

EarthCARE

Projekt-Status und Möglichkeiten der Zusammenarbeit

Name: Uwe Slansky

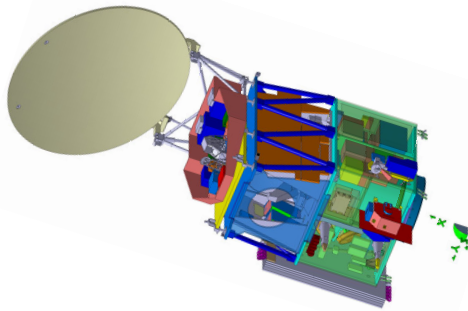
DLR - Raumfahrt-Industrietage in Friedrichshafen
13./14. Mai 2009

All the space you need



EarthCARE System Definition

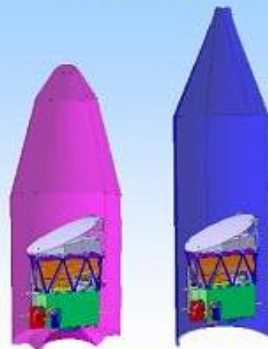
EarthCARE System Overview



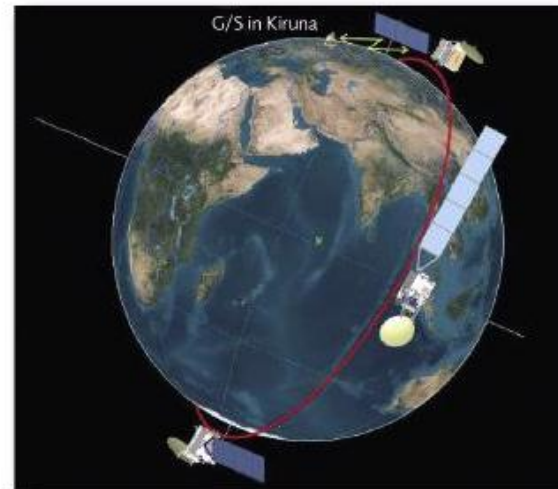
EarthCARE Orbit

- Sun Synchronous Orbit
- Local Time Descending Node: 13:30
- Operational Orbit: (proposed)
 - Mean Spherical Altitude: 393 km
 - Maximum Geodetic Altitude: 426 km
 - Repeat cycle: 25 days
- Calibration / Validation Orbit: (proposed)
 - Mean Spherical Altitude: 395 km
 - Maximum Geodetic Altitude: 427 km
 - Repeat cycle: 9 days
- Satellite In-Orbit Lifetime: 3 years

