Small Satellite Reliability: A Public Private Initiative
Technical Interchange Meeting-2 Agenda
NASA Headquarters, Glennan Conference Room 1O35

The potential for SmallSats to enable or enhance mission objectives or to provide other meaningful benefits is attracting broad interagency interest. The performance of these platforms however, often precludes infusing them and their systems into missions where significant risk of failure is unacceptable. This, and the inability to quantify SmallSat mission risk or mission confidence are barriers to infusion.

TIM attendees from the public and private sectors will interactively direct their diverse competencies, perspectives, and experiences to this challenge. The objective is to begin to define implementable approaches that will lower barriers to fully realizing SmallSat mission potential.

Day 1: October 11, 2017		
8:30 AM	Check-in- Glennan Conference Room 1O35	
9:00	**Welcome, Logistics**	**Johnson/ Seablom**
9:10	Why are we here? Ground rules. TIM objectives and success criteria.	Michael Johnson/NASA GSFC Michael Seablom/NASA HQ
Lessons Learned from Spaceflight Missions		**Mike Seablom, facilitator**
9:30	10 min Introductory remarks	
9:40	Ryan Miller (Univ of Michigan) —QB50 CDH Development for NASA	
10:00	Chris Ruf (Univ of Michigan) — Lessons Learned from the CYGNSS Mission	
10:20	Randy Rose (Southwest Research Institute)— CYGNSS Spacecraft Component and Subsystem Reliability Lessons Learned	
10:40	Craig Hardgrove (Arizona State Univ)— The Lunar Polar Hydrogen Mapper: LunaH-Map - Mission and Systems-Level Status	
11:00	**Break**	
Lessons Learned from Spaceflight Missions (continued)		**Mike Seablom, facilitator**
11:30	Round table discussion: Common threads and translating lessons learned into actionable recommendations	
12:00	**Lunch**	
Model-Based Approaches to Mission Confidence		**Doug Sheldon/ Harald Schone, facilitators**
1:00	Harald Schone (JPL) – JPL Model Based Reliability Investments	
1:20	Michael Vinarcik (University of Detroit/Mercy) – SysML Modeling in the Automotive Industry (remote)	
1:30	Jesus Mata Castaneda & Natalie Matevossyan (University of Detroit/Mercy) – Vehicle Feature Complexity Modeling (remote)	
1:50	Robert Kraus, George Papaioannou & Arun Sivan (Ford Motor Company) – Application of MBSE Principals to an Automotive Driveline Sub-System Architecture (remote)	
2:10	Art Witulski (Vanderbilt University) – GSN/Bayesian Networks in Small Sats (remote)	
2:30	Full session discussion	all
2:50	**Break**	
Knowledge Sharing		**Bruce Yost, facilitator**
	Bruce Yost—Knowledge Sharing, Website Architecture	
3:00	Catherine Venturini (The Aerospace Corp.)— An Aerospace Perspective Improving Mission Success of CubeSats; Improving Mission Success of CubeSats Product Overview	

3:15	Ken La Bel (NASA/Goddard Space Flight Center): NEPP Perspective data and knowledge repositories	
3:30	Sue Aleman (NASA/Headquarters)— The OSMA Perspective	
3:45	Open Discussion	all
4:30	End of day open discussion & action item recommendations for "Open Topic" session. Review 'parking lot' notes for suitable open topic discussions.	all
5:00	**Adjourn**	
7:00	**Dinner:** *TIM Dinner plans to be announced*	**all**

Day 2: October 12, 2017		
Day 1 Recap		**Michael Johnson, facilitator**
9:00 AM	Day 1 findings, Questions, Issues, Success Criteria Check Day 2 Plans	all
Best Practices and Design/Development Guidelines		**Elizabeth Klein-Lebbink, facilitator**
9:15	Linda Fuhrman (MIT Lincoln Laboratory)— Debrief of Best Practices/Development Guidelines Recommendations from TIM-1	
9:30	Linda Fuhrman— Analysis of CubeSat Reliability	
10:00	**Break**	
Best Practices and Design/Development Guidelines (continued)		**Elizabeth Klein-Lebbink, facilitator**
10:30	Catherine Venturini (The Aerospace Corp.) — Improving Mission Success of CubeSats	
11:00	Elizabeth Klein–Lebbink (The Aerospace Corp.) — SmallSat Best Practices Implementation Example	
10:30	Open discussion	all
12:15	**Lunch**	
Open Topic		**Harald Schone, facilitator**
1:15	Round table discussion of top three topics as identified on Day 1	all
2:30	**Break**	
2:45	Continued round table discussion of top three topics as identified on Day 1	all
Findings Summary, Open Issues, Next Steps		
3:00	End of day open discussion & action item recommendations	Pat, Michael, Harald
3:30	Adjourn	