FY 2015 Cost Symposium
SMD Programmatic Assessment

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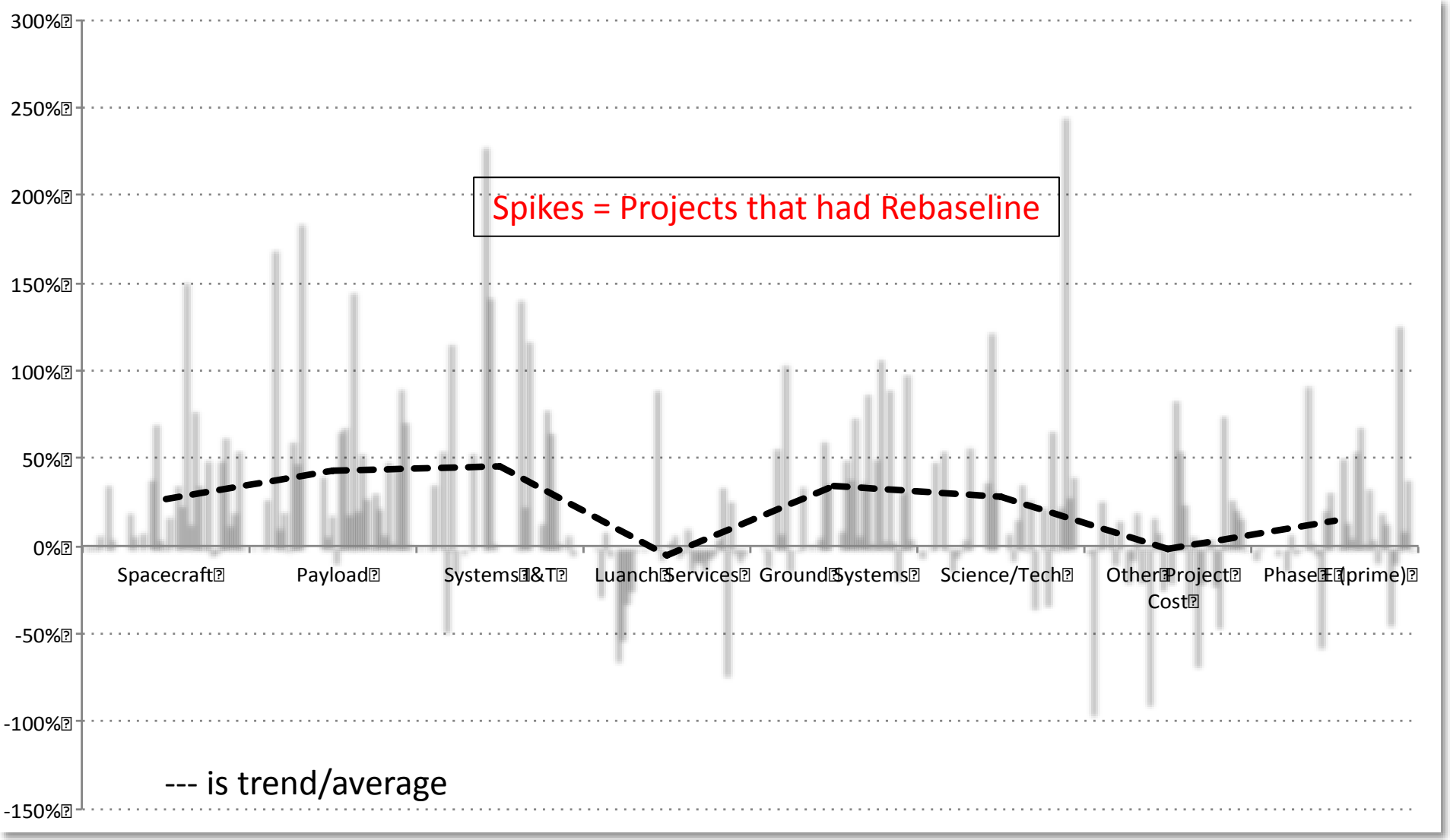
Cost and Schedule Performance