Examples of Candidate Launchers

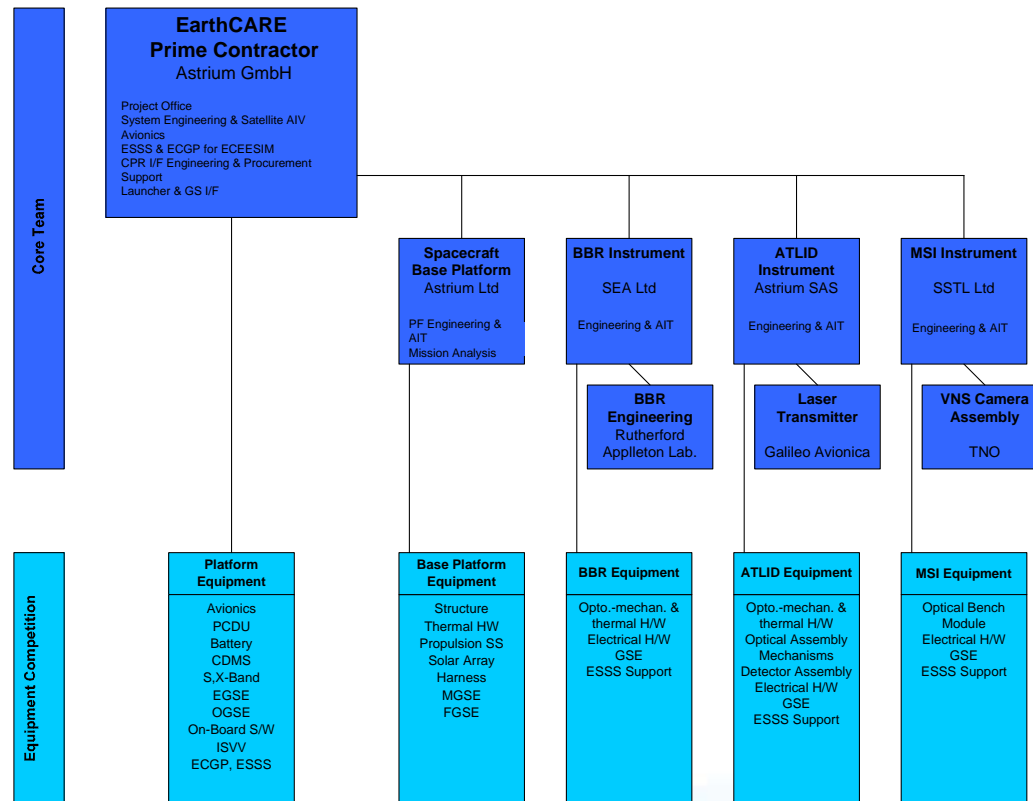


Stowed EarthCARE Satellite under SOYUZ and Zenit Fairing



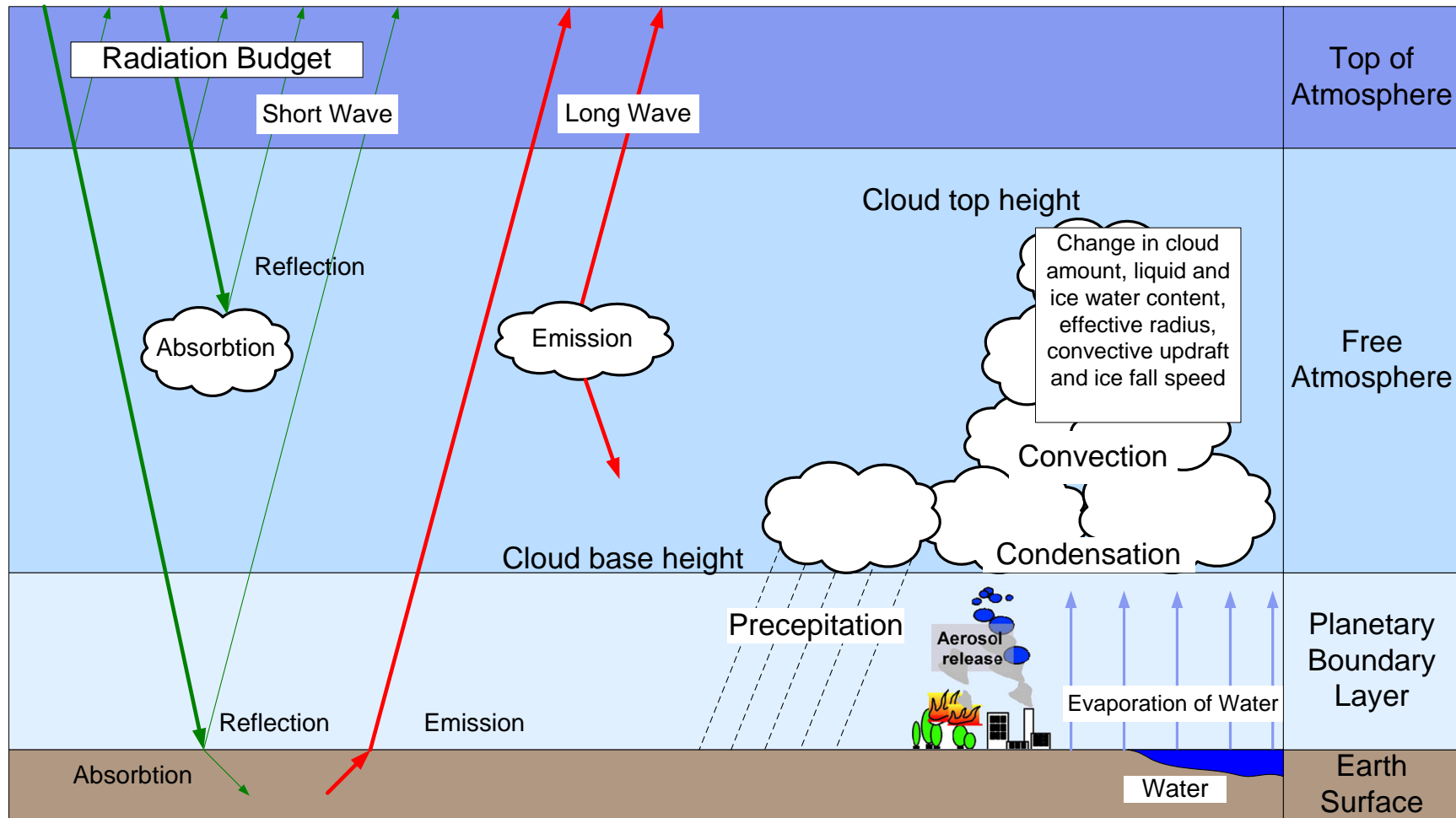
EarthCARE Programmatic Aspects

