# UK Registry of Outer Space Objects

# **UK SPACE** AGENCY

To comply with international obligations and section 7 of the Outer Space Act 1986

May 2021

3         Introduction         62         O3b M008 (O3b FM8)           4         Giossary of terms         63         O3b M010 (O3b FM1)           5         SKYNET-1A         64         O3b M011 (O3b FM10)           6         PROSPERO (formerly X3)         65         O3b M011 (O3b FM11)           7         BLACK ARROW (Rocket Booster)         66         O3b M012 (O3b FM12)           8         MIRANDA (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL V (formerly UK5)         68         Carbonits-1 (CSNT-1)           10         SKYNET-4B         70         Immarsat-5 F3           11         JUOSAT (JOSCAR 9)         71         DMC3-FM2           13         UOSAT 2 (OSCAR 11)         72         DMC3-FM2           14         AMPTE (UKS 1)         73         DMC3-FM2           15         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Immarsat-5 F4           17         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT 4 -				
5         SKYNET-1A         64         O3b M010 (O3b FM10)           6         PROSPERO (formerly X3)         65         O3b M011 (O3b FM11)           7         BLACK ARROW (Rocket Booster)         66         O3b M012 (O3b FM12)           8         MIRANDA (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL VI (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM2           14         AMPTE (UKS 1)         73         DMC3-FM2           14         AMPTE (UKS 1)         73         DMC3-FM2           15         SKYNET-4B         74         SES-9           16         SKYNET-4B         74         SES-9           17         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT 5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15	3	Introduction	62	O3b M008 (O3b FM8)
6         PROSPERO (formerly X3)         65         O3b M011 (O3b FM11)           7         BLACK ARROW (Rocket Booster)         66         O3b M012 (O3b FM12)           8         MIRANDA (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL V. (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT-2 (OSCAR 11)         72         DMC3-FM3           15         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 3 - OSCAR 14         76         ViaSat-2           18         UOSAT-4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4E         84         O3b M013 (O3b FM13)           25         SKYNET-4D         83 <t< td=""><td>4</td><td>Glossary of terms</td><td>63</td><td>O3b M009 (O3b FM9)</td></t<>	4	Glossary of terms	63	O3b M009 (O3b FM9)
7         BLACK ARROW (Rocket Booster)         66         O3b M012 (O3b FM12)           8         MIRANDA (formerly UK X4)         67         INMARSAT 5-F2           9         ARIEL V! (formerly UK6)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL V! (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT-2 (OSCAR 11)         72         DMC3-FM3           14         AMPTE (UKS 1)         73         DMC3-FM2           15         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT - OSCAR 14         76         ViaSat-2           18         UOSAT - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           22         STRV-1A         80         Blue Diamond           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3	5	SKYNET-1A	64	O3b M010 (O3b FM10)
8         MIRANDA (formerly UK X4)         67         INMARSAT 5-F2           9         ARIEL V (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL VI (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT 2 (OSCAR 11)         72         DMC3-FM3           14         AMPTE (UKS 1)         73         DMC3-FM3           15         SKYNET-4B         74         SES-9           16         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1A         80         Blue Diamond           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)	6	PROSPERO (formerly X3)	65	O3b M011 (O3b FM11)
8         MIRANDA (formerly UKX4)         67         INMARSAT 5-F2           9         ARIEL V (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DeorbitSail           11         ARIEL VI (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT 2 (OSCAR 11)         72         DMC3-FM3           15         SKYNET-4B         74         SES-9           16         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4D         80         Blue Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4D         84         O3b M016 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM15)	7		66	O3b M012 (O3b FM12)
9         ARIEL V. (formerly UK5)         68         Carbonite-1 (CBNT-1)           10         SKYNET-2B         69         DecrbitSail           11         ARIEL V. (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT 2 (OSCAR 11)         72         DMC3-FM2           14         AMPTE (UKS 1)         73         DMC3-FM3           15         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 4 - OSCAR 14         76         ViaSat-2           18         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT 5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4E         84         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M016 (O3b FM14)           26         UOSAT -12         85         O3b M016 (O3b FM14)	8	MIRANDA (formerly UK X4)	67	
10         SKYNET-2B         69         DeorbitSail           11         ARIEL VI (formerly UK6)         70         Inmarsat-5 F3           12         UOSAT-1 (OSCAR 9)         71         DMC3-FM1           13         UOSAT 2 (OSCAR 11)         72         DMC3-FM3           15         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 3 – OSCAR 14         76         ViaSat-2           18         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 4 – OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4A         80         Blue Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM14)           26         UOSAT-12         85         O3b M016 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28			68	
11       ARIEL VI (formerly UK6)       70       Inmarsat-5 F3         12       UOSAT-1 (OSCAR 9)       71       DMC3-FM1         13       UOSAT 2 (OSCAR 11)       72       DMC3-FM2         14       AMPTE (UKS 1)       73       DMC3-FM3         15       SKYNET-4B       74       SES-9         16       SKYNET-4A       75       Inmarsat-5 F4         17       UOSAT 3 - OSCAR 14       76       ViaSat-2         18       UOSAT 4 - OSCAR 15       77       EchoStar 21 (EchoStar XXI)         19       SKYNET-4A       78       Red Diamond         20       UOSAT-5       79       Green Diamond         21       STRV-1B       81       Carbonite-2         23       ORION-1       82       SES-15         24       SKYNET-4E       84       O3b M013 (O3b FM13)         25       SKYNET-4E       84       O3b M016 (O3b FM16)         28       Europe*Star 1       87       Hvlas-4         29       STRV-1C       88       NovaSar-1         30       STRV-1D       89       SL0006 (OneWeb)         32       BINSCSat1 (UK-DMC)       91       SL0007 (OneWeb)         33 <td< td=""><td></td><td></td><td></td><td></td></td<>				
12       UOSAT-1 (OSCAR 9)       71       DMC3-FM1         13       UOSAT 2 (OSCAR 11)       72       DMC3-FM2         14       AMPTE (UKS 1)       73       DMC3-FM3         15       SKYNET-4B       74       SES-9         16       SKYNET-4A       75       Inmarsat-5 F4         17       UOSAT 3 – OSCAR 14       76       ViaSat-2         18       UOSAT 4 – OSCAR 15       77       EchoStar 21 (EchoStar 2XI)         19       SKYNET-4C       78       Red Diamond         20       UOSAT-5       79       Green Diamond         21       STRV-1A       80       Blue Diamond         22       STRV-1B       81       Carbonite-2         23       ORION-1       82       SES-15         24       SKYNET-4E       84       O3b M013 (O3b FM13)         25       SKYNET-4E       84       O3b M014 (O3b FM14)         26       UOSAT -12       85       O3b M015 (O3b FM15)         27       SNAP-1       86       O3b M016 (O3b FM16)         28       STRV-1D       89       SSTL-300 S1-004         31       SKYNET-4F       90       SL0006 (OneWeb)         32       BNSCSat1				
13       UOSAT 2 (OSCAR 11)       72       DMC3-FM2         14       AMPTE (UKS 1)       73       DMC3-FM3         15       SKYNET-4B       74       SES-9         16       SKYNET-4A       75       Inmarsat-5 F4         17       JOSAT 3 – OSCAR 14       76       ViaSat-2         18       JUSAT 4 – OSCAR 15       77       EchoStar 21 (EchoStar XXI)         19       SKYNET-4A       78       Red Diamond         20       UOSAT-5       79       Green Diamond         21       STRV-1A       80       Blue Diamond         22       UOSAT-5       79       Green Diamond         21       STRV-1B       81       Carbonite-2         23       ORION-1       82       SES-15         24       SKYNET-4E       84       O3b M013 (O3b FM13)         25       SKYNET-4E       84       O3b M016 (O3b FM16)         28       Europe*Star 1       87       Hylas-4         29       STRV-1C       88       NovaSar-1         30       STRV-1D       89       SSTL-300 S1-004         31       SKYNET-4F       90       SL0006 (OneWeb)         32       BNSCSatt (UK-DMC)       <				
14       AMPTE (UKS 1)       73       DMC3-FM3         15       SKYNET-4B       74       SES-9         16       SKYNET-4A       75       Inmarsat-5 F4         17       UOSAT 3 – OSCAR 14       76       ViaSat-2         18       JOSAT 4 – OSCAR 15       77       EchoStar 21 (EchoStar XXI)         19       SKYNET-4C       78       Red Diamond         20       JOSAT-5       79       Green Diamond         21       STRV-1A       80       Blue Diamond         22       STRV-1B       81       Carbonite-2         23       ORION-1       82       SES-15         24       SKYNET-4E       84       Q3b M013 (Q3b FM13)         25       SKYNET-4E       84       Q3b M016 (Q3b FM14)         26       UOSAT -12       85       O3b M016 (Q3b FM16)         27       SNAP-1       86       Q3b M016 (Q3b FM16)         28       Europe*Star 1       87       Hylas-4         29       STRV-1C       88       NovaSar-1         30       STRV-1D       89       SSTL-300 S1-004         31       SKYNET-4E       90       SL0006 (OneWeb)         32       BNSCSat1 (UK-DMCC)				
15         SKYNET-4B         74         SES-9           16         SKYNET-4A         75         Inmarsat-5 F4           17         UOSAT 3 – OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT 4 – OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4E         84         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1D         89         STL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCsat1 (UK-DMC)         91         SL00010 (OneWeb)				
16         SKYNET-4A         75         Inmarsat-5 F4           17         JOSAT 3 – OSCAR 14         76         ViaSat-2           18         JUOSAT 4 – OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         JOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M016 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0000 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           <				
17         UOSAT 3 - OSCAR 14         76         ViaSat-2           18         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SL0006 (OneWeb)           31         SKYNET-4F         90         SL0007 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0010 (OneWeb)           <				
18         UOSAT 4 - OSCAR 15         77         EchoStar 21 (EchoStar XXI)           19         SKYNET-4C         78         Red Diamond           20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0010 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36				
19         SKYNET-4C         78         Red Diamond           20         UQSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M016 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0010 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           35         SKYNET 5A         95         SL0012 (OneWeb)           36         SK				
20         UOSAT-5         79         Green Diamond           21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5A         95         SL0012 (OneWeb)           38         SKYNET 5A         95         SL0012 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37				
21         STRV-1A         80         Blue Diamond           22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         JOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40				
22         STRV-1B         81         Carbonite-2           23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M016 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40				
23         ORION-1         82         SES-15           24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris           40         INMARSAT 4F3         99         DoT-1           41         SES NSS12         100         Vesta-1           42         <				
24         SKYNET-4D         83         O3b M013 (O3b FM13)           25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS12         102         O3b M017 (O3b FM17) <t< td=""><td></td><td></td><td></td><td></td></t<>				
25         SKYNET-4E         84         O3b M014 (O3b FM14)           26         UOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42				
26         UOSAT -12         85         O3b M015 (O3b FM15)           27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5E         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DOT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M018 (O3b FM17)           43 <td></td> <td></td> <td></td> <td></td>				
27         SNAP-1         86         O3b M016 (O3b FM16)           28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0011 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M019 (O3b FM17)           43         SES Astra-3B         103         O3b M0019 (O3b FM19)           4				
28         Europe*Star 1         87         Hylas-4           29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES Astra-3B         103         O3b M019 (O3b FM17)           44         SES Astra-3B         103         O3b M019 (O3b FM19)				
29         STRV-1C         88         NovaSar-1           30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M019 (O3b FM19)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)				
30         STRV-1D         89         SSTL-300 S1-004           31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M018 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1				
31         SKYNET-4F         90         SL0006 (OneWeb)           32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES Astra-3B         103         O3b M019 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5				
32         BNSCSat1 (UK-DMC)         91         SL0007 (OneWeb)           33         INMARSAT 4-F1         92         SL0008 (OneWeb)           34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M019 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2 <t< td=""><td></td><td></td><td></td><td></td></t<>				
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34         TOPSAT         93         SL0010 (OneWeb)           35         INMARSAT 4-F2         94         SL0011 (OneWeb)           36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M018 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51 </td <td></td> <td></td> <td></td> <td></td>				
35       INMARSAT 4-F2       94       SL0011 (OneWeb)         36       SKYNET 5A       95       SL0012 (OneWeb)         37       SKYNET 5B       96       IOD-1 GEMS         38       SKYNET 5C       97       Remove Debris         39       SES AMC 21       98       Remove Debris Net         40       INMARSAT 4F3       99       DoT-1         41       SES NSS9       100       Vesta-1         42       SSTL UK-DMC-2       101       O3b M017 (O3b FM17)         43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM19)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b FM2)       111       Faraday-1			-	
36         SKYNET 5A         95         SL0012 (OneWeb)           37         SKYNET 5B         96         IOD-1 GEMS           38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M018 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         1111         Faraday-1				
37       SKYNET 5B       96       IOD-1 GEMS         38       SKYNET 5C       97       Remove Debris         39       SES AMC 21       98       Remove Debris Net         40       INMARSAT 4F3       99       DoT-1         41       SES NSS9       100       Vesta-1         42       SSTL UK-DMC-2       101       O3b M017 (O3b FM17)         43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRAND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
38         SKYNET 5C         97         Remove Debris           39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M018 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
39         SES AMC 21         98         Remove Debris Net           40         INMARSAT 4F3         99         DoT-1           41         SES NSS9         100         Vesta-1           42         SSTL UK-DMC-2         101         O3b M017 (O3b FM17)           43         SES NSS12         102         O3b M018 (O3b FM18)           44         SES Astra-3B         103         O3b M019 (O3b FM19)           45         HYLAS-1         104         O3b M020 (O3b FM20)           46         Quetzsat-1         105         NSL-1           47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
40       INMARSAT 4F3       99       DoT-1         41       SES NSS9       100       Vesta-1         42       SSTL UK-DMC-2       101       O3b M017 (O3b FM17)         43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
41       SES NSS9       100       Vesta-1         42       SSTL UK-DMC-2       101       O3b M017 (O3b FM17)         43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1	-			
42       SSTL UK-DMC-2       101       O3b M017 (O3b FM17)         43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
43       SES NSS12       102       O3b M018 (O3b FM18)         44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
44       SES Astra-3B       103       O3b M019 (O3b FM19)         45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
45       HYLAS-1       104       O3b M020 (O3b FM20)         46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
46       Quetzsat-1       105       NSL-1         47       Sirius 5 (SES-5)       106       Inmarsat GX5         48       HYLAS-2       107       OneWeb Launch 2         49       SKYNET-5D       108       Annex 1         50       STRaND-1       109       OneWeb Launch 3         51       O3b M001 (O3b PFM)       110       Annex 2         52       O3b M002 (O3b FM2)       111       Faraday-1				
47         Sirius 5 (SES-5)         106         Inmarsat GX5           48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1	-			
48         HYLAS-2         107         OneWeb Launch 2           49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
49         SKYNET-5D         108         Annex 1           50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
50         STRaND-1         109         OneWeb Launch 3           51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
51         O3b M001 (O3b PFM)         110         Annex 2           52         O3b M002 (O3b FM2)         111         Faraday-1				
52         O3b M002 (O3b FM2)         111         Faraday-1			1	
$162 \pm 0.26 \text{ MOO4} (0.26 \pm 0.14)$ $1420 \pm 0.66 \pm 0.066 \text{ A}$				
53         O3D M004 (O3D FM4)         T12         One web Launch 4	53	<u>O3b M004 (O3b FM4)</u>	112	<u>OneWeb Launch 4</u>

