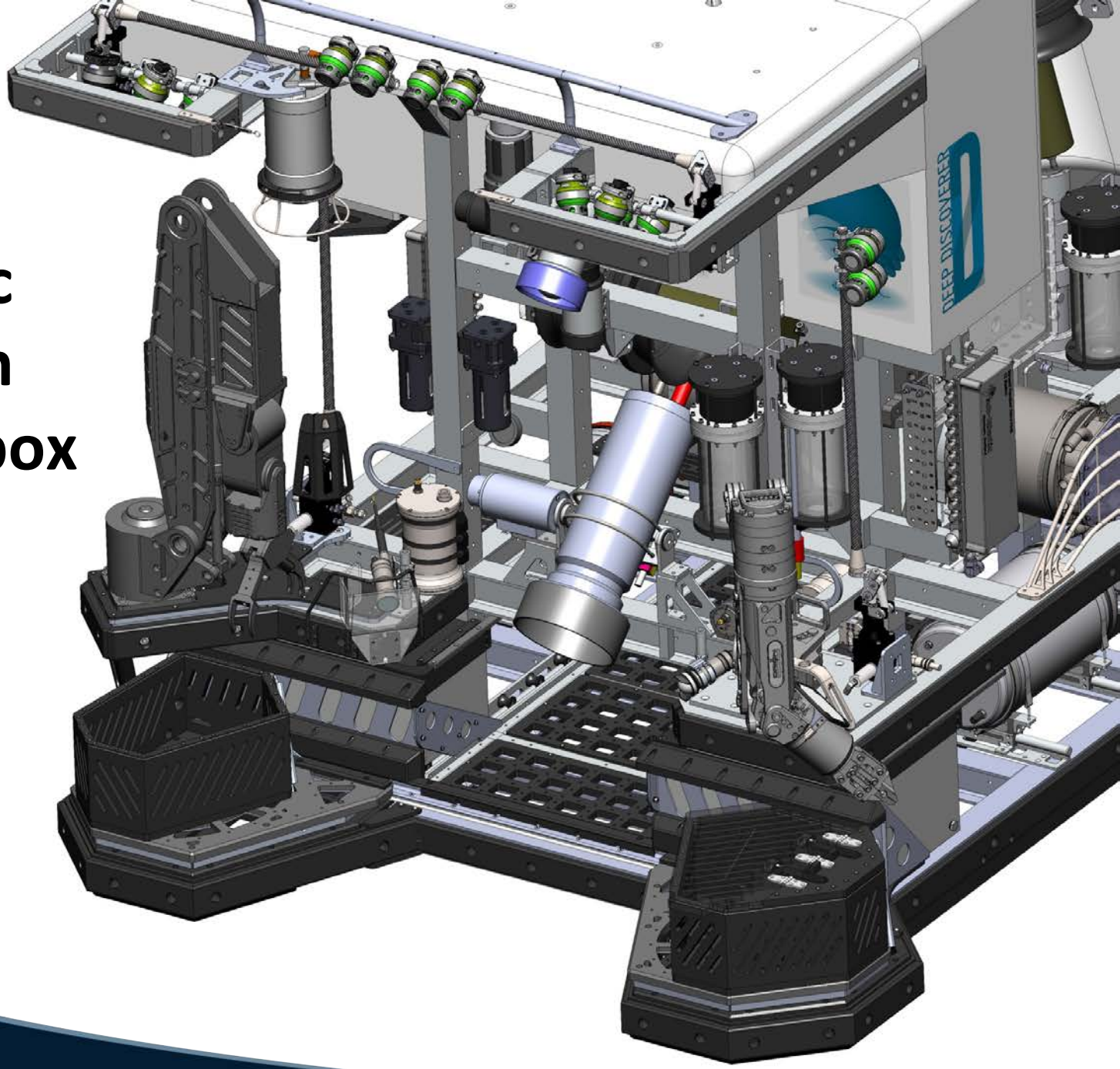
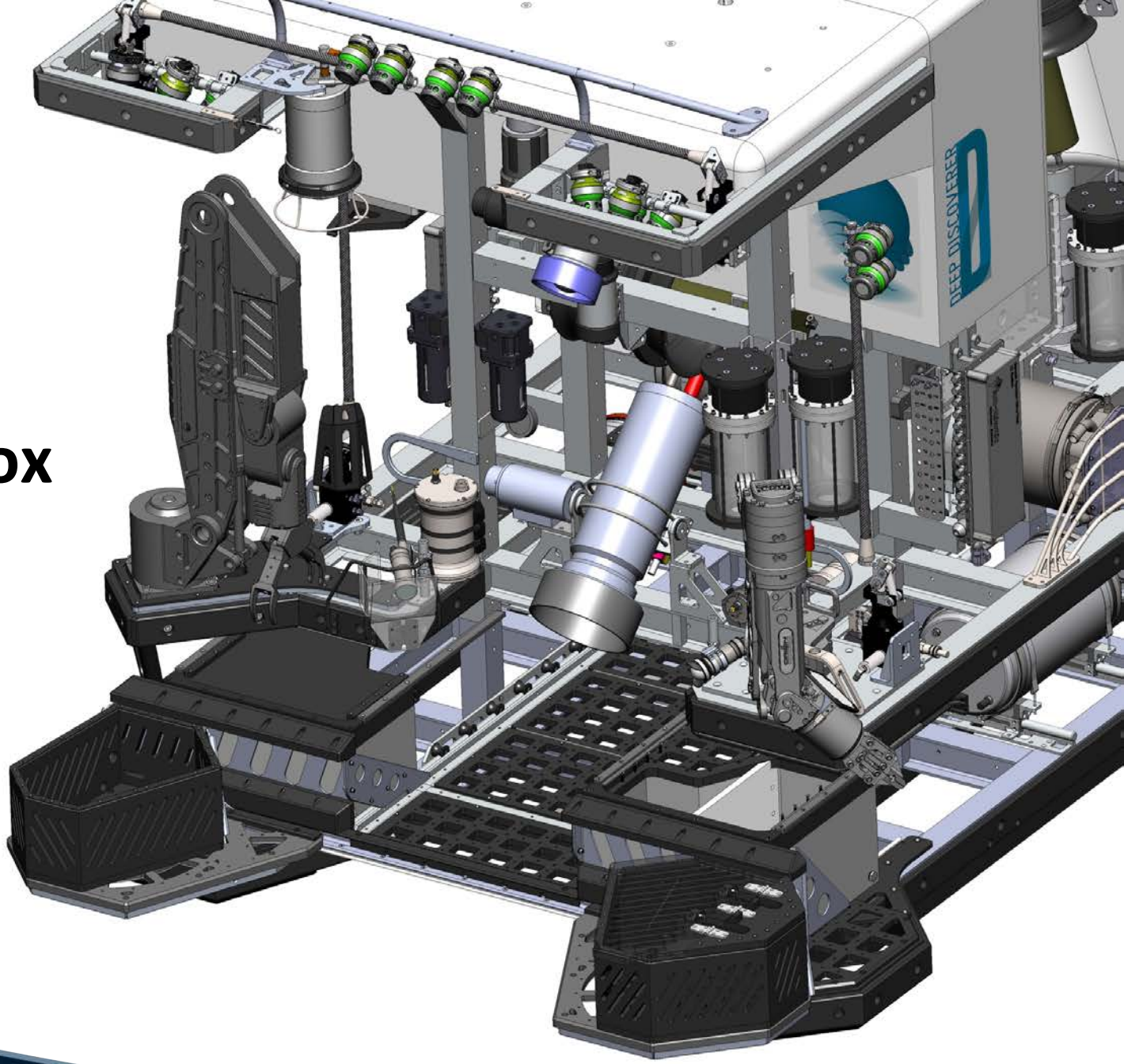
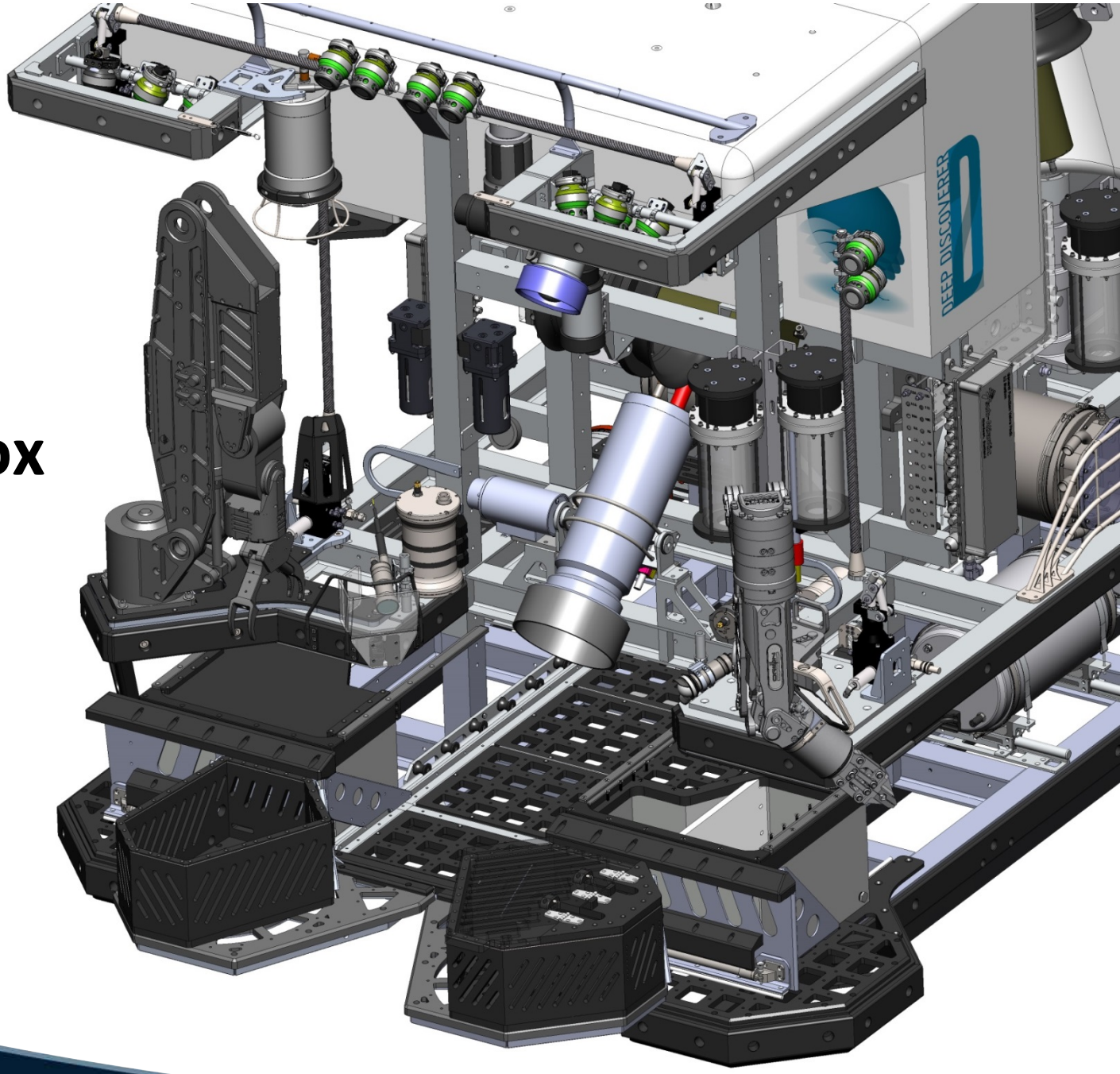
Hydraulic specimen collection box system