■ Core TEAM / Industrial Consortium – Work Share



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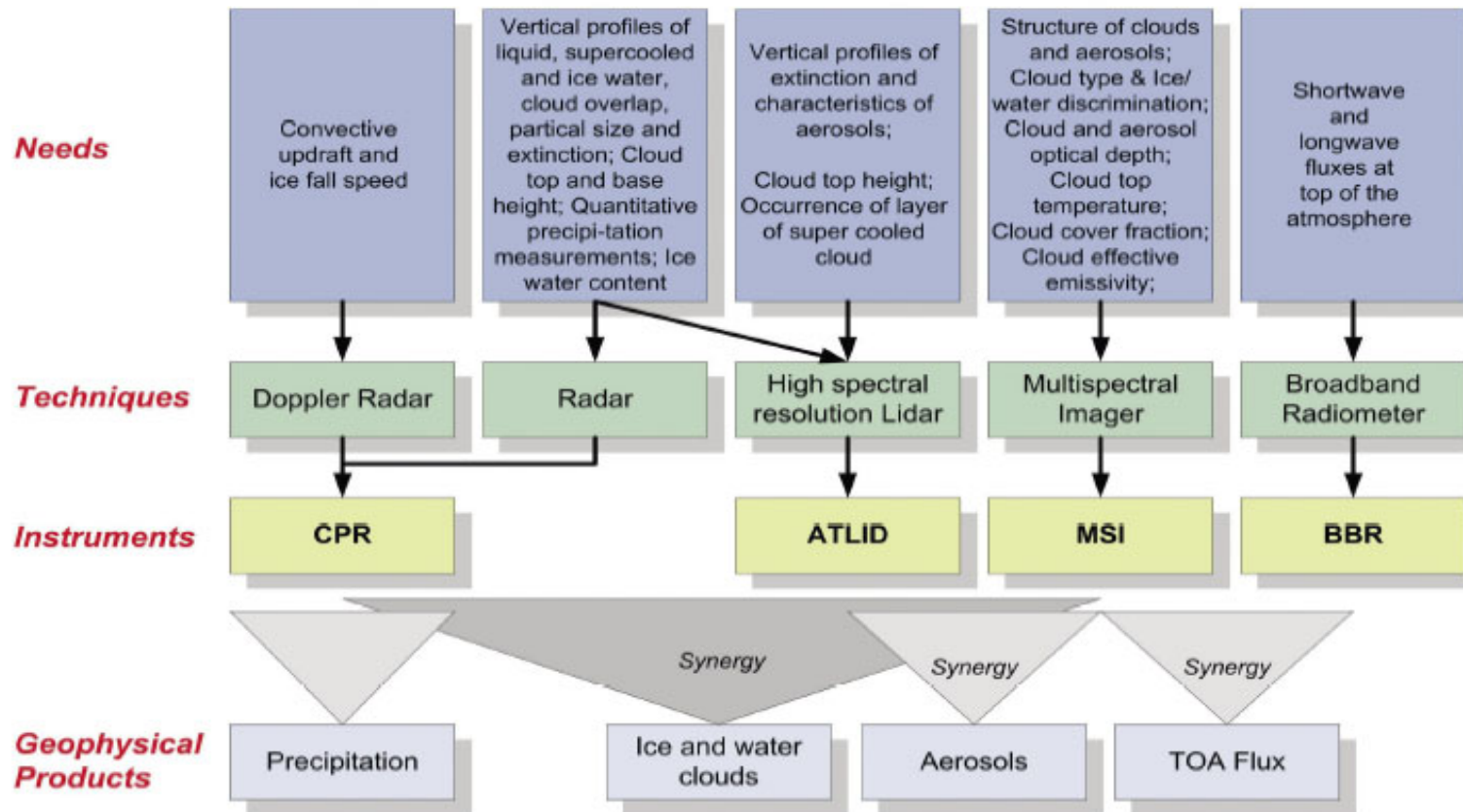
EarthCARE Mission Objectives Overview



