

**DEPARTMENT OF SPACE**

DEMAND NO. 93

**Department of Space**

A. The Budget allocations, net of recoveries and receipts, are given below:

Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			<i>(In crores of Rupees)</i> Budget 2015-2016			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
Revenue	1556.88	1171.02	2727.90	2346.06	1238.00	3584.06	2059.49	1326.00	3385.49	2535.29	1388.00	3923.29	
Capital	2441.06	...	2441.06	3653.94	...	3653.94	2440.51	...	2440.51	3464.90	...	3464.90	
<b>Total</b>	<b>3997.94</b>	<b>1171.02</b>	<b>5168.96</b>	<b>6000.00</b>	<b>1238.00</b>	<b>7238.00</b>	<b>4500.00</b>	<b>1326.00</b>	<b>5826.00</b>	<b>6000.19</b>	<b>1388.00</b>	<b>7388.19</b>	
1. Secretariat - Economic Services	3451	...	20.56	20.56	...	27.20	27.20	...	21.75	21.75	...	28.90	28.90
<b>Space Research</b>													
<b>Space Technology</b>													
<b>Launch Vehicle Technology</b>													
2. GSLV MK-III Development	3402	10.00	...	10.00	171.10	...	171.10	98.00	...	98.00	111.00	...	111.00
	5402	75.13	...	75.13	9.00	...	9.00	9.00	...	9.00	9.00	...	9.00
<i>Total</i>		<i>85.13</i>	...	<i>85.13</i>	<i>180.10</i>	...	<i>180.10</i>	<i>107.00</i>	...	<i>107.00</i>	<i>120.00</i>	...	<i>120.00</i>
3. Cryogenic Upper Stage Project (CUSP)	3402	...	...	...	0.10	...	0.10	...	...	...	...	...	...
4. Polar Satellite Launch Vehicle - Continuation (PSLV-C) Project	3402	9.83	...	9.83	15.80	...	15.80	10.50	...	10.50	12.25	...	12.25
	5402	88.95	...	88.95	374.20	...	374.20	61.00	...	61.00	300.00	...	300.00
<i>Total</i>		<i>98.78</i>	...	<i>98.78</i>	<i>390.00</i>	...	<i>390.00</i>	<i>71.50</i>	...	<i>71.50</i>	<i>312.25</i>	...	<i>312.25</i>
5. Vikram Sarabhai Space Centre (VSSC)	3402	254.53	261.99	516.52	299.56	296.66	596.22	344.16	335.40	679.56	370.60	309.00	679.60
	5402	219.38	...	219.38	392.45	...	392.45	260.35	...	260.35	349.40	...	349.40
<i>Total</i>		<i>473.91</i>	<i>261.99</i>	<i>735.90</i>	<i>692.01</i>	<i>296.66</i>	<i>988.67</i>	<i>604.51</i>	<i>335.40</i>	<i>939.91</i>	<i>720.00</i>	<i>309.00</i>	<i>1029.00</i>
6. Inertial Systems Unit (IISU)	3402	20.43	...	20.43	25.43	...	25.43	26.79	...	26.79	33.40	...	33.40
	5402	48.54	...	48.54	51.45	...	51.45	38.21	...	38.21	61.60	...	61.60
<i>Total</i>		<i>68.97</i>	...	<i>68.97</i>	<i>76.88</i>	...	<i>76.88</i>	<i>65.00</i>	...	<i>65.00</i>	<i>95.00</i>	...	<i>95.00</i>
7. Liquid Propulsion Systems Centre	3402	115.03	101.99	217.02	91.49	68.05	159.54	99.26	74.00	173.26	123.00	79.00	202.00
	5402	136.82	...	136.82	118.51	...	118.51	93.74	...	93.74	107.00	...	107.00
<i>Total</i>		<i>251.85</i>	<i>101.99</i>	<i>353.84</i>	<i>210.00</i>	<i>68.05</i>	<i>278.05</i>	<i>193.00</i>	<i>74.00</i>	<i>267.00</i>	<i>230.00</i>	<i>79.00</i>	<i>309.00</i>
8. ISRO Propulsion Complex	3402	...	...	...	53.50	39.70	93.20	68.00	45.08	113.08	93.00	64.00	157.00
	5402	...	...	...	100.30	...	100.30	59.42	...	59.42	81.00	...	81.00
<i>Total</i>		...	...	...	<i>153.80</i>	<i>39.70</i>	<i>193.50</i>	<i>127.42</i>	<i>45.08</i>	<i>172.50</i>	<i>174.00</i>	<i>64.00</i>	<i>238.00</i>
9. GSLV Operational Project (Including MK-III Operational)	3402	180.00	...	180.00	198.66	...	198.66	170.00	...	170.00	182.50	...	182.50

