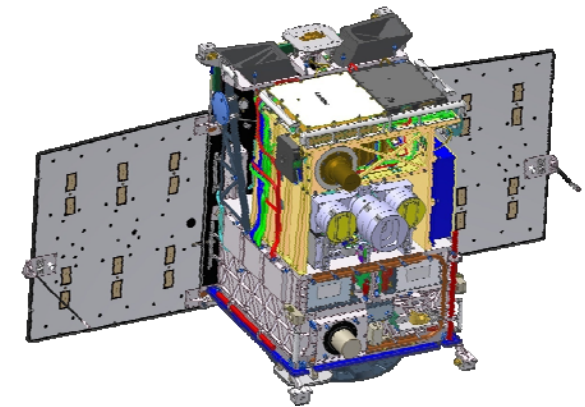
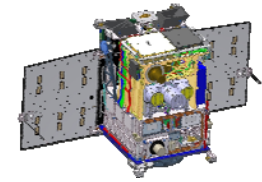




TET-1 Bodensegment und Missionsbetrieb

P. Mühlbauer / R. Axmann
German Space Operations Center - GSOC
Deutsches Zentrum für Luft- und Raumfahrt – DLR

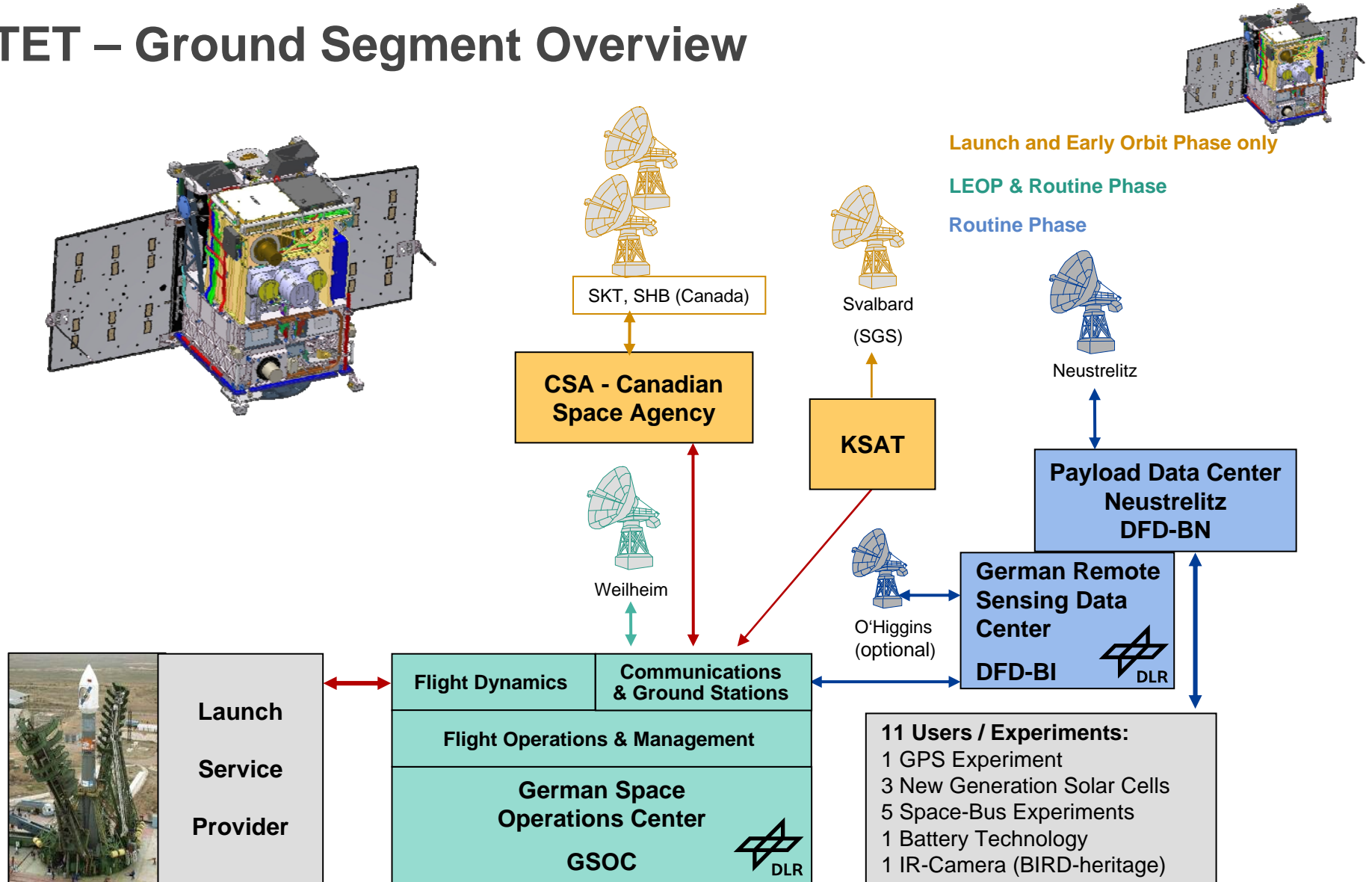