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EarthCARE System Definition

Payload Composition and Mission Objectives



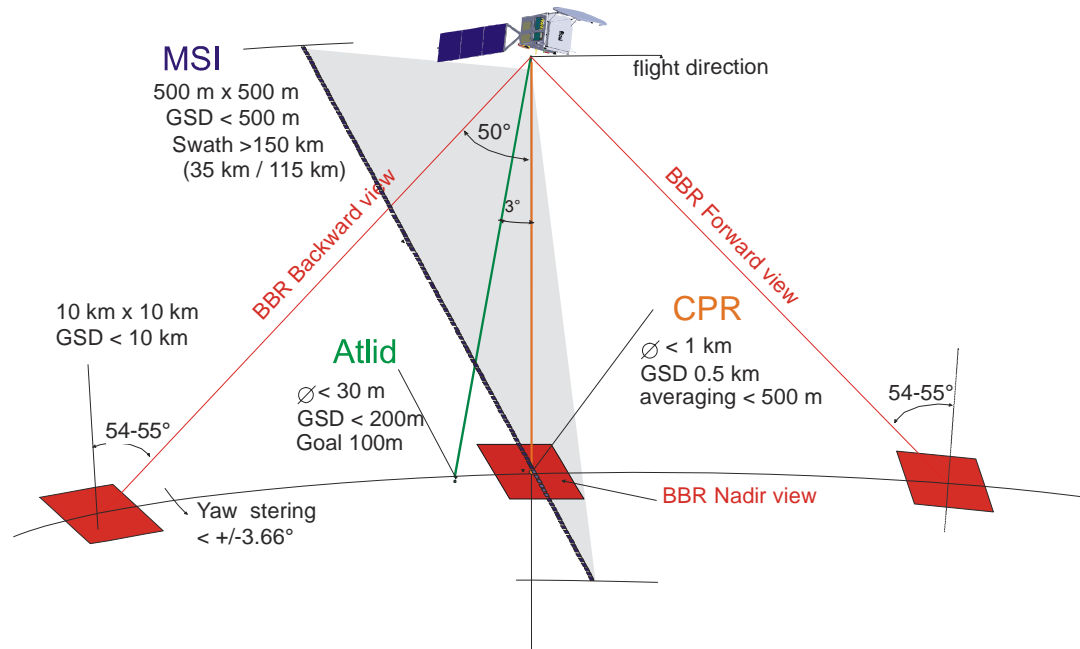
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EarthCARE System Definition