Annex 1

54	O3b M005 (O3b FM5)	113	Annex 3
55	Alphasat	114	OneWeb Launch5
56	INMARSAT 5-F1	115	Annex 4
57	TechDemoSat-1	116	<u>3B5GSAT</u>
58	Ukube-1	117	LacunaSat-2B
59	O3b M003 (O3b FM3)	118	OneWeb Launch 6
60	O3b M006 (O3b FM6)	119	Annex 5
61	<u>O3b M007 (O3b FM7)</u>		

# Introduction

The UK is a signatory to several United Nations (UN) treaties governing the use of outer space including the Convention on the Registration of Space Objects 1976 ('Registration Convention').

One of the purposes of the Registration Convention is to ensure that a central registry of objects launched into outer space is established and maintained by the Secretary-General of the UN. As such, when a space object is launched, the Registration Convention requires the 'launching state' to notify the UN. The Convention defines the 'launching State' to mean either the State from whose territory the object was launched or the State which procured its launch (or whose nationals did).

The UN keeps information provided by member states relating to their space activity on its website. Furthermore, the Registration Convention requires the UK to maintain its own Registry of Space Objects and this is also embodied in Section 7 of the Outer Space Act 1986 (OSA).

The OSA ensures that there is transparency in the UK's space activity by stating that any person is able to inspect the Registry. As such, the UK Space Agency maintains this Registry on its website.

There are also situations where the UK is not the 'launching state' for a particular object but has issued an OSA licence. This would include circumstances where there are joint launching states and it is decided that the other state will register the space object with the UN. These objects are included in the Supplementary Space Objects Registry which is also maintained on the Agency's website.

### United Nations Office for Outer Space Affairs website:

http://www.oosa.unvienna.org/oosa/en/SORegister/index.html

### UK Space Agency website:

https://www.gov.uk/government/organisations/uk-space-agency

# **Glossary of Terms**

# Apogee

The point on the orbit where the space object is furthest from the Earth.