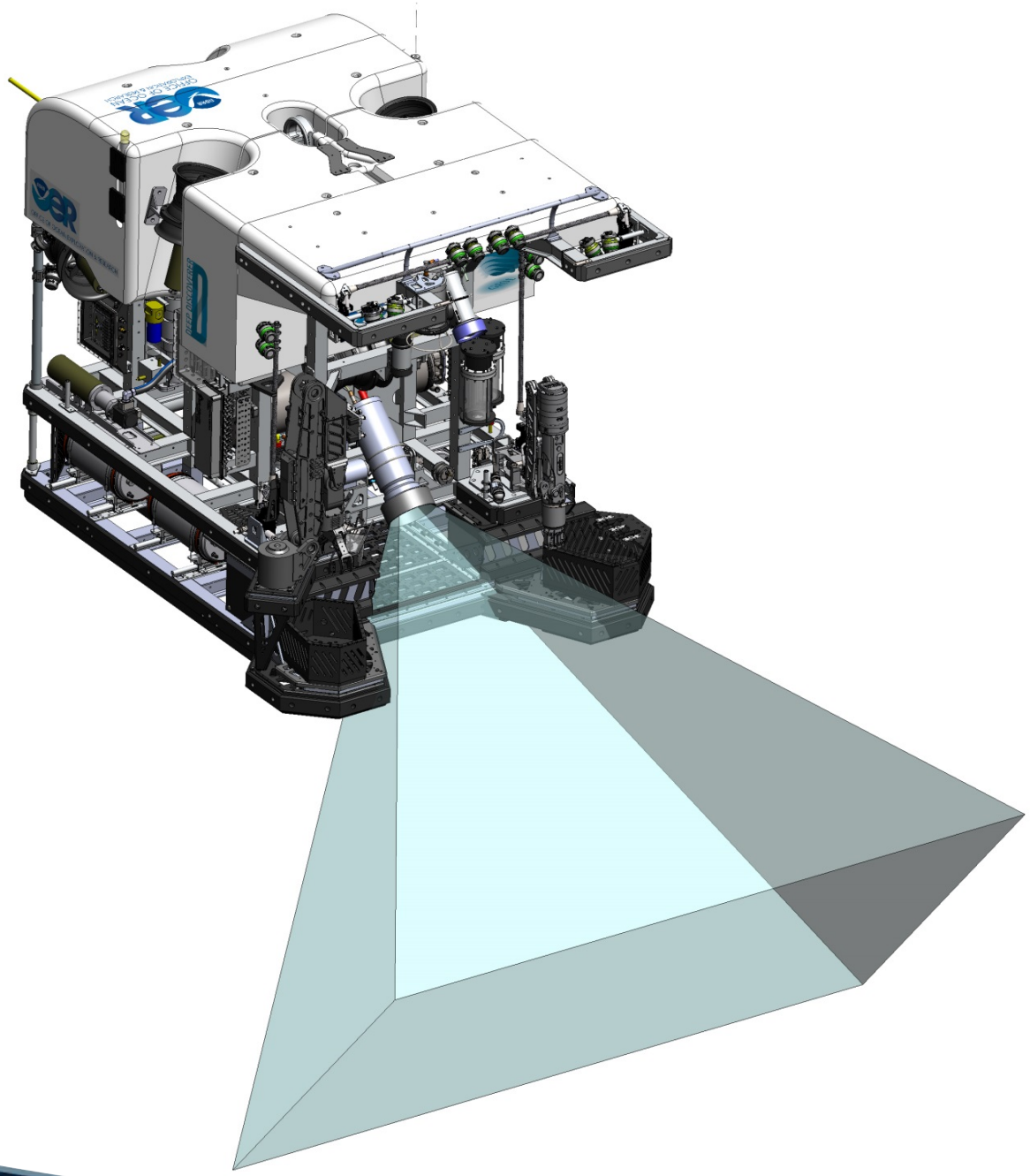
Hydraulic specimen collection box system



Hydraulic specimen collection box system



HD Video unobstructed view



