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**Committee on the Peaceful  
Uses of Outer Space**

**Information furnished in conformity with the Convention  
on Registration of Objects Launched into Outer Space**

**Note verbale dated 28 January 2004 from the Permanent Mission  
of France to the United Nations (Vienna) addressed to the  
Secretary-General**

The Permanent Mission of France to the United Nations (Vienna) presents its compliments to the Secretary-General of the United Nations and, in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour to submit information on space objects launched by France in the period from 1965 to 2003 (see annex). The information supersedes registration data previously submitted by France.



## Data on space objects registered by France, 1965-2003

Table 1  
Data on space objects registered by France, 1965-1978

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	
<b>1965</b>								
1965 096 A	26 Nov. 1965	Hammaguir, Algeria	Diamant	99	59.7	797	663	A1 experimental satellite
1965 096 B	26 Nov. 1965	Hammaguir, Algeria	Diamant	105	34.3	1 479	516	Diamant launcher stage
1965 096 C	26 Nov. 1965	Hammaguir, Algeria	Diamant	97	34.3	787	453	Non-functional launcher elements
1965 096 D	26 Nov. 1965	Hammaguir, Algeria	Diamant	95	34.2	619	425	Non-functional launcher elements
<b>1966</b>								
1966 013 A	17 Feb. 1966	Hammaguir, Algeria	Diamant	115	34.1	2 398	498	Diapason D1 experimental satellite
1966 013 B	17 Feb. 1966	Hammaguir, Algeria	Diamant	113	34.1	2 239	497	Diamant launcher stage
1966 013 C	17 Feb. 1966	Hammaguir, Algeria	Diamant	95	34.1	555	433	Non-functional launcher elements
1966 013 D	17 Feb. 1966	Hammaguir, Algeria	Diamant	95	34.1	693	377	Non-functional launcher elements
1966 013 E	17 Feb. 1966	Hammaguir, Algeria	Diamant	92	34.1	435	268	Non-functional launcher elements
1966 013 F	17 Feb. 1966	Hammaguir, Algeria	Diamant	91	34.1	325	280	Non-functional launcher elements
1966 013 G	17 Feb. 1966	Hammaguir, Algeria	Diamant	101	34.1	1 206	472	Non-functional launcher elements
1966 013 H	17 Feb. 1966	Hammaguir, Algeria	Diamant	-	34.1	722	433	Non-functional launcher elements
1966 013 J	17 Feb. 1966	Hammaguir, Algeria	Diamant	92	34.1	386	352	Non-functional launcher elements
1966 013 K	17 Feb. 1966	Hammaguir, Algeria	Diamant	107	34.1	1 674	475	Non-functional launcher elements
1966 013 L	17 Feb. 1966	Hammaguir, Algeria	Diamant	113	34.1	2 270	494	Non-functional launcher elements
1966 013 M	17 Feb. 1966	Hammaguir, Algeria	Diamant	114	34.1	2 320	493	Non-functional launcher elements
1966 013 N	17 Feb. 1966	Hammaguir, Algeria	Diamant	92	34.1	396	305	Non-functional launcher elements
1966 013 P	17 Feb. 1966	Hammaguir, Algeria	Diamant	91	34.1	326	271	Non-functional launcher elements
1966 013 Q	17 Feb. 1966	Hammaguir, Algeria	Diamant	93	34.1	473	351	Non-functional launcher elements
<b>1967</b>								
1967 011 A	8 Feb. 1967	Hammaguir, Algeria	Diamant	100	39.9	981	532	Diadème 1 experimental satellite
1967 011 B	8 Feb. 1967	Hammaguir, Algeria	Diamant	101	39.9	1 105	547	Diamant launcher stage
1967 011 C	8 Feb. 1967	Hammaguir, Algeria	Diamant	95	39.9	605	435	Non-functional launcher elements
1967 011 D	8 Feb. 1967	Hammaguir, Algeria	Diamant	91	39.9	391	257	Non-functional launcher elements
1967 011 E	8 Feb. 1967	Hammaguir, Algeria	Diamant	95	39.9	546	444	Non-functional launcher elements
1967 011 F	8 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.9	413	301	Non-functional launcher elements
1967 011 G	8 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.9	375	343	Non-functional launcher elements
1967 011 H	8 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.9	428	345	Non-functional launcher elements
1967 011 J	8 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.9	373	373	Non-functional launcher elements
1967 011 K	8 Feb. 1967	Hammaguir, Algeria	Diamant	96	39.9	678	458	Non-functional launcher elements
1967 011 L	8 Feb. 1967	Hammaguir, Algeria	Diamant	90	39.9	268	258	Non-functional launcher elements

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	
1967 011 M	8 Feb. 1967	Hammaguir, Algeria	Diamant	93	39.9	436	361	Non-functional launcher elements
1967 011 N	8 Feb. 1967	Hammaguir, Algeria	Diamant	97	39.9	726	492	Diadème 1 satellite elements
1967 011 P	8 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.9	380	328	Diadème 1 satellite elements
1967 014 A	15 Feb. 1967	Hammaguir, Algeria	Diamant	108	39.4	1 683	562	Diadème 2 experimental satellite
1967 014 B	15 Feb. 1967	Hammaguir, Algeria	Diamant	109	39.5	1 743	578	Diamant launcher stage
1967 014 C	15 Feb. 1967	Hammaguir, Algeria	Diamant	105	40.0	1 385	562	Non-functional launcher elements
1967 014 D	15 Feb. 1967	Hammaguir, Algeria	Diamant	93	39.6	531	348	Non-functional launcher elements
1967 014 E	15 Feb. 1967	Hammaguir, Algeria	Diamant	110	39.4	1 887	597	Non-functional launcher elements
1967 014 F	15 Feb. 1967	Hammaguir, Algeria	Diamant	103	38.9	1 285	547	Non-functional launcher elements
1967 014 G	15 Feb. 1967	Hammaguir, Algeria	Diamant	109	39.4	1 751	564	Non-functional launcher elements
1967 014 H	15 Feb. 1967	Hammaguir, Algeria	Diamant	90	39.0	293	277	Non-functional launcher elements
1967 014 J	15 Feb. 1967	Hammaguir, Algeria	Diamant	89	38.6	255	223	Non-functional launcher elements
1967 014 K	15 Feb. 1967	Hammaguir, Algeria	Diamant	91	39.4	356	294	Non-functional launcher elements
1967 014 L	15 Feb. 1967	Hammaguir, Algeria	Diamant	91	39.4	354	286	Non-functional launcher elements
1967 014 M	15 Feb. 1967	Hammaguir, Algeria	Diamant	103	38.8	1 245	543	Non-functional launcher elements
1967 014 N	15 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.4	414	322	Non-functional launcher elements
1967 014 P	15 Feb. 1967	Hammaguir, Algeria	Diamant	92	39.4	414	328	Non-functional launcher elements
<b>1968</b>								
1968 041 A	17 May 1968	WTR, USA	Scout	89	97.3	237.0	211	Iris (ESRO 2B) scientific satellite
<b>1969</b>								
1969 084 A	1 Oct. 1969	WTR, USA	Scout	90	70.0	290	275	Aurorae (ESRO 1A) scientific satellite
<b>1970</b>								
1970 017 B	10 Mar. 1970	Kourou, French Guiana	Diamant	100	5.4	1 180	302	Diamant launcher stage
1970 109 A	12 Dec. 1970	Kourou, French Guiana	Diamant	89	15.0	230	222	Peole scientific satellite
1970 109 B	12 Dec. 1970	Kourou, French Guiana	Diamant	88	15.0	177	168	Diamant launcher stage
1970 109 C	12 Dec. 1970	Kourou, French Guiana	Diamant	95	15.0	575	454	Non-functional launcher elements
1970 109 D	12 Dec. 1970	Kourou, French Guiana	Diamant	95	15.0	609	471	Non-functional launcher elements
1970 109 E	12 Dec. 1970	Kourou, French Guiana	Diamant	95	15.0	586	462	Non-functional launcher elements
1970 109 F	12 Dec. 1970	Kourou, French Guiana	Diamant	96	15.0	659	430	Non-functional launcher elements
<b>1971</b>								
1971 030 A	15 Apr. 1971	Kourou, French Guiana	Diamant	88	46.3	158	155	D2A Polaire scientific satellite
1971 030 B	15 Apr. 1971	Kourou, French Guiana	Diamant	90	46.3	264	233	Diamant launcher stage
1971 030 C	15 Apr. 1971	Kourou, French Guiana	Diamant	91	46.4	341	298	Non-functional launcher elements
1971 030 D	15 Apr. 1971	Kourou, French Guiana	Diamant	89	46.3	253	202	Non-functional launcher elements
1971 030 E	15 Apr. 1971	Kourou, French Guiana	Diamant	90	45.6	275	263	Non-functional launcher elements

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)	
1971 030 F	15 Apr. 1971	Kourou, French Guiana	Diamant	90	46.3	272	271	Non-functional launcher elements
1971 030 G	15 Apr. 1971	Kourou, French Guiana	Diamant	91	46.4	340	306	Non-functional launcher elements
1971 030 H	15 Apr. 1971	Kourou, French Guiana	Diamant	91	47.0	314	288	Non-functional launcher elements
<b>1972</b>								
1972 005 A	31 Jan. 1972	WTR, USA	Scout	89	82.0	262	144	HEOS A2 scientific satellite
1972 014 A	12 Mar. 1972	WTR, USA	Delta	89	97.5	246	241	TD-1A scientific satellite
1972 025 B	4 Apr. 1972	USSR	Molniya	92	65.5	476	231	SRET 1 scientific satellite
<b>1973</b>								
1973 107 A	26 Dec. 1973	USSR	Molniya	100	74.0	1 184	381	Auréole 2 scientific satellite
<b>1974</b>								
1974 101 A	19 Dec. 1974	ETR, USA	Delta	1 440	14.9	35 895	35 847	Symphonie 1 experimental telecommunications satellite
<b>1975</b>								
1975 010 A	6 Feb. 1975	Kourou, French Guiana	Diamant	104	49.8	1 107	805	Starlette geodesic scientific satellite
1975 010 B	6 Feb. 1975	Kourou, French Guiana	Diamant	104	49.8	1 120	799	Diamant launcher stage
1975 010 C	6 Feb. 1975	Kourou, French Guiana	Diamant	103	49.8	105	790	Non-functional launcher elements
1975 010 D	6 Feb. 1975	Kourou, French Guiana	Diamant	104	49.8	1 058	788	Non-functional launcher elements
1975 010 E	6 Feb. 1975	Kourou, French Guiana	Diamant	104	49.8	1 069	786	Non-functional launcher elements
1975 072 A	9 Aug. 1975	WTR, USA	Delta	2 203	96.5	89 409	9 985	COS-B scientific satellite
1975 077 A	27 Aug. 1975	ETR, USA	Delta	1 440	14.8	35 883	35 885	Symphonie II experimental communications satellite
<b>1976</b>								
-	-	-	-	-	-	-	-	-
<b>1977</b>								
1977 049 A	17 June 1977	USSR	Molniya	88	50.6	169	169	SIGNE 3 scientific satellite
1977 108 A	23 Nov. 1977	ETR, USA	Delta	1 438	14.6	35 583	35 773	Meteosat 1 meteorological satellite
1977 108 D	23 Nov. 1977	ETR, USA	Delta	1 472	16.1	36 685	36 619	Meteosat 1 apogee kick motor
1978 071 A	14 July 1978	ETR, USA	Delta	1 449	14.6	36 057	36 020	GEOS-2 scientific satellite