View Geometry

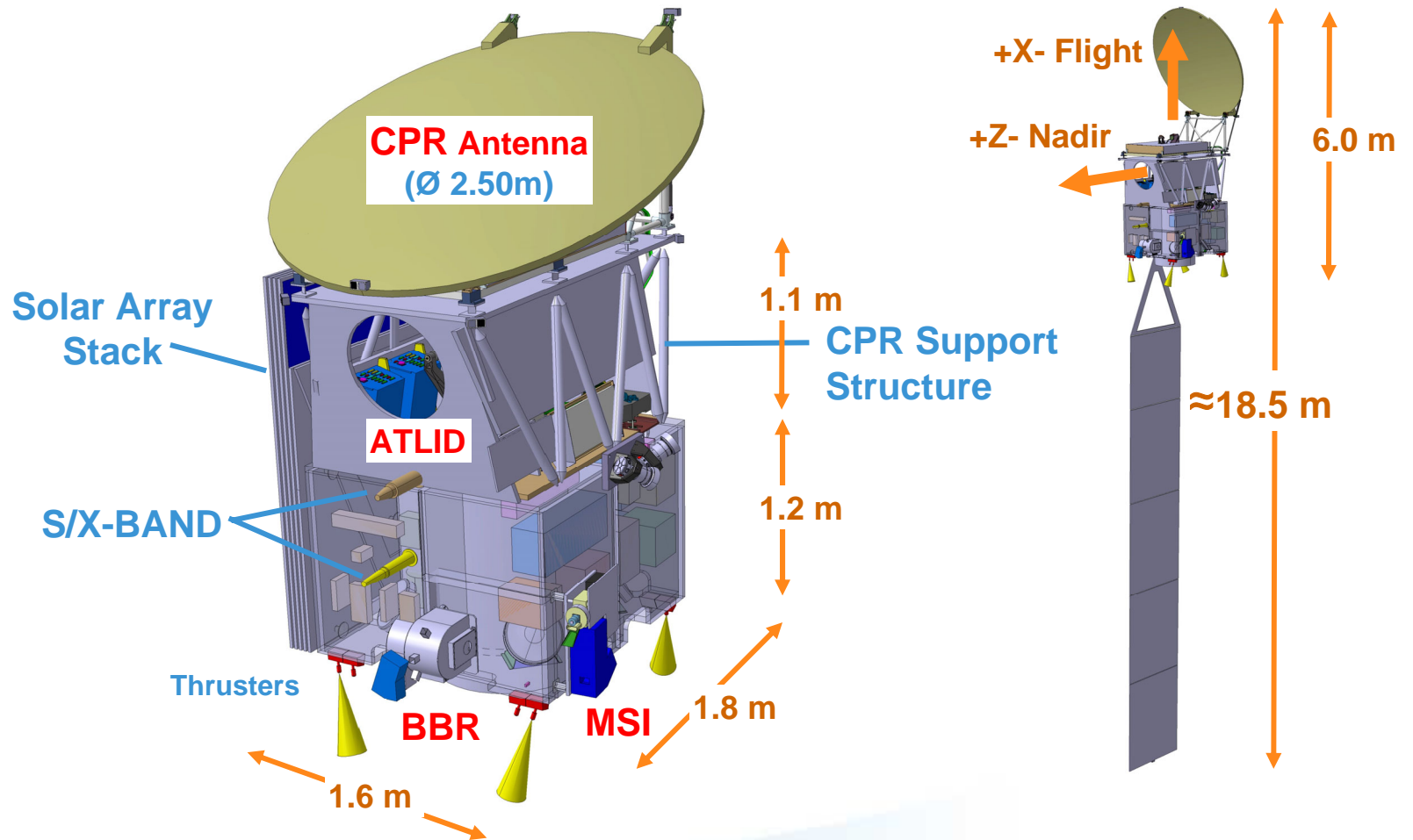
ATLID 335nm (15ns)
 BBR 200nm – 50µm
 MSI 670nm – 12µm

CPR – JAXA
 active Radar at 94GHz
 P_{Peak} 1,8kW (3,3 µs)



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EarthCARE Satellite Overall Configuration