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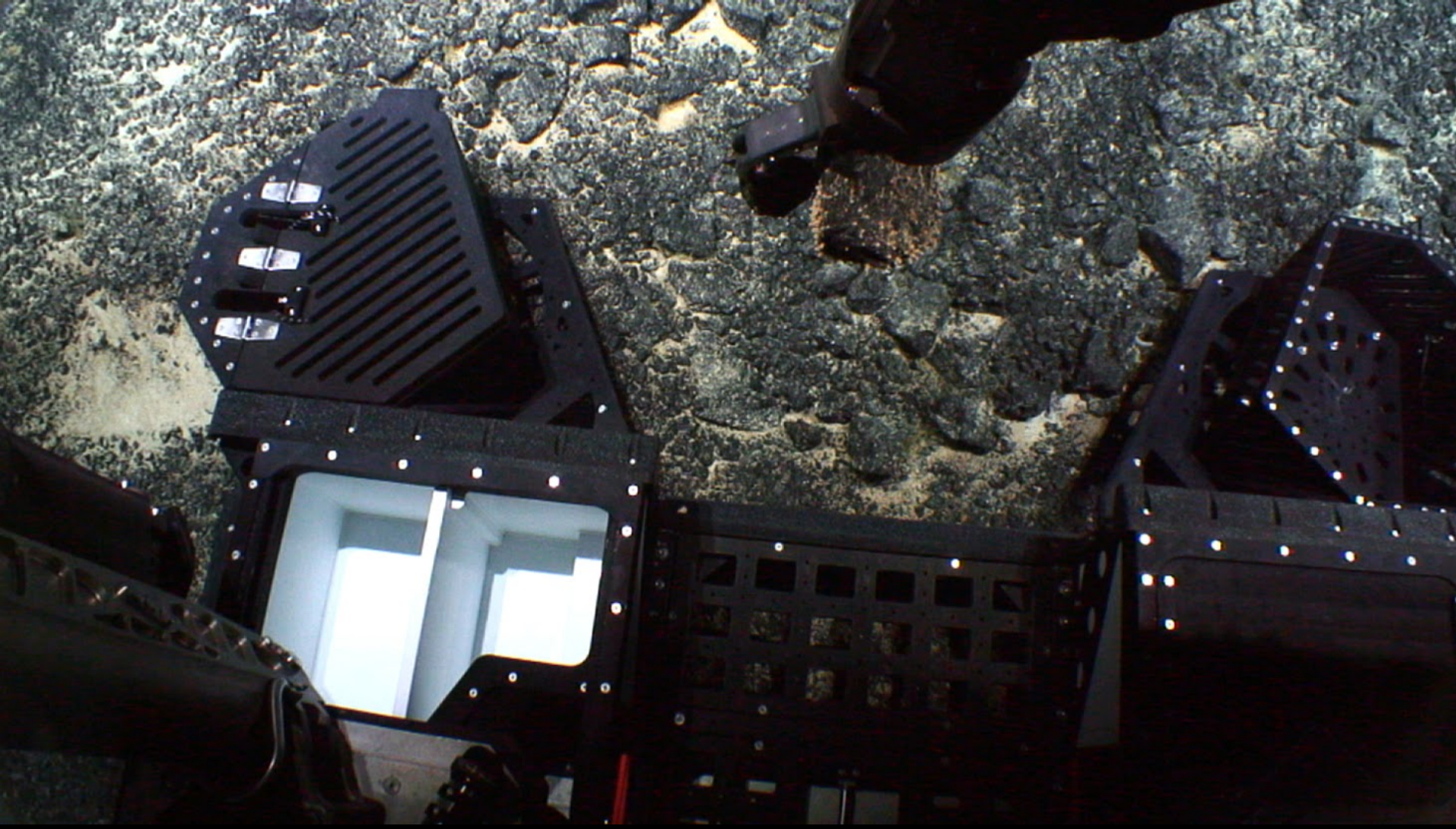

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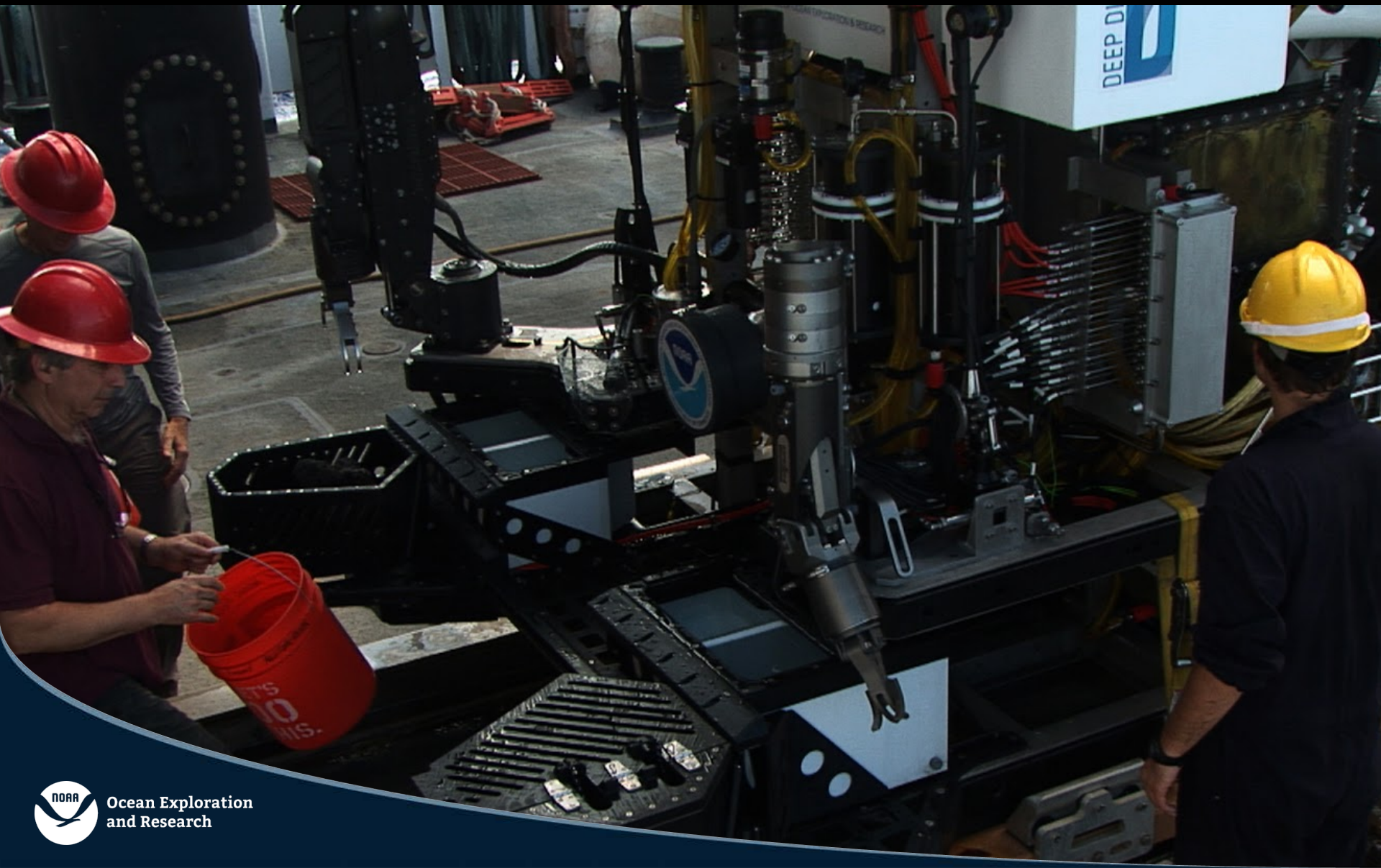