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

ESRO	European Space Research Organization
ETR	Eastern Test Range
GEOS	Geostationary Operational Environmental Satellite
HEOS	Highly Eccentric Orbit Satellite
Meteosat	meteorological satellite
Péole	Préliminaire Eole
SIGNE	Solar Interplanetary Gamma-Neutron Experiment
SRET	Satellite des recherches et d'études technologiques
WTR	Western Test Range

Table 2  
Data on space objects registered by France: launches, 1979-1984

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks			
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization	
<b>1979</b>												
-	-	-	-	-	-	-	-	-	-	-	-	-
<b>1980</b>												
-	-	-	-	-	-	-	-	-	-	-	-	-
<b>1981</b>												
1981 094 A	21 Sept. 1981	USSR	Cyclone 3	103	82.5	1 448	390	Auréole 3 scientific satellite	-	-	-	-
<b>1982</b>												
-	-	-	-	-	-	-	-	-	-	-	-	-
<b>1983</b>												
-	-	-	-	-	-	-	-	-	-	-	-	-
<b>1984</b>												
1984 049 B	23 May 1984	Kourou, French Guiana	Ariane 1	96	7.1	1 027	106	Third stage of Ariane 1	V9	SPACENET F1	USA	
1984 081 A	4 Aug. 1984	Kourou, French Guiana	Ariane 3	1 463	9.2	36 460	36 179	Telecom 1 telecommunications satellite	V10	ECS 2	ESA	
1984 081 B	4 Aug. 1984	Kourou, French Guiana	Ariane 3	595	7.1	33 455	677	Non-functional launcher element		Telecom 1A	France	
1984 081 C	4 Aug. 1984	Kourou, French Guiana	Ariane 3	100	6.9	1 371	133	Third stage of Ariane 3				
1984 081 D	4 Aug. 1984	Kourou, French Guiana	Ariane 3	595	7.1	33 455	697	Non-functional launcher element				
1984 081 E	4 Aug. 1984	Kourou, French Guiana	Ariane 3	599	6.8	33 631	702	Non-functional launcher element				
1984 081 F	4 Aug. 1984	Kourou, French Guiana	Ariane 3	686	4.9	37 957	808	Non-functional launcher element				
1984 114 B	10 Nov. 1984	Kourou, French Guiana	Ariane 3	1 501	6.8	9 517	280	Third stage of Ariane 3	V11	MARECS B2	ESA	
1984 114 C	10 Nov. 1984	Kourou, French Guiana	Ariane 3	123	7	32 205	383	Non-functional launcher element		SPACENET F2	USA	
1984 114 D	10 Nov. 1984	Kourou, French Guiana	Ariane 3	123	7	3 477	138	Non-functional launcher element				
1984 114 E	10 Nov. 1984	Kourou, French Guiana	Ariane 3	198	10.5	37 544	36 557	Non-functional launcher element				

Notes: The Ariane launches from 24 Dec. 1979 to 6 Mar. 1984 inclusive were registered by the European Space Agency (ESA). Besides common acronyms and abbreviations, the following have been used in the present table:

ECS European Communications Satellite

ESA European Space Agency

Table 3  
Data on space objects registered by France: launches, 1985

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1985</b>											
1985 015 C	8 Feb. 1985	Kourou, French Guiana	Ariane 3	636	7.1	36 042	198	Third stage of Ariane 3	V12	ArabSat 1A <sup>a</sup>	Saudi Arabia
1985 015 D	8 Feb. 1985	Kourou, French Guiana	Ariane 3	93	6.8	780	118	Non-functional launcher element		Brasilsat F1 <sup>a</sup>	Brazil
1985 035 B	8 May 1985	Kourou, French Guiana	Ariane 3	1 436	0.0	35 787	35 787	Telecom 1B telecommunications satellite	V13	GStar 1	USA
1985 035 C	8 May 1985	Kourou, French Guiana	Ariane 3	88	6.5	261	113	Third stage of Ariane 3		Telecom 1B	France
1985 035 D	8 May 1985	Kourou, French Guiana	Ariane 3	1 436	10.6	35 814	35 778	Non-functional launcher element			
1985 056 B	2 July 1985	Kourou, French Guiana	Ariane 3	450	7.0	25 760	406	Third stage of Ariane 3	V14	Giotto	ESA
1985 056 C	2 July 1985	Kourou, French Guiana	Ariane 3	505	7.5	28 783	471	Non-functional launcher element			
1985 056 D	2 July 1985	Kourou, French Guiana	Ariane 3	483	8.1	27 770	297	Non-functional launcher element			
1985 056 E	2 July 1985	Kourou, French Guiana	Ariane 3	97	7.4	1 037	237	Non-functional launcher element			
1985 056 F	2 July 1985	Kourou, French Guiana	Ariane 3	94	7.6	736	246	Non-functional launcher element			
1985 056 G	2 July 1985	Kourou, French Guiana	Ariane 3	101	7.1	1 347	289	Non-functional launcher element			
1985 056 H	2 July 1985	Kourou, French Guiana	Ariane 3	646	5.2	35 939	821	Non-functional launcher element			
1985 056 J	2 July 1985	Kourou, French Guiana	Ariane 3	612	5.5	34 481	526	Non-functional launcher element			
1985 056 K	2 July 1985	Kourou, French Guiana	Ariane 3	664	7.7	36 636	1 044	Non-functional launcher element			
1985 056 L	2 July 1985	Kourou, French Guiana	Ariane 3	331	7.7	18 571	403	Non-functional launcher element			
1985 056 M	2 July 1985	Kourou, French Guiana	Ariane 3	636	6.5	35 268	987	Non-functional launcher element			
1985 056 N	2 July 1985	Kourou, French Guiana	Ariane 3	250	7.8	13 368	206	Non-functional launcher element			
1985 056 P	2 July 1985	Kourou, French Guiana	Ariane 3	629	7.0	35 226	686	Non-functional launcher element			
1985 056 Q	2 July 1985	Kourou, French Guiana	Ariane 3	633	7.9	35 226	857	Non-functional launcher element			

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 4  
Data on space objects registered by France: launches, 1986

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/ organization
<b>1986</b>											
1986 19 A	22 Feb. 1986	Kourou, French Guiana	Ariane 1	98	98.7	803	594	SPOT 1 Earth observation satellite <sup>a</sup>	V16	SPOT 1	France
1986 19 C	22 Feb. 1986	Kourou, French Guiana	Ariane 1	102	98.9	848	795	Third stage of Ariane 1		Viking	Sweden
1986 19 D	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.1	807	797	Ariane 1 launcher debris			
1986 19 M	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.7	879	726	Ariane 1 launcher debris			
1986 19 N	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.7	975	748	Ariane 1 launcher debris			
1986 19 R	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.7	852	763	Ariane 1 launcher debris			
1986 19 S	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.7	799	783	Ariane 1 launcher debris			
1986 19 X	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.7	835	692	Ariane 1 launcher debris			
1986 19 Y	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	98.1	838	789	Ariane 1 launcher debris			
1986 19 Z	22 Feb. 1986	Kourou, French Guiana	Ariane 1	98.1	98.4	683	656	Ariane 1 launcher debris			
1986 19 AG	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.7	99.0	758	731	Ariane 1 launcher debris			
1986 19 AJ	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.6	98.7	790	693	Ariane 1 launcher debris			
1986 19 BB	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.1	99.0	757	673	Ariane 1 launcher debris			
1986 19 BF	22 Feb. 1986	Kourou, French Guiana	Ariane 1	102.7	98.7	984	785	Ariane 1 launcher debris			
1986 19 BQ	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.3	98.2	753	698	Ariane 1 launcher debris			
1986 19 BR	22 Feb. 1986	Kourou, French Guiana	Ariane 1	100.3	98.7	804	737	Ariane 1 launcher debris			
1986 19 CF	22 Feb. 1986	Kourou, French Guiana	Ariane 1	98.9	98.4	721	689	Ariane 1 launcher debris			
1986 19 CY	22 Feb. 1986	Kourou, French Guiana	Ariane 1	98.7	98.2	701	689	Ariane 1 launcher debris			
1986 19 DG	22 Feb. 1986	Kourou, French Guiana	Ariane 1	97.9	98.7	672	644	Ariane 1 launcher debris			
1986 19 EA	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.1	99.1	822	612	Ariane 1 launcher debris			
1986 19 FJ	22 Feb. 1986	Kourou, French Guiana	Ariane 1	103.2	98.2	1 041	776	Ariane 1 launcher debris			
1986 19 FM	22 Feb. 1986	Kourou, French Guiana	Ariane 1	97.6	99.0	659	632	Ariane 1 launcher debris			
1986 19 FQ	22 Feb. 1986	Kourou, French Guiana	Ariane 1	100.4	98.3	837	720	Ariane 1 launcher debris			
1986 19 GW	22 Feb. 1986	Kourou, French Guiana	Ariane 1	97.7	98.8	661	638	Ariane 1 launcher debris			
1986 19 HR	22 Feb. 1986	Kourou, French Guiana	Ariane 1	101.0	99.0	837	777	Ariane 1 launcher debris			
1986 19 HX	22 Feb. 1986	Kourou, French Guiana	Ariane 1	102.3	98.5	958	778	Ariane 1 launcher debris			
1986 19 KK	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.7	98.3	799	689	Ariane 1 launcher debris			
1986 19 LU	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.9	98.7	757	746	Ariane 1 launcher debris			
1986 19 ME	22 Feb. 1986	Kourou, French Guiana	Ariane 1	100.5	98.3	801	760	Ariane 1 launcher debris			
1986 19 QT	22 Feb. 1986	Kourou, French Guiana	Ariane 1	96.1	98.7	583	560	Ariane 1 launcher debris			
1986 19 RN	22 Feb. 1986	Kourou, French Guiana	Ariane 1	260.5	97.9	13 476	791	Ariane 1 launcher debris			
1986 19 RY	22 Feb. 1986	Kourou, French Guiana	Ariane 1	99.9	98.7	823	684	Ariane 1 launcher debris			
1986 19 VN	22 Feb. 1986	Kourou, French Guiana	Ariane 1	100	98.7	809	737	Ariane 1 launcher debris			



Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
1986 026 C	28 Mar. 1986	Kourou, French Guiana	Ariane 3	645	6.8	36 226	473	Third stage of Ariane 3	V17	GStar 2	USA
1986 026 D	28 Mar. 1986	Kourou, French Guiana	Ariane 3	94	6.5	808	171	Non-functional launcher element		Brasilsat 2 <sup>b</sup>	Brazil
1986 026 E	28 Mar. 1986	Kourou, French Guiana	Ariane 3	513	7.5	29 173	560	Non-functional launcher element			
1986 026 F	28 Mar. 1986	Kourou, French Guiana	Ariane 3	514	8.2	29 315	467	Non-functional launcher element			
1986 026 G	28 Mar. 1986	Kourou, French Guiana	Ariane 3	539	8.9	30 609	505	Non-functional launcher element			
1986 026 H	28 Mar. 1986	Kourou, French Guiana	Ariane 3	382	8.6	21 816	343	Non-functional launcher element			
1986 026 J	28 Mar. 1986	Kourou, French Guiana	Ariane 3	607	6.9	34 373	380	Non-functional launcher element			

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

SPOT Satellite pour l'observation de la Terre

<sup>a</sup> Satellite currently being manoeuvred to lower the perigee.