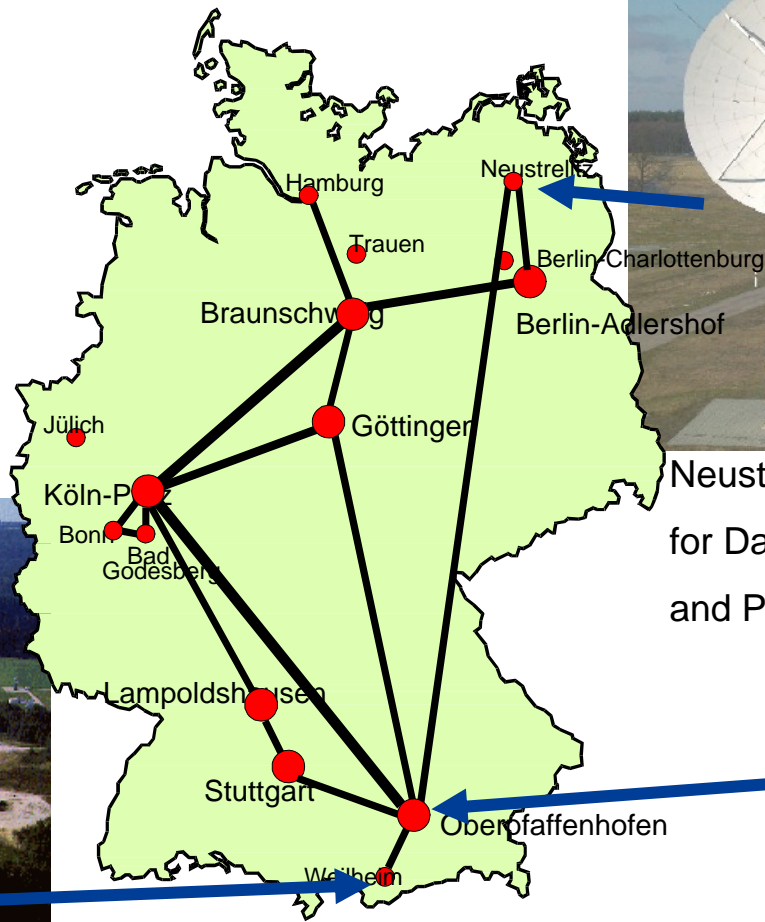
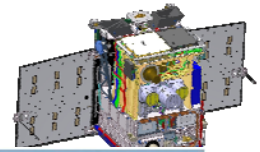
TET – Überblick Bodensegment (P. Mühlbauer)



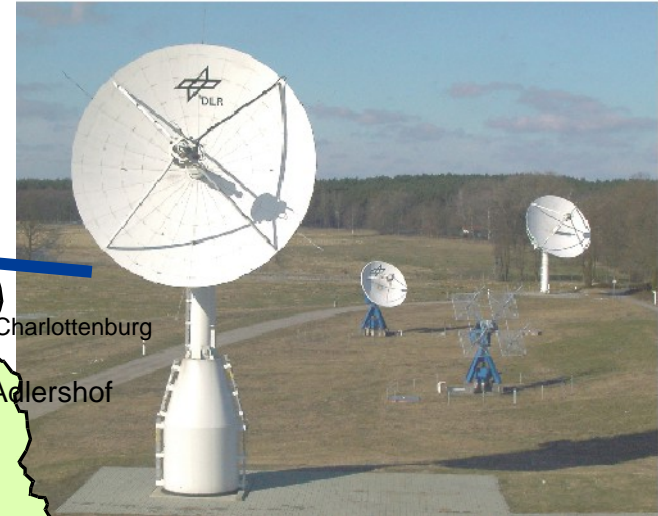
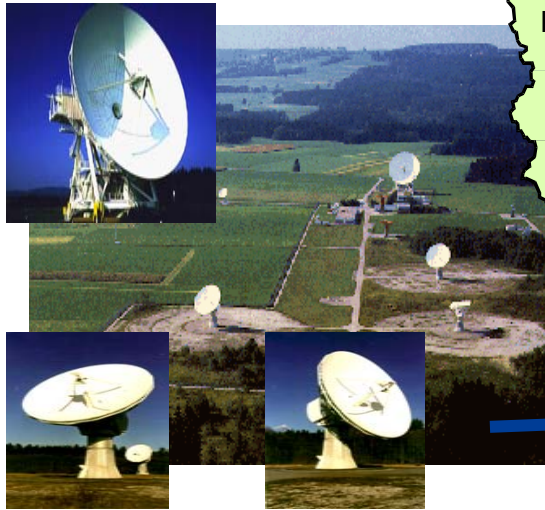
TET – Ground Segment Overview



TET – DLR Network and Ground Stations



Weilheim (2x15m, TM/TC)