# **Catalogue Number**

The North American Aerospace Defense Command (NORAD) catalogue number is made up of five digits. It is unique to each space object and allows for tracking by NORAD. This system has been used since the first satellite was launched in 1957.

# Designation

This is the designation assigned by the Committee on Space Research (COSPAR) to each space object launched. This number remains constant and reflects the year of the launch and the sequence of launch within that year. The inclusion of a letter, for example, 'A' indicates that the object was the first satellite catalogued from that launch.

### **Geostationary orbit**

A geosynchronous orbit with an inclination of zero degrees and one in which the object is synchronised with the Earth's rotation. The space object will appear to remain fixed above one particular point on the Earth's equator. In geostationary orbit the space object is positioned approximately 35,900 km above the Earth.

# Geostationary Transfer Orbit (GTO)

An elliptical orbit used to transfer a space object from low Earth orbit to geostationary/ geosynchronous orbit.

### **Geosynchronous orbit**

A prograde, circular, low inclination orbit about the Earth having a period of 23 hours 56 minutes 4 seconds. A space object in such an orbit is tilted with respect to the plane of the equator. This means that the space object will remain over the same line of longitude but will wander up and down in latitude.

### Inclination

The angular distance of the orbital plane from the Earth's equator, stated in degrees.

# Low Earth Orbit (LEO)

A space object in low Earth orbit is positioned between 160 km and 2,000 km above the Earth.

### Medium Earth Orbit (MEO)

A space object that orbits the Earth below geostationary orbit and above low Earth orbit.

### Nodal period

The time it takes a space object to travel once from ascending node to ascending node. The ascending node is the point at which an orbit crosses the ecliptic plane going north. The descending node is the point at which an orbit crosses the ecliptic plane going south.

### **Orbital Position**

The longitude position around the geostationary orbit. The space objects are all approximately fixed in the sky above the equator.

### Perigee

The point on the orbit where the object is nearest to the Earth.

# SKYNET-1A

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch:	22 November 1969
Location of launch:	Cape Canaveral, USA
Designation:	1969-101A
Catalogue Number:	4250
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436.13 minutes 1.56 degrees 35,784 km 35,794 km
General function:	Military communications
Notified to the UN:	1 January 1990
Disposed or decayed:	Lifetime estimate (unit decay) > 1 million years
Disposal Notified to the UN:	6 December 1969
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	6 December 1989
Additional information:	Non-operational/not re-orbited. Now appears to be caught at 105 W stable point.

# PROSPERO (formerly X3)

	. 2 ,
Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	28 October 1971 Woomera, Australia
Designation: Catalogue Number:	1971-093A 5580
Nodal period: Inclination: Apogee: Perigee: Orbital position:	106.53 minutes 82.06 degrees 1,582 km 547 km
General function: Notified to the UN:	Technology satellite 3 November 1971
Disposed or decayed: Disposal Notified to the UN:	Estimated lifetime (to decay) 150 years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	7 August 1992
Additional information:	Non-operational.

# **BLACK ARROW (Rocket Booster)**

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	28 October 1971 Woomera, Australia
Designation: Catalogue Number:	1971-093B 5581
Nodal period: Inclination: Apogee: Perigee: Orbital position:	103.8 minutes 82 degrees 7,722.5 km 6,907.4 km
General function: Notified to the UN:	Rocket body from launch of Prospero (Cat. No: 5580)
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	7 August 1992
Additional information:	Non-operational.

# MIRANDA (formerly UK X4)

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	9 March 1974 Vandenberg Air Force Base, USA
Designation: Catalogue Number:	1974-13A 7213
Nodal period: Inclination: Apogee: Perigee: Orbital position:	101.2 minutes 97.81 degrees 916 km 714 km
General function: Notified to the UN:	Spacecraft Technology 12 April 1974
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate 60 years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 March 1974
Additional information:	Non-operational.

# ARIEL V (formerly UK5)

Owner/Operator:	Science and Engineering Research Council Polaris House North Star Avenue Swindon SN2 1ET
Date of launch:	15 October 1974
Location of launch:	San Marco Equatorial Range, Kenya
Designation:	1974-077A
Catalogue Number:	7471
Nodal period: Inclination: Apogee: Perigee: Orbital position:	94.96 minutes 2.88 degrees 549 km 504 km
General function:	Cosmic X-ray astronomy
Notified to the UN:	7 November 1974
Disposed or decayed:	Decayed 14 March 1980
Disposal Notified to the UN:	21 February 1990
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	28 October 1974
Additional information:	Notified the UN on 21 February 1990 that the satellite had decayed and was no longer in Earth orbit.

# **SKYNET-2B**

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	23 November 1974 Cape Canaveral, USA
Designation: Catalogue Number:	1974-094A 7547
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,469.5 minutes 1.9 degrees 35,794 km 35,784 km
General function: Notified to the UN:	Military Communications 1 January 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate > 1 million years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	6 December 1989
Additional information:	Uncontrolled/not re-orbited.

# ARIEL VI (formerly UK6)

Owner/Operator:	Science and Engineering Research Council Polaris House North Star Avenue Swindon SN2 1ET
Date of launch: Location of launch:	2 June 1979 Wallops Island, USA
Designation: Catalogue Number:	1979-47A 11382
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.21 minutes 55.03 degrees 654 km 600 km
General function: Notified to the UN:	Detection of heavy cosmic particles and X-ray astronomy 10 October 1979
Disposed or decayed: Disposal Notified to the UN:	Decayed 23 September 1990 13 September 1979
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	10 October 1979
Additional information:	Non-operational.

# UOSAT-1 (OSCAR 9)

Owner/Operator:	University of Surrey Dept. of Electronic & Electrical Engineering Guildford Surrey GU2 5XH
Date of launch:	6 October 1981
Location of launch:	Vandenburg Air Force Base, USA
Designation:	1981-100B
Catalogue Number:	12888
Nodal period: Inclination: Apogee: Perigee: Orbital position:	95.46 minutes 97.46 degrees 541 km 538 km
General function:	Communications and geophysics research
Notified to the UN:	9 August 1985
Disposed or decayed:	Decayed 13 October 1989
Disposal Notified to the UN:	8 December 1989
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 July 1985
Additional information:	Notified the UN on 8 December 1989 that the satellite had decayed and was no longer in Earth orbit.

# UOSAT 2 (OSCAR 11)

Owner/Operator:	University of Surrey Dept. of Electronic & Electrical Engineering Guildford Surrey GU2 5XH
Date of launch: Location of launch:	1 March 1984 Vandenburg Air Force Base, USA
Designation: Catalogue Number:	1984-21B 14781
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.33 minutes 98.20 degrees 635 km 621 km
General function: Notified to the UN:	Communications and geophysics research 1 January 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate 80 years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 July 1985 31 January 1990
Additional information:	Non-operational.

# AMPTE (UKS 1)

Owner/Operator:	Science and Engineering Research Council Polaris House North Star Avenue Swindon SN2 1ET
Date of launch:	16 August 1984
Location of launch:	Cape Canaveral, USA
Designation:	1984-088C
Catalogue Number:	15201
Nodal period: Inclination: Apogee: Perigee: Orbital position:	2,653.9 minutes 28.68 degrees 113,729 km 552 km
General function:	Magnetosphere research satellite
Notified to the UN:	9 August 1985
Disposed or decayed:	Decayed 8 December 1988
Disposal Notified to the UN:	21 February 1990
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 July 1985
Additional information:	UN notified on 21 February 1990 that the satellite had decayed and was no longer in Earth orbit (8th December).

# **SKYNET-4B**

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	11 December 1988 CSG Kourou, French Guiana
Designation: Catalogue Number:	1988-109A 19687
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436 originally, now 1,444 minutes 3 degrees 35,796 km 35,778 km
General function: Notified to the UN:	Military Communications 1 January 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate (unit decay) >1 million years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	6 December 1989
Additional information:	Re-orbited above geostationary ring in June 1998. Now approximately 150 km above GEO.

# **SKYNET-4A**

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch:	1 January 1990
Location of launch:	Cape Canaveral, USA
Designation:	1990-001A
Catalogue Number:	20401
Nodal period:	1,427.6 minutes
Inclination:	3.34 degrees
Apogee:	35,492 km
Perigee:	35,784 km
Orbital position:	340 W
General function:	Military Communications
Notified to the UN:	12 April 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate > 1 million years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 April 1990
Additional information:	Operations Licence issued to Paradigm on 29 May 2003. Placed in supersynchronous orbit on 20 June 2005, its height above GEO was measured to be 417km (apogee) and 307km (perigee).