<sup>b</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 5  
**Data on space objects registered by France: launches, 1987**

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
<b>1987</b>											
1987 078 B	16 Sept. 1987	Kourou, French Guiana	Ariane 3	1 459	7.5	36 249	36 224	ECS 4 telecommunications satellite (EUTELSAT)	V19	Optus A3 ECS 4	Australia ESA
1987 078 C	16 Sept. 1987	Kourou, French Guiana	Ariane 3	92	7.1	596	121	Third stage of Ariane 3			
1987 078 D	16 Sept. 1987	Kourou, French Guiana	Ariane 3	104	7.2	1 802	155	SYLDA inter-satellite structure			
1987 078 E	16 Sept. 1987	Kourou, French Guiana	Ariane 3	95	7.2	939	132	Non-functional launcher element			
1987 078 F	16 Sept. 1987	Kourou, French Guiana	Ariane 3	453	7.3	26 025	309	Non-functional launcher element			
1987 078 G	16 Sept. 1987	Kourou, French Guiana	Ariane 3	90	7.5	381	164	Non-functional launcher element			
1987 095 B	21 Nov. 1987	Kourou, French Guiana	Ariane 2	487	4	27 952	284	Third stage of Ariane 2	V20	TVSAT 1	Germany

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

EUTELSAT European Telecommunications Satellite Organization  
 SYLDA Système de lancements doubles Ariane

Table 6  
Data on space objects registered by France: launches, 1988

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
<b>1988</b>											
1988 018 B	11 Mar. 1988	Kourou, French Guiana	Ariane 3	1 470	6.3	36 864	36 032	Telecom 1C telecommunications satellite; third stage of Ariane 3	V21	SPACENET IIIIR Telecom 1C	USA France
1988 018 C	11 Mar. 1988	Kourou, French Guiana	Ariane 3	612	6.5	34 605	421	SYLDA inter-satellite structure			
1988 018 D	11 Mar. 1988	Kourou, French Guiana	Ariane 3	180	6.6	8 187	140	Non-functional launcher element			
1988 018 E	11 Mar. 1988	Kourou, French Guiana	Ariane 3	314	6.5	17 611	218	Non-functional launcher element			
1988 040 B	17 May 1988	Kourou, French Guiana	Ariane 2	629	7.6	35 418	477	Third stage of Ariane 2	V23	Intelsat V F13 <sup>a</sup>	ITSO
1988 040 C	17 May 1988	Kourou, French Guiana	Ariane 2	631	7.8	35 493	496	Non-functional launcher element			
1988 040 D	17 May 1988	Kourou, French Guiana	Ariane 2	633	7.9	35 618	468	Non-functional launcher element			
1988 040 E	17 May 1988	Kourou, French Guiana	Ariane 2	632	7.7	35 516	496	Non-functional launcher element			
1988 051 D	15 June 1988	Kourou, French Guiana	Ariane 44LP	92	10.1	650	111	Third stage of Ariane 4	V22	Meteosat P2	ESA
1988 051 E	15 June 1988	Kourou, French Guiana	Ariane 44LP	535	10.2	30 691	250	Non-functional launcher element		PAS 1	USA
1988 051 F	15 June 1988	Kourou, French Guiana	Ariane 44LP	89	10.0	344	14	Non-functional launcher element		OSCAR 13/ AMSAT PIHC	USA
1988 063 B	21 July 1988	Kourou, French Guiana	Ariane 3	1 467	7.0	36 456	36 230	ECS 5 telecommunications satellite (EUTELSAT)	V24	INSAT 1C ECS 5	India ESA
1988 063 C	21 July 1988	Kourou, French Guiana	Ariane 3	88	7.6	256	123	Third stage of Ariane 3			
1988 063 D	21 July 1988	Kourou, French Guiana	Ariane 3	99	7.1	1 347	124	Non-functional launcher element			
1988 063 E	21 July 1988	Kourou, French Guiana	Ariane 3	622	7.7	35 100	422	Non-functional launcher element			
1988 063 F	21 July 1988	Kourou, French Guiana	Ariane 3	290	7.5	15 778	473	Non-functional launcher element			
1988 063 G	21 July 1988	Kourou, French Guiana	Ariane 3	248	7.8	13 025	409	Non-functional launcher element			
1988 063 H	21 July 1988	Kourou, French Guiana	Ariane 3	105	7.6	1 837	150	Non-functional launcher element			
1988 063 J	21 July 1988	Kourou, French Guiana	Ariane 3	567	6.9	32 216	405	Non-functional launcher element			
1988 081 C	8 Sept. 1988	Kourou, French Guiana	Ariane 2	319	7.6	17 797	393	Third stage of Ariane 2	V25	GStar 3	USA
1988 081 D	8 Sept. 1988	Kourou, French Guiana	Ariane 2	102	7.3	1 645	126	Non-functional launcher element		SBS 5	USA
1988 081 E	8 Sept. 1988	Kourou, French Guiana	Ariane 2	95	7.4	843	216	Non-functional launcher element			
1988 081 F	8 Sept. 1988	Kourou, French Guiana	Ariane 2	90	7.4	402	149	Non-functional launcher element			
1988 081 G	8 Sept. 1988	Kourou, French Guiana	Ariane 2	663	5.4	36 536	1 100	Non-functional launcher element			
1988 081 H	8 Sept. 1988	Kourou, French Guiana	Ariane 2	663	5.8	36 258	1 082	Non-functional launcher element			
1988 081 J	8 Sept. 1988	Kourou, French Guiana	Ariane 2	630	7.4	35 370	544	Non-functional launcher element			
1988 081 K	8 Sept. 1988	Kourou, French Guiana	Ariane 2	652	8.8	36 283	781	Non-functional launcher element			

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
1988 098 A	28 Oct. 1988	Kourou, French Guiana	Ariane 2	1 451	0,7	37 138	37 042	TDF 1 live television satellite	V26	TDF 1	France
1988 098 B	28 Oct. 1988	Kourou, French Guiana	Ariane 2	487	4,0	27 902	284	Third stage of Ariane 2			
1988 098 C	28 Oct. 1988	Kourou, French Guiana	Ariane 2	91	3,9	0,2	122	Non-functional launcher element			
1988 098 D	28 Oct. 1988	Kourou, French Guiana	Ariane 2	89	3,9	201	190	Non-functional launcher element			
1988 098 E	28 Oct. 1988	Kourou, French Guiana	Ariane 2	478	3,7	27 409	332	Non-functional launcher element			
1988 098 F	28 Oct. 1988	Kourou, French Guiana	Ariane 2	302	4,4	19 906	332	Non-functional launcher element			
1988 098 G	28 Oct. 1988	Kourou, French Guiana	Ariane 2	717	4,2	39 360	964	Non-functional launcher element			
1988 098 H	28 Oct. 1988	Kourou, French Guiana	Ariane 2	022	4,0	28 769	1 436	Non-functional launcher element			
1988 098 J	28 Oct. 1988	Kourou, French Guiana	Ariane 2	99	4,0	1 177	197	Non-functional launcher element			
1988 109 C	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	732	7,4	30 060	432	Third stage of Ariane 4	V27	Skynet 4B	UK
1988 109 D	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	90	7,0	890	132	SPELDA inter-satellite structure		Astra 1A	Luxembourg
1988 109 E	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	601	7,4	36 476	007	Non-functional launcher element			
1988 109 F	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	080	7,9	32 908	437	Non-functional launcher element			
1988 109 G	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	069	7,0	32 348	396	Non-functional launcher element			
1988 109 H	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	721	7,3	30 016	484	Non-functional launcher element			
1988 109 J	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	727	7,2	30 938	422	Non-functional launcher element			
1988 109 K	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	731	7,3	30 080	422	Non-functional launcher element			
1988 109 L	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	772	7,0	37 234	738	Non-functional launcher element			
1988 109 M	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	766	7,7	37 947	844	Non-functional launcher element			
1988 109 N	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	102	7,8	1 609	147	Non-functional launcher element			
1988 109 P	11 Dec. 1988	Kourou, French Guiana	Ariane 44LP	600	7,6	30 898	1 071	Non-functional launcher element			

Note: Besides common acronyms and abbreviations, the following have been used in the present table:

EUTELSAT	European Telecommunications Satellite Organization
INSAT	Indian National Satellite
Intelsat	international telecommunications satellite
ITSO	International Telecommunications Satellite Organization
Meteosat	geostationary meteorological satellites
OSCAR	Orbital Satellite Carrying Amateur Radio
PAS	PanAmSat
SBS	Satellite Business Systems
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SYLDA	Système de lancements doubles Ariane
TDF	Télédiffusion de France

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 7  
Data on space objects registered by France: launches, 1989