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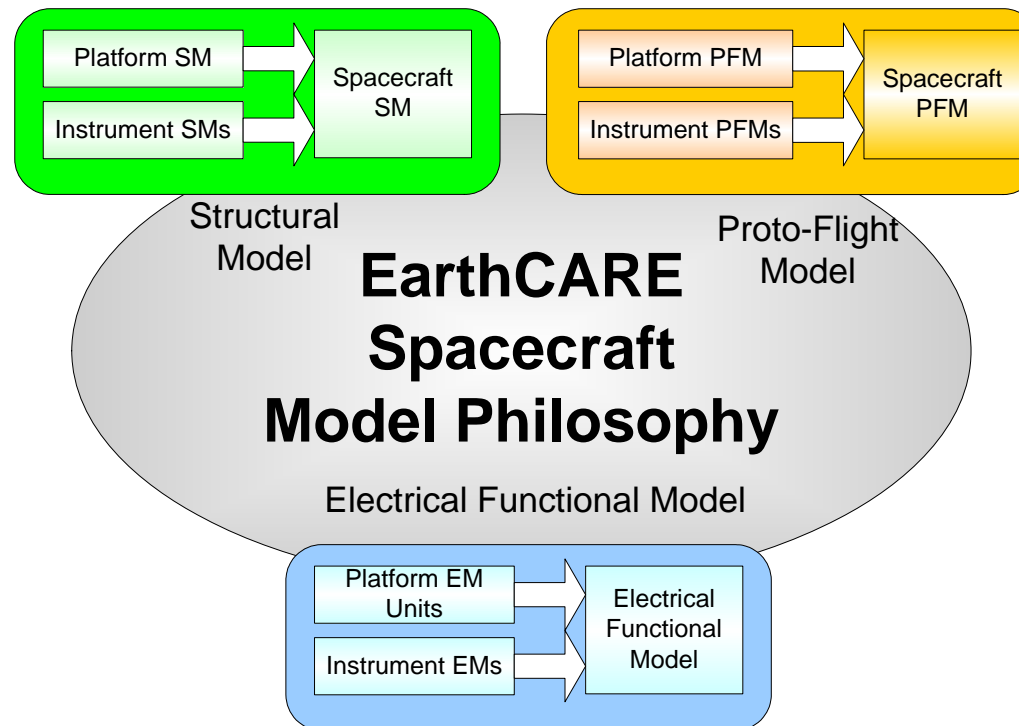
EarthCARE Satellite Equipment & Instrument Accommodation