# UOSAT 3 - OSCAR 14

Owner/Operator:	University of Surrey Dept. of Electronic & Electrical Engineering Guildford Surrey GU2 5XH
Date of launch: Location of launch:	22 January 1990 CSG Kourou, French Guiana
Designation: Catalogue Number:	1990-005F 20437
Nodal period: Inclination: Apogee: Perigee: Orbital position:	100.6 minutes 98.22 degrees 792 km 776 km
General function: Notified to the UN:	Demonstration of store and forward communications with extensive radiation monitoring experiments. 12 April 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate is 300 years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 April 1990 5 January 1990
Additional information:	Deactivated 11 November 2003.

# UOSAT 4 – OSCAR 15

Owner/Operator:	University of Surrey Dept. of Electronic & Electrical Engineering Guildford Surrey GU2 5XH
Date of launch: Location of launch:	22 January 1990 CSG Kourou, French Guiana
Designation: Catalogue Number:	1990-005G 20438
Nodal period: Inclination: Apogee: Perigee: Orbital position:	100.8 minutes 98.72 degrees 805 km 787 km
General function:	Technology demonstration mission carrying solar cell experiments
Notified to the UN:	12 April 1990
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate is 300 years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	4 April 1990 5 January 1990
Additional information:	Inactive.

# **SKYNET-4C**

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch:	30 August 1990
Location of launch:	CSG Kourou, French Guiana
Designation:	1990-079A
Catalogue Number:	20776
Nodal period:	1,436.219 minutes
Inclination:	13.221 degrees
Apogee:	35,804.951 km
Perigee:	35,773.044 km
Orbital position:	-1° E
General function:	UK military communications satellite
Notified to the UN:	23 July 1991
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate (unit decay) > 1 million years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	5 June 1991
Additional information:	Operations Licence issued to Paradigm on 29 May 2003. Licence transferred to Airbus Defence and Space Limited on 1 January 2015.

# **UOSAT-5**

Owner/Operator:	Surrey Satellite Technology Ltd Senate House University of Surrey Guildford Surrey GU2 5XH
Date of launch: Location of launch:	17 July 1991 CSG Kourou, French Guiana
Designation: Catalogue Number:	1991-050B 21575
Nodal period: Inclination: Apogee: Perigee: Orbital position:	100.03 minutes 98.32 degrees 762 km 752 km
General function: Notified to the UN:	Engineering research 7 January 1992
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	18 July 1991 3 May 1991
Additional information:	Deactivated 18 August 2004.

### STRV-1A

**Owner/Operator:** 

Ministry of Defence Main Building Whitehall London SW1A 2HB

Date of launch: Location of launch: 17 June 1994 CSG Kourou, French Guiana

Designation: Catalogue Number: 1994-034B 23125

Nodal period: Inclination: Apogee: Perigee: Orbital position: 527 minutes 7.03 degrees 35,836 km 277 km

General function: Notified to the UN: Technology Research. 19th October 2000

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:

Additional information:

### STRV-1B

**Owner/Operator:** 

Ministry of Defence Main Building Whitehall London SW1A 2HB

Date of launch: Location of launch: 17 June 1994 CSG Kourou, French Guiana

Designation: Catalogue Number: 1994-034C 23126

Nodal period: Inclination: Apogee: Perigee: Orbital position: 511 minutes 7.02 degrees 35,887 km 285 km

General function: Notified to the UN: Technology research 19th October 2000

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:

Additional information:

# **ORION-1**

Owner/Operator:

British Aerospace Space Systems Ltd

Date of launch: Location of launch:	29 November 1994 Cape Canaveral, USA
Designation: Catalogue Number:	1994-79A 23413
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1436 minutes 0.06 degrees 35,801 km 35,775 km
General function: Notified to the UN:	Direct broadcast satellite 19 October 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	12 December 1994 1 June 1994
Additional information:	ORION-1 is now TELESTAR 11 and has been operated by Loral Skynet since October 1997. NASA's original launch notification of this satellite said that it was German.

# **SKYNET-4D**

Owner/Operator:	Ministry of Defence Main Building Whitehall London SW1A 2HB
Date of launch: Location of launch:	10 January 1998 Cape Canaveral, USA
Designation: Catalogue Number:	1998-002A 25134
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436 minutes 4.12 degrees 35,813 km 35,760 km 340° W
General function: Notified to the UN:	Military Communications 19 October 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	27 May 1998 29 May 2003
Additional information:	Licence issued to Matra Marconi Space UK Ltd on 12 August 1997 to procure the launch of, and subsequently operate, the satellite. Title and operational control of SKYNET 4D transferred to the UK Ministry of Defence on 20 May 1998. Operation Licence issued to Paradigm on 29 May 2003. Placed in a super-synchronous orbit 28 Jan 2008, its height above GEO was measured to be 315km (apogee) and 296km

(perigee).

# SKYNET-4E

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch:	26 February 1999
Location of launch:	CSG Kourou, French Guiana
Designation:	1999-009B
Catalogue Number:	25639
Nodal period:	1,436.172 minutes
Inclination:	11.474 degrees
Apogee:	35,800.822 km
Perigee:	35,775.329 km
Orbital position:	1.2W (previous orbital position: 6°E)
General function:	Military Communications
Notified to the UN:	19 October 2000
Disposed or decayed: Disposal Notified to the UN:	Lifetime estimate (unit decay) > 1 million years
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	27 May 1998 29 May 2003
Additional information:	Licence issued to Matra Marconi Space UK Ltd on 20th May 1998 to procure the launch of, and subsequently operate, the satellite. Technical transfer to Ministry of Defence on 7 July 1999. Operation Licence issued to Paradigm on 29 May 2003. Operations licence transferred to Airbus Defence and Space Limited on 1 January 2015.

# UOSAT-12

Owner/Operator:	Surrey Satellite Technology Ltd University of Surrey Guildford Surrey GU2 5XH
Date of launch: Location of launch:	24 April 1999 Baikonur, Kazakhstan
Designation: Catalogue Number:	1999-021A 25693
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.51 minutes 64.56 degrees 662 km 614 km
General function: Notified to the UN:	Engineering and technology research 19 October 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	30 April 1999
Outer Space Act 1986: Additional information:	19 April 1999 Deactivated 21 September 2003.
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### SNAP-1

Owner/Operator:	Surrey Satellite Technology Ltd University of Surrey Guildford Surrey GU2 5XH
Date of launch: Location of launch:	28 June 2000 Plesetsk, Russia
Designation: Catalogue Number:	2000-033C 26386
Nodal period: Inclination: Apogee: Perigee: Orbital position:	98.3 minutes 98.42 degrees 682 km 667 km
General function: Notified to the UN:	Research spacecraft for evaluating the use of commercial mico-miniature technologies for highly advanced, yet tiny, satellites. 19 October 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	3 August 2000 26 June 2000
Additional information:	Deactivated 30 March 2002

# Europe\*Star 1

Owner/Operator:	Europe*Star Ltd 5 New Square Bedfont Lakes Feltham Middlesex TW14 8HA
Date of launch:	29 October 2000
Location of launch:	CSG Kourou, French Guiana
Designation:	2000-068A
Catalogue Number:	26590
Nodal period:	24 hours
Inclination:	0 degrees (plus or minus 0.1)
Apogee:	35,796 km
Perigee:	35,776 km
Orbital position:	45° E (plus or minus 0.1)
General function:	Telecommunications
Notified to the UN:	16 March 2001
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	16 March 2001.
Additional information:	Europe*Star 1 has been operated by PanAmSat Satellite Europe Ltd since 23 October 2005. Renamed Intelsat-12 (IS- 12) on 1 February 2007. Moved to 64.25E March 2019.

# **STRV 1C**

Owner/Operator:	Space Dept Arthur C. Clarke Building DERA Farnborough Hampshire GU14 0LX
Date of launch: Location of launch:	16 November 2000 CSG Kourou, French Guiana
Designation: Catalogue Number:	2000-072C 26610
Nodal period: Inclination: Apogee: Perigee: Orbital position:	11 hours 47 minutes 6.463 degrees 39,274 km 578 km GTO
General function: Notified to the UN:	Scientific Research and Technology Demonstration 15 December 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	15 December 2000
Additional information:	DERA now QinetiQ. Non-operational, the satellite suffered onboard failures c. 2 weeks after launch.

# STRV-1D

Owner/Operator:	Space Dept Arthur C. Clarke Building DERA Farnborough Hampshire GU14 0LX
Date of launch: Location of launch:	16 November 2000 CSG Kourou, French Guiana
Designation: Catalogue Number:	2000-072D 26611
Nodal period: Inclination: Apogee: Perigee: Orbital position:	11 hours 48 minutes 6.451 degrees 39,293 km 580 km GTO
General function: Notified to the UN:	Scientific Research and Technology Demonstration 15 December 2000
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	15 December 2000
Additional information:	DERA now QinetiQ. Non-operational, the satellite suffered onboard failures c. 2 weeks after launch.

