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Ground Systems Development and Operations: Return of Human Spaceflight

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Ground Systems Development & Operations (GSDO)

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Building the capability to pioneer deep space.
**Objectives:**
- Demonstrate spacecraft systems performance prior to crewed flight
- Demonstrate high speed entry (~11 km/s) and TPS performance prior to crewed flight

**DRM - Uncrewed MPCV**
- Lunar capable heat shield
- 4 tank SM with full prop load
- EM-2 systems not included: ECLSS, Crew Systems, LAS Abort Motors (Inert)

**Interim Cryogenic Propulsion Stage (ICPS) used to provide TLI burn**
Orion Production Operations and Exploration Flight Test 1
Making Progress at KSC

- Designed and fabricated Orion ammonia ground support equipment; performed EFT-1 flight load
- Firing Room 1 outfitted and Spaceport Command and Control Software validated
- Multi-Purpose Processing Facility upgrades wrapping up this summer followed by ground support equipment installation and testing
- Rotation, Processing and Surge Facility platform modifications complete
- Successful EFT-1 recovery of the crew module
Making Progress at KSC

Mobile Launcher structural modifications progressing, fabrication of umbilicals and other equipment in work.

Vehicle Assembly Building shuttle platform demo complete, new SLS platforms in fabrication.

Launch Pad 39B largely complete, only flame trench work and IOP/SS water routing remains.

Crawler-transporter modifications and upgrade to ~18 million lbs capacity.
GSDO: EXPLORATIONbegins HERE
SLS / ORION / GSDO … LAUNCHING EM-1 2018!
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