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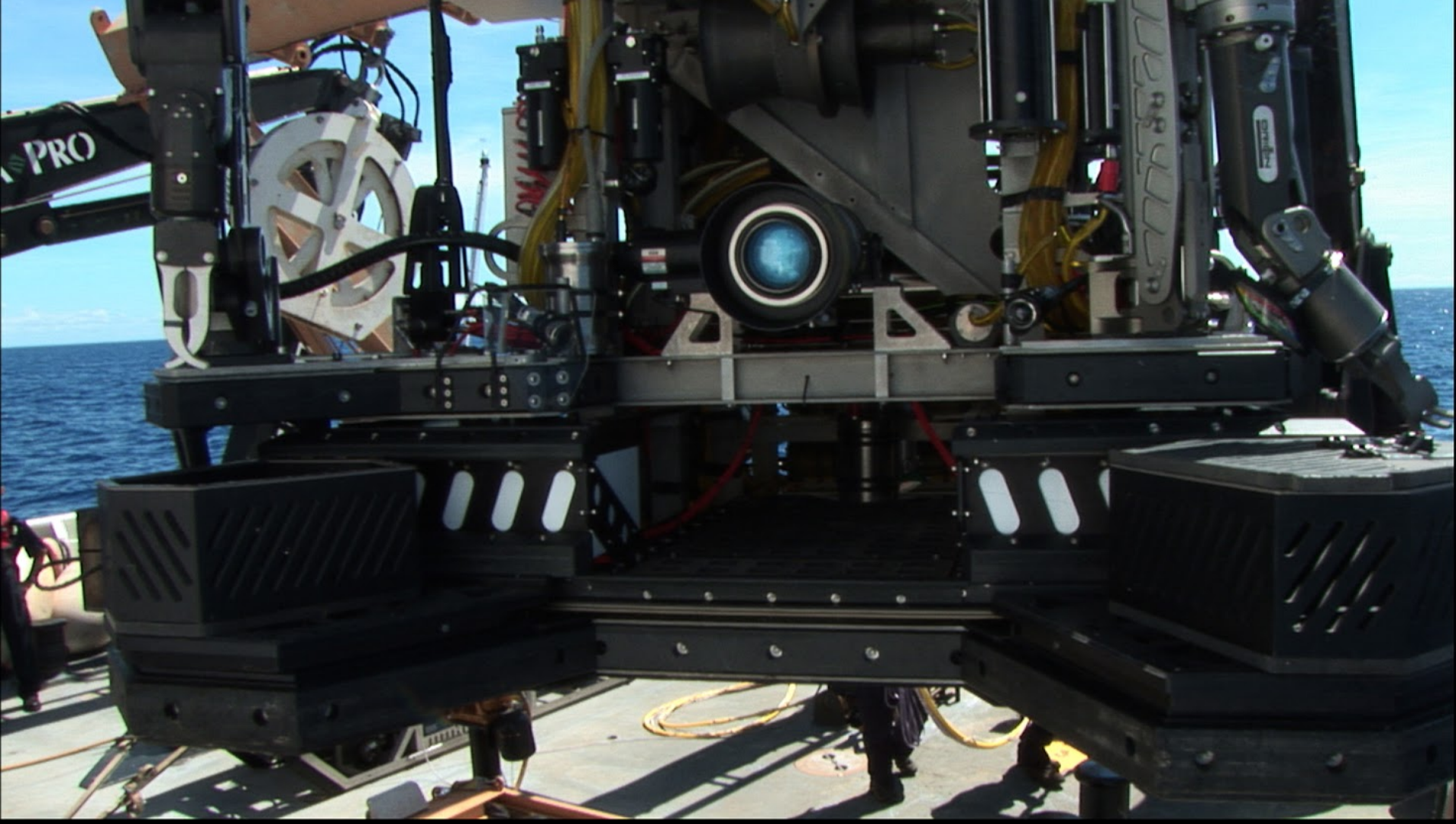

Interchangeable components on platform