# **SKYNET-4F**

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch:	7 February 2001
Location of launch:	CSG Kourou, French Guiana
Designation:	2001-005B
Catalogue Number:	26695
Nodal period:	1,436.005 minutes
Inclination:	7.781 degrees
Apogee:	35,796.433 km
Perigee:	35,773.160 km
Orbital position:	-34° E
General function:	Military telecommunication services
Notified to the UN:	28 September 2001
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	27 September 2001 29 May 2003
Additional information:	Licence issued to Astrium on 2 February 2001 to procure the launch of, and subsequently operate, the Skynet-4F satellite. Operation Licence issued to Paradigm on 29 May 2003. Operations licence transferred to Airbus Defence and Space Limited on 1 January 2015. Moved to graveyard orbit October 2019.

# BNSCSat1 (UK-DMC)

Owner/Operator:	Surrey Satellite Technology Ltd University of Surrey Guildford Surrey GU2 5XH
Date of launch: Location of launch:	27 September 2003 Plesetsk, Russia
Designation: Catalogue Number:	2003-042D 27942
Nodal period: Inclination: Apogee: Perigee: Orbital position:	98.44 minutes 98.07 degrees 688 km 674 km
General function: Notified to the UN:	Disaster monitoring
Notified to the ON.	7 January 2004
Disposed or decayed: Disposal Notified to the UN:	Reached its end of life in November 2011 and is no longer active. Dry mass approx: 85.4 kg. De-orbit from end of life in the range of 65 – 110 years. 22 October 2013
Disposed or decayed:	Reached its end of life in November 2011 and is no longer active. Dry mass approx: 85.4 kg. De-orbit from end of life in the range of 65 – 110 years.

# **INMARSAT 4-F1**

Owner/Operator:	Inmarsat Ltd 99 City Road London EC1Y 1AX
Date of launch:	11 March 2005
Location of launch:	Cape Canaveral, USA
Designation:	2005-009A
Catalogue Number:	28628
Nodal period:	1,436 minutes
Inclination:	3 degrees
Apogee:	35,786 km
Perigee:	35,786 km
Orbital position:	143.5 E
General function:	Telecommunications
Notified to the UN:	15 June 2007
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	11 March 2005 4 March 2005
Additional information:	Active North/South and East/West station keeping. Inclination at beginning of life is given above and is decreasing, but will eventually increase back to 3 degrees.

# TOPSAT

Owner/Operator:	Qinetiq Ltd 85 Buckingham Gate London SW1E 6PD
Date of launch: Location of launch:	27 October 2005 Plesetsk, Russia
Designation: Catalogue Number:	2005-043B 28891
Nodal period: Inclination: Apogee: Perigee: Orbital position:	98.6 minutes 98.2 degrees 707 km 681 km
General function: Notified to the UN:	Earth imaging 15 June 2007
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	11 October 2005 11 October 2005
Additional information:	

# **INMARSAT 4-F2**

Owner/Operator:	Inmarsat Global Ltd 99 City Road London EC1Y 1AX
Date of launch:	8 November 2005
Location of launch:	Sea Launch vessel, Western Pacific Ocean
Designation:	2005-044A
Catalogue Number:	28899
Nodal period:	1,436 minutes
Inclination:	3 degrees
Apogee:	35,786 km
Perigee:	35,786 km
Orbital position:	25.1 E
General function:	Telecommunications
Notified to the UN:	15 June 2007
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	24 October 2005 24 October 2005
Additional information:	Active North/South and East/West station keeping. Inclination at beginning of life is given above and is decreasing, but will eventually increase back to 3 degrees. I4-F2 has moved orbital position to 63.9 E, UN notified 12 February 2016.

# SKYNET-5A

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch:	11 March 2007
Location of launch:	CSG Kourou, French Guiana
Designation:	2007-007B
Catalogue Number:	30794
Nodal period:	1,436.149 minutes
Inclination:	0.000 degrees
Apogee:	35,802.775 km
Perigee:	35,772.460 km
Orbital position:	6 E
General function:	Military telecommunications
Notified to the UN:	15 June 2007
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	2 March 2007 2 March 2007
Additional information:	OSA licence issued to Paradigm Secure Communications Ltd on 2 March 2007. Licence transferred to Airbus Defence and Space Ltd on 1 January 2015. Transferred to orbital position 95.2E

### SKYNET-5B

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch: Location of launch:	14 November 2007 CSG Kourou, French Guiana
Designation: Catalogue Number:	2007-056B 32294
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436.178 minutes 0.000 degrees 35,806.398 km 35,769.972 km 25 E (previous orbital position: 53 E)
General function: Notified to the UN:	Military telecommunications 6 October 2008
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	31 October 2007
Outer Space Act 1986:	31 October 2007
Additional information:	OSA licence issued to Paradigm Secure Communications Ltd on 31 October 2007. Licence transferred to Airbus Defence and Space on 1 January 2015.

### SKYNET-5C

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch:	12 June 2008
Location of launch:	CSG Kourou, French Guiana
Designation:	2008-030A
Catalogue Number:	33055
Nodal period:	1436 minutes
Inclination:	0.000 degrees
Apogee:	35,796.926 km
Perigee:	35,774.988 km
Orbital position:	17.8 E
General function:	Military telecommunications
Notified to the UN:	6 October 2008
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	12 June 2008 27 May 2008
Additional information:	OSA licence issued to Paradigm Secure Communications Ltd on 27 May 2008. Licence transferred to Airbus Defence and Space on 22 December 2014.

### SES AMC-21

Owner/Operator:	SES Global Satellite Leasing Limited 15-19 Athol Street Douglas Isle of Man IM1 1LB
Date of launch: Location of launch:	14 August 2008 CSG Kourou, French Guiana
Designation: Catalogue Number:	2008-038B 33275
Nodal period: Inclination: Apogee: Perigee: Orbital position:	23 hours 56 minutes 0.02 degrees 35,803 km 35,770 km 124.9 W
General function: Notified to the UN:	Communications
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	15 August 2008 23 April 2008
Additional information:	Operated by SES Satellites (Gibraltar) Ltd – operation licence issued by Gibraltar Regulatory Authority on 27 September 2006.

### **INMARSAT-4F3**

Owner/Operator:	Inmarsat Global Ltd 99 City Road London EC1Y 1AX
Date of launch:	18 August 2008
Location of launch:	Baikonur, Kazakhstan
Designation:	2008-039A
Catalogue Number:	33278
Nodal period:	1,436 minutes
Inclination:	3 degrees
Apogee:	35,786 km
Perigee:	35, 786 km
Orbital position:	97.65 W
General function:	Telecommunications
Notified to the UN:	6 October 2008
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	18 August 2008 10 March 2008
Additional information:	Active North/South and East/West station keeping. Inclination at beginning of life is given above and is decreasing, but will eventually increase back to 3 degrees.

### NSS-9

Owner/Operator:	SES Satellite Leasing Limited 15-19 Athol Street Douglas Isle of Man
Date of launch:	13 February 2009
Location of launch:	Kourou, French Guiana
Designation:	2009-008A
Catalogue Number:	33749
Nodal period:	1436 minutes
Inclination:	0.05 degrees
Apogee:	35,820 km
Perigee:	35,752 km
Orbital position:	183 E
General function:	Telecommunications
Notified to the UN:	6 August 2009
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 July 2009 28 January 2009
Additional information:	UK authorised launch only – Netherlands has registered in- orbit operation.

### UK-DMC-2

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	29 July 2009 Yasny Cosmodrome, Russia
Designation: Catalogue Number:	2009-041C 35683
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.43 - 97.9 minutes 98.13 degrees 681 km 618 km
General function: Notified to the UN:	Disaster Monitoring 6 August 2009
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 July 2009 24 July 2009
Additional information:	

### NSS12

Owner/Operator:	SES Satellite Leasing Limited 22-24 Victoria Street Douglas Isle of Man
Date of launch: Location of launch:	29 October 2009 Kourou, French Guiana
Designation: Catalogue Number:	2009-058A 36032
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1435.8 - 1436.4 minutes 0.05 degrees 35,820 km 35,752 km 57 E
General function: Notified to the UN:	Telecommunications 17 May 2010
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	May 2010
Outer Space Act 1986:	21 October 2009
Additional information:	UK authorised launch only. Netherlands responsible for in- orbit operation.