*(In crores of Rupees)*

Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
5402	2.00	...	2.00	5.01	...	5.01	5.00	...	5.00	12.50	...	12.50	
<i>Total</i>	<i>182.00</i>	<i>...</i>	<i>182.00</i>	<i>203.67</i>	<i>...</i>	<i>203.67</i>	<i>175.00</i>	<i>...</i>	<i>175.00</i>	<i>195.00</i>	<i>...</i>	<i>195.00</i>	
10. Space Capsule Recovery Experiment (SRE)	3402	0.05	...	0.05	0.25	...	0.25	0.11	...	0.11	0.04	...	0.04
11. Manned Mission Initiatives/Human Space Flight Programme	3402	9.58	...	9.58	17.05	...	17.05	12.37	...	12.37	21.40	...	21.40
5402	0.42	...	0.42	0.45	...	0.45	0.63	...	0.63	0.10	...	0.10	
<i>Total</i>	<i>10.00</i>	<i>...</i>	<i>10.00</i>	<i>17.50</i>	<i>...</i>	<i>17.50</i>	<i>13.00</i>	<i>...</i>	<i>13.00</i>	<i>21.50</i>	<i>...</i>	<i>21.50</i>	
12. Indian Institute of Space Science & Technology	3402	65.00	10.00	75.00	109.00	13.50	122.50	65.00	15.00	80.00	130.00	21.00	151.00
13. Semi Cryogenic Engine Development	3402	24.75	...	24.75	48.62	...	48.62	37.70	...	37.70	53.00	...	53.00
5402	40.25	...	40.25	101.38	...	101.38	67.30	...	67.30	97.00	...	97.00	
<i>Total</i>	<i>65.00</i>	<i>...</i>	<i>65.00</i>	<i>150.00</i>	<i>...</i>	<i>150.00</i>	<i>105.00</i>	<i>...</i>	<i>105.00</i>	<i>150.00</i>	<i>...</i>	<i>150.00</i>	
14. Trisonic Wind Tunnel Project	3402	...	...	...	0.50	...	0.50	...	...	...	0.10	...	0.10
5402	...	...	...	...	9.50	...	9.50	...	...	...	0.90	...	0.90
<i>Total</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>10.00</i>	<i>...</i>	<i>10.00</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>1.00</i>	<i>...</i>	<i>1.00</i>	
<b>Total-Launch Vehicle Technology</b>	<b>1300.69</b>	<b>373.98</b>	<b>1674.67</b>	<b>2193.31</b>	<b>417.91</b>	<b>2611.22</b>	<b>1526.54</b>	<b>469.48</b>	<b>1996.02</b>	<b>2148.79</b>	<b>473.00</b>	<b>2621.79</b>	
<b>Satellite Technology</b>													
15. Resourcesat-2 and 3	3402	...	...	...	...	...	...	...	...	...	...	...	
5402	...	...	...	...	...	...	...	...	...	...	...	...	
<i>Total</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	
16. ISRO Satellite Centre (ISAC)	3402	123.12	105.17	228.29	122.19	106.28	228.47	150.00	125.00	275.00	147.00	111.00	258.00
5402	72.39	...	72.39	140.69	...	140.69	93.25	...	93.25	128.00	...	128.00	
<i>Total</i>	<i>195.51</i>	<i>105.17</i>	<i>300.68</i>	<i>262.88</i>	<i>106.28</i>	<i>369.16</i>	<i>243.25</i>	<i>125.00</i>	<i>368.25</i>	<i>275.00</i>	<i>111.00</i>	<i>386.00</i>	
17. Laboratory for Electro-Optics System (LEOS)	3402	25.05	...	25.05	30.50	...	30.50	29.50	...	29.50	33.00	...	33.00
5402	9.95	...	9.95	29.63	...	29.63	28.50	...	28.50	27.00	...	27.00	
<i>Total</i>	<i>35.00</i>	<i>...</i>	<i>35.00</i>	<i>60.13</i>	<i>...</i>	<i>60.13</i>	<i>58.00</i>	<i>...</i>	<i>58.00</i>	<i>60.00</i>	<i>...</i>	<i>60.00</i>	
18. Radar Imaging Satellite-1 (RISAT-1)	3402	...	...	...	...	...	...	...	...	...	...	...	
5402	...	...	...	...	...	...	...	...	...	...	...	...	
<i>Total</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>	
19. Navigational Satellite System (NSS)	3402	27.85	...	27.85	33.20	...	33.20	28.50	...	28.50	35.00	...	35.00
5402	88.22	...	88.22	86.80	...	86.80	65.75	...	65.75	85.00	...	85.00	
<i>Total</i>	<i>116.07</i>	<i>...</i>	<i>116.07</i>	<i>120.00</i>	<i>...</i>	<i>120.00</i>	<i>94.25</i>	<i>...</i>	<i>94.25</i>	<i>120.00</i>	<i>...</i>	<i>120.00</i>	
20. Semi-Conductor Laboratory (SCL)	3402	26.31	41.69	68.00	67.84	46.43	114.27	64.44	47.56	112.00	126.84	52.60	179.44
21. Advanced Communication Satellite (GSAT-11 including Launch Services)	3402	5.06	...	5.06	6.06	...	6.06	3.07	...	3.07	1.50	...	1.50
5402	149.07	...	149.07	158.44	...	158.44	137.93	...	137.93	29.50	...	29.50	
<i>Total</i>	<i>154.13</i>	<i>...</i>	<i>154.13</i>	<i>164.50</i>	<i>...</i>	<i>164.50</i>	<i>141.00</i>	<i>...</i>	<i>141.00</i>	<i>31.00</i>	<i>...</i>	<i>31.00</i>	

(In crores of Rupees)

	Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016			
		Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
22.	Earth Observation - New Missions, (Future EO Missions including RISAT-3)	3402	...	...	...	...	...	...	...	...	...	...	...	
		5402	...	...	...	...	...	...	...	...	...	...	...	
		Total	...	...	...	...	...	...	...	...	...	...	...	
23.	SARAL	3402	1.50	...	1.50	...	...	...	...	...	...	...	...	
		5402	9.82	...	9.82	...	...	...	...	...	...	...	...	
		Total	11.32	...	11.32	...	...	...	...	...	...	...	...	
24.	Geo-Imaging Satellite (GISAT)	3402	3.49	...	3.49	4.04	...	4.04	4.00	...	4.00	2.00	...	2.00
		5402	40.95	...	40.95	58.96	...	58.96	37.74	...	37.74	78.00	...	78.00
		Total	44.44	...	44.44	63.00	...	63.00	41.74	...	41.74	80.00	...	80.00
25.	Resourcesat-2A	3402	2.05	...	2.05	2.46	...	2.46	1.60	...	1.60	3.00	...	3.00
		5402	13.94	...	13.94	47.54	...	47.54	30.25	...	30.25	47.00	...	47.00
		Total	15.99	...	15.99	50.00	...	50.00	31.85	...	31.85	50.00	...	50.00
26.	Cartosat-3	3402	...	...	...	1.00	...	1.00	...	...	...	4.00	...	4.00
		5402	...	...	...	9.00	...	9.00	...	...	...	46.00	...	46.00
		Total	...	...	...	10.00	...	10.00	...	...	...	50.00	...	50.00
27.	Scattsat	3402	...	...	...	1.00	...	1.00	...	...	...	1.50	...	1.50
		5402	...	...	...	9.00	...	9.00	...	...	...	28.50	...	28.50
		Total	...	...	...	10.00	...	10.00	...	...	...	30.00	...	30.00
28.	Risat-1A	3402	...	...	...	0.25	...	0.25	...	...	...	0.50	...	0.50
		5402	...	...	...	0.75	...	0.75	...	...	...	1.50	...	1.50
		Total	...	...	...	1.00	...	1.00	...	...	...	2.00	...	2.00
29.	Oceansat-3	3402	...	...	...	1.00	...	1.00	...	...	...	3.00	...	3.00
		5402	...	...	...	24.00	...	24.00	...	...	...	22.00	...	22.00
		Total	...	...	...	25.00	...	25.00	...	...	...	25.00	...	25.00
30.	Cartosat-2E	3402	...	...	...	1.00	...	1.00	0.50	...	0.50	2.00	...	2.00
		5402	...	...	...	24.00	...	24.00	4.50	...	4.50	43.00	...	43.00
		Total	...	...	...	25.00	...	25.00	5.00	...	5.00	45.00	...	45.00
31.	Risat-3	3402	...	...	...	0.25	...	0.25	...	...	...	0.50	...	0.50
		5402	...	...	...	0.75	...	0.75	...	...	...	1.50	...	1.50
		Total	...	...	...	1.00	...	1.00	...	...	...	2.00	...	2.00
32.	NASA ISRO Synthetic Aperature Radar Mission (NISAR)	3402	...	...	...	...	...	...	...	...	...	10.00	...	10.00
		5402	...	...	...	...	...	...	...	...	...	40.00	...	40.00
		Total	...	...	...	...	...	...	...	...	...	50.00	...	50.00
<b>Total-Satellite Technology</b>			<b>598.77</b>	<b>146.86</b>	<b>745.63</b>	<b>860.35</b>	<b>152.71</b>	<b>1013.06</b>	<b>679.53</b>	<b>172.56</b>	<b>852.09</b>	<b>946.84</b>	<b>163.60</b>	<b>1110.44</b>