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
<b>1989</b>											
1989 006 B	27 Jan. 1989	Kourou, French Guiana	Ariane 2	633	8.4	35 629	478	Third stage of Ariane 2	V28	Intelsat V F5 <sup>a</sup>	ITSO
1989 006 C	27 Jan. 1989	Kourou, French Guiana	Ariane 2	637	8.2	35 737	548	Ariane 2 launcher debris			
1989 006 D	27 Jan. 1989	Kourou, French Guiana	Ariane 2	635	8.2	35 695	509	Ariane 2 launcher debris			
1989 006 E	27 Jan. 1989	Kourou, French Guiana	Ariane 2	634	8.2	35 617	532	Ariane 2 launcher debris			
1989 006 F	27 Jan. 1989	Kourou, French Guiana	Ariane 2	622	8.3	35 060	479	Ariane 2 launcher debris			
1989 006 G	27 Jan. 1989	Kourou, French Guiana	Ariane 2	631	8.4	35 579	414	Ariane 2 launcher debris			
1989 006 H	27 Jan. 1989	Kourou, French Guiana	Ariane 2	633	8.0	35 573	544	Ariane 2 launcher debris			
1989 006 J	27 Jan. 1989	Kourou, French Guiana	Ariane 2	636	8.2	35 635	621	Ariane 2 launcher debris			
1989 006 K	27 Jan. 1989	Kourou, French Guiana	Ariane 2	627	8.4	35 325	478	Ariane 2 launcher debris			
1989 006 L	27 Jan. 1989	Kourou, French Guiana	Ariane 2	623	7.8	35 153	451	Ariane 2 launcher debris			
1989 006 M	27 Jan. 1989	Kourou, French Guiana	Ariane 2	633	8.5	35 572	516	Ariane 2 launcher debris			
1989 006 N	27 Jan. 1989	Kourou, French Guiana	Ariane 2	629	8.4	35 407	510	Ariane 2 launcher debris			
1989 006 P	27 Jan. 1989	Kourou, French Guiana	Ariane 2	640	7.9	35 774	706	Ariane 2 launcher debris			
1989 006 Q	27 Jan. 1989	Kourou, French Guiana	Ariane 2	627	8.2	35 224	585	Ariane 2 launcher debris			
1989 006 R	27 Jan. 1989	Kourou, French Guiana	Ariane 2	638	8.7	35 752	603	Ariane 2 launcher debris			
1989 006 S	27 Jan. 1989	Kourou, French Guiana	Ariane 2	635	8.2	35 696	512	Ariane 2 launcher debris			
1989 006 T	27 Jan. 1989	Kourou, French Guiana	Ariane 2	631	8.6	35 640	380	Ariane 2 launcher debris			
1989 006 U	27 Jan. 1989	Kourou, French Guiana	Ariane 2	637	8.2	35 746	553	Ariane 2 launcher debris			
1989 006 V	27 Jan. 1989	Kourou, French Guiana	Ariane 2	643	7.6	35 727	598	Ariane 2 launcher debris			
1989 006 W	27 Jan. 1989	Kourou, French Guiana	Ariane 2	634	8.3	35 701	898	Ariane 2 launcher debris			
1989 006 X	27 Jan. 1989	Kourou, French Guiana	Ariane 2	640	8.0	35 791	480	Ariane 2 launcher debris			
1989 006 Y	27 Jan. 1989	Kourou, French Guiana	Ariane 2	640	8.0	35 770	668	Ariane 2 launcher debris			
1989 006 Z	27 Jan. 1989	Kourou, French Guiana	Ariane 2	633	8.0	35 619	685	Ariane 2 launcher debris			
1989 006 AA	27 Jan. 1989	Kourou, French Guiana	Ariane 2	639	8.6	35 709	481	Ariane 2 launcher debris			
1989 006 AB	27 Jan. 1989	Kourou, French Guiana	Ariane 2	642	7.7	35 792	695	Ariane 2 launcher debris			
1989 006 AC	27 Jan. 1989	Kourou, French Guiana	Ariane 2	641	7.3	35 675	787	Ariane 2 launcher debris			
1989 006 AD	27 Jan. 1989	Kourou, French Guiana	Ariane 2	645	7.9	35 620	846	Ariane 2 launcher debris			
1989 006 AE	27 Jan. 1989	Kourou, French Guiana	Ariane 2	629	8.6	35 536	357	Ariane 2 launcher debris			
1989 020 C	6 Mar. 1989	Kourou, French Guiana	Ariane 44LP	92	6.7	461	118	Third stage of Ariane 4	V29	MOP 1	ESA
1989 020 D	6 Mar. 1989	Kourou, French Guiana	Ariane 44LP	90	6.6	589	113	Non-functional launcher element		JCSat-1	Japan
1989 027 B	2 Apr. 1989	Kourou, French Guiana	Ariane 2	295	4.1	16 185	433	Third stage of Ariane 2	V30	Tele-X	Sweden
1989 027 C	2 Apr. 1989	Kourou, French Guiana	Ariane 2	660	3.3	36 928	537	Non-functional launcher element			
1989 027 C-	2 Apr. 1989	Kourou, French Guiana	Ariane 2	399	3.4	22 885	301	Non-functional launcher element			

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
1989 041 C	5 June 1989	Kourou, French Guiana	Ariane 44L	89	6.8	384	132	Third stage of Ariane 4	V31	Superbird-A	Japan
1989 041 D	5 June 1989	Kourou, French Guiana	Ariane 44L	91	6.4	537	113	Non-functional launcher element		DFS Kopernikus 2	Germany
1989 053 B	12 July 1989	Kourou, French Guiana	Ariane 3	96	6.4	1 056	122	Third stage of Ariane 3	V32	Olympus 1	ESA
1989 053 C	12 July 1989	Kourou, French Guiana	Ariane 3	628	6.1	35 497	375	Non-functional launcher element			
1989 062 B	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	637	7.1	35 788	526	Third stage of Ariane 4	V33	TVSAT 2	Germany
1989 062 C	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	602	7.0	34 101	408	Non-functional launcher element		Hipparcos	ESA
1989 062 D	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	91	7.2	503	137	Non-functional launcher element			
1989 062 E	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	596	7.0	33 763	405	Non-functional launcher element			
1989 062 F	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	571	7.0	32 444	433	Non-functional launcher element			
1989 062 G	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	426	6.7	24 472	311	Non-functional launcher element			
1989 062 H	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	547	7.1	31 230	376	Non-functional launcher element			
1989 062 J	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	483	7.9	27 589	438	Non-functional launcher element			
1989 062 K	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	568	8.9	32 235	472	Non-functional launcher element			
1989 062 L	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	505	8.2	28 854	452	Non-functional launcher element			
1989 062 M	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	588	8.5	33 405	380	Non-functional launcher element			
1989 062 N	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	352	8.1	20 049	22	Non-functional launcher element			
1989 062 P	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	619	6.8	34 738	645	Non-functional launcher element			
1989 062 Q	8 Aug. 1989	Kourou, French Guiana	Ariane 44LP	609	6.8	34 377	510	Non-functional launcher element			
1989 087 B	27 Oct. 1989	Kourou, French Guiana	Ariane 44L	502	7.5	28 864	258	Third stage of Ariane 4	V34	Intelsat VI F2 <sup>a</sup>	ITSO

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

DFS-Kopernikus	Deutscher Fernmeldesatellit Kopernikus
ESA	European Space Agency
Intelsat	international telecommunications satellite
ITSO	International Telecommunications Satellite Organization
JCSat	Japan Communications Satellite Company
MOP	Magnetospheres of the Outer Planets

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 8  
**Data on space objects registered by France: launches, 1990**

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1990</b>											
1990 005 A	22 Jan. 1990	Kourou, French Guiana	Ariane 40	101	98.7	826	824	SPOT 2 Earth observation satellite	V35	SPOT 2	France
1990 005 H	22 Jan. 1990	Kourou, French Guiana	Ariane 40	100	98.3	794	777	Third stage of Ariane 4		OSCAR 14/UOSAT3 OSCAR 15/UOSAT4 OSCAR 16/PACSAT OSCAR 17/DOVE OSCAR 18/WeberSat OSCAR 19/LUSAT <sup>a</sup>	UK UK USA Brazil USA Argentina
1990 063 A	24 July 1990	Kourou, French Guiana	Ariane 44L	1 460	4.0	36 459	36 060	TDF 2 live television satellite	V37	TDF 2	France
1990 063 A C	24 July 1990	Kourou, French Guiana	Ariane 44L	622	4.3	36 006	431	Third stage of Ariane 4		DFS Kopernikus 2	Germany
1990 063 A D	24 July 1990	Kourou, French Guiana	Ariane 44L	453	4.2	35 104	302	Non-functional launcher element			
1990 079 B	30 Aug. 1990	Kourou, French Guiana	Ariane 44L	1 436	3.8	35 286	35 748	EUTELSAT II-F1 telecommunications satellite	V38	Skynet 4C EUTELSAT II-F1	UK France
1990 079 C	30 Aug. 1990	Kourou, French Guiana	Ariane 44L	93	7.4	731	92	Third stage of Ariane 4			
1990 079 D	30 Aug. 1990	Kourou, French Guiana	Ariane 44L	112	7.3	2 509	135	Non-functional launcher element			
1990 091 C	12 Oct. 1990	Kourou, French Guiana	Ariane 44L	435	7.7	25 081	226	Non-functional launcher element	V39	SBS 6	USA
1990 091 D	12 Oct. 1990	Kourou, French Guiana	Ariane 44L	103	7.2	1 684	123	Third stage of Ariane 4		Galaxy VI	USA
1990 100 C	20 Nov. 1990	Kourou, French Guiana	Ariane 42P	514	7.4	29 535	255	Third stage of Ariane 4	V40	Satcom C1	USA
1990 100 D	20 Nov. 1990	Kourou, French Guiana	Ariane 42P	105	7.0	1 892	151	Non-functional launcher element		GStar 4	USA

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

DFS-Kopernikus	Deutscher Fernmeldesatellit Kopernikus
EUTELSAT	European Telecommunications Satellite Organization
OSCAR	Orbital Satellite Carrying Amateur Radio
SBS	Satellite Business Systems
SPOT	Satellite pour l'observation de la Terre
TDF	Télédiffusion de France

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 9  
Data on space objects registered by France: launches, 1991

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1991</b>											
1991 003 B	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	1 436	3.1	35 807	35 765	EUTELSAT II-F2 telecommunications satellite	V41	ITALSAT 1 EUTELSAT II-F2	Italy France
1991 003 C	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	97	6.9	1 188	100	Third stage of Ariane 4			
1991 003 D	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	87	6.7	199	114	Non-functional launcher element			
1991 003 E	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	505	7.3	28 803	480	Non-functional launcher element			
1991 003 F	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	544	6.9	30 812	603	Non-functional launcher element			
1991 003 G	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	523	6.6	29 809	460	Non-functional launcher element			
1991 003 H	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	545	6.4	30 807	675	Non-functional launcher element			
1991 003 J	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	105	6.8	1 913	136	Non-functional launcher element			
1991 003 K	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	474	6.5	27 227	332	Non-functional launcher element			
1991 003 L	15 Jan. 1991	Kourou, French Guiana	Ariane 44L	90	6.6	413	132	Non-functional launcher element			
1991 015 C	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	93	6.9	748	119	Third stage of Ariane 4	V42	Astra 1B MOP 2	Luxembourg ESA
1991 015 D	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	98	6.7	1 201	138	Non-functional launcher element			
1991 015 F	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	331	6.7	18 791	190	Non-functional launcher element			
1991 015 G	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	322	7.2	18 031	363	Non-functional launcher element			
1991 015 H	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	303	6.9	16 407	744	Non-functional launcher element			
1991 015 J	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	501	7.0	28 500	574	Non-functional launcher element			
1991 015 K	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	93	7.3	663	138	Non-functional launcher element			
1991 015 L	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	505	6.8	28 697	585	Non-functional launcher element			
1991 015 M	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	497	5.4	28 448	372	Non-functional launcher element			
1991 015 N	2 Mar. 1991	Kourou, French Guiana	Ariane 44LP	457	6.0	26 020	399	Non-functional launcher element			
1991 026 B	4 Apr. 1991	Kourou, French Guiana	Ariane 44P	628	4.3	35 425	416	Third stage of Ariane 4	V43	ANIK E2	Canada
1991 050 E	17 July 1991	Kourou, French Guiana	Ariane 40	99	98.1	734	726	SARA experimental microsatellite	V44	ERS 1	ESA
1991 050 F	17 July 1991	Kourou, French Guiana	Ariane 40	99	98.1	767	761	Third stage of Ariane 4		SARA	France
1991 050 G	17 July 1991	Kourou, French Guiana	Ariane 40	92	98.1	430	352	Non-functional launcher element		OSCAR 22/ UOSAT5	UK
1991 050 H	17 July 1991	Kourou, French Guiana	Ariane 40	99	98.1	710	707	SARA debris		Orbcomm X TUBSat A <sup>e</sup>	USA Germany
1991 055 B	14 Aug. 1991	Kourou, French Guiana	Ariane 44L	428	7.3	24 671	242	Third stage of Ariane 4	V45	Intelsat VI F5 <sup>e</sup>	ITSO
1991 067 B	26 Sept. 1991	Kourou, French Guiana	Ariane 44P	627	4.1	35 393	405	Third stage of Ariane 4	V46	Anik E1	Canada



Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
1991 075 B	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	428	7.3	24 666	238	Third stage of Ariane 4	V47	Intelsat VI F1 <sup>a</sup>	ITSO
1991 075 C	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	427	7.3	24 588	234	Non-functional launcher element			
1991 075 D	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	356	7.1	2 038	203	Non-functional launcher element			
1991 075 E	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	459	7.5	26 318	378	Non-functional launcher element			
1991 075 F	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	379	6.7	21 688	299	Non-functional launcher element			
1991 075 G	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	305	7.1	16 910	371	Non-functional launcher element			
1991 075 H	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	407	7.9	23 302	336	Non-functional launcher element			
1991 075 J	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	502	7.2	28 451	638	Non-functional launcher element			
1991 075 K	29 Oct. 1991	Kourou, French Guiana	Ariane 44L	448	7.3	25 774	259	Non-functional launcher element			
1991 083 A	7 Dec. 1991	Cape Canaveral, Florida, USA	Atlas 2	1 436	2.9	35 814	35 756	EUTELSAT II-F3 telecommunications satellite			
1991 084 A	16 Dec. 1991	Kourou, French Guiana	Ariane 44L	1 436	1.8	35 808	35 764	Telecom 2A telecommunications satellite	V48	Telecom 2A	France
1991 084 C	16 Dec. 1991	Kourou, French Guiana	Ariane 44L	630	4.4	35 583	361	Third stage of Ariane 4		Inmarsat-2 F3 <sup>a</sup>	IMSO
1991 084 D	16 Dec. 1991	Kourou, French Guiana	Ariane 44L	531	3.9	30 418	281	Non-functional launcher element			

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

ERS	European Remote Sensing Satellite
EUTELSAT	European Telecommunications Satellite Organization
IMSO	International Mobile Satellite Organization
Intelsat	international telecommunications satellite
ITSO	International Telecommunications Satellite Organization
MOP	Magnetospheres of the Outer Planets
OSCAR	Orbital Satellite Carrying Amateur Radio
SARA	Satellite pour Astronomie Radio Amateur
TUBSat	Technical University of Berlin Satellite

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 10  
Data on space objects registered by France: launches, 1992

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1992</b>											
1992 010 C	26 Feb. 1992	Kourou, French Guiana	Ariane 44L	110	6.6	2 281	149	Third stage of Ariane 4	V49	ArabSat 1C <sup>a</sup>	Saudi Arabia
1992 021 A	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	1 436	2.3	35 804	35 768	Telecom2B telecommunications satellite	V50	Telecom 2B	France
1992 021 C	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	407	4.1	24 317	203	Third stage of Ariane 4		Inmarsat-2 F2	IMSO
1992 021 D	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	478	3.7	27 464	301	Non-functional launcher element			
1992 021 E	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	640	4.0	35 529	947	Non-functional launcher element			
1992 021 F	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	91	3.8	615	75	Non-functional launcher element			
1992 021 G	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	640	3.9	35 522	935	Non-functional launcher element			
1992 021 H	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	641	4.1	35 535	993	Non-functional launcher element			
1992 021 J	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	643	4.0	35 585	1 030	Non-functional launcher element			
1992 021 K	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	643	3.9	35 596	1 051	Non-functional launcher element			
1992 021 L	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	641	3.9	35 579	937	Non-functional launcher element			
1992 021 M	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	641	4.0	35 548	986	Non-functional launcher element			
1992 021 P	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	650	3.9	35 576	1 377	Non-functional launcher element			
1992 021 Q	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	642	4.0	35 567	992	Non-functional launcher element			
1992 021 R	15 Apr. 1992	Kourou, French Guiana	Ariane 44L	645	3.8	35 594	1 110	Non-functional launcher element			
1992 041 B	9 July 1992	Kourou, French Guiana	Ariane 44L	1 436	2.0	35 813	35 760	EUTELSAT II-F4 telecommunications satellite	V51	INSAT 2A EUTELSAT II-F4	India France
1992 041 C	9 July 1992	Kourou, French Guiana	Ariane 44L	420	7.0	24 817	241	Third stage of Ariane 4			
1992 041 D	9 July 1992	Kourou, French Guiana	Ariane 44L	104	7.3	1 796	139	Non-functional launcher element			
1992 041 E	9 July 1992	Kourou, French Guiana	Ariane 44L	104	6.9	1 843	128	Non-functional launcher element			
1992 041 F	9 July 1992	Kourou, French Guiana	Ariane 44L	99	7.2	1 245	149	Non-functional launcher element			
1992 041 G	9 July 1992	Kourou, French Guiana	Ariane 44L	104	6.9	1 762	143	Non-functional launcher element			
1992 041 H	9 July 1992	Kourou, French Guiana	Ariane 44L	278	7.2	15 237	230	Non-functional launcher element			
1992 041 J	9 July 1992	Kourou, French Guiana	Ariane 44L	107	7.0	2 042	139	Non-functional launcher element			
1992 052 C	10 Aug. 1992	Kourou, French Guiana	Ariane 42P	111	66.0	1 236	1 303	S80T technological satellite	V52	TOPEX/POSEIDON	USA
1992 052 D	10 Aug. 1992	Kourou, French Guiana	Ariane 42P	112	66.0	1 400	1 301	Third stage of Ariane 4		KITSAT A S80T	Republic of Korea France
1992 060 C	10 Sept. 1992	Kourou, French Guiana	Ariane 44LP	96	7.2	1 031	107	Third stage of Ariane 4	V53	Hispatat 1A	Spain
1992 060 D	10 Sept. 1992	Kourou, French Guiana	Ariane 44LP	100	7.2	1 433	131	Non-functional launcher element		Satcom 3C	USA
1992 060 E	10 Sept. 1992	Kourou, French Guiana	Ariane 44LP	452	7.8	26 009	270	Non-functional launcher element			

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Remarks		
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)		Ariane launch number	Satellite launched	State/organization
1992-072 B	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	93	7.1	7 551	111	Third stage of Ariane 4	V54	Galaxy VII	USA
1992 072 C	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	443	7.2	25 516	281	Non-functional launcher element			
1992 072 D	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	439	6.5	25 055	483	Non-functional launcher element			
1992 072 E	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	99	7.5	1 309	166	Non-functional launcher element			
1992 072 F	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	287	6.8	15 847	245	Non-functional launcher element			
1992 072 G	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	103	7.0	1 647	184	Non-functional launcher element			
1992 072 H	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	97	7.0	1 034	217	Non-functional launcher element			
1992 072 J	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	494	8.9	27 785	885	Non-functional launcher element			
1992 072 K	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	496	7.4	27 812	986	Non-functional launcher element			
1992 072 L	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	496	9.9	27 864	930	Non-functional launcher element			
1992 072 M	28 Oct. 1992	Kourou, French Guiana	Ariane 42P	445	6.4	25 451	436	Non-functional launcher element			
1992 084 B	1 Dec. 1992	Kourou, French Guiana	Ariane 42P	458	7.0	26 366	247	Third stage of Ariane 4	V55	Superbird-A1	USA

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

EUTELSAT	European Telecommunications Satellite Organization
IMSO	International Mobile Satellite Organization
INSAT	Indian National Satellite
TOPEX	Ocean Topography Experiment
POSEIDON	Positioning Ocean Solid Earth Ice Dynamics Orbital Navigator

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 11  
Data on space objects registered by France: launches, 1993

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1993</b>											
1993 031 B	12 May 1993	Kourou, French Guiana	Ariane 42L	1 012	5.5	36 661	17 390	ARSENE amateur radio satellite	V56	Astra 1C	Luxembourg
1993 031 C	12 May 1993	Kourou, French Guiana	Ariane 42L	574	5.0	32 720	329	Third stage of Ariane 4		ARSENE	France
1993 031 D	12 May 1993	Kourou, French Guiana	Ariane 42L	329	5.0	18 624	226	Cyclade carrier structure			
1993 039 B	25 June 1993	Kourou, French Guiana	Ariane 42P	478	6.9	27 551	211	Third stage of Ariane 4	V57	Galaxy IV	USA
1993 048 C	22 July 1993	Kourou, French Guiana	Ariane 44L	592	7.3	33 701	292	Third stage of Ariane 4	V58	Hispasat 1B	Spain
1993 048 D	22 July 1993	Kourou, French Guiana	Ariane 44L	89	7.0	381	130	SPELDA inter-satellite structure		INSAT 1B	India
1993 061 A	26 Sept. 1993	Kourou, French Guiana	Ariane 40	101	98.4	843	819	SPOT 3 Earth observation satellite	V59	SPOT 3	France
1993 061 B	26 Sept. 1993	Kourou, French Guiana	Ariane 40	101	98.3	805	797	Stella scientific satellite		Stella	France
1993 061 H	26 Sept. 1993	Kourou, French Guiana	Ariane 40	100	98.3	799	783	Third stage of Ariane 4		KITSAT B	Republic of Korea
1993 061 J	26 Sept. 1993	Kourou, French Guiana	Ariane 40	90	98.5	314	277	Non-functional launcher element		POSAT <sup>a</sup> HealthSat ITAMSAT <sup>a</sup> EYESAT	Portugal USA Italy USA
1993 066 B	22 Oct. 1993	Kourou, French Guiana	Ariane 44LP	102	6.7	1 678	109	Third stage of Ariane 4	V60	Intelsat 701 <sup>a</sup>	ITSO
1993 073 C	20 Nov. 1993	Kourou, French Guiana	Ariane 44LP	315	6.7	17 600	332	Third stage of Ariane 4	V61	Solidaridad 1 <sup>a</sup>	Mexico
1993 073 D	20 Nov. 1993	Kourou, French Guiana	Ariane 44LP	90	6.8	418	125	SPELDA inter-satellite structure		Meteosat 6	ESA
1993 078 C	18 Dec. 1993	Kourou, French Guiana	Ariane 44L	101	4.2	1 567	104	Third stage of Ariane 4	V62	DBS	USA
1993 078 D	18 Dec. 1993	Kourou, French Guiana	Ariane 44L	88	3.6	269	139	SPELDA inter-satellite structure		Thaicom 1 <sup>a</sup>	Thailand

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

ARSENE	Ariane Radioamateurs Satellite Enseignement Espace
DBS	Direct Broadcast Satellite
Intelsat	international telecommunications satellite
ITAMSAT	Italian Amateur Satellite
Meteosat	geostationary meteorological satellite
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SPOT	Satellite pour l'observation de la Terre

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 12  
**Data on space objects registered by France: launches, 1994**