### Astra-3B

Owner/Operator:	SES Satellite Leasing Limited First Floor, Belgravia House 34 - 44 Circular Road Douglas Isle of Man IM1 1AE
Date of launch: Location of launch:	21 May 2010 Kourou, French Guiana
Designation: Catalogue Number:	2010-021A 36581
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1435.8 - 1436.4 minutes 0.05 degrees 35,820 km 35,752 km 23.5 E
General function: Notified to the UN:	Telecommunications 22 March 2011
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	March 2011
Outer Space Act 1986:	12 March 2010
Additional information:	UK authorised launch only. Satellite owned and operated by Luxembourg.

# HYLAS-1

Owner/Operator:	Avanti Communications Group plc Cobham House 20 Black Friars Lane London EC4V 6EB
Date of launch:	26 November 2010
Location of launch:	Kourou, French Guiana
Designation:	2010-065A
Catalogue Number:	37237
Nodal period:	24 hours
Inclination:	0 degrees
Apogee:	GEO circular
Perigee:	GEO circular
Orbital position:	33.5 W
General function:	Telecommunications
Notified to the UN:	22 March 2011
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	March 2011 23 November 2010
Additional information:	Completed re-positioning to 159E May 2021

#### Quetzsat-1

Owner/Operator:	SES Satellite Leasing Limited First Floor, Belgravia House 34 - 44 Circular Road Douglas Isle of Man IM1 1AE
Date of launch:	29 September 2011
Location of launch:	Baikonur, Kazakhstan
Designation:	2011-054A
Catalogue Number:	37826
Nodal period:	1435.8 – 1436.4 minutes
Inclination:	0.05 degrees
Apogee:	35,820 km
Perigee:	35,752 km
Orbital position:	77 W
General function:	Commercial Telecommunications
Notified to the UN:	22 October 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 26 September 2011
Additional information:	UK authorised the launch only. The operation of the satellite is the responsibility of a Luxembourg company.

## Sirius 5 (SES-5)

Owner/Operator:	SES Satellite Leasing Limited First Floor, Belgravia House 34 - 44 Circular Road Douglas Isle of Man IM1 1AE
Date of launch: Location of launch:	9 July 2012 Baikonur, Kazakhstan
Designation: Catalogue Number:	2012-036A 38652
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1435.8 – 1436.4 minutes 0.10 degrees 35,820 km 35,752 km 5 E
General function: Notified to the UN:	Commercial Telecommunications 22 October 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 11 June 2012
Additional information:	UK authorised the launch. Satellite is operated by a company incorporated in Luxembourg.

#### HYLAS-2

Owner/Operator:	Avanti Communications Group plc / Avanti Hylas 2 Ltd Cobham House 20 Black Friars Lane London EC4V 6EB
Date of launch: Location of launch:	2 August 2012 Kourou, French Guiana
Designation: Catalogue Number:	2012-043B 38741
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1436.1 minutes 0.0 degrees 35,803.9 km 35,784.2 km 31.0 E
General function: Notified to the UN:	HYLAS-2 carries fixed and steerable Ka-band transponders and is designed to provide broadband data communications to Europe, Africa, Middle East and West/South Asia. 22 October 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 30 May 2012

### SKYNET-5D

Owner/Operator:	Airbus Defence and Space Ltd Gunnels Wood Road Stevenage Hertfordshire SG1 2AS
Date of launch: Location of launch:	19 December 2012 Kourou, French Guiana
Designation: Catalogue Number:	2012-075A 39034
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436.258 minutes 0.000 degrees 35,807.419 km 35,772.069 km 53 E
General function: Notified to the UN:	SKYNET 5D provides secure military communications capability at SHF and UHF to British Armed Forces and friendly nations. 22 October 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 14 December 2012
Additional information:	OSA licence issued to Paradigm Secure Communications Ltd & Paradigm Services Ltd on 14 December 2012. Licence transferred to Airbus Defence and Space on 1 January 2015.

### STRaND-1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	25 February 2013 Sriharikota, India
Designation: Catalogue Number:	2013-009E 39090
Nodal period: Inclination: Apogee: Perigee: Orbital position:	100.4 minutes 98.6 degrees 783 km 771 km
General function: Notified to the UN:	Outreach, education and technology demonstration 22 October 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 4 February 2013
Additional information.	

# O3b M001 (O3b PFM)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	25 June 2013 Kourou, French Guiana
Designation: Catalogue Number:	2013-031D 39191
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.93 minutes 0.03 degrees 8,069 km 8,063 km
General function: Notified to the UN:	Communications 26 August 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 3 May 2013
Additional information:	

# O3b M002 (O3b FM2)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	25 June 2013 Kourou, French Guiana
Designation: Catalogue Number:	2013-031C 39190
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.93 minutes 0.03 degrees 8,069 km 8,063 km
General function: Notified to the UN:	Communications 26 August 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 3 May 2013
Additional information:	

# O3b M004 (O3b FM4)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	25 June 2013 Kourou, French Guiana
Designation: Catalogue Number:	2013-031B 39189
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.93 minutes 0.03 degrees 8,069 km 8,063 km
General function: Notified to the UN:	Communications 26 August 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 3 May 2013
Additional information:	

# O3b M005 (O3b FM5)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	25 June 2013 Kourou, French Guiana
Designation: Catalogue Number:	2013-031A 39188
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.93 minutes 0.03 degrees 8,069 km 8,063 km
General function: Notified to the UN:	Communications 26 August 2013
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	November 2013 3 May 2013
Additional information:	

#### Alphasat

**Owner/Operator:** 

Inmarsat Global Ltd 99 City Road London EC1Y 1AX

Inmarsat Launch Company Ltd Fort Anne Douglas Isle of Man IM1 5PD

Date of launch: Location of launch: 25 July 2013 Kourou, French Guiana

Designation: Catalogue Number: 2013-038A 39215

Nodal period: Inclination: Apogee: Perigee: Orbital position: 23 hours 56 minutes Currently 0 degrees but will grow to 3.0 degrees 35,786 km 35,786 km 24.85 E

General function: Notified to the UN: Communications satellite 22 October 2013

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects: November 2013 Licence issued under the Outer Space Act 1986: 12 July 2013

### **INMARSAT 5-F1**

Owner/Operator:	Inmarsat Global Ltd 99 City Road London EC1Y 1AX
Date of launch:	8 December 2013
Location of launch:	Baikonur Cosmodrome, Kazakhstan
Designation:	2013-073A
Catalogue Number:	39476
Nodal period:	23 hours 56 minutes
Inclination:	<0.05 degrees
Apogee:	35,786 km
Perigee:	35,786 km
Orbital position:	62.6 E
General function:	Communications satellite
Notified to the UN:	30 May 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 2 December 2013

### TechDemoSat-1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	8 July 2014 Baikonur Cosmodrome, Kazakhstan
Designation: Catalogue Number:	2014-037H 40076
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.3 minutes 98.4 degrees 639.5 km 630.7km
General function: Notified to the UN:	Technology Demonstration 24 October 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 2 July 2014

### Ukube-1

Owner/Operator:	UK Space Agency Polaris House North Star Avenue Swindon SN2 1SZ
Date of launch: Location of launch:	8 July 2014 Baikonur Cosmodrome, Kazakhstan
Designation: Catalogue Number:	2014-037F 40074
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.6 minutes 98.4 degrees 643 km 642 km
General function:	Ukube 1 is the UK Space Agency's pilot cubesat mission, designed to understand the benefits and challenges of a national cubesat programme. The self-funded payloads are from industry and academia, and cover technology demonstration and education/outreach.
Notified to the UN:	24 October 2014
Disposed or decayed: Disposal Notified to the UN:	December 2018 December 2018
Accepted onto UK Register of Space Objects: Licence issued under the	May 2015
Outer Space Act 1986:	27 June 2014
Additional information:	End of life confirmed December 2018

# O3b M003 (O3b FM3)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	10 July 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-038A 40079
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.92 minutes 0.03 degrees 8,071 km 8,060 km
General function: Notified to the UN:	Communications 24 July 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 30 August 2013

# O3b M006 (O3b FM6)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	10 July 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-038C 40081
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.92 minutes 0.03 degrees 8,071 km 8,060 km
General function: Notified to the UN:	Communications 24 July 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 30 August 2013
Additional information:	

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# O3b M007 (O3b FM7)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	10 July 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-038B 40080
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.92 minutes 0.03 degrees 8,071 km 8,060 km
General function: Notified to the UN:	Communications 24 July 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 30 August 2013

# O3b M008 (O3b FM8)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	10 July 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-038D 40082
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.92 minutes 0.03 degrees 8,071 km 8,060 km
General function: Notified to the UN:	Communications 24 July 2014
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 30 August 2013
Additional information:	