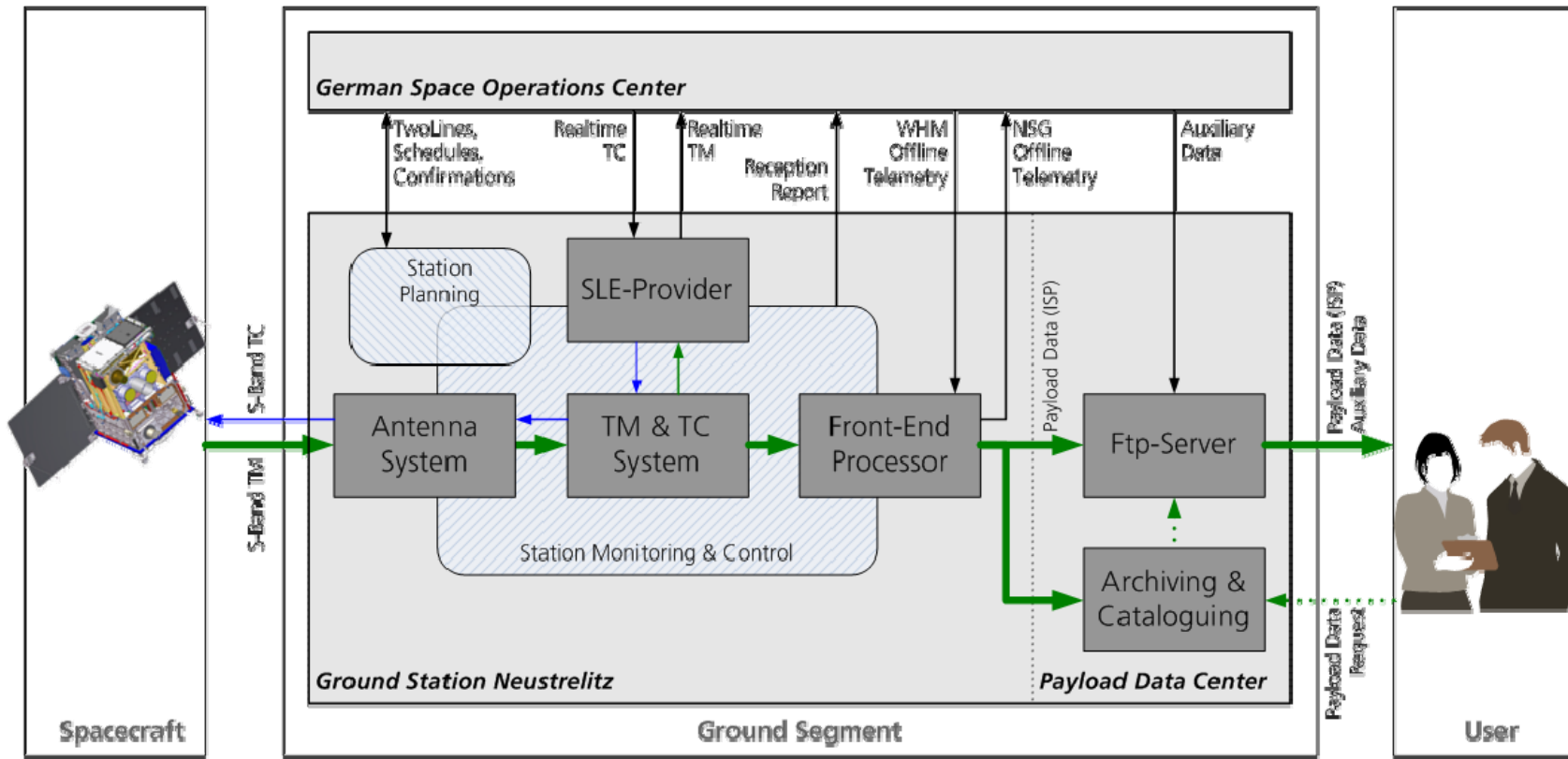
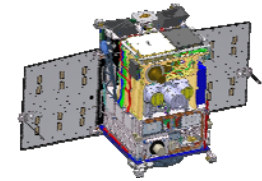
Neustrelitz (3x7.3m)
for Data-Rx & Backup TC
and Payload Data Center