(In crores of Rupees)

	Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016			
		Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
<b>Launch Support, Tracking Network &amp; Range Facility</b>														
33.	Satish Dhawan Space Centre - SHAR (SDSC-SHAR)	3402	113.27	178.44	291.71	154.56	164.18	318.74	159.88	170.60	330.48	147.00	174.00	321.00
		5402	117.90	...	117.90	189.56	...	189.56	193.52	...	193.52	238.00	...	238.00
	<b>Total</b>		<b>231.17</b>	<b>178.44</b>	<b>409.61</b>	<b>344.12</b>	<b>164.18</b>	<b>508.30</b>	<b>353.40</b>	<b>170.60</b>	<b>524.00</b>	<b>385.00</b>	<b>174.00</b>	<b>559.00</b>
34.	Realisation of Second Vehicle Assembly Building (SVAB)	3402	...	...	...	0.50	...	0.50	...	...	...	...	...	...
		5402	...	...	...	49.50	...	49.50	3.00	...	3.00	120.00	...	120.00
	<b>Total</b>		<b>...</b>	<b>...</b>	<b>...</b>	<b>50.00</b>	<b>...</b>	<b>50.00</b>	<b>3.00</b>	<b>...</b>	<b>3.00</b>	<b>120.00</b>	<b>...</b>	<b>120.00</b>
35.	ISRO Telemetry, Tracking & Command Network (ISTRAC)	3402	58.53	60.60	119.13	69.77	59.19	128.96	62.68	55.32	118.00	76.00	66.00	142.00
		5402	11.11	...	11.11	28.08	...	28.08	21.50	...	21.50	43.00	...	43.00
	<b>Total</b>		<b>69.64</b>	<b>60.60</b>	<b>130.24</b>	<b>97.85</b>	<b>59.19</b>	<b>157.04</b>	<b>84.18</b>	<b>55.32</b>	<b>139.50</b>	<b>119.00</b>	<b>66.00</b>	<b>185.00</b>
<b>Total-Launch Support, Tracking Network &amp; Range Facility</b>			<b>300.81</b>	<b>239.04</b>	<b>539.85</b>	<b>491.97</b>	<b>223.37</b>	<b>715.34</b>	<b>440.58</b>	<b>225.92</b>	<b>666.50</b>	<b>624.00</b>	<b>240.00</b>	<b>864.00</b>
<b>Total-Space Technology</b>			<b>2200.27</b>	<b>759.88</b>	<b>2960.15</b>	<b>3545.63</b>	<b>793.99</b>	<b>4339.62</b>	<b>2646.65</b>	<b>867.96</b>	<b>3514.61</b>	<b>3719.63</b>	<b>876.60</b>	<b>4596.23</b>
<b>Space Applications</b>														
36.	Space Applications Centre (SAC)	3402	111.66	142.92	254.58	159.10	144.51	303.61	154.60	156.50	311.10	152.00	177.00	329.00
		5402	52.80	...	52.80	122.42	...	122.42	64.90	...	64.90	123.00	...	123.00
	<b>Total</b>		<b>164.46</b>	<b>142.92</b>	<b>307.38</b>	<b>281.52</b>	<b>144.51</b>	<b>426.03</b>	<b>219.50</b>	<b>156.50</b>	<b>376.00</b>	<b>275.00</b>	<b>177.00</b>	<b>452.00</b>
37.	Development and Education Communication Unit(DECU)	3402	8.39	8.25	16.64	29.85	9.75	39.60	9.06	8.09	17.15	32.30	11.11	43.41
		5402	0.95	...	0.95	1.20	...	1.20	0.52	...	0.52	1.00	...	1.00
	<b>Total</b>		<b>9.34</b>	<b>8.25</b>	<b>17.59</b>	<b>31.05</b>	<b>9.75</b>	<b>40.80</b>	<b>9.58</b>	<b>8.09</b>	<b>17.67</b>	<b>33.30</b>	<b>11.11</b>	<b>44.41</b>
38.	National Natural Resources Management System(NNRMS)	3402	17.36	...	17.36	30.30	...	30.30	20.00	...	20.00	56.70	...	56.70
39.	Earth Observation Application Mission(EOAM)	3402	1.76	...	1.76	4.03	...	4.03	2.71	...	2.71	5.20	...	5.20
40.	National Remote Sensing Centre (NRSC)	3402	55.21	93.07	148.28	82.31	103.28	185.59	87.18	106.00	193.18	101.00	110.00	211.00
		5402	43.98	...	43.98	58.50	...	58.50	52.82	...	52.82	94.00	...	94.00
	<b>Total</b>		<b>99.19</b>	<b>93.07</b>	<b>192.26</b>	<b>140.81</b>	<b>103.28</b>	<b>244.09</b>	<b>140.00</b>	<b>106.00</b>	<b>246.00</b>	<b>195.00</b>	<b>110.00</b>	<b>305.00</b>
41.	Indian Institute of Remote Sensing	3402	17.00	4.57	21.57	18.26	6.64	24.90	18.01	6.30	24.31	17.00	8.00	25.00
		5402	4.12	...	4.12	15.65	...	15.65	7.76	...	7.76	19.00	...	19.00
	<b>Total</b>		<b>21.12</b>	<b>4.57</b>	<b>25.69</b>	<b>33.91</b>	<b>6.64</b>	<b>40.55</b>	<b>25.77</b>	<b>6.30</b>	<b>32.07</b>	<b>36.00</b>	<b>8.00</b>	<b>44.00</b>
42.	Disaster Management Support (DMS)	3402	11.60	...	11.60	15.77	...	15.77	12.34	...	12.34	11.50	...	11.50
		5402	2.26	...	2.26	5.60	...	5.60	10.51	...	10.51	18.50	...	18.50
	<b>Total</b>		<b>13.86</b>	<b>...</b>	<b>13.86</b>	<b>21.37</b>	<b>...</b>	<b>21.37</b>	<b>22.85</b>	<b>...</b>	<b>22.85</b>	<b>30.00</b>	<b>...</b>	<b>30.00</b>
43.	North Eastern Space Applications Centre (NE-SAC)	3402	12.32	2.91	15.23	18.90	2.90	21.80	15.00	3.90	18.90	20.50	4.50	25.00
<b>Total-Space Applications</b>			<b>339.41</b>	<b>251.72</b>	<b>591.13</b>	<b>561.89</b>	<b>267.08</b>	<b>828.97</b>	<b>455.41</b>	<b>280.79</b>	<b>736.20</b>	<b>651.70</b>	<b>310.61</b>	<b>962.31</b>