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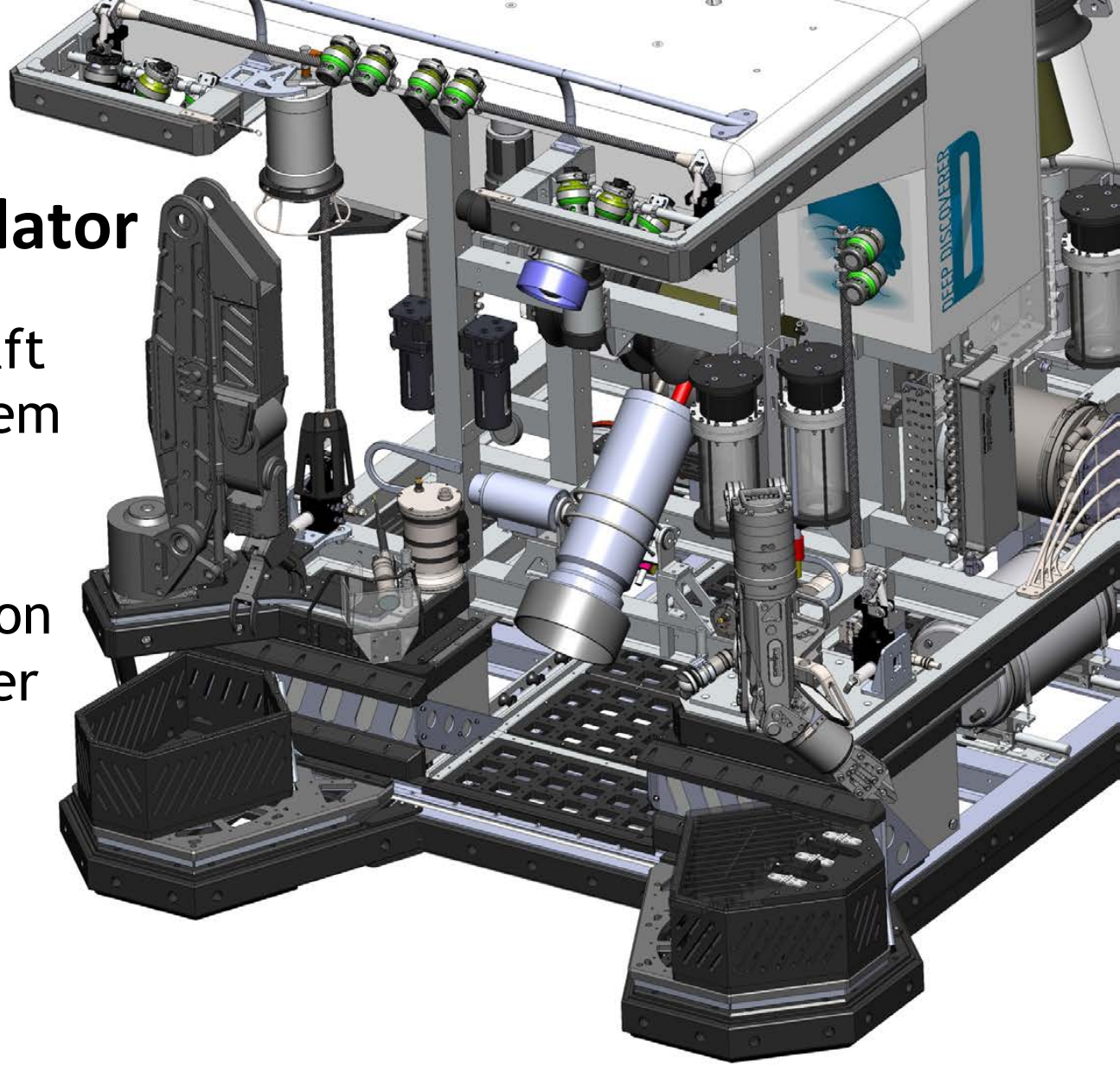
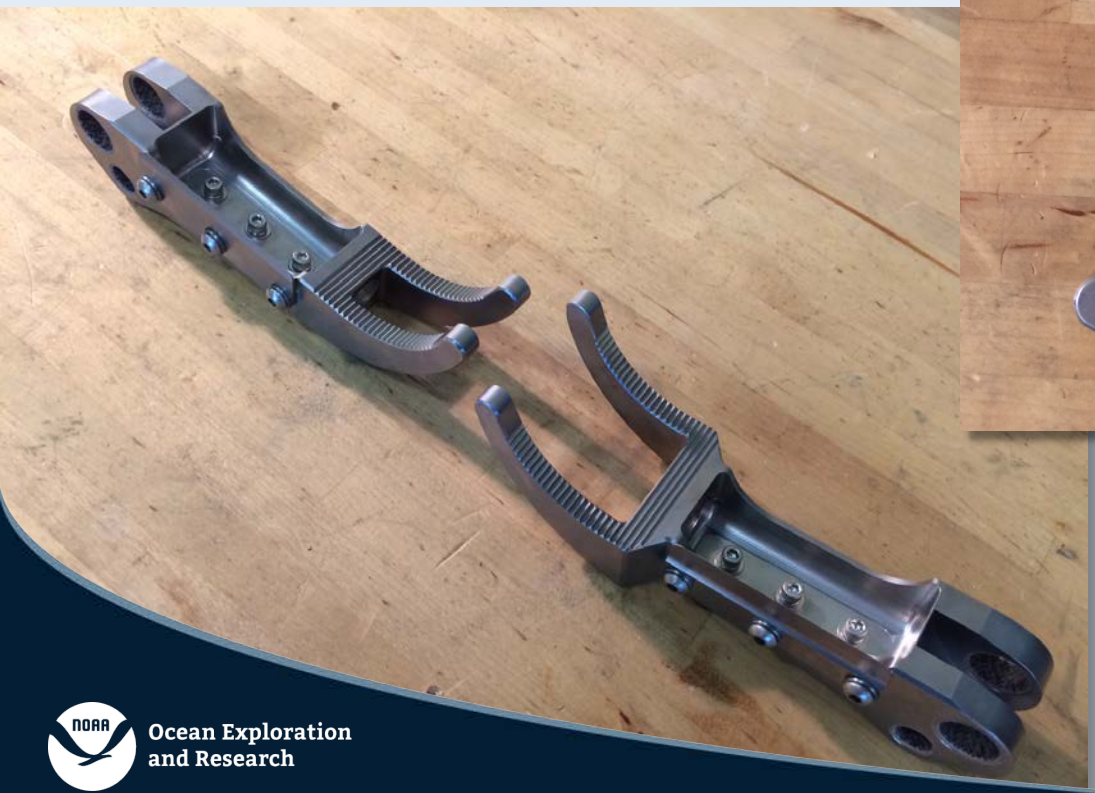
D2 Kraft Manipulator

- Worked with Kraft to resolve problem