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1994</b>											
1994 034 D	17 June 1994	Kourou, French Guiana	Ariane 44L	645	7.7	36 301	426	Third stage of Ariane 4	V64	Intelsat 702 <sup>a</sup> STRV 1A and 1B	ITSO UK
1994 040 C	8 July 1994	Kourou, French Guiana	Ariane 44L	639	7.4	36 058	381	Third stage of Ariane 4	V65	PanAmSat 2	USA
1994 040 D	8 July 1994	Kourou, French Guiana	Ariane 44L	88	7.2	235	143	SPELDA inter-satellite structure		BS-3N	Japan
1994 049 C	10 Aug. 1994	Kourou, French Guiana	Ariane 44LP	632	7.2	35 731	317	Third stage of Ariane 4	V66	Brasilsat B1 <sup>a</sup>	Brazil
1994 049 C	10 Aug. 1994	Kourou, French Guiana	Ariane 44LP	90	7.3	461	108	SPELDA inter-satellite structure		TurkSat 1B <sup>a</sup>	Turkey
1994 058 B	9 Sept. 1994	Kourou, French Guiana	Ariane 42L	643	4.0	36 330	199	Third stage of Ariane 4	V67	Telstar 402	USA
1994 065 C	8 Oct. 1994	Kourou, French Guiana	Ariane 44L	94	4.1	864	101	Third stage of Ariane 4	V68	Solidaridad 2 <sup>a</sup>	Mexico
1994 065 D	8 Oct. 1994	Kourou, French Guiana	Ariane 44L	109	4.2	2 301	131	Non-functional launcher element		Thaicom 2 <sup>a</sup>	Thailand
1994 070 B	1 Nov. 1994	Kourou, French Guiana	Ariane 42P	330	6.9	18 761	169	Third stage of Ariane 4	V69	Astra 1D	Luxembourg

*Note:* Besides common acronyms and abbreviations, the following have been used in the present table:

BS            Broadcast Satellite  
 Intelsat    international telecommunications satellite  
 PAS        PanAmSat  
 SPELDA    Structure porteuse externe pour lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 13  
Data on space objects registered by France: launches, 1995

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1995</b>											
1995 016 B	28 Mar. 1995	Kourou, French Guiana	Ariane 44L	1 436	0	35 794	35 779	HotBird 1 telecommunications satellite (EUTELSAT)	V71	Brasilsat B2 <sup>a</sup> HotBird 1	Brazil France
1995 016 C	28 Mar. 1995	Kourou, French Guiana	Ariane 44L	569	6.2	32 464	298	Third stage of Ariane 4	V71		
1995 016 D	28 Mar. 1995	Kourou, French Guiana	Ariane 44L	94	6.6	830	119	SPELDA inter-satellite structure			
1995 021 B	21 Apr. 1995	Kourou, French Guiana	Ariane 40	100	98.2	777	767	Third stage of Ariane 4	V72	ERS 2	ESA
1995 023 B	17 May 1995	Kourou, French Guiana	Ariane 44L	469	7.3	27 191	76	Third stage of Ariane 4	V73	Intelsat 706 <sup>a</sup>	ITSO
1995 029 B	10 June 1995	Kourou, French Guiana	Ariane 42P	374	6.8	21 457	195	Third stage of Ariane 4	V74	DBS 3	USA
1995 033 A	7 July 1995	Kourou, French Guiana	Ariane 40	98	98	626	618	Helios 1A space-object technique and technology research satellite	V75	Helios 1A Cerise	France France
1995 033 B	7 July 1995	Kourou, French Guiana	Ariane 40	97	98.4	626	618	Cerise space-object technique and technology research satellite			
1995 033 D	7 July 1995	Kourou, French Guiana	Ariane 40	97	98.3	632	603	Third stage of Ariane 4			
1995 033 E	7 July 1995	Kourou, French Guiana	Ariane 40	96	98.3	595	589	Cerise satellite debris			
1995 040 B	3 Aug. 1995	Kourou, French Guiana	Ariane 42L	658	3.8	36 790	616	Third stage of Ariane 4	V76	PanAmSat 4	USA
1995 044 B	29 Aug. 1995	Kourou, French Guiana	Ariane 44P	94	6.4	828	109	Third stage of Ariane 4	V77	N-STAR A	Japan
1995 049 B	24 Sept. 1995	Kourou, French Guiana	Ariane 42L	644	7.1	36 255	416	Third stage of Ariane 4	V78	Telstar 402 R	USA
1995 055 B	19 Oct. 1995	Kourou, French Guiana		651	4.6	36 498	521	Third stage of Ariane 4	V79	Astra 1E	Luxembourg
1995 062 B	17 Nov. 1995	Kourou, French Guiana	Ariane 44P	1 515	2.9	73 727	941	Third stage of Ariane 4	V80	ISO	ESA
1995 067 A	6 Dec. 1995	Kourou, French Guiana	Ariane 44L	1 436	0.0	35 806	35 766	Telecom 2C telecommunications satellite	V81	Telecom 2C	France
1995 067 C	6 Dec. 1995	Kourou, French Guiana	Ariane 44L	572	6.7	32 690	247	Third stage of Ariane 4			
1995 067 D	6 Dec. 1995	Kourou, French Guiana	Ariane 44L	89	7.2	316	127	SPELDA inter-satellite structure		INSAT 2C	India

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.

Besides common acronyms and abbreviations, the following have been used in the present table:

DBS	Direct Broadcast Satellite
ERS	European Remote Sensing Satellite
INSAT	Indian National Satellite

Intelsat	international telecommunications satellite
ISO	Infrared Space Observatory
PAS	PanAmSat
SPELDA	Structure porteuse externe pour lancements doubles Ariane
UPM	Universidad Politécnica de Madrid

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 14  
Data on space objects registered by France: launches, 1996

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1996</b>											
1996 002 C	12 Jan. 1996	Kourou, French Guiana	Ariane 44L	550	6.7	31 468	288	Third stage of Ariane 4	V82	PanAmSat 3R	USA
1996 002 D	12 Jan. 1996	Kourou, French Guiana	Ariane 44L	90	7.0	422	135	SPELDA inter-satellite structure		MEASAT 1	Malaysia
1996 007 B	5 Feb. 1996	Kourou, French Guiana	Ariane 44P	92	6.5	699	101	Third stage of Ariane 4	V83	N-STAR B	Japan
1996 015 B	14 Mar. 1996	Kourou, French Guiana	Ariane 44LP	96	6.9	1 071	101	Third stage of Ariane 4	V84	Intelsat 707 <sup>a</sup>	ITSO
1996 022 B	20 Apr. 1996	Kourou, French Guiana	Ariane 42P	543	6.7	31 096	28	Third stage of Ariane 4	V85	MSAT <sup>a</sup>	Canada
1996 030 C	16 May 1996	Kourou, French Guiana	Ariane 44L	587	4.5	33 418	282	Third stage of Ariane 4	V86	Amos <sup>a</sup>	Israel
1996 030 D	16 May 1996	Kourou, French Guiana	Ariane 44L	561	4.3	32 043	309	SPELDA inter-satellite structure		Palapa C2 <sup>a</sup>	Indonesia
1996 035 B	15 June 1996	Kourou, French Guiana	Ariane 44P	98	7.0	1 203	109	Third stage of Ariane 4	V87	Intelsat 709 <sup>a</sup>	ITSO
1996 040 C	9 July 1996	Kourou, French Guiana	Ariane 44L	609	6.7	34 381	345	Third stage of Ariane 4	V89	ArabSat 2A <sup>a</sup>	Saudi Arabia
1996 040 D	9 July 1996	Kourou, French Guiana	Ariane 44L	89	6.9	335	132	SPELDA inter-satellite structure		TurkSat 1C <sup>a</sup>	Turkey
1996 044 A	8 Aug. 1996	Kourou, French Guiana	Ariane 44L	1 436	0.0	35 804	35 769	Telecom 2D telecommunications satellite	V90	Telecom 2D	France
1996 044 C	8 Aug. 1996	Kourou, French Guiana	Ariane 44L	631	5.4	35 770	216	Third stage of Ariane 4		ITALSAT 2	Italy
1996 044 D	8 Aug. 1996	Kourou, French Guiana	Ariane 44L	89	5.8	353	117	SPELDA inter-satellite structure			
1996 055 B	11 Sept. 1996	Kourou, French Guiana	Ariane 42P	112	7.3	2 523	135	Third stage of Ariane 4	V91	Echostar 2	USA
1996 063 C	13 Nov. 1996	Kourou, French Guiana	Ariane 44L	625	4.4	35 358	320	Third stage of Ariane 4	V92	ArabSat 2B <sup>a</sup>	Saudi Arabia
1996 063 D	13 Nov. 1996	Kourou, French Guiana	Ariane 44L	143	4.4	5 201	157	SPELDA inter-satellite structure		MEASAT 2	Malaysia
1996 067 A	21 Nov. 1996	Cape Canaveral, Florida, USA	Atlas 2A	1 436	0.0	35 812	35 762	HotBird 2 telecommunications satellite (EUTELSAT)			

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

Intelsat      international telecommunications satellite  
MEASAT      Malaysia East Asia Satellite  
MSAT        Mobile Satellite Communications Satellite  
PAS         PanAmSat  
SPELDA     Structure porteuse externe pour lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.