(In crores of Rupees)

	Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016			
		Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
<b>Space Sciences</b>														
44.	Physical Research Laboratory (PRL)	3402	54.24	35.76	90.00	118.80	38.00	156.80	67.33	38.00	105.33	100.71	40.29	141.00
45.	National Atmospheric Research Laboratory (NARL)	3402	10.72	4.28	15.00	18.26	4.70	22.96	13.90	6.10	20.00	17.00	6.20	23.20
46.	RESPOND	3402	12.01	...	12.01	21.72	...	21.72	18.50	...	18.50	25.15	...	25.15
47.	Sensor Payload Development / Planetary Science Programme	3402	0.26	...	0.26	2.60	...	2.60	0.96	...	0.96	2.50	...	2.50
48.	Megha-tropiques Project	3402	...	...	...	...	...	...	...	...	...	...	...	...
		5402	...	...	...	...	...	...	...	...	...	...	...	...
	<i>Total</i>		...	...	...	...	...	...	...	...	...	...	...	...
49.	ADITYA	3402	0.71	...	0.71	0.89	...	0.89	0.50	...	0.50	1.00	...	1.00
		5402	4.28	...	4.28	26.11	...	26.11	6.40	...	6.40	19.00	...	19.00
	<i>Total</i>		4.99	...	4.99	27.00	...	27.00	6.90	...	6.90	20.00	...	20.00
50.	Astrosat 1 & 2	3402	0.57	...	0.57	0.85	...	0.85	0.48	...	0.48	0.50	...	0.50
		5402	1.77	...	1.77	3.65	...	3.65	1.02	...	1.02	2.50	...	2.50
	<i>Total</i>		2.34	...	2.34	4.50	...	4.50	1.50	...	1.50	3.00	...	3.00
51.	Indian Lunar Mission - Chandrayan - 1 & 2	3402	2.40	...	2.40	2.80	...	2.80	1.50	...	1.50	3.00	...	3.00
		5402	21.59	...	21.59	57.20	...	57.20	36.10	...	36.10	37.00	...	37.00
	<i>Total</i>		23.99	...	23.99	60.00	...	60.00	37.60	...	37.60	40.00	...	40.00
52.	Mars Orbiter Mission	3402	7.17	...	7.17	5.07	...	5.07	4.25	...	4.25	1.00	...	1.00
		5402	220.10	...	220.10	65.93	...	65.93	82.95	...	82.95	5.00	...	5.00
	<i>Total</i>		227.27	...	227.27	71.00	...	71.00	87.20	...	87.20	6.00	...	6.00
53.	ISRO Geosphere Biosphere Programme (ISRO GBP)	3402	13.15	...	13.15	20.00	...	20.00	12.63	...	12.63	20.00	...	20.00
54.	Atmospheric Science Programmes	3402	12.95	...	12.95	18.37	...	18.37	11.53	...	11.53	10.50	...	10.50
		5402	2.25	...	2.25	5.00	...	5.00	...	...	...	1.00	...	1.00
	<i>Total</i>		15.20	...	15.20	23.37	...	23.37	11.53	...	11.53	11.50	...	11.50
55.	Small Satellites for Atmospheric Studies and Astronomy	5402	0.48	...	0.48	2.60	...	2.60	0.45	...	0.45	2.40	...	2.40
56.	Other Schemes	3402	2.08	...	2.08	5.75	...	5.75	3.25	...	3.25	5.50	...	5.50
	<b>Total-Space Sciences</b>		<b>366.73</b>	<b>40.04</b>	<b>406.77</b>	<b>375.60</b>	<b>42.70</b>	<b>418.30</b>	<b>261.75</b>	<b>44.10</b>	<b>305.85</b>	<b>253.76</b>	<b>46.49</b>	<b>300.25</b>
<b>Direction &amp; Administration/Other Programmes</b>														
57.	Special Indigenisation/Advance Ordering	3402	...	...	...	...	...	...	...	...	...	...	...	...
		5402	...	...	...	...	...	...	...	...	...	...	...	...
	<i>Total</i>		...	...	...	...	...	...	...	...	...	...	...	...
58.	Development of Space Materials and Components	3402	10.70	...	10.70	24.55	...	24.55	12.20	...	12.20	26.00	...	26.00
59.	Advance Ordering	5402	9.99	...	9.99	25.00	...	25.00	13.60	...	13.60	24.00	...	24.00

(In crores of Rupees)

	Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016		
		Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
60. Others	3402	2.18	64.97	67.15	4.37	71.80	76.17	3.32	72.50	75.82	4.60	85.40	90.00
	5402	61.51	...	61.51	49.98	...	49.98	21.94	...	21.94	39.50	...	39.50
	<i>Total</i>	<i>63.69</i>	<i>64.97</i>	<i>128.66</i>	<i>54.35</i>	<i>71.80</i>	<i>126.15</i>	<i>25.26</i>	<i>72.50</i>	<i>97.76</i>	<i>44.10</i>	<i>85.40</i>	<i>129.50</i>
<b>Total-Direction &amp; Administration/Other Programmes</b>		<b>84.38</b>	<b>64.97</b>	<b>149.35</b>	<b>103.90</b>	<b>71.80</b>	<b>175.70</b>	<b>51.06</b>	<b>72.50</b>	<b>123.56</b>	<b>94.10</b>	<b>85.40</b>	<b>179.50</b>
<b>INSAT Operational</b>													
61. Master Control Facility (MCF)	3252	11.57	33.85	45.42	8.77	35.23	44.00	9.33	38.90	48.23	11.00	40.00	51.00
	5252	10.83	...	10.83	40.07	...	40.07	12.62	...	12.62	39.00	...	39.00
	<i>Total</i>	<i>22.40</i>	<i>33.85</i>	<i>56.25</i>	<i>48.84</i>	<i>35.23</i>	<i>84.07</i>	<i>21.95</i>	<i>38.90</i>	<i>60.85</i>	<i>50.00</i>	<i>40.00</i>	<i>90.00</i>
62. INSAT-3 Satellites (Including Launch Services)	3252	2.91	...	2.91	2.32	...	2.32	2.37	...	2.37	3.00	...	3.00
	5252	13.31	...	13.31	7.68	...	7.68	8.18	...	8.18	14.00	...	14.00
	<i>Total</i>	<i>16.22</i>	<i>...</i>	<i>16.22</i>	<i>10.00</i>	<i>...</i>	<i>10.00</i>	<i>10.55</i>	<i>...</i>	<i>10.55</i>	<i>17.00</i>	<i>...</i>	<i>17.00</i>
63. INSAT-4 Satellites (Including Launch Services and Leasing of Transponders)	3252	10.22	...	10.22	8.79	...	8.79	3.03	...	3.03	5.00	...	5.00
	5252	61.58	...	61.58	29.11	...	29.11	26.69	...	26.69	29.00	...	29.00
	<i>Total</i>	<i>71.80</i>	<i>...</i>	<i>71.80</i>	<i>37.90</i>	<i>...</i>	<i>37.90</i>	<i>29.72</i>	<i>...</i>	<i>29.72</i>	<i>34.00</i>	<i>...</i>	<i>34.00</i>
64. Service Charges for Leasing INSAT/GSAT Transponders	3252	52.45	...	52.45	75.24	...	75.24	79.40	...	79.40	93.00	...	93.00
65. INSAT-3D Launch Services	3252	4.35	...	4.35	1.15	...	1.15	1.40	...	1.40	...	...	...
	5252	259.90	...	259.90	...	...	...	...	...	...	...	...	...
	<i>Total</i>	<i>264.25</i>	<i>...</i>	<i>264.25</i>	<i>1.15</i>	<i>...</i>	<i>1.15</i>	<i>1.40</i>	<i>...</i>	<i>1.40</i>	<i>...</i>	<i>...</i>	<i>...</i>
66. GSAT-7 Launch Services	3252	3.75	...	3.75	1.05	...	1.05	1.55	...	1.55	...	...	...
	5252	33.04	...	33.04	...	...	...	...	...	...	...	...	...
	<i>Total</i>	<i>36.79</i>	<i>...</i>	<i>36.79</i>	<i>1.05</i>	<i>...</i>	<i>1.05</i>	<i>1.55</i>	<i>...</i>	<i>1.55</i>	<i>...</i>	<i>...</i>	<i>...</i>
67. GSAT-15 Satellite	3252	15.59	...	15.59	20.50	...	20.50	22.56	...	22.56	24.00	...	24.00
	5252	9.62	...	9.62	89.50	...	89.50	69.79	...	69.79	96.00	...	96.00
	<i>Total</i>	<i>25.21</i>	<i>...</i>	<i>25.21</i>	<i>110.00</i>	<i>...</i>	<i>110.00</i>	<i>92.35</i>	<i>...</i>	<i>92.35</i>	<i>120.00</i>	<i>...</i>	<i>120.00</i>
68. GSAT-15 Satellite - Launch Services	3252	...	...	...	10.00	...	10.00	...	...	...	3.00	...	3.00
	5252	221.16	...	221.16	368.00	...	368.00	320.13	...	320.13	42.00	...	42.00
	<i>Total</i>	<i>221.16</i>	<i>...</i>	<i>221.16</i>	<i>378.00</i>	<i>...</i>	<i>378.00</i>	<i>320.13</i>	<i>...</i>	<i>320.13</i>	<i>45.00</i>	<i>...</i>	<i>45.00</i>
69. GSAT-16 Satellite	3252	16.17	...	16.17	22.99	...	22.99	34.54	...	34.54	4.00	...	4.00
	5252	59.52	...	59.52	87.01	...	87.01	133.71	...	133.71	41.00	...	41.00
	<i>Total</i>	<i>75.69</i>	<i>...</i>	<i>75.69</i>	<i>110.00</i>	<i>...</i>	<i>110.00</i>	<i>168.25</i>	<i>...</i>	<i>168.25</i>	<i>45.00</i>	<i>...</i>	<i>45.00</i>
70. GSAT-16 Satellite - Launch Services	3252	...	...	...	10.00	...	10.00	...	...	...	1.00	...	1.00
	5252	221.18	...	221.18	423.00	...	423.00	359.83	...	359.83	...	...	...
	<i>Total</i>	<i>221.18</i>	<i>...</i>	<i>221.18</i>	<i>433.00</i>	<i>...</i>	<i>433.00</i>	<i>359.83</i>	<i>...</i>	<i>359.83</i>	<i>1.00</i>	<i>...</i>	<i>1.00</i>
71. GSAT-17 Satellite	3252	...	...	...	3.16	...	3.16	...	...	...	12.50	...	12.50

(In crores of Rupees)