GSOC Control Center

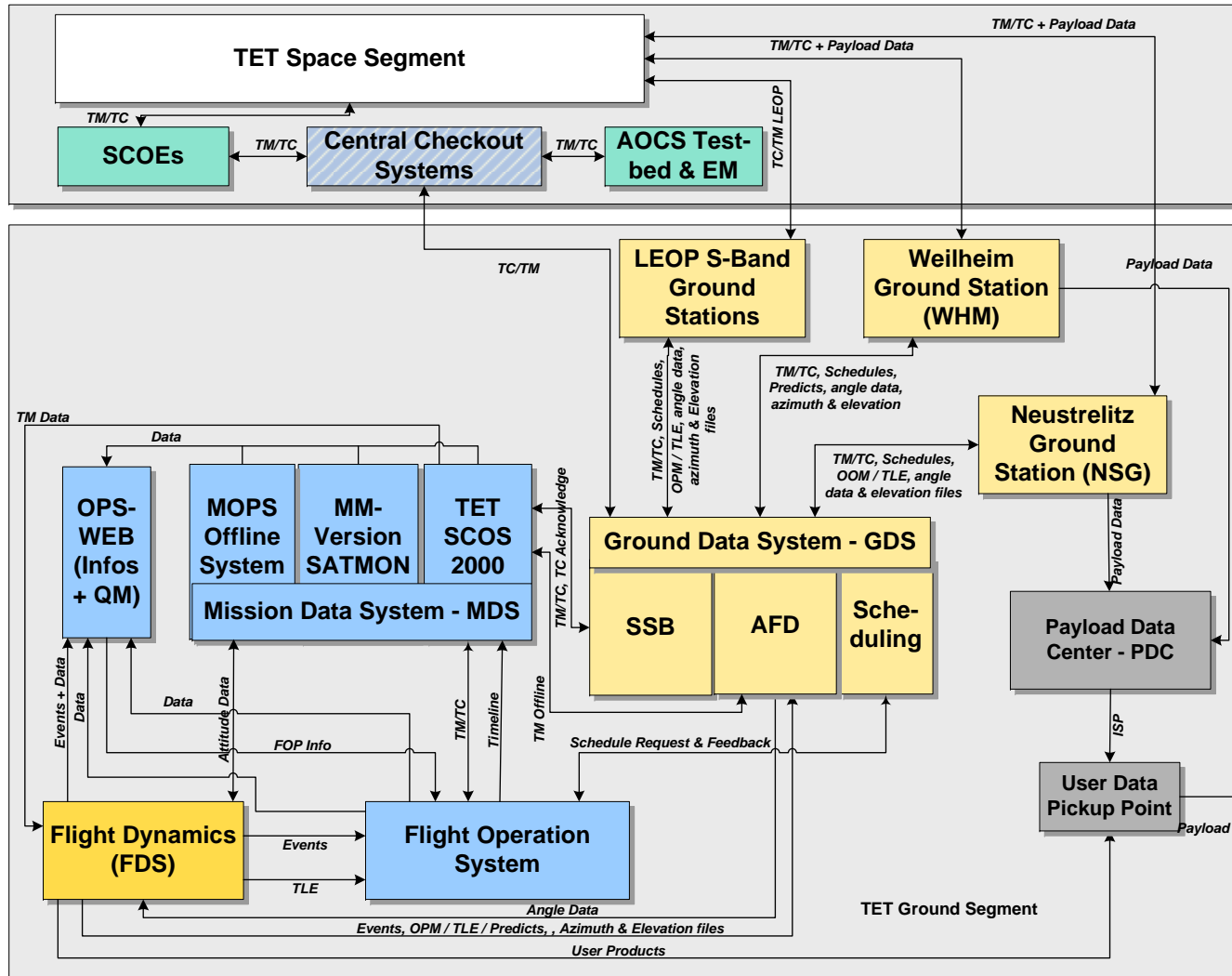
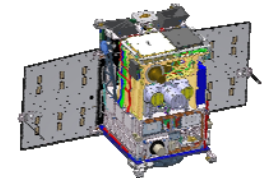
TET-GS: Systemüberblick

Bodenstation Neustrelitz (NSG) & Payload Data Center (PDC)



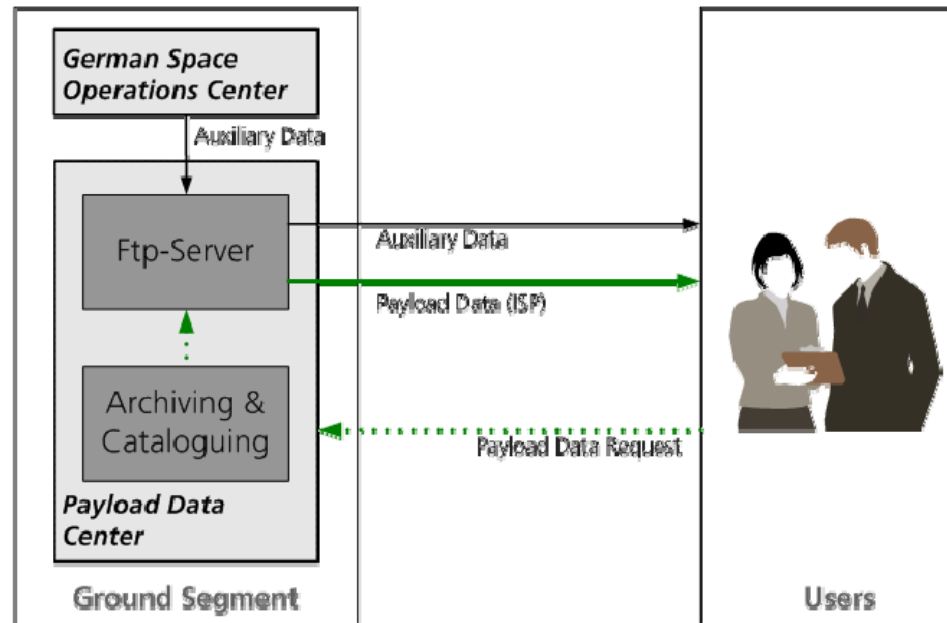
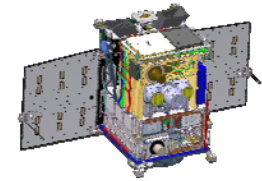
TM	Telemetry	ISP	Instrument Source Packet	■	hardware	→	automatic payload data flow
TC	Telecommand	SLE	Space Link Extension	▨	software	⋯→	manual payload data flow
HK	Housekeeping	WHM	Ground Station Weilheim	→		→	Internal Interfaces