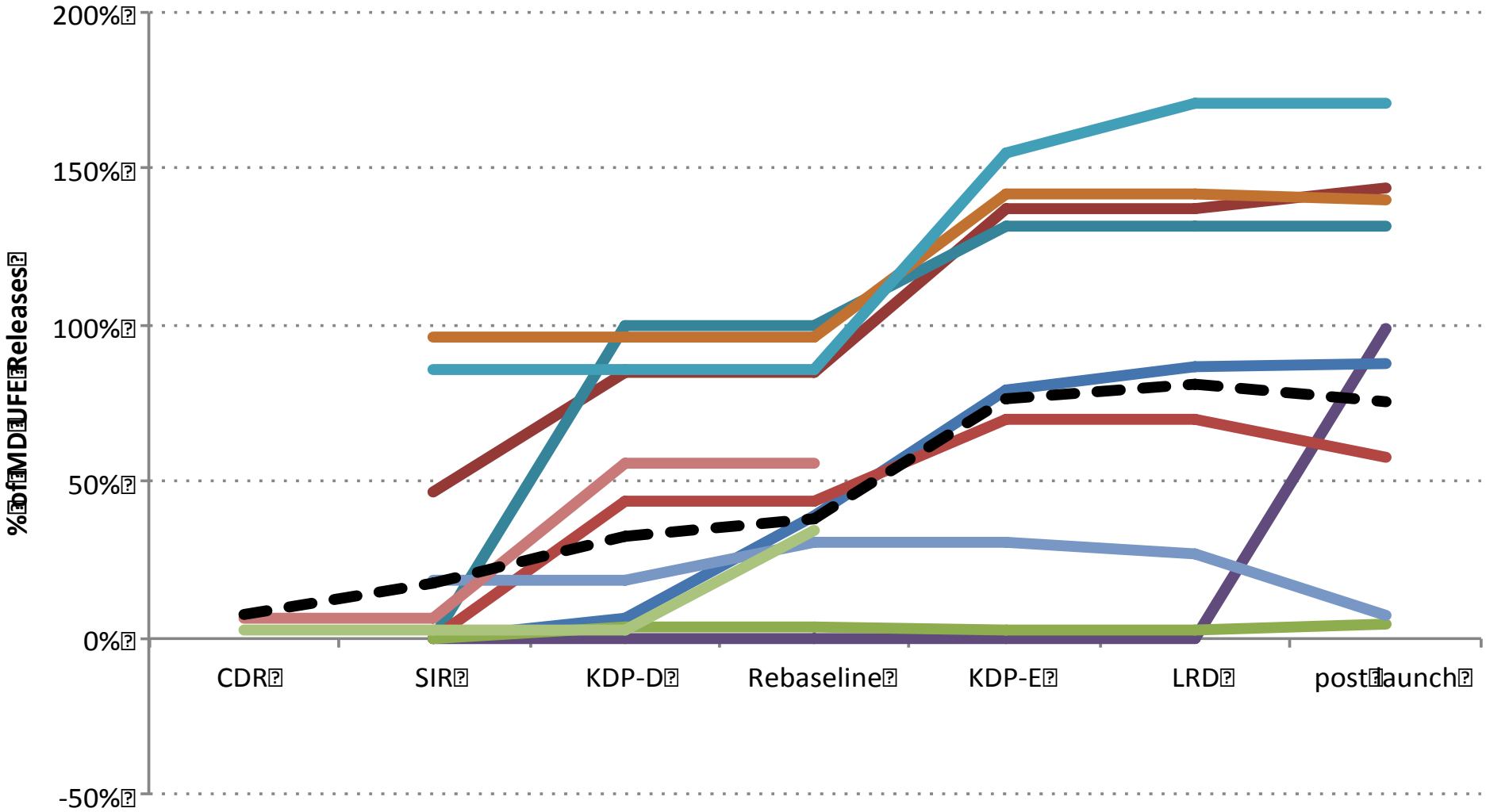
	Original Baseline			Revised Baseline			Q3 FY15 Actual/Current		Change From Latest Baseline	
	Estab.	LRD	Dev $	Estab.	LRD	Dev $	LRD	Dev $	LRD	Dev Cost
Juno	Aug-08	Aug-11	742				8/5/11	709	--	-4%
GRAIL	Jan-09	Sep-11	427				9/10/11	398	--	-7%
Suomi NPP	Feb-06	Apr-08	593	Jan-11	Feb-12	815	10/25/11	765	- 4 mos	-6%
Curiosity	Aug-06	Sep-09	1069	Oct-09	Nov-11	1720	11/26/11	1769	--	3%
NuSTAR	Aug-09	Jan-12	110				6/13/12	116	+ 5 mos	5%
Van Allen	Dec-09	May-12	534				8/30/12	504	+ 3 mos	-6%
Landsat 8	Dec-09	Jun-13	583				2/11/13	503	- 4 mos	-14%
IRIS	Oct-10	Jun-13	141				6/27/13	143	--	1%
LADEE	Aug-10	Nov-13	168				9/6/13	191	- 2 mos	14%
MAVEN	Oct-10	Nov-13	567				11/18/13	472	--	-17%
GPM	Dec-09	Jul-13	555	Oct-11	Jun-14	519	2/27/14	484	- 4 mos	-7%
OCO-2	Sep-10	Feb-13	249	Jan-13	Feb-15	372	7/2/14	320	- 7 mos	-14%
SMAP	Jun-12	Mar-15	486				1/31/15	467	- 2 mos	-4%
MMS	Jun-09	Mar-15	857				4/1/15	877	--	2%
Astro-H	Nov-13	Mar-16	81				Mar-16	78	--	-4%
InSight	Dec-13	Mar-16	542				Mar-16	542	--	0%
SAGE-III	Jul-13	Mar-16	81				Mar-16	92	--	13.3%
OSIRIS-REx	May-13	Oct-16	779				Oct-16	700	--	-10%
CYGNSS	Feb-14	May-17	151				May-17	151	--	0%
ICON	Oct-14	Oct-17	196				Oct-17	196	--	0%
GRACE-FO	Feb-14	Feb-18	264				Feb-18	263	--	0%
ICESat-2	Dec-12	May-17	559	May-14	Jun-18	764	Jun-18	764	--	0%
TESS	Oct-14	Jun-18	323				Jun-18	296	--	-8%
SPP	Mar-14	Aug-18	1056				Aug-18	1050	--	-1%
SOC	Mar-13	Oct-18	377				Oct-18	320	--	-15%
JWST	Aug-09	Jun-14	2581	Sep-11	Oct-18	6198	Oct-18	6190	--	0%
Euclid	Sep-13	Mar-20	77				Mar-20	80	--	4%
TEMPO	Apr-15	Dec-21	161				Dec-21	161	--	0%