Major Head	Actual 2013-2014			Budget 2014-2015			Revised 2014-2015			Budget 2015-2016			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
5252	...	...	...	46.84	...	46.84	...	...	...	82.50	...	82.50	
<i>Total</i>	...	...	...	50.00	...	50.00	...	...	...	95.00	...	95.00	
72. GSAT-17 Satellite - Launch Services	3252	...	...	1.00	...	1.00	...	...	...	5.00	...	5.00	
5252	...	...	...	9.00	...	9.00	...	...	...	230.00	...	230.00	
<i>Total</i>	...	...	...	10.00	...	10.00	...	...	...	235.00	...	235.00	
73. GSAT-18 Satellite	3252	...	...	2.06	...	2.06	...	...	...	17.00	...	17.00	
5252	...	...	...	47.94	...	47.94	...	...	...	78.00	...	78.00	
<i>Total</i>	...	...	...	50.00	...	50.00	...	...	...	95.00	...	95.00	
74. GSAT-18 Satellite - Launch Services	3252	...	...	1.00	...	1.00	...	...	...	5.00	...	5.00	
5252	...	...	...	9.00	...	9.00	...	...	...	407.00	...	407.00	
<i>Total</i>	...	...	...	10.00	...	10.00	...	...	...	412.00	...	412.00	
75. GSAT-19 Satellite	3252	...	...	1.00	...	1.00	...	...	...	4.00	...	4.00	
5252	...	...	...	9.00	...	9.00	...	...	...	21.00	...	21.00	
<i>Total</i>	...	...	...	10.00	...	10.00	...	...	...	25.00	...	25.00	
76. GSAT follow-on Satellites including Launch Services	5252	...	...	20.00	...	20.00	...	...	...	1.00	...	1.00	
77. Augmentation of Capacity through leasing of transponders from foreign Satellite	3252	...	...	47.80	...	47.80	...	...	...	10.00	...	10.00	
78. Procurement of Heavier class of Satellites	5252	...	...	10.00	...	10.00	...	...	...	1.00	...	1.00	
79. Development of a Satellite for SAARC Countries	3252	...	...	...	...	...	...	...	...	1.00	...	1.00	
5252	...	...	...	...	...	...	...	...	...	1.00	...	1.00	
<i>Total</i>	...	...	...	...	...	...	...	...	...	2.00	...	2.00	
<b>Total-INSAT Operational</b>	<b>1007.15</b>	<b>33.85</b>	<b>1041.00</b>	<b>1412.98</b>	<b>35.23</b>	<b>1448.21</b>	<b>1085.13</b>	<b>38.90</b>	<b>1124.03</b>	<b>1281.00</b>	<b>40.00</b>	<b>1321.00</b>	
80. Investment in Public Enterprises													
80.01 Issue of Bonus Shares by Antrix Corporation Ltd.	5402	...	...	...	...	...	...	3.00	3.00	...	...	...	
80.02 Less Receipts Netted	4000	...	...	...	...	...	...	-3.00	-3.00	...	...	...	
<i>Net</i>	...	...	...	...	...	...	...	...	...	...	...	...	
<b>Total-Space Research</b>	<b>3997.94</b>	<b>1150.46</b>	<b>5148.40</b>	<b>6000.00</b>	<b>1210.80</b>	<b>7210.80</b>	<b>4500.00</b>	<b>1304.25</b>	<b>5804.25</b>	<b>6000.19</b>	<b>1359.10</b>	<b>7359.29</b>	
<b>Grand Total</b>	<b>3997.94</b>	<b>1171.02</b>	<b>5168.96</b>	<b>6000.00</b>	<b>1238.00</b>	<b>7238.00</b>	<b>4500.00</b>	<b>1326.00</b>	<b>5826.00</b>	<b>6000.19</b>	<b>1388.00</b>	<b>7388.19</b>	
Head of Dev	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total	
<b>C. Plan Outlay</b>													
1. Space Research	13402	3997.94	...	3997.94	6000.00	...	6000.00	4500.00	...	4500.00	6000.19	...	6000.19

1. **Secretariat - Economic Services:** Provision is made for expenditure to be incurred on the Secretariat of the Department of Space.
2. **GSLV Mk-III Development:** GSLV Mk-III is intended to develop a cost-effective launch vehicle capable of launching 4 tonne class of communication satellites to Geo-synchronous Transfer Orbit (GTO).
4. **Polar Satellite Launch Vehicle - Continuation (PSLV-C) Project:** The PSLV is capable of placing 1400-1600 Kg class IRS satellites in Polar Sun-Synchronous Orbit, 1000 Kg class satellites into Geo-synchronous Transfer Orbit and upto 2800 Kg class satellites into Low Earth Orbit.
5. **Vikram Sarabhai Space Centre (VSSC):** VSSC is the lead Centre for the development of satellite launch vehicles and sounding rockets and houses the major test and fabrication facilities for launch vehicles.
6. **ISRO Inertial Systems Unit (IISU):** IISU is responsible for research & development in the area of inertial sensors, inertial systems, navigation software, actuators and mechanisms and to realise the flight units of these system for the launch vehicle and satellite programmes.
7. **Liquid Propulsion Systems Centre (LPSC):** LPSC is the lead Centre in the area of liquid and cryogenic rocket engines and stages for launch vehicle and small thrust engines for launch vehicles and spacecraft control.
8. **ISRO Propulsion Complex:** The ISRO Propulsion Complex has the prime responsibility for development and realization of the Earth-storable Liquid Engines & Stages for PSLV & GSLV, the Cryogenic Upper Stage for GSLV & GSLV-Mk-III and development of Semi-Cryogenic Engine for meeting the requirementst of the Indian Space Programme.
9. **GSLV-Operational Project (including GSLV Mk-III Operational):** The GSLV-Operational Project has been conceived to meet the launch requirement of 2 tonne class of operational INSAT/GSAT satellites.
10. **Space Capsule Recovery Experiment (SRE):** The main objective of the Space Capsule Recovery Experiment (SRE) is to develop and demonstrate capability to recover an orbiting capsule back on earth. SRE-I was successfully launched on-board PSLV-C7 on January 10, 2007 and was also successfully recovered from Bay of Bengal on January 22, 2007. SRE-II is a follow-on mission to SRE-I to further validate the re-entry technologies.
11. **Manned Mission Initiatives/Human Space Flight Programme:** The programme envisages development of a fully autonomous orbital vehicle carrying two or three crew-members to about 275 km low earth orbit and their safe return. Currently, the critical technologies required for human spaceflight programme are being developed as pre-project activities.
12. **Indian Institute of Space Science & Technology:** Indian Institute of Space Science & Technology is an autonomous body under DOS with the primary objective of creating world class Institution in the area of advanced Space Science & Technology education and generating high quality human resources requirement of DOS/ISRO. The Institute has undergraduate, post-graduate and doctoral programme in the area of space science, technology and applications.
13. **Semi Cryogenic Engine Development:** The objective of this project is to develop and qualify a high thrust Semi-Cryogenic engine and stage (employing kerosene of required grade/spar as fuel and Liquid Oxygen as oxidizer) for the future advanced launch vehicle.
14. **Trisonic Wind Tunnel Facility:** Trisonic Wind Tunnel Facility is planned to be established at Vikram Sarabhai Space Centre for meeting the test requirements of future launch vehicles.
16. **ISRO Satellite Centre (ISAC):** ISAC is the lead Center for the design, fabrication, testing and management of satellite systems for scientific, technological and application missions.
17. **Laboratory for Electro-Optics Systems (LEOS):** LEOS is responsible for research & development and production of electro-optics sensors.
19. **Navigation Satellite System (NSS):** The Indian Regional Navigation Satellite System (IRNSS), is planned to be a constellation of 7 satellites aimed at providing position accuracies similar to Global Positioning System (GPS) in a region centered around India with a coverage extending upto 1500 km from India.
20. **Semi-conductor Laboratory:** SCL is engaged in the Design, Development and Manufacture of Very Large Scale Integrated (VLSIs) devices and Board Level Products to meet the stringent quality requirement of strategic sectors. SCL is to undertake radiation hardened devices and about more than 60 types of ASICs have been identified for development by SCL for Space Programme.
21. **Advanced Communication Satellite (GSAT-11 - including Launch Services):** The main objective is to develop a 4 Ton class of communication satellite incorporating advanced technologies of relevance for future.
24. **Geo-Imaging Satellite (GISAT):** Geo-Imaging satellite (GISAT) is conceived as a multi-spectral, multi-resolution advanced remote sensing satellite capable of imaging from geo-stationary orbit.
25. **Resourcesat-2A:** Resourcesat-2A is planned as a follow-on mission to Resourcesat-2 satellite. Apart from providing continuity of already established services, it will also provide opportunity to explore newer application areas in Land and Water resources management.
26. **Cartosat-3:** Cartosat-3 is an advanced remote sensing satellite with enhanced resolution of 0.25m for cartographic applications and high resolution mapping.
27. **Scattsat:** Scattsat is a remote sensing satellite which will carry a pencil beam Ku-band scatterometer to provide measurement of wind vector and a millimeter wave sounder to provide data on vertical temperature profile of the atmosphere. This will be mainly used for atmospheric and oceanographic studies.
28. **Risat-1A:** Risat-1A is a follow-on mission to RISAT-1 with C-band multi-polarised Synthetic Aperture Radar having capability of imaging under all weather conditions.