with water intrusion in shoulder elevation hydraulic cylinder
- High quality performance



Custom jaw assembly

For carefully cutting coral while holding coral branch in jaw (tygon tubing not shown)



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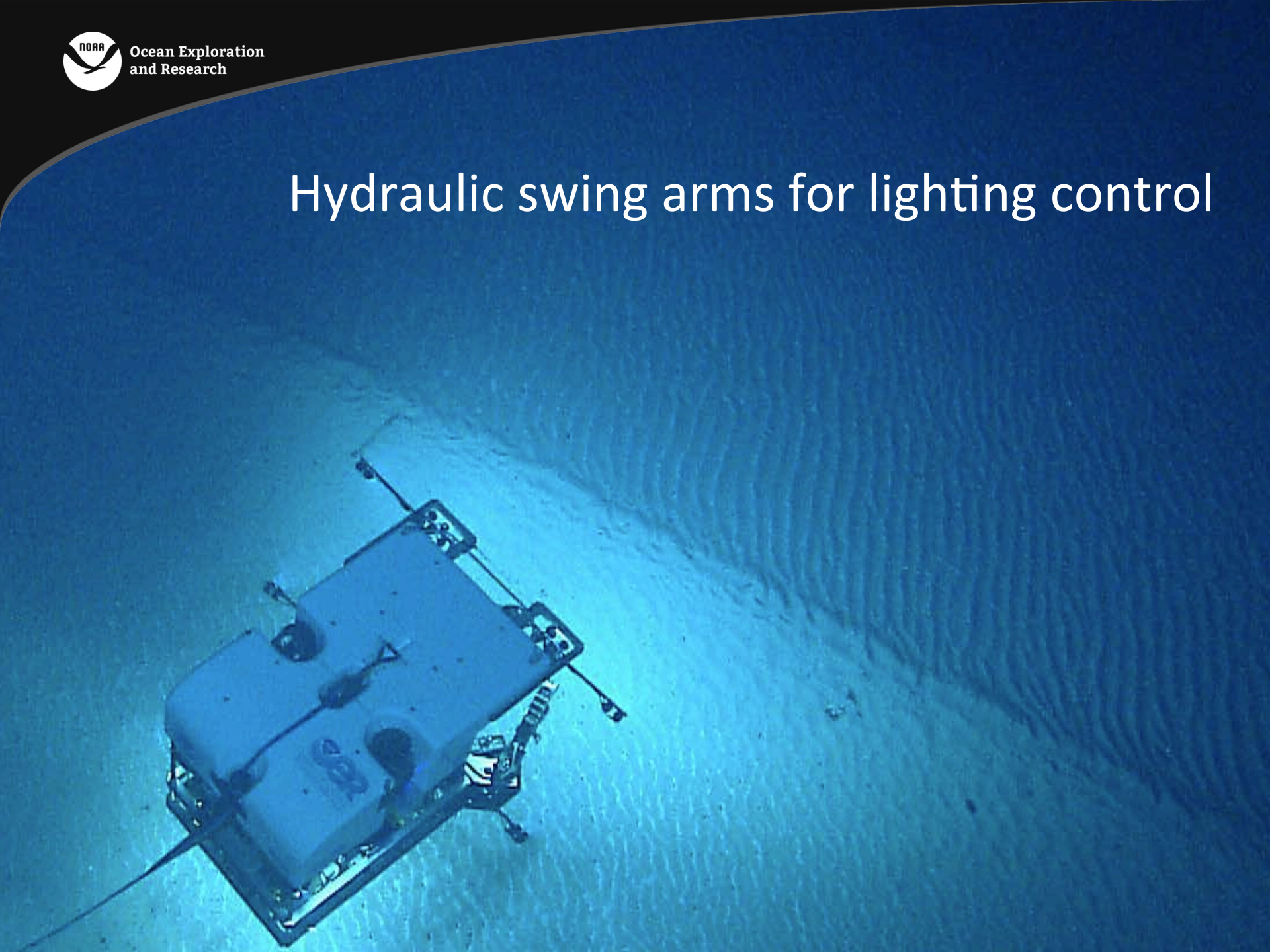
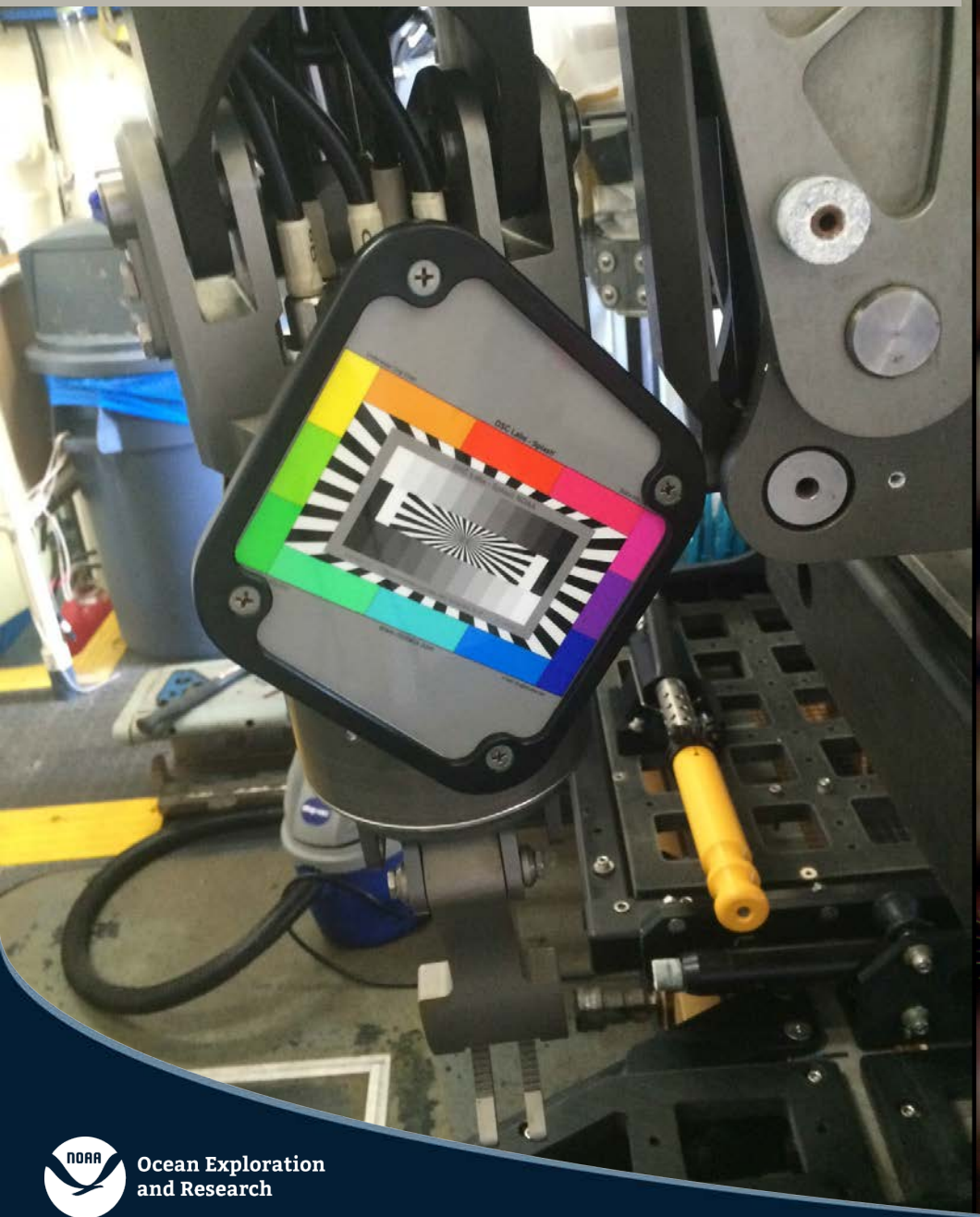