Table 15  
Data on space objects registered by France: launches, 1997

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1997</b>											
1997 002 C	30 Jan. 1997	Kourou, French Guiana	Ariane 44L	505	7.4	29 015	239	Third stage of Ariane 4	V93	GE 2	USA
1997 002 D	30 Jan. 1997	Kourou, French Guiana	Ariane 44L	136	6.8	4 561	227	SPELDA inter-satellite structure		Nahuel 1A	Argentina
1997 009 B	1 Mar. 1997	Kourou, French Guiana	Ariane 44LP	90	6.4	414	120	Third stage of Ariane 4	V94	Intelsat 801 <sup>a</sup>	ITSO
1997 016 C	16 Apr. 1997	Kourou, French Guiana	Ariane 44L	487	6.9	28 015	254	Third stage of Ariane 4	V95	Thaicom 3B <sup>a</sup>	Thailand
1997 016 D	16 Apr. 1997	Kourou, French Guiana	Ariane 44L	91	6.6	497	127	SPELDA inter-satellite structure		BSAT 1A	Japan
1997 027 C	3 June 1997	Kourou, French Guiana	Ariane 44L	619	7.2	35 214	237	Third stage of Ariane 4	V97	Inmarsat 3 F4 <sup>a</sup>	IMSO
1997 027 D	3 June 1997	Kourou, French Guiana	Ariane 44L	225	6.9	11 542	246	SPELDA inter-satellite structure		INSAT 2D	India
1997 031 B	25 June 1997	Kourou, French Guiana	Ariane 44P	90	6.8	415	127	Third stage of Ariane 4	V96	Intelsat 802 <sup>a</sup>	ITSO
1997 040 B	8 Aug. 1997	Kourou, French Guiana	Ariane 44P	534	7.3	30 637	239	Third stage of Ariane 4	V98	PanAmSat 6	USA
1997 049 A	2 Sept. 1997	Kourou, French Guiana	Ariane 44LP	1 436	0	35 812	35 759	HotBird 3 telecommunications satellite (EUTELSAT)	V99	HotBird 3 Meteosat 7	France EUMET-SAT
1997 049 B C	2 Sept. 1997	Kourou, French Guiana	Ariane 44LP	631	6.9	35 757	216	Third stage of Ariane 4			
1997 049 B D	2 Sept. 1997	Kourou, French Guiana	Ariane 44LP	138	7.1	4 792	199	SPELDA inter-satellite structure			
1997 053 B	23 Sept. 1997	Kourou, French Guiana	Ariane 44LP	618	7.0	35 965	249	Third stage of Ariane 4	V100	Intelsat 803 <sup>a</sup>	ITSO
1997 066 C	30 Oct. 1997	Kourou, French Guiana	Ariane 5	467	7.9	26 610	551	Ariane 5 storable propellant stage	V101	Maqsat H and B	ESA
1997 066 D	30 Oct. 1997	Kourou, French Guiana	Ariane 5	467	7.9	26 606	537	SPELTRA inter-satellite structure		TEAMSAT	ESA
1997 071 C	12 Nov. 1997	Kourou, French Guiana	Ariane 44L	92	7.0	629	100	Third stage of Ariane 4	V102	Sirius 2	Sweden
1997 071 D	12 Nov. 1997	Kourou, French Guiana	Ariane 44L	100	7.2	1 398	113	SPELDA inter-satellite structure		Cakrawarta <sup>a</sup>	Indonesia
1997 075 C	2 Dec. 1997	Kourou, French Guiana	Ariane 44P	91	4.2	582	109	Third stage of Ariane 4	V103	JCSAT	Japan
1997 075 C	2 Dec. 1997	Kourou, French Guiana	Ariane 44P	90	4.0	484	112	SPELDA inter-satellite structure		Equator-S <sup>a</sup>	Germany
1997 083 B	22 Dec. 1997	Kourou, French Guiana	Ariane 42L	365	6.7	20 901	189	Third stage of Ariane 4	V104	Intelsat 804 <sup>a</sup>	ITSO

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

EUMETSAT European Organization for the Exploitation of Meteorological Satellites  
IMSO International Mobile Satellite Organization  
INSAT Indian National Satellite  
Intelsat international telecommunications satellite

ITSO	International Telecommunications Satellite Organization
JCSAT	Japan Communications Satellite Company
Meteosat	geostationary meteorological satellite
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SPELTRA	Structure porteuse externe pour lancements multiples Ariane
TEAMSAT	Technology, Science and Education Experiments Added to Maqsat

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 16  
Data on space objects registered by France: launches, 1998

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1998</b>											
1998 006 C	4 Feb. 1998	Kourou, French Guiana	Ariane 44LP	280	6.8	15 490	164	Third stage of Ariane 4	V105	Brasilsat B3 <sup>a</sup>	Brazil
1998 006 D	4 Feb. 1998	Kourou, French Guiana	Ariane 44LP	93	6.6	737	118	SPELDA inter-satellite structure		Inmarsat 3F5 <sup>a</sup>	IMSO
1998 013 A	27 Feb. 1998	Kourou, French Guiana	Ariane 42P	1 436	0	35 790	35 783	HotBird 4 telecommunications satellite (EUTELSAT)	V106	HotBird 4	France
1998 013 B	27 Feb. 1998	Kourou, French Guiana	Ariane 42P	94	6.8	823	94	Third stage of Ariane 4			
1998 017 A	24 Mar. 1998	Kourou, French Guiana	Ariane 40	101	98.7	826	824	SPOT 4	V107	SPOT 4	France
1998 017 B	24 Mar. 1998	Kourou, French Guiana	Ariane 40	100	98.5	791	785	Third stage of Ariane 4			
1998 024 C	28 Apr. 1998	Kourou, French Guiana	Ariane 44P	89	6.4	375	98	Third stage of Ariane 4	V108	Nilesat 101 <sup>a</sup>	Egypt
1998 024 D	28 Apr. 1998	Kourou, French Guiana	Ariane 44P	91	6.6	545	148	SPELDA inter-satellite structure		BSAT-1B	Japan
1998 049 B	25 Aug. 1998	Kourou, French Guiana	Ariane 44P	563	4.2	32 136	295	Third stage of Ariane 4	V109	ST-1 <sup>a</sup>	(Singapore/ Taiwan Province of China)
1998 052 B	16 Sept. 1998	Kourou, French Guiana	Ariane 44LP	92	6.9	693	72	Third stage of Ariane 4	V110	PAS 7	USA
1998 056 A	5 Oct. 1998	Kourou, French Guiana	Ariane 44L	1 436	0	35 806	35 766	EUTELSAT W2 telecommunications satellite	V111	EUTELSAT W2 Sirius 3	France Sweden
1998 056 C	5 Oct. 1998	Kourou, French Guiana	Ariane 44L	229	7.1	11 873	203	Third stage of Ariane 4			
1998 056 D	5 Oct. 1998	Kourou, French Guiana	Ariane 44L	108	7.2	2 215	111	SPELDA inter-satellite structure			
1998 057 A	9 Oct. 1998	Cape Canaveral, Florida, USA	Atlas 2A	1 436	0.0	35 800	35 773	HotBird 5 (EUTELSAT)			
1998 059 B	21 Oct. 1998	Kourou, French Guiana	Ariane 5	641	7.0	35 487	1 021	Ariane 5 storable propellant stage	V112	ARD/Maqsat	ESA
1998 063 C	28 Oct. 1998	Kourou, French Guiana	Ariane 42L	633	6.5	35 931	184	Third stage of Ariane 4	V113	AfriStar	USA
1998 063 D	28 Oct. 1998	Kourou, French Guiana	Ariane 42L	93	6.7	740	117	SPELDA inter-satellite structure		GE 5	USA
1998 070 B	6 Dec. 1998	Kourou, French Guiana	Ariane 42L	212	7.3	10 706	162	Third stage of Ariane 4	V114	Satmex 5 <sup>a</sup>	Mexico
1998 075 B	22 Dec. 1998	Kourou, French Guiana	Ariane 42L	488	7.1	28 059	254	Third stage of Ariane 4	V115	PAS 6B	USA

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

ARD Atmospheric Re-entry Demonstrator

IMSO	International Mobile Satellite Organization
PAS	PanAmSat
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SPOT	Satellite pour l'observation de la Terre

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 17  
Data on space objects registered by France: launches, 1999

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>1999</b>											
1999 009 B	26 Feb. 1999	Kourou, French Guiana	Ariane 44L	508	7.0	2 964	206	Third stage of Ariane 4	V116	ArabSat 3A <sup>a</sup>	Saudi Arabia
1999 009 C	26 Feb. 1999	Kourou, French Guiana	Ariane 44L	120	607.0	3 178	181	SPELDA inter-satellite structure		Skynet 4E	UK
1999 016 B	2 Apr. 1999	Kourou, French Guiana	Ariane 42P	540	4.0	30 495	216	Third stage of Ariane 4	V117	INSAT 2E	India
1999 018 A	12 Apr. 1999	Cape Canaveral, Florida, USA	Atlas 2A	1 436	0.0	35 871	35 701	EUTELSAT W3 telecommunications satellite			
1999 042 B	12 Aug. 1999	Kourou, French Guiana	Ariane 42P	507	6.8	29 131	253	Third stage of Ariane 4	V118	Telkom <sup>a</sup>	Indonesia
1999 046 B	4 Sept. 1999	Kourou, French Guiana	Ariane 42P	89	7.1	343	126	Third stage of Ariane 4	V120	KOREASAT	Republic of Korea
1999 052 B	25 Sept. 1999	Kourou, French Guiana	Ariane 44LP	97	6.3	1 123	92	Third stage of Ariane 4	V121	Telstar 7	USA
1999 059 B	19 Oct. 1999	Kourou, French Guiana	Ariane 44LP	106	6.0	2 026	95	Third stage of Ariane 4	V122	Orion 2	USA
1999 060 B	13 Nov. 1999	Kourou, French Guiana	Ariane 44LP	375	6.1	21 647	239	Third stage of Ariane 4	V123	GE 4	USA
1999 064 A	3 Dec. 1999	Kourou, French Guiana	Ariane 40	98	98.1	682	679	Helios 1B space-object technique and technology research satellite	V124	Helios 1B	
1999 064 B	3 Dec. 1999	Kourou, French Guiana	Ariane 40	97	98.2	628	613	Clémentine space-object technique and technology research satellite		Clémentine	France
1999 064 C	3 Dec. 1999	Kourou, French Guiana	Ariane 40	97	98.3	631	620	Third stage of Ariane 4			
1999 066 B	10 Dec. 1999	Kourou, French Guiana	Ariane 5	2 603	51.0	102 593	10 043	Ariane 5 storable propellant stage	V119	XMM	ESA
1999 071 B	22 Dec. 1999	Kourou, French Guiana	Ariane 44L	554	5.6	31 735	208	Third stage of Ariane 4	V125	Galaxy XI	USA

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

INSAT      Indian National Satellite  
SPELDA    Structure porteuse externe pour lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 18  
Data on space objects registered by France: launches, 2000

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>2000</b>											
2000 002 B	25 Jan. 2000	Kourou, French Guiana	Ariane 42L	279	7.2	15 376	164	Third stage of Ariane 4	V126	Galaxy X-R	USA
2000 012 B	18 Feb. 2000	Kourou, French Guiana	Ariane 44LP	626	4.5	35 478	276	Third stage of Ariane 4	V127	Superbird-4	Japan
2000 016 C	21 Mar. 2000	Kourou, French Guiana	Ariane 5	635	6.6	35 643	574	SYLDA inter-satellite structure	V128	AsiaStar	USA
2000 016 D	21 Mar. 2000	Kourou, French Guiana	Ariane 5	634	6.8	35 937	737	Ariane 5 storable propellant stage		INSAT 3B	India
2000 019 A	17 Apr. 2000	Baikonur, Kazakhstan	Proton	1 436	0	35 810	35 762	SESAT telecommunications satellite (EUTELSAT)			
2000 020 B	19 Apr. 2000	Kourou, French Guiana	Ariane 42L	462	7.1	26 635	208	Third stage of Ariane 4	V129	Galaxy IV-R	USA
2000 028 A	24 May 2000	KSC, USA	Atlas 3A	1 436	0	35 797	35 774	EUTELSAT W4 telecommunications satellite			
2000 046 C	17 Aug. 2000	Kourou, French Guiana	Ariane 5	512	3.4	29 399	251	SPELDA inter-satellite structure	V131	Brasilsat B4 <sup>d</sup>	Brazil
2000 046 D	17 Aug. 2000	Kourou, French Guiana	Ariane 5	648	3.2	35 128	329	Ariane 5 storable propellant stage		Nilesat 102 <sup>d</sup>	Egypt
2000 052 A	6 Sept. 2000	Kourou, French Guiana	Ariane 44P	1 436	0	35 803	35 769	EUTELSAT W1 telecommunications satellite	V132	EUTELSAT W1	France
2000 052 B	6 Sept. 2000	Kourou, French Guiana	Ariane 44P	648	7.2	36 474	385	Third stage of Ariane 4			
2000 054 C	14 Sept. 2000	Kourou, French Guiana	Ariane 5	642	7	35 970	611	SYLDA inter-satellite structure	V130	Astra 2B	Luxembourg
2000 054 D	14 Sept. 2000	Kourou, French Guiana	Ariane 5	635	7	35 616	598	Ariane 5 storable propellant stage		GE 7	USA
2000 060 B	6 Oct. 2000	Kourou, French Guiana	Ariane 42L	301	8	16 877	177	Third stage of Ariane 4	V133	N-SAT-110	Japan
2000 068 B	29 Oct. 2000	Kourou, French Guiana	Ariane 44LP	604	6.6	34 305	280	Third stage of Ariane 4	V134	Europe <sup>d</sup> Star	UK
2000 072 E	16 Nov. 2000	Kourou, French Guiana	Ariane 5	714	6.7	39 477	690	SYLDA inter-satellite structure	V135	PAS 1R	USA
2000 072 E	16 Nov. 2000	Kourou, French Guiana	Ariane 5	709	6.7	39 287	673	Ariane 5 storable propellant stage		AMSAT P3D <sup>d</sup> STRV C and D	Germany UK
2000 076 B	21 Nov. 2000	Kourou, French Guiana	Ariane 44L	91	6.3	573	108	Third stage of Ariane 4	V136	Anik <sup>d</sup>	Canada
2000 081 D	20 Dec. 2000	Kourou, French Guiana	Ariane 5	92	2.1	674	92	Ariane 5 storable propellant stage	V138	Astra 2D	Luxembourg
2000 081 E	20 Dec. 2000	Kourou, French Guiana	Ariane 5	90	2.1	451	126	SYLDA inter-satellite structure		GE 8 LDREX	USA Japan