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# O3b M009 (O3b FM9)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	18 December 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-083D 40351
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.9 minutes 0.03 degrees 8,070 km 8,060 km
General function: Notified to the UN:	Communications 10 February 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 9 December 2014

# O3b M010 (O3b FM10)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	18 December 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-083A 40348
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.9 minutes 0.03 degrees 8,070 km 8,060 km
General function: Notified to the UN:	Communications 10 February 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015
Additional information:	9 December 2014

# O3b M011 (O3b FM11)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	18 December 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-083B 40349
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.9 minutes 0.03 degrees 8,070 km 8,060 km
General function: Notified to the UN:	Communications 10 February 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 9 December 2014

# O3b M012 (O3b FM12)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	18 December 2014 Kourou, French Guiana
Designation: Catalogue Number:	2014-083C 40350
Nodal period: Inclination: Apogee: Perigee: Orbital position:	287.9 minutes 0.03 degrees 8,070 km 8,060 km
General function: Notified to the UN:	Communications 10 February 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	May 2015 9 December 2014

#### **INMARSAT 5-F2**

**Owner/Operator:** 

Inmarsat Global Ltd 99 City Road London EC1Y 1AX

Date of launch: Location of launch: 1 February 2015 Baikonur Cosmodrome, Kazakhstan

Designation: Catalogue Number: 2015-005A 40384

Nodal period: Inclination: Apogee: Perigee: Orbital position:

0 +/- 0.5 degrees 35,786.2 km 35,786.0 km

1436 minutes

General function: Notified to the UN: Communications Satellite 24 February 2015

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register<br/>of Space Objects:May 2015Licence issued under the<br/>Outer Space Act 1986:21 January 2015

## Carbonite-1 (CBNT-1)

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	10 July 2015 Sriharikota, India
Designation: Catalogue Number:	2015-032D 40718
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.7 minutes 98 degrees 667.3 km 642.1 km
General function: Notified to the UN:	Technology demonstrator 30 September 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	July 2017 3 July 2015
Additional information:	

#### DeorbitSail

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	10 July 2015 Sriharikota, India
Designation: Catalogue Number:	2015-032E 40719
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.63 minutes 98 degrees 657 km 635 km
General function: Notified to the UN:	Technology demonstrator 26 November 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	March 2018 3 July 2015
Additional information:	

#### Inmarsat-5 F3

Owner/Operator:	Inmarsat Global Ltd 99 City Road London EC1Y 1AX	Inmarsat Launch Company Ltd Fort Anne Douglas Isle of Man IM1 5PD
Date of launch: Location of launch:	28 August 2015 Baikonur, Kazakhstan	
Designation: Catalogue Number:	2015-042A 40882	
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436 minutes 0 to 0.05 degrees 35,786.1 km 35,785.9 km 179.6 E	
General function: Notified to the UN:	Communications satellite 30 September 2015	
Disposed or decayed: Disposal Notified to the UN:		
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	July 2017 13 August 2015	
Additional information:		

#### DMC3-FM1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	10 July 2015 Sriharikota, India
Designation: Catalogue Number:	2015-032A 40715
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.7 minutes 98 degrees 671.4 km 644.1 km
General function: Notified to the UN:	High-resolution Earth observation satellite 30 September 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	July 2017 3 July 2015
Additional information:	

#### DMC3-FM2

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	10 July 2015 Sriharikota, India
Designation: Catalogue Number:	2015-032B 40716
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.7 minutes 98 degrees 677.1 km 641.2 km
General function: Notified to the UN:	High-resolution Earth observation satellite 30 September 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	July 2017 3 July 2015
Additional information:	

#### DMC3-FM3

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	10 July 2015 Sriharikota, India
Designation: Catalogue Number:	2015-032C 40717
Nodal period: Inclination: Apogee: Perigee: Orbital position:	97.7 minutes 98 degrees 670.6 km 642.1 km
General function: Notified to the UN:	High-resolution Earth observation satellite. 30 September 2015
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	July 2017 3 July 2015
Additional information:	

# SES-9

Owner/Operator:	SES Satellite Leasing Limited First Floor, Belgravia House 34 - 44 Circular Road Douglas Isle of Man IM1 1AE
Date of launch:	4 March 2016
Location of launch:	Cape Canaveral, USA
Designation:	2016-013A
Catalogue Number:	41380
Nodal period:	1,435.8 - 1,436.4 minutes
Inclination:	0.1 degrees
Apogee:	35,820 km
Perigee:	35,752 km
Orbital position:	108.2 E
General function:	SES-9 will carry a variety of commercial telecoms traffic. It will provide capacity over Asia-Pacific and South Asia.
Notified to the UN:	17 January 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	January 2017
Outer Space Act 1986:	7 January 2016
Additional information:	Operator's licence held by Gibraltar

#### **INMARSAT-5 F4**

Owner/Operator:	Inmarsat Global Ltd 99 City Road London EC1Y 1AX
Date of launch:	15 May 2017
Location of launch:	Cape Canaveral, USA
Designation:	2017-025A
Catalogue Number:	42698
Nodal period:	1,436 minutes
Inclination:	<0.05 degrees
Apogee:	35,786 km
Perigee:	35,786 km
Orbital position:	83.5 E
General function:	Communications
Notified to the UN:	28 September 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2017 8 May 2017
Additional information:	In December 2017 Inmarsat-5 F4 was redeployed to 117.5 E. In August 2018 Inmarsat-5 F4 was redeployed to 11° E. In December 2018 Inmarsat-5 F4 was redeployed to 56.5E.

# ViaSat-2

Owner/Operator:	ViaSat Technologies Ltd Sandford Lane Wareham Dorset BH20 4DY
Date of launch: Location of launch:	01 June 2017 Kourou, French Guiana
Designation: Catalogue Number:	2017-029A 42740
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,440 minutes 0 degrees 35,786 km 35,786 km 69.9 W
General function: Notified to the UN:	Telecommunications Satellite 19 December 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	December 2017 24 April 2017

# EchoStar 21/EchoStar XXI

Owner/Operator:	Hughes Network Systems Ltd Hughes House Rockingham Drive Milton Keynes MK14 6PD
Date of launch:	08 June 2017
Location of launch:	Baikonur Cosmodrome, Kazakhstan
Designation:	2017-032A
Catalogue Number:	42749
Nodal period:	1,436 minutes
Inclination:	7.5 degrees
Apogee:	35,802 km
Perigee:	35,787 km
Orbital position:	10.25 E
General function:	Communications Satellite
Notified to the UN:	19 December 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register	D 1 00/7

of Space Objects:	December 2017
Licence issued under the	
Outer Space Act 1986:	24 November 2016

# **Red Diamond**

Owner/Operator:	Sky and Space Global (UK) Ltd Tower Bridge House St Katharine's Way London E1W 1DD
Date of launch: Location of launch:	23 June 2017 Sriharikota, India
Designation: Catalogue Number:	2017-036U 42783
Nodal period: Inclination: Apogee: Perigee: Orbital position:	94.7 minutes 97.4486 degrees 513 km 495 km
General function: Notified to the UN:	Red Diamond is part of the "Three Diamonds" constellation operated by Sky and Space Global to demonstrate narrowband communication services. 29 September 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2017 26 May 2017

# **Green Diamond**

Owner/Operator:	Sky and Space Global (UK) Ltd Tower Bridge House St Katharine's Way London E1W 1DD
Date of launch: Location of launch:	23 June 2017 Sriharikota, India
Designation: Catalogue Number:	2017-036W 42785
Nodal period: Inclination: Apogee: Perigee: Orbital position:	94.7 minutes 97.4488 degrees 513 km 495 km
General function: Notified to the UN:	Green Diamond is part of the "Three Diamonds" constellation operated by Sky and Space Global to demonstrate narrowband communication services. 29 September 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2017 26 May 2017

# **Blue Diamond**

Owner/Operator:	Sky and Space Global (UK) Ltd Tower Bridge House St Katharine's Way London E1W 1DD
Date of launch: Location of launch:	23 June 2017 Sriharikota, India
Designation: Catalogue Number:	2017-036X 42786
Nodal period: Inclination: Apogee: Perigee: Orbital position:	94.7 minutes 97.4487 degrees 512 km 495 km
General function: Notified to the UN:	Blue Diamond is part of the "Three Diamonds" constellation operated by Sky and Space Global to demonstrate narrowband communication services. 29 September 2017
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2017 26 May 2017

# Carbonite-2

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	12 January 2018 Shriharikota, India
Designation: Catalogue Number:	2018-004E 43115
Nodal period: Inclination: Apogee: Perigee: Orbital position:	94.6 minutes 97.6 degrees 508 km 493 km
General function: Notified to the UN:	Technology Demonstrator 16 February 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	February 2018 08 January 2018
Additional information:	

