PACE PROJECT MANAGER
ANDRÉ DRESS

Plankton, Aerosol, Cloud, ocean Ecosystem (PACE)

Mission Overview
June 2, 2020
Plankton, Aerosol, Cloud, ocean Ecosystem (PACE)

**PACE Science**
New opportunities to monitor fisheries and respond to toxic algae blooms, and key ocean and atmosphere data for forecasting air quality and weather that will improve our understanding of Earth’s climate.

**Mission Complement:**
- HyperSpectral Scanner
- Two Polarimeter Instruments
- Spacecraft Earth Pointing Platform
- OBPG Science Data Segment (SDS)
- Vicarious Calibration System

**Mission Elements (Organization)**
- Competed Science Team (NASA ESD)
- Vicarious Calibration (NASA ESD)
- Science Data Analysis (GSFC)
- Ocean Color Instrument (GSFC)
- Spacecraft – (GSFC)
- Polarimeters – (SRON, UMBC)
- Mission Operations – (GSFC)
- Launch services (LSP-SpaceX)

**Key Mission Parameters**
- 98° inclination; ~676.5 km altitude
  - Sun-Sync (1pm MLT AN),
  - 2 day global coverage
- Class C Mission
- PRD Dec. 2022/LRD Mar. 2023
- 3 years* Phase E & Controlled Reentry
- 10 years fuel*

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You Are Here
June 2020

**Mission Timeline**

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**Launch Readiness Date (LRD)** Mar. 2023

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* Fuel only, design life is 3 years, the extra 7 yrs is ~9% of the required mission fuel budget

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You Are Here
June 2020

**Mission Timeline**
PACE Mission Phases (Past and Future)

**Pre-Phase A**
- Concept studies
- Cost and schedule (large uncertainty)
- Culminates in a Mission Concept Review

Jan 2015

**Phase A**
- Concept and technology development to determine what requirements are achievable
- Some hardware development to mature the technology and reduce risk
- Cost and schedule estimates are updated but with uncertainty
- Culminates in a Systems Requirements Review

June 2016

**Phase B**
- Preliminary design phase and technology development completion
- Requirements should be stable and well defined
- Engineering unit development
- Cost and schedule baselined (expected high confidence)
- Culminates in a Preliminary Design Review

July 2017

**Phase C**
- Final/Critical design phase and start of major flight build
- Requirements verified at the element level
- Cost and schedule performance is closely monitored against the baseline
- Culminates in a Systems Integration Review

Aug. 2019

**Phase D**
- Final system/observatory level assembly and test
- Requirements are verified at the system level
- Culminates in an Operational Readiness Review, Launch and early in orbit checkout

Oct. 2021

**Phase E (36 months)**
- Operations and Science Data Collection
- Culminates in a Decommissioning Review

June 2023

**Phase F**
- Decommission/De-Orbit

KDP – Key Decision Point (HQ Gate Review)

We are here
PACE Mission Overview