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

INSAT Indian National Satellite  
LDREX Large Deployable Reflector Experiment  
SESAT Siberia Europe Satellite  
SPELDA Structure porteuse externe pour lancements multiples Ariane  
SYLDA Système de lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 19  
**Data on space objects registered by France: launches, 2001**

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>2001</b>											
2001 002 B	10 Jan. 2001	Kourou, French Guiana	Ariane 44P	649	6.5	36 742	163	Third stage of Ariane 4	V137	EurasiaSat <sup>a</sup>	Turkey
2001 005 C	7 Feb. 2001	Kourou, French Guiana	Ariane 44L	624	7.3	35 369	266	Third stage of Ariane 4	V139	SICRAL <sup>a</sup>	Italy
2001 005 D	7 Feb. 2001	Kourou, French Guiana	Ariane 44L	401	6.6	23 078	242	SPELDA inter-satellite structure		Skynet	UK
2001 011 A	8 Mar. 2001	Kourou, French Guiana	Ariane 5	1 436	0	35 808	35 794	Eurobird telecommunications satellite (EUTELSAT)	V140	Eurobird BSAT-2A	France Japan
2001 011 C	8 Mar. 2001	Kourou, French Guiana	Ariane 5	641	2	35 654	856	Ariane 5 storable propellant stage			
2001 011 D	8 Mar. 2001	Kourou, French Guiana	Ariane 5	646	2.4	35 920	839	SYLDA inter-satellite structure			
2001 024 B	9 June 2001	Kourou, French Guiana	Ariane 44L	115	7.1	2 875	99	Third stage of Ariane 4	V141	Intelsat 901 <sup>a</sup>	ITSO
2001 029 C	12 July 2001	Kourou, French Guiana	Ariane 5	318	3.2	17 497	640	Ariane 5 storable propellant stage	V142	ARTEMIS	ESA
2001 029 D	12 July 2001	Kourou, French Guiana	Ariane 5	316	2.9	17 404	626	SYLDA inter-satellite structure		BSAT-2B <sup>a</sup>	Japan
2001 039 B	30 Aug. 2001	Kourou, French Guiana	Ariane 44L	6 225	7.6	35 368	298	Third stage of Ariane 4	V143	Intelsat 902 <sup>a</sup>	ITSO
2001 042 A	25 Sept. 2001	Kourou, French Guiana	Ariane 44P	1 436	0	35 804	35 769	Atlantic Bird 2 telecommunications satellite (EUTELSAT)	V144	Atlantic Bird™	France
2001 042 B	25 Sept. 2001	Kourou, French Guiana	Ariane 44P	95	7.3	948	102	Third stage of Ariane 4			
2001 052 B	27 Nov. 2001	Kourou, French Guiana	Ariane 4LP	601	7.4	34 218	230	Third stage of Ariane 4	V146	DIRECTV 4S	USA

*Notes:* France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.

Besides common acronyms and abbreviations, the following have been used in the present table:

ARTEMIS	Advanced Relay and Technology Mission
ESA	European Space Agency
Intelsat	international telecommunications satellite
ITSO	International Telecommunications Satellite Organization
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SYLDA	Système de lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.



Table 20  
Data on space objects registered by France: launches, 2002

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>2002</b>											
2002 002 B	23 Jan. 2002	Kourou, French Guiana	Ariane 42L	655	4.3	36 795	419	Third stage of Ariane 4	V147	INSAT 3C	India
2002 007 B	23 Feb. 2002	Kourou, French Guiana	Ariane 44L	93.5	7	781	107	Third stage of Ariane 4	V148	Intelsat 904 <sup>a</sup>	ITSO
2002 009 B	1 Mar. 2002	Kourou, French Guiana	Ariane 5	100	98.5	797	752	Ariane 5 storable propellant stage	V145	ENVISAT	ESA
2002 015 C	29 Mar. 2002	Kourou, French Guiana	Ariane 44L	571	3.5	32 588	279	Third stage of Ariane 4	V149	JCSAT-8	Japan
2002 015 D	29 Mar. 2002	Kourou, French Guiana	Ariane 44L	610	3.2	34 572	356	SPELDA inter-satellite structure		Astra 3A	Luxembourg
2002 019 B	16 Apr. 2002	Kourou, French Guiana	Ariane 44L	410	6.4	23 626	190	Third stage of Ariane 4	V150	NSS-7 <sup>a</sup>	USA
2002 021 A	4 May 2002	Kourou, French Guiana	Ariane 42P	101	98.7	826	825	SPOT 5 Earth observation satellite	V151	SPOT 5	France
2002 021 B	4 May 2002	Kourou, French Guiana	Ariane 42P	101	98.7	808	789	Third stage of Ariane 4 Idefix amateur radio satellite		Idefix	France
2002 027 B	5 June 2002	Kourou, French Guiana	Ariane 44L	199	7.1	9 702	139	Third stage of Ariane 4	V152	Intelsat 905 <sup>a</sup>	ITSO
2002 035 A	5 July 2002	Kourou, French Guiana	Ariane 5	1 436	0	35 802	35 771	Atlantic Bird 3 (Stellat 5) telecommunications satellite (EUTELSAT)	V153	Atlantic Bird 3 N-STAR C	France Japan
2002 035 C	5 July 2002	Kourou, French Guiana	Ariane 5	647	5.6	36 124	669	Ariane 5 storable propellant stage			
2002 035 D	5 July 2002	Kourou, French Guiana	Ariane 5	636.9	5.6	35 652	632	SYLDA inter-satellite structure			
2002 038 A	21 Aug. 2002	Cape Canaveral, Florida, USA	Atlas 5	1 436	0	35 792	35 781	HotBird 6 telecommunications satellite (EUTELSAT)			
2002 040 A	28 Aug. 2002	Kourou, French Guiana	Ariane 5	1 436	0	35 792	35 781	Atlantic Bird 1 telecommunications satellite (EUTELSAT)	V155	Atlantic Bird 1 MSG 1	France ESA
2002 040 C	28 Aug. 2002	Kourou, French Guiana	Ariane 5	634	5.6	35 589	551	Ariane 5 storable propellant stage			
2002 040 D	28 Aug. 2002	Kourou, French Guiana	Ariane 5	640	6.1	35 908	573	SYLDA inter-satellite structure			
2002 041 B	6 Sept. 2002	Kourou, French Guiana	Ariane 44L	99	6.8	1 379	92	Third stage of Ariane 4	V154	Intelsat 906 <sup>a</sup>	ITSO
2002 051 A	20 Nov. 2002	Cape Canaveral, Florida, USA	Delta 4	1 436	0	35 819	35 754	EUTELSAT W5 telecommunications satellite			
2002 057 B	17 Dec. 2002	Kourou, French Guiana	Ariane 44L	657	7	37 030	316	Third stage of Ariane 4	V156	NSS 6 <sup>a</sup>	Netherlands

Notes: France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.  
Besides common acronyms and abbreviations, the following have been used in the present table:

ENVISAT      Environmental Satellite

ESA	European Space Agency
INSAT	Indian National Satellite
Intelsat	international telecommunications satellite
ITSO	International Telecommunications Satellite Organization
JCSAT	Japan Communications Satellite Company
MSG	Meteosat Second Generation
NSS	NewSkies Satellite
SPELDA	Structure porteuse externe pour lancements doubles Ariane
SPOT	Satellite pour l'observation de la Terre
SYLDA	Système de lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.

Table 21  
**Data on space objects registered by France: launches, 2003**

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched	State/organization
<b>2003</b>											
2003 007 B	15 Feb. 2003	Kourou, French Guiana	Ariane 44L	652	7.4	36 286	231	Third stage of Ariane 4	V159	Intelsat 907 <sup>a</sup>	ITSO
2003 013 C	9 Apr. 2003	Kourou, French Guiana	Ariane 5	642	1.7	35 704	884	Ariane 5 storable propellant stage	V160	INSAT 3A	India
2003 013 D	9 Apr. 2003	Kourou, French Guiana	Ariane 5	647	2	35 943	888	SYLDA inter-satellite structure		Galaxy 12	USA
2003 028 C	11 June 2003	Kourou, French Guiana	Ariane 5	641	7.1	35 884	605	Ariane 5 storable propellant stage	V161	Optus C1 <sup>a</sup>	Australia
2003 028 D	11 June 2003	Kourou, French Guiana	Ariane 5	638	7.1	35 762	603	SYLDA inter-satellite structure		BSAT-2C	Japan
2003 043 A	27 Sept. 2003	Kourou, French Guiana	Ariane 5	1 436	0	35 786	35 786	e-Bird™ telecommunications satellite (EUTELSAT)	V162	INSAT 3E e-Bird™	India France
2003 043 B	27 Sept. 2003	Kourou, French Guiana	Ariane 5	642 640	7	35 786	650	Ariane 5 storable propellant stage			
2003 043 D	27 Sept. 2003	Kourou, French Guiana	Ariane 5		7	35 786	650	SYLDA inter-satellite structure			

*Notes:* France registers European Telecommunications Satellite Organization (EUTELSAT) satellite.

Besides common acronyms and abbreviations, the following have been used in the present table:

ESA      European Space Agency  
INSAT    Indian National Satellite  
Intelsat   international telecommunications satellite  
ITSO      International Telecommunications Satellite Organization  
SYLDA    Système de lancements doubles Ariane

<sup>a</sup> Satellite not necessarily registered by the State or organization to which it belongs.