Detailed Project Cost Problems

Changes from KDP-C Baseline & Approved Rebaseline



When do Problems/Funding is Need Occurs



--- is trend/average

What is SMD Process & Policy

- Emphasizing programmatic review are to be thorough, and that the risks are known and understood
  - Developed and distributes “Leading Questions” to
    - Program Offices and PE
    - SRB chairs
- Now working to develop similar leading questions on Phase E
- Charter Aerospace & other organizations perform cost, schedule and risk assessments in addition to the SRB and other organization when necessary
  - Will look for collaboration and partnership where possible and available

Independent Assessment
How accurate are they

Recent Cost Performance

NASA Science is providing reliable cost estimates for its missions, contributing to program stability

	Original Baseline	Current/ Actual	Actual vs. Original	
Juno	742.0	708.8	-4%	
GRAIL	427.0	398.0	-7%	
Suomi NPP	593.0	765.2	29%	
Curiosity	1069.0	1769.0	65%	
NuSTAR	110.0	116.0	5%	
Van Allen	534.0	504.0	-6%	
Landsat 8	583.4	502.8	-14%	
IRIS	141.0	143.0	1%	
LADEE	168.0	191.4	14%	
MAVEN	567.0	472.0	-17%	
GPM	555.0	484.3	-13%	
OCO-2	249.0	320.3	29%	
SMAP	485.7	467.2	-4%	final costs TBD after commissioning
MMS	857.3	876.8	2%	final costs TBD after commissioning
Total	7081.4	7718.9	9%	

The total cost to develop 14 Science missions launched in the last 4 years exceeds the sum of our *original* estimates by 9%. Excluding Curiosity from that list, the figure becomes -1% (a slight underrun in total).

Recent Cost Performance

THIS VERSION EXCLUDES MSL/CURIOSITY

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OCO-2	249.0	320.3	29%	
SMAP	485.7	467.2	-4%	
MMS	857.3	876.8	2%	final costs TBD after commissioning
Total	6012.4	5949.9	-1%	final costs TBD after commissioning

The total cost to develop 13 Science missions launched in the last 4 years (excluding MSL/Curiosity) reflects a net underrun of our *original* estimates by 1%.

BACKUP