TET-GS: Bodensegment und Schnittstellen



**GS-Architecture
(Functional
Diagram
Overview)**

TET-GS: Bodensegment und Schnittstellen

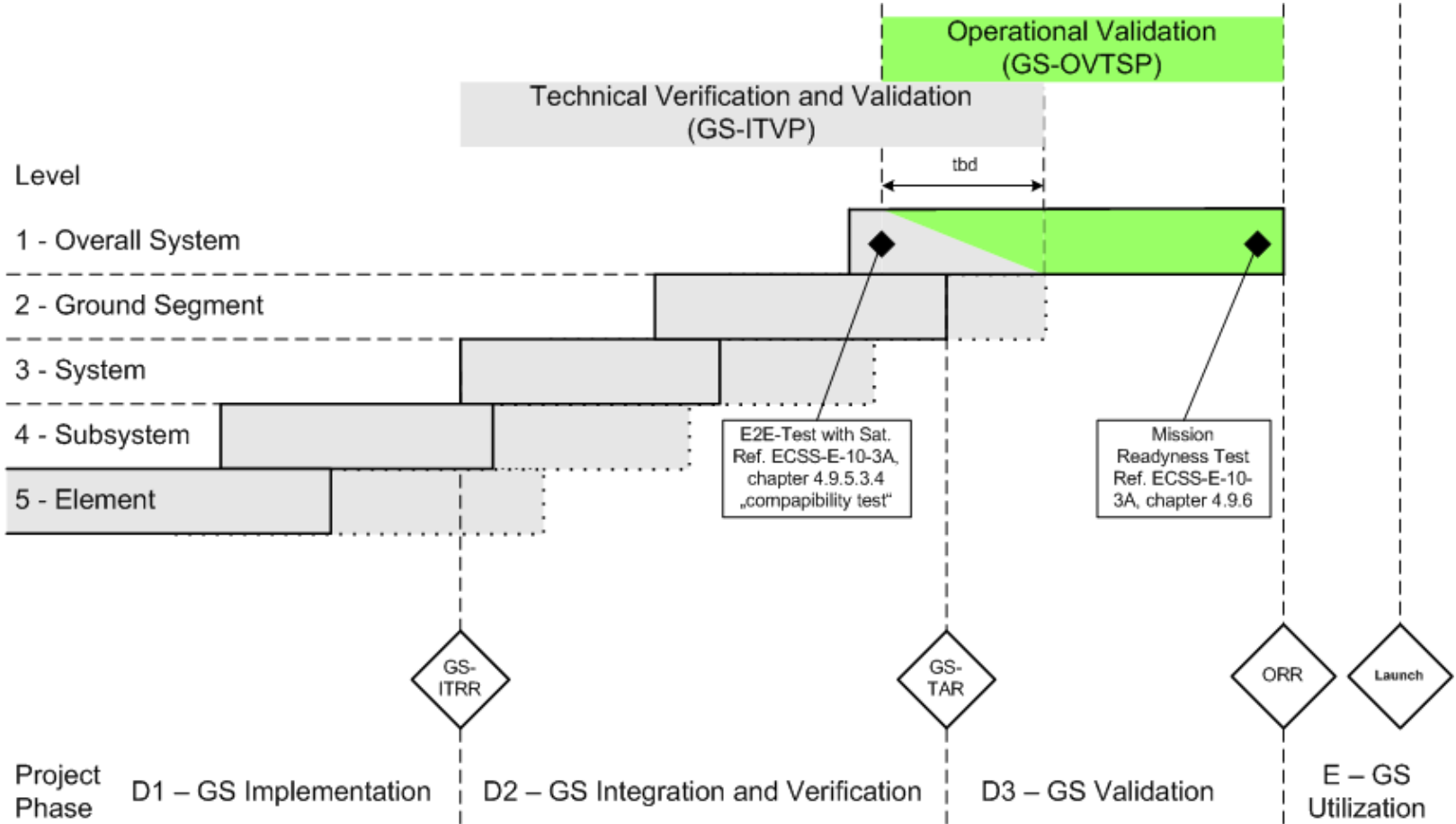
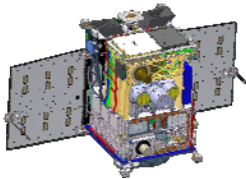


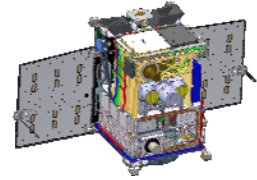
- Payload Data: the extracted and after instruments sorted Instrument Source Packets (ISP) according to the CCSDS standard
- Auxiliary Data: Orbit Information (TLE), Calculation of S/C position and velocity

- Payload Data will be available 15 min after the pass for 14 days at the FTP server
- Auxiliary Data will be available after processing at GSOC at the Payload FTP server
- Older Payload Data will be made available after user request from the archive



TET-GS: technische und operationelle Validierung

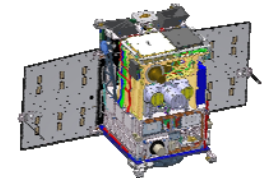




TET – Überblick Flugbetrieb (R. Axmann)