29. **Oceansat-3:** Oceansat-3 is an advanced remote sensing satellite with for oceanographic applications. This will carry an Ocean Color Monitor (OCM-3) with 13 bands and a Ku-band pencil beam scatterometer.

30. **Cartosat-2E:** Cartosat-2E is a high resolution cartographic satellite with improved resolution of 0.65m in panchromatic band along with imaging capability in multi-spectral bands. The satellite will provide value added products and services to the user community especially for large scale mapping and monitoring requirements.

31. **Risat-3:** Risat-3 is an advanced remote sensing satellite with a Synthetic Aperture Radar for all weather day night imaging.

32. **NASA ISRO Synthetic Aperture Radar Mission (NISAR):** NISAR is a dual frequency radar imaging satellite to be jointly developed by NASA and ISRO to study surface deformation, terrestrial biomass structure, natural resources mapping & monitoring and studies related to dynamics of ice sheets, glaciers, forest fire, oil slick etc.

33. **Satish Dhawan Space Centre-SHAR (SDSC-SHAR):** SDSC-SHAR is the spaceport of India and provides the launch infrastructure as well as solid propellant processing.

34. **Second Vehicle Assembly Building (SVAB):** SVAB is planned to be realised at Satish Dhawan Space Centre, Sriharikota. SVAB will provide enhanced launch frequency of PSLV and GSLV. It will also provide redundancy to existing vehicle assembly building for integration of GSLV Mk III.

35. **ISRO Telemetry, Tracking and Command Network (ISTRAC):** ISTRAC provides spacecraft TTC and Mission Control services to major launch vehicle and spacecraft missions.

36. **Space Applications Centre (SAC):** SAC is the lead Center for the development of communication, meteorological and remote sensing payloads besides R&D in space applications.

37. **Development and Educational Communication Unit (DECU):** DECU is involved in the conceptualisation, definition, planning, implementation and socio-economic evaluation of developmental space applications.

38. **National Natural Resources Management System (NNRMS):** The National Natural Resources Management System (NNRMS) has the objective of ensuring optimal management/utilization of natural resources by integrating information derived from remote sensing data with conventional techniques.

39. **Earth Observation Applications Mission (EOAM):** The main goal of the Earth Observation Application Mission (EOAM) are to (i) evolve newer application/R&D programmes based on technology trends leading to operational applications programmes; (ii) guiding total remote sensing applications programmes towards implementation of remote-sensing based solutions and (iii) steering remote sensing applications with value-added services to the users.

40. **National Remote Sensing Centre (NRSC):** NRSC is responsible for acquisition, processing, distribution and archiving of data from remote sensing satellites and is continuously exploring the practical uses of remote sensing technology for multilevel (global to local applications).

41. **Indian Institute of Remote Sensing (IIRS):** Indian Institute of Remote Sensing (IIRS), located at Dehradun, is a premier training and educational institute set up for developing trained professional in the field of Remote Sensing, Geoinformatics and GPS Technology for Natural Resources, Environmental and Disaster Management.

42. **Disaster Management Support (DMS):** The main objective of Disaster Management Support Programme is to provide Space inputs & services on a timely & reliable basis for the Disaster Management System in the country.

43. **North Eastern-Space Application Centre (NE-SAC):** NE-SAC set up as an autonomous society jointly with North Eastern Council, is supporting the North Eastern region by providing information on natural resources utilization and monitoring, infrastructure developmental planning and interactive training using space technology inputs of remote sensing and satellite communication.

44. **Physical Research Laboratory (PRL):** PRL, an autonomous institution funded by the Department of Space through grant-in-aid, is one of the premier research institutions in the country carrying out basic research in several areas of experimental & theoretical physics and earth sciences. PRL is also responsible for the administration of Udaipur Solar observatory.

45. **National Atmospheric Research Laboratory (NARL):** NARL, a registered Society, is responsible for carrying out advanced research in atmospheric and space sciences and related disciplines.

