

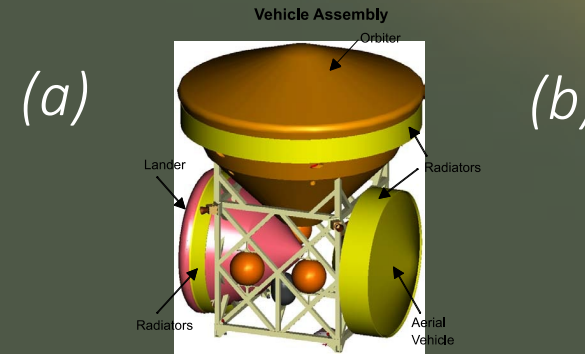
# TOPS: Titan Orbiter & Polar Surveyor Planetary Mission Concept Study (PMCS) Proposal

## Why do we need another Titan mission?

- Imagine Mars exploration program with only an orbiter or only a lander/rover.
- Cassini provided a first look at Titan's surface, snapshot of atmosphere. Dragonfly will provide detailed look at low-latitude terrain.
- We still need :
  - Global mapping of surface and atmosphere.
  - Landing and sampling of lakes/seas.

## Mission Concept

- **Flagship-class** mission composed of orbiter and 1-2 probes that would land and sample northern seas.



(a) Titan orbiter, with lander and balloon components from the 2007 Titan flagship study.



(b) Artists concept of the Titan Mare Explorer (TiME) mission proposed as a Discovery-class mission in 2010-2011. (Graham Murdoch, Popular Science).

## Proposal Team

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