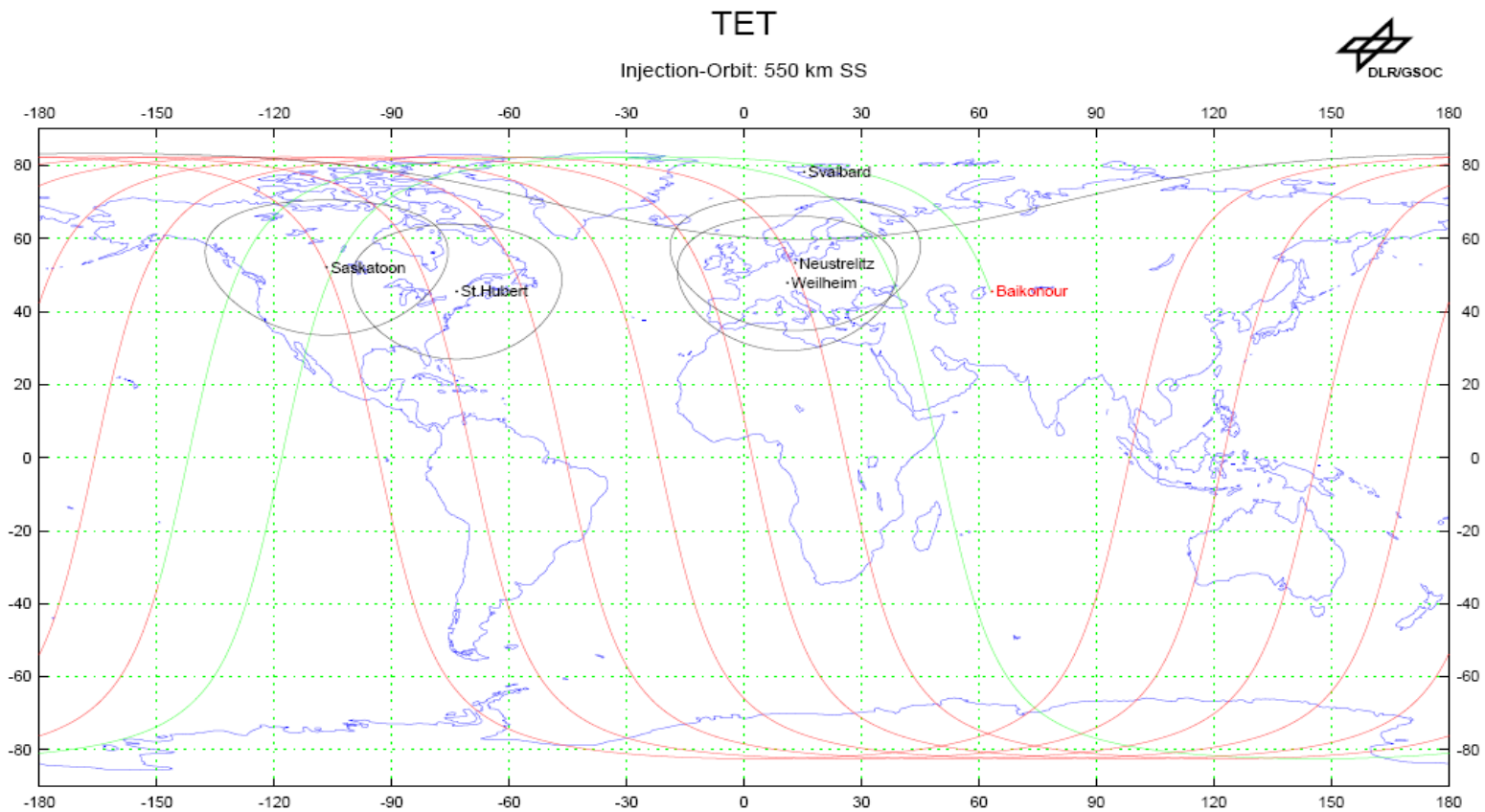
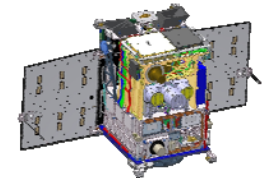
Überblick Flugbetrieb - Themen



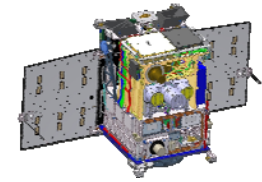
- LEOP & Routinenetzwerk
- Kontrollraum
- Vorbereitung und Durchführung des Missionsbetriebs
- Senden von Telekommandos
- Empfang von Telemetrie

Flugbetrieb – LEOP & Routinenetzwerk

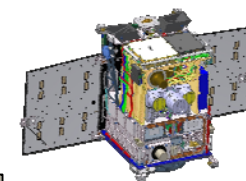
Launch 20.12.2010 21h Orbit



Flugbetrieb – Kontrollraum (K1 LEOP)