All the space you need



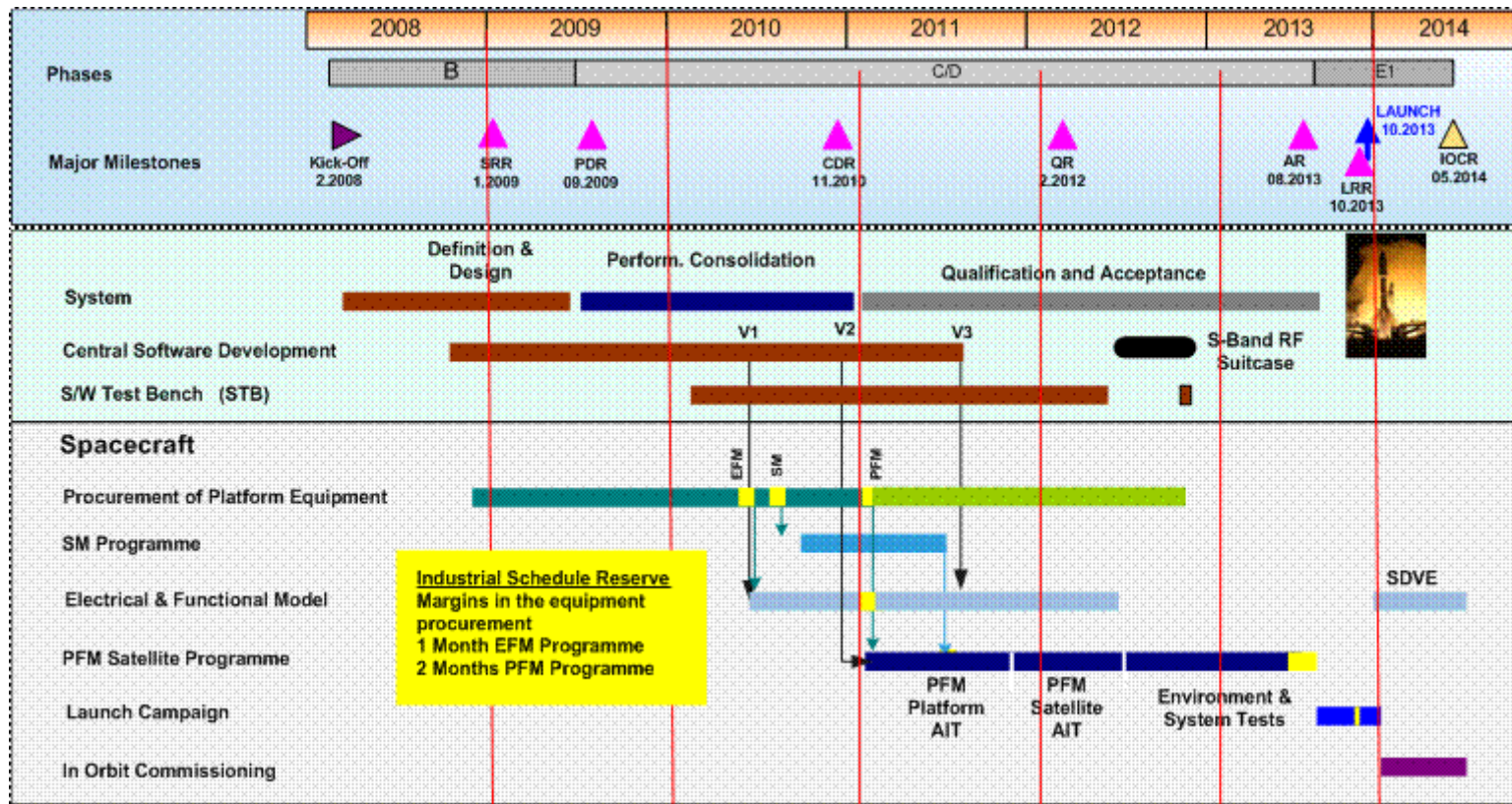
EarthCARE System Definition

Model Philosophy



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EarthCARE Overall Schedule



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EarthCARE Programmatic Aspects

- The European Space Agency (ESA) has contracted Astrium GmbH for the delivery of the EarthCARE satellite and for additional system activities regarding launch campaign and in orbit commissioning. Astrium GmbH has teamed with Astrium Ltd for the base platform, Astrium SAS for the ATLID instrument, SSTL for the MSI instrument and SEA for the BBR instrument.
- The procurement and especially the selection of subcontractors will run under ESA's supervision in accordance with the Best practices for the Selection of Subcontractors, tailored to the needs of the EarthCARE contract.
- Procurement will commence after the System Requirements Review (SRR).
- Specific announcement of intended ITT will be published on EMITS approximately four weeks in advance to the proper ITT.

Zukünftige Aktivitäten

PT No.	Procurement Item	Procurement Method	ITT Issuing Company	ITT tentative date
1112	SiC Mirrors polishing & coating	OC	ASF	Q3/09
1113	Isostatic Mounts, Fixations & Covers	OC	ASF	Q3/09
1115	ATLID Structure	OC	ASF	Q3/09
1131	Emit & Receive Optics	OC	ASF	Q3/09
1133	Fibre Coupler Assembly	OC	ASF	Q2/09
1141	Laser Chopper Mechanism	OC	ASF	Q2/09
1152	Instr, Detection Electronics	OC	ASF	Q3/09
1161	ACDM	OC	ASF	Q2/09
1162	ATLID Harness	OC	ASF	Q3/09
1190	Test Facilities	OC	ASF	Q3/09
1320	ICU and Harness	OC	SSTL	Q2/09
2110	Main Structure	OC	ASU	Q2/09
2120	CPR Support Structure	OC	ASU	Q2/09
2130	PF SM Mass dummies per H/W item	OC	ASU	Q2/09

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Zukünftige Aktivitäten

PT No.	Procurement Item	Procurement Method	ITT Issuing Company	ITT tentative date
2200	Spacecraft Harness	OC	ASU	Q4/09
2310	Solar Array (incl. HDRM, photovoltaic & substrates)	OC	ASU	Q3/09
2410	Thermal Control H/W	OC	ASU	Q3/09
2510	Tank	OC	ASU	Q3/09
2550	Valves	OC	ASU	Q3/09
2560	Thrusters, Pipework, Propellant	OC	ASU	Q3/09
2820	MGSE for Satellite	OC	ASU	Q3/09
3120	GPS Assembly (incl. GPS Sim. 41123)	OC	ASD	Q3/09
3310	Mass Memory & Formatting Unit	OC	ASD	Q3/09
3320	X-Band Transmitter	OC	ASD	Q2/09
4160	Platform Interface Simulator Assembly	OC	ASD	Q2/09
6210	ECGP	OC	ASD	Q3/09

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EarthCARE Ansprechpartner

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