# SES-15

Owner/Operator:	SES Satellite Leasing Limited First Floor, Belgravia House 34 - 44 Circular Road Douglas Isle of Man IM1 1AE
Date of launch: Location of launch:	18 May 2017 Kourou, French Guiana
Designation: Catalogue Number:	2017-026A 42709
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,435.8 - 1,436.4 minutes 0.1 degrees 35,820 km 35,752 km 129.15° W
General function: Notified to the UN:	Communications satellite 28 August 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	September 2018
Outer Space Act 1986:	28 March 2017
Additional information:	Operator's licence held by Gibraltar

# O3b M013 (O3b FM13)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	09 March 2018 Kourou, French Guiana
Designation: Catalogue Number:	2018-024D 43234
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 minutes 0.05 degrees 8,069 km 8,062 km
General function: Notified to the UN:	Communications 15 May 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2018 05 March 2018
Additional information:	

# O3b M014 (O3b FM14)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	09 March 2018 Kourou, French Guiana
Designation: Catalogue Number:	2018-024C 43233
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 minutes 0.05 degrees 8,069 km 8,062 km
General function: Notified to the UN:	Communications 15 May 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2018 05 March 2018
Additional information:	

# O3b M015 (O3b FM15)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	09 March 2018 Kourou, French Guiana
Designation: Catalogue Number:	2018-024A 43231
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 minutes 0.05 degrees 8,070 km 8,062 km
General function: Notified to the UN:	Communications 15 May 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	September 2018 05 March 2018
Additional information:	

# O3b M016 (O3b FM16)

Owner/Operator:	O3b Limited 3rd Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	09 March 2018 Kourou, French Guiana
Designation: Catalogue Number:	2018-024B 43232
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 minutes 0.05 degrees 8,070 km 8,062 km
General function: Notified to the UN:	Communications 15 May 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects:	September 2018
Licence issued under the Outer Space Act 1986:	05 March 2018
Additional information:	

86

# Hylas-4

	-
Owner/Operator:	Avanti Communications Group plc Cobham House 20 Black Friars Lane London EC4V 6EB
Date of launch: Location of launch:	05 April 2018 Kourou, French Guiana
Designation: Catalogue Number:	2018-033B 43272
Nodal period: Inclination: Apogee: Perigee: Orbital position:	1,436 minutes 0 degrees 42,185 km 42,147 km 33.5 W
General function: Notified to the UN:	Communications Satellite 22 October 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	April 2019
Outer Space Act 1986:	27 February 2018

## NovaSar-1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	16 September 2018 Sriharikota, India
Designation: Catalogue Number:	2018-071B 43619
Nodal period: Inclination: Apogee: Perigee: Orbital position:	96.4 minutes 97.8 degrees 600.4 km 586.3 km
General function: Notified to the UN:	Technology Demonstration 9 January 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	April 2019 06 September 2018

# SSTL-300 S1-004

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	16 September 2018 Sriharikota, India
Designation: Catalogue Number:	2018-071A 43618
Nodal period: Inclination: Apogee: Perigee: Orbital position:	96.3 minutes 97.8 degrees 598.8 km 580.9 km
General function: Notified to the UN:	Technology Demonstration 30 January 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	03 April 2019 06 September 2018
Additional information:	

#### SL0006 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number: 2019-010E 44061

Nodal period: Inclination: Apogee: Perigee: Orbital position: 109.4 minutes 87.9 degrees 1200 km 1200 km

General function: Notified to the UN: Communications 12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register	
of Space Objects:	19 July 2019
Licence issued under the	
Outer Space Act 1986:	22 February 2019

#### SL0007 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number:

44060 109.4 minutes

2019-010E

Nodal period: Inclination: Apogee: Perigee: Orbital position:

87.9 degrees 1200 km 1200 km

General function:CommunicationsNotified to the UN:12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Registerof Space Objects:19 July 2019Licence issued under the22 February 2019

#### SL0008 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number:

Nodal period: Inclination: Apogee: Perigee:

**Orbital position:** 

109.4 minutes 87.9 degrees 1200 km 1200 km

2019-010E

44059

General function:CommunicationsNotified to the UN:12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Registerof Space Objects:19 July 2019Licence issued under the22 February 2019

#### SL0010 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number:

Nodal period: Inclination: Apogee: Perigee: Orbital position: 109.4 minutes 87.9 degrees 1200 km 1200 km

2019-010E

44058

General function:CommunicationsNotified to the UN:12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Registerof Space Objects:19 July 2019Licence issued under the22 February 2019

#### SL0011 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number: 2019-010E 44062

Nodal period: Inclination: Apogee: Perigee: Orbital position: 109.4 minutes 87.9 degrees 1200 km 1200 km

General function: Notified to the UN: Communications 12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register	
of Space Objects:	19 July 2019
Licence issued under the	
Outer Space Act 1986:	22 February 2019

#### SL0012 OneWeb

**Owner/Operator:** 

Network Access Associates Ltd Asticus Building 2<sup>nd</sup> Floor 21 Palmer Street London SW1H 0AD

Date of launch: Location of launch: 27 February 2019 Kourou, French Guiana

Designation: Catalogue Number:

Nodal period: Inclination: Apogee: Perigee: Orbital position: 109.4 minutes 87.9 degrees 1200 km 1200 km

2019-010E

44057

General function:CommunicationsNotified to the UN:12 July 2019

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Registerof Space Objects:19 July 2019Licence issued under the22 February 2019

Owners/Operators:	Satellite Applications Catapult Electron Building Fermi Avenue Harwell Science and Innovation Campus Didcot Oxfordshire OX11 0QR & Orbital Micro Systems Alliotts Imperial House 15-19 King's Way London WC2B 6UN
Date of launch:	03 July 2019
Location of launch:	Wallops Island, Virginia, USA
Designation:	1998-067QK
Catalogue Number:	44385
Nodal period: Inclination: Apogee: Perigee: Orbital position:	92.81 minutes 51.64 degrees 415 km 409 km
General function:	Earth Observations
Notified to the UN:	30 July 2019
Disposed or decayed:	03 April 2021
Disposal Notified to the UN:	12 April 2021
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	August 2019 29 March 2019
Additional information:	Re-entry and end of life 03 April 2021

Remove Debris		
Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE	
Date of launch: Location of launch:	20 June 2018 ISS	
Designation: Catalogue Number:	1998-067NT 43510	
Nodal period: Inclination: Apogee: Perigee: Orbital position:	92.5 51.6 408.4 404.4	
General function: Notified to the UN:	Technology Demonstration 22 October 2018	
Disposed or decayed: Disposal Notified to the UN:		
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	August 2019 28 March 2018 (launch) & 21 May 2018 (Ops)	
· Additional information:	SSTL confirm end of life September 2018	

	Remove Debris Net
Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	20 June 2018 Spaced Based Deployment from Remove Debris Spacecraft
Designation: Catalogue Number:	1998-067PM 43621
Nodal period: Inclination: Apogee: Perigee: Orbital position:	91.2 51.6 343.5 338.4
General function: Notified to the UN:	Technology Demonstration 22 October 2018
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the	August 2019
Outer Space Act 1986:	28 March 2018 (launch) & 21 May 2018 (Ops)
Additional information:	SSTL confirm end of life September 2018

# DoT-1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	05 July 2019 Vostochny, Cosmodrome, Eastern Russia
Designation: Catalogue Number:	2019-038P 44399
Nodal period: Inclination: Apogee: Perigee: Orbital position:	95.26 97.49 549 514
General function: Notified to the UN:	Technology Demonstration 08 August 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	08 August 2019 03 July 2019
Additional information:	

#### Vesta-1

Owner/Operator:	Surrey Satellite Technology Ltd Tycho House 20 Stephenson Road Surrey Research Park Guildford Surrey GU2 7YE
Date of launch: Location of launch:	03 December 2018 Vandenberg Air Force Base, USA
Designation: Catalogue Number:	2018-099Z ST/SG/SER.E/908
Nodal period: Inclination: Apogee: Perigee: Orbital position:	96.3 97.8 599.9 579.5
General function: Notified to the UN:	Technology Demonstration 20 August 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	27 August 2019 26 September 2018
Additional information:	

### O3b M017

Owner/Operator:	O3b Limited 3 <sup>rd</sup> Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	04 April 2019 Kourou, French Guiana
Designation: Catalogue Number:	2019-020C 44114
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 0.04 8069 8059
General function: Notified to the UN:	Communications 23 August 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 August 2019 02 April 2019
Additional information:	

Owner/Operator:	O3b Limited 3 <sup>rd</sup> Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	04 April 2019 Kourou, French Guiana
Designation: Catalogue Number:	2019-020D 44115