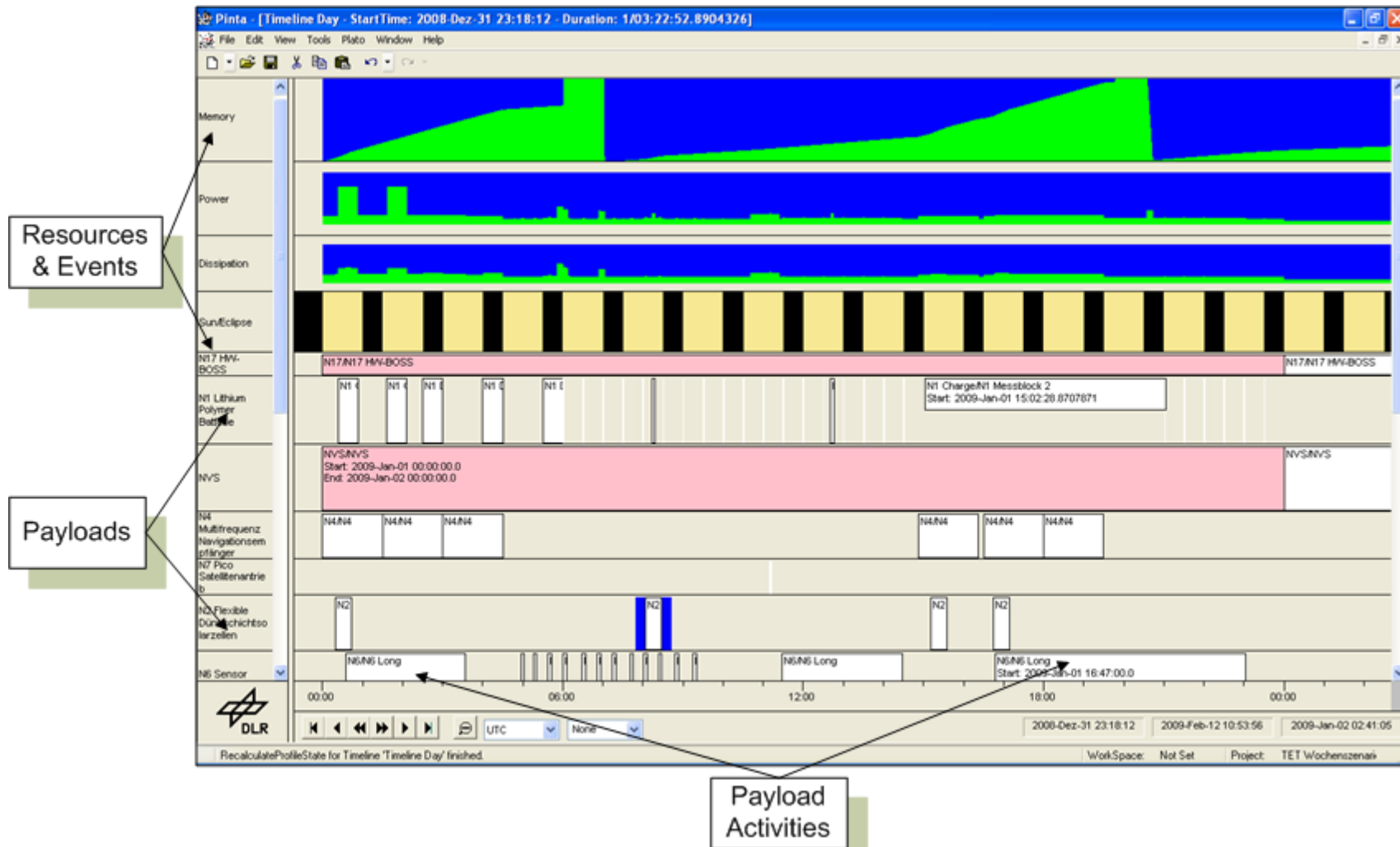
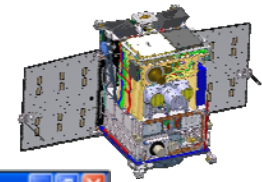


Flugbetrieb – Vorbereitung Missionsbetrieb (1/2)

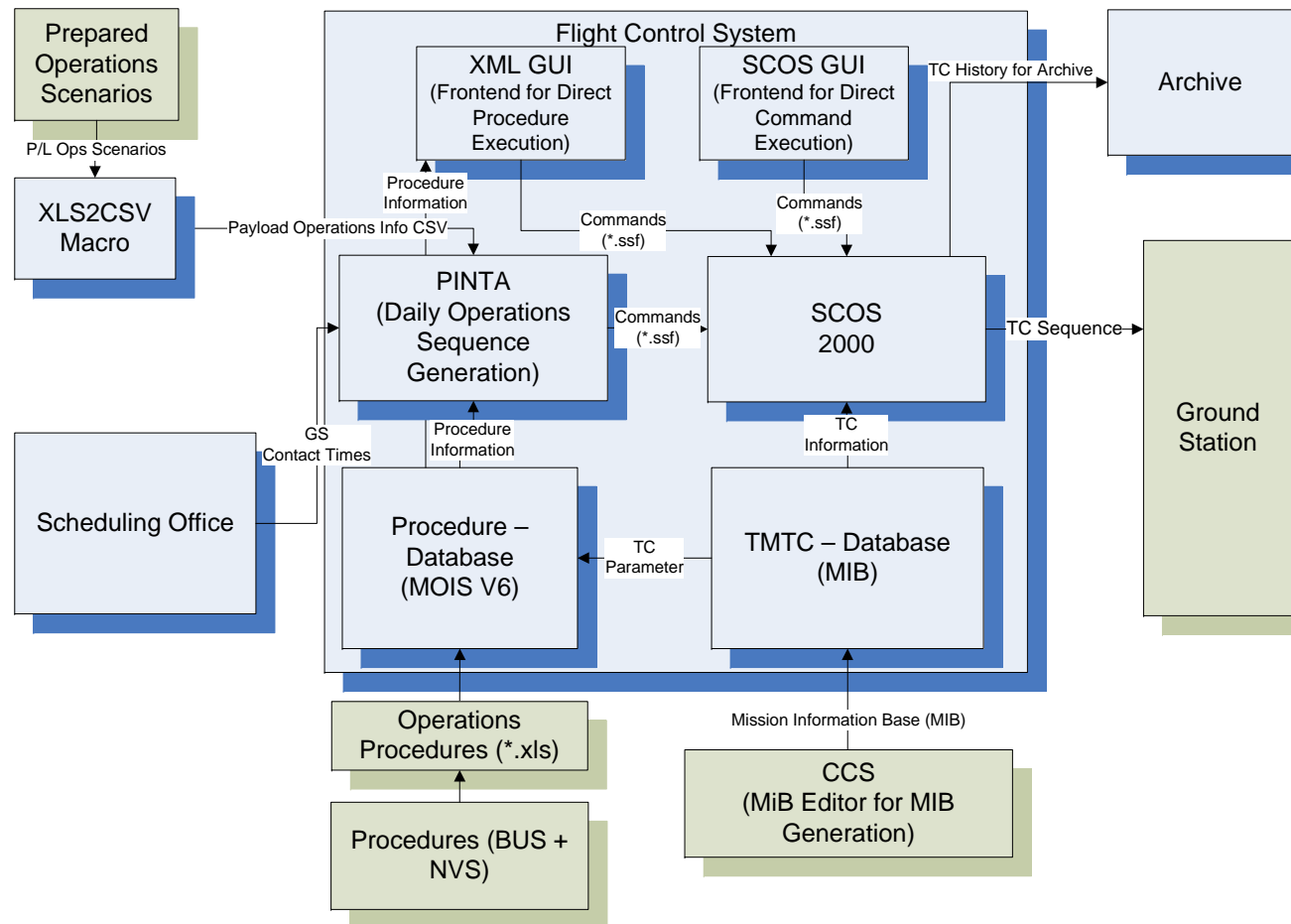
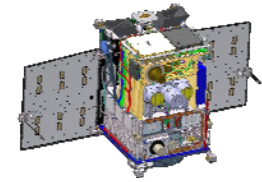


