

<b>Chapter</b>		<b>author</b>	<b>status</b>
0	Executive summary	Rainer Sandau	later
1	Introduction	Rainer Sandau	later
2	Definition of cost-effective Earth Observation Missions	Jaime Esper	
3	Background Material and Organizational Support	Jaime Esper	
3.1.	Studies		
3.1.1.	IAA Studies		
3.1.2.	IAA Position Paper on Inexpensive Scientific Satellites	Rainer Sandau	2 pages
3.1.3.	IAA Position Paper: The Case for Small Satellites		
3.1.4.	COCONUDS	Chris Lee	1page
3.1.5.	NASA's Faster, Better Cheaper Philosophy	Rhoda Hornstein	
3.2.	Organizations and Programs		
3.2.1.	United Nations		
3.2.1.1.	Introduction to UN/COPUOS		
3.2.1.2.	Background to UN/COPUOS		
3.2.1.3.	UN Conferences on the Peaceful Use of Outer Space		
3.2.1.4.	UNISPACE III/ Small Satellite Missions for Earth Observations		
3.2.1.4.1.	Definition of Small Satellites		
3.2.1.4.2.	Philosophy of Small Satellites	Gottfried Konecny,	
3.2.1.4.3.	Complementarity of Large and Small Satellite Missions	Susan McKenna-Lawlor	15 pages

3.2.1.4.4.	Small Satellite Management		
3.2.1.4.5.	Scope of Small Satellite Applications		15 pages
3.2.1.5.	Recommendations of UNISPACE III		
3.2.1.6.	IAA Subcommittee on Small Satellites for Developing Nations	Gottfried Konecny, Susan McKenna-Lawlor	
3.2.1.7.	IAA Subcommittee on Small Satellites for Countries Emerging In Space Technology		
3.2.1.8.	UN/IAA Workshop (Brazil, 2000)		
3.2.1.9.	UN/IAA Workshop (France, 2001)		
3.2.1.10.	UN/IAA Workshop (Houston, 2002)		
3.2.1.11.	Conclusions		
3.2.1.12.	Useful Background Reading		
3.2.2.	CEOS	[Cesar Carmona-Moreno]	
3.2.3.	ESA	Chris Lee	2 pages
3.2.4.	NASA	Jaime Esper	
3.2.5.	COSPAR	Larry Paxton	
3.2.6.	IAF	Rainer Sandau	2 pages
3.2.6.1.	General information		
3.2.6.2.	Structures and Activities related to the position paper subject		
3.2.7.	Operational Agencies (NOAA, EUMETSAT)	Chris Lee	
3.2.8.	International Academy of Astronautics IAA		

3.2.8.1.	General Information	Rainer Sandau	4 pages
3.2.8.2.	Structures and activities related to the Position Paper subject		
4	Mission Cost Drivers	Klaus Briess	
4.1.	Types of satellites and cost effective approaches	Jaime Esper	
4.2.	Space segment	Klaus Briess	
4.2.1.	Payload	Mike Cutter	2 pages
4.2.2.	Spacecraft	Jaime Esper	
4.2.3.	Quality Assurance	???	
4.3.	Ground segment	Chris Lee	3 ½ pages
4.4.	Mission Operations	Rhoda Hornstein, Chris Lee	
4.5.	Access to Space	Jean-Michel Contant	
4.6.	Management and Organizational Approach	Jaime Esper (Doug McCuistion)	
5	Cost estimation and modeling	Klaus Briess, Jaime Esper	
6	Approaches to achieving cost effective missions		
6.1.	Dedicated Missions, off-the-shelf Technology	Jaime Esper	
6.2.	Advanced Technology Approach	Doug McCuistion	
6.3.	Distributed Space Systems (Constellations) Approach	Chris Lee	
6.4.	Non-Space Flight Observation Campaigns	Chris Lee, Jaime Esper	
6.5.	Pooling of Contributions and Funding	Wei Sun	

6.6. The Role of Sensor Webs

Jaime Esper (Doug McCuistion)

7	Application Fields, Status quo and Prospects	[Cesar Carmona-Moreno], (Gottfried Konecny), (Doug McCuistion)		
7.1.	Disaster warning and support	}		
7.1.1.	Status quo		Klaus Briess	
7.1.2.	Prospects			
7.2.	Agriculture	}		
7.2.1.	Status quo		Manfred Krischke	3 pages
7.2.2.	Prospects			
7.3.	Forestry -	}		
7.3.1.	Status quo		Håkan Olsson, Randolph Wynne	3 pages
7.3.2.	Prospects			
7.4.	Ocean and Coastal Zone	}		
7.4.1.	Status quo		Jaime Esper	later?
7.4.2.	Prospects			

7.5.	Atmosphere			
7.5.1.	Status quo	}	Larry Paxton	
7.5.2.	Prospects			
7.6.	Weather and Climate -	}		
7.6.1.	Status quo		???	
7.6.2.	Prospects			
7.7.	Ice and Snow -	}		
7.7.1.	Status quo		???	
7.7.2.	Prospects			
7.8.	Mapping and Geographic Information System Applications	}		
7.8.1.	Status quo		Gottfried Konecny	2 ½ pages
7.8.2.	Prospects			
8	Training and Education		Stanislav Klimov, Fei-Bin Hsiao	
9	Conclusions and Recommendations		Larry Paxton	later
10	Reference			later