46. **RESPOND:** The (RESPOND) Programme of ISRO supports sponsored research activity in Space Science, Space Applications and Space Technology in various national academic/research institutions and Space Technology Cells in premier technological institutes of the country through grants-in-aid.

47. **Sensor Payload Development/Planetary Science Programme:** It includes funding requirement for advance action for activities related to scientific payload developments for space science and planetary exploration studies in different institutions and universities.

49. **ADITYA:** The ADITYA-1 Project will be the first Indian Space based solar coronagraph, which will be available for solar coronal observation to all the Indian researchers in the field of Solar Astronomy. The major scientific objective of the ADITYA-1 is to achieve a fundamental understanding of the physical processes that heat the solar corona (base to the extended), accelerate the solar wind and produce Coronal Mass Ejections (CMEs).

50. **Astrosat 1 & 2:** The objective of the Astrosat project is to build and launch an astronomical observatory satellite for expanding the scientific knowledge about the evolution of stellar objects and gather valuable scientific data on high energy Astronomy and Astrophysics research.

51. **Indian Lunar Mission - Chandrayaan-1 & 2:** The Chandrayaan-1 was successfully launched on October 22, 2008 on-board PSLV-C11. The follow-on mission Chandrayaan-2 is planned to further expand the scientific knowledge about the moon, upgrading the technological capability and providing the challenging opportunity for planetary research for a large number of growing young people of the country benefiting the human society at large.

52. **Mars Orbiter Mission:** Mars Orbiter Mission aimed to launch an Orbiter around Mars using Polar Satellite Launch Vehicle (PSLV-XL).
53. **ISRO Geosphere-Biosphere Programme (ISRO-GBP):** ISRO-GBP encompasses the study of land and ocean interaction, past climate, changes in atmospheric composition, aerosols, carbon cycle, bio-mass estimation, bio-diversity and other related areas of scientific investigation.
54. **Atmospheric Science Programmes:** Atmospheric Science Programmes is intended to develop advanced observation tools & techniques of atmospheric modeling, leading to operational end user products in different domains of atmospheric science.
55. **Small Satellite for Atmospheric Studies & Astronomy:** The project envisages development of small satellites for study of Earth's near space environment, magnetometer studies, study of aerosol and gases, tropical weather and climate studies.
56. **Other Schemes:** These includes Microgravity Research, Space Science promotion, Multi-institutional research programs, Space Station experiment, setting up of Digital workflow systems, support for conferences, symposia, etc.
58. **Development of Space Materials and Components:** Development of Space materials and components is an effort to indigenously develop space grade materials and components with the help of Indian Industry for Indian Space Programme in order to reduce dependency on foreign sources.
59. **Advance Ordering:** Advance Ordering aims at procurement of certain long lead and critical items for futuristic missions.
60. **Others:** Under this, provision has been included for ISRO Headquarters, International Co-operation and Central Management.
61. **Master Control Facility:** MCF is responsible for initial orbit raising, payload testing and in-orbit operation of all geo-stationary satellites.
62. **INSAT-3 Satellites (including Launch Services):** The objective of INSAT-3 Spacecraft Project are to (i) build five INSAT-3 satellites (INSAT-3A to INSAT-3E) keeping the flexibility for mid-course corrections to accommodate emerging requirements, carry out mission planning, launch campaign and initial phase operations and (ii) establish required programme elements for carrying out the same.
63. **INSAT-4/GSAT Satellites (including Launch Services and Leasing of Transponders):** The fourth generation INSAT-4/GSAT Satellite series has been planned to meet the capacity and service requirements projected by various users and development needs of the country.
64. **Service Charges for Leasing INSAT/GSAT Transponders:** This is envisaged for payment of services charges for Leasing of INSAT/GSAT Transponders.
67. **GSAT-15 Satellite:** GSAT-15 is a communication satellite which will carry 24 Ku-band transponders and a GAGAN payload.

68. **GSAT-15 Satellite - Launch Services:** GSAT-15 satellite - launch services is envisaged for securing procured launch services for GSAT-15 satellite.
69. **GSAT-16 Satellite:** GSAT-16 is a communication satellite which will carry 24 C-band, 12 Upper Ext-C band and 12 Ku-band transponders.
70. **GSAT-16 Satellite - Launch Services:** GSAT-16 satellite - launch services is envisaged for securing procured launch services for GSAT-16 satellite.
71. **GSAT-17 Satellite:** GSAT-17 communication satellite will provide a mix of c-band and ext-C-band and MSS transponders. Weighing about 3500 Kgs, GSAT-17 is intended to be placed at 93.50E orbital location with a provision to move to other orbital locations. The satellite will carry 24 C-band, 2 Lower Ext-C band, 12 Upper Ext-C band, 4 MSS and 1 DRT & SAS & R transponders.
72. **GSAT-17 Satellite - Launch Services:** GSAT-17 satellite - launch services is envisaged for securing procured launch services for GSAT-17 satellite.
73. **GSAT-18 Satellite:** GSAT-18 communication satellite will have a unique mix of ku-band, c-band and ext-C-band transponders. Weighing about 3500 Kgs, GSAT-18 is intended to be placed at 740E orbital location. The satellite will carry 24 C-band, 12 Upper Ext-C band, 12 Ku-band transponders. In addition, it will carry a Ku-band Beacon transmitter.
74. **GSAT-18 Satellite - Launch Services:** GSAT-18 satellite - launch services is envisaged for securing procured launch services for GSAT-18 satellite.
75. **GSAT-19 Satellite:** GSAT-19 is a communication satellite weighing about 3500 Kgs to be launched on-board the first developmental flight of GSLV Mk III vehicle. GSAT-19 will carry 3 Ka-band, 2 C-band and 2 MSS transponders.
76. **GSAT follow-on Satellites including Launch Services:** GSAT follow-on missions are the future communication satellites planned during the 12th Plan period. GSAT follow-on missions - Launch Services is envisaged for securing procured launch services for future communication satellites.
77. **Augmentation of Capacity through Leasing of transponders from foreign Satellite:** This is meant for short term augmentation of INSAT/GSAT transponder capacity by leasing of transponders from a foreign satellite to meet the immediate demand for transponders.
78. **Procurement of Heavier class of Satellite:** A heavier class of communication satellite is planned to be procured from a foreign agency to meet the growing demand for communication transponders.
79. **Development of a Satellite for SAARC Countries:** This is a communication satellite being developed to cover the entire region of SAARC countries to meet the socio-economic development and welfare needs of SAARC countries through space technology.