1	2	3	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
	4		Daten zu:	P	PV	R	P	PV	R	P	PV	R	P	PV	R	P	PV	R	P	PV	R	P	PV	R
	5		Einheit	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]	[W]	[W]	[kB/min]
	6																							
	7		Standard_12357	####	7806	72	245	256	300	4318	4318	8184	160	160	450	0	0	0	16	23	20	0	0	0
+	1478																							
	1479		Standard_4	3	3	1	0	0	0	84	84	120	0	0	0	0	0	0	0	0	0	0	0	0
+	2950																							
	2951		Standard_6	6824	2602	24	245	256	300	4318	4318	8184	160	160	450	2	2	1	16	23	20	2429	2429	400067
	2952		Summe Orbit 1	79	164	6.00	16	17	20.00	302	302	576.00	11	11	30.00	0	0	0.00	0	0	0.00	0	0	0.00
+	3049																							
	3050		Summe Orbit 2	79	164	6.00	16	17	20.00	302	302	576.00	11	11	30.00	0	0	0.00	0	0	0.00	0	0	0.00
+	3147																							
	3148		Summe Orbit 3	3333	1137	6.00	16	17	20.00	302	302	576.00	11	11	30.00	0	0	0.00	0	0	0.00	0	0	0.00
+	3245																							
	3246		Summe Orbit 4	3333	1137	6.00	16	17	20.00	302	302	576.00	11	11	30.00	0	0	0.00	0	0	0.00	0	0	0.00
+	3343																							
	3344		Summe Orbit 5	0	0	0.00	16	17	20.00	302	302	576.00	11	11	30.00	0	0	0.00	16	23	20.00	0	0	0.00
+	3441																							
	3442		Summe Orbit 6	0	0	0.00	16	17	20.00	302	302	576.00	11	11	30.00	2	2	0.50	0	0	0.00	0	0	0.00
	3443		1				1.5	1.6				3.2	3.2	6.00										
	3444		2				1.5	1.6				3.2	3.2	6.0										
	3445		3				1.5	1.6				3.2	3.2	6.0										
	3446		4				1.5	1.6				3.2	3.2	6.0										
	3447		5				1.5	1.6				3.2	3.2	6.0										
	3448		6				1.5	1.6				3.2	3.2	6.0										
	3449		7				1.5	1.6				3.2	3.2	6.0										
	3450		8				1.5	1.6				3.2	3.2	6.0										
	3451		9				1.5	1.6				3.2	3.2	6.0										
	3452		10				1.5	1.6				3.2	3.2	6.0										
	3453		11				1.5	1.6	20.00			3.2	3.2	6.0										
	3454		12									3.2	3.2	6.0				1.2	1.2	0.25				
	3455		13									3.2	3.2	6.0				1.2	1.2	0.25				
	3456		14									3.2	3.2	6.0	2.1	2.1	6.00							
	3457		15									3.2	3.2	6.0	2.1	2.1	6.00							
	3458		16									3.2	3.2	6.0	2.1	2.1	6.00							
	3459		17									3.2	3.2	6.0	2.1	2.1	6.00							
	3460		18									3.2	3.2	6.0	2.1	2.1	6.00							
	3461		19									3.2	3.2	6.0										
	3462		20									3.2	3.2	6.0										

Flugbetrieb – Vorbereitung Missionsbetrieb (2/2)



Flugbetrieb – Telekommandos



Flugbetrieb – Telemetrie