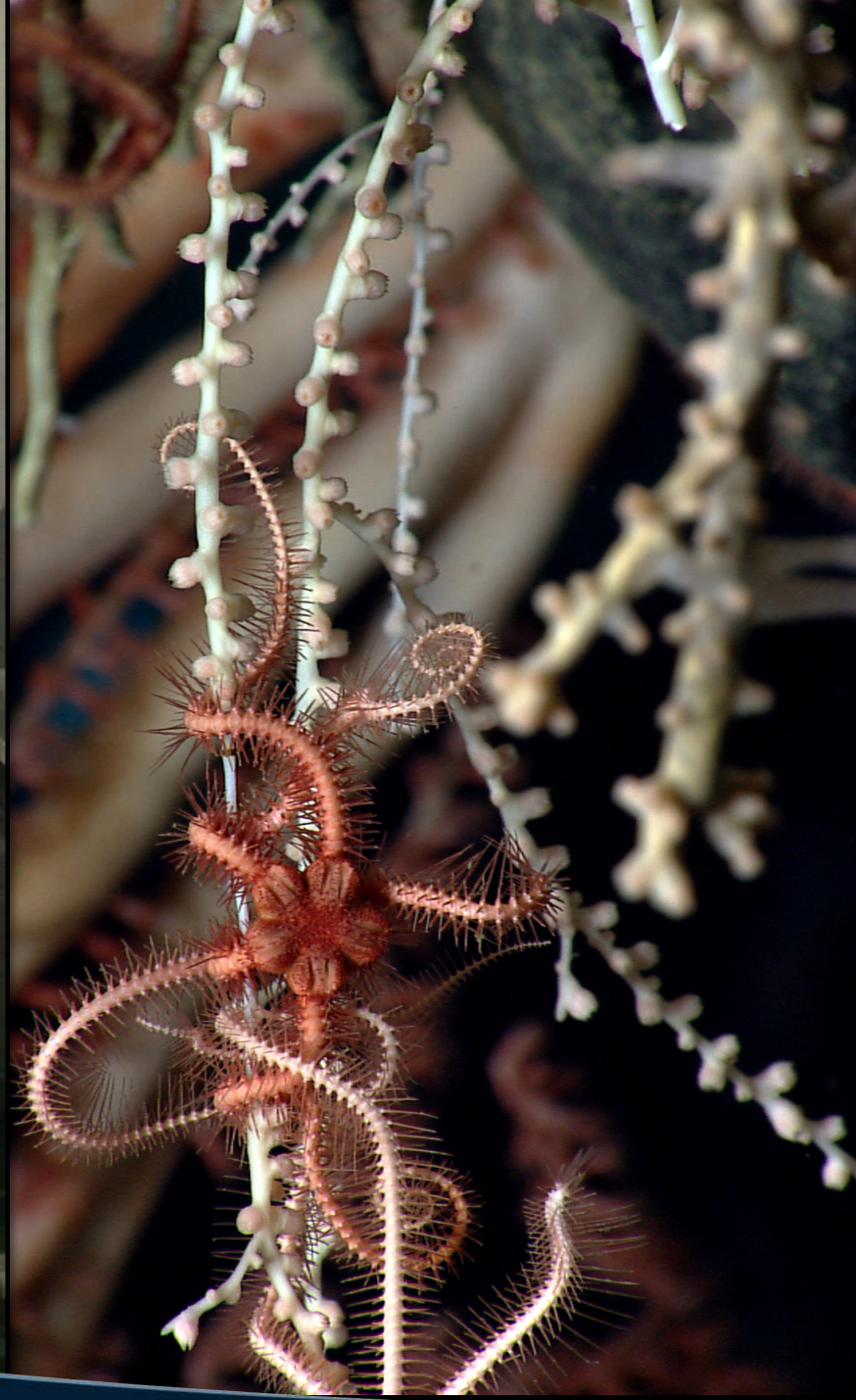
Hydraulic swing arms for lighting control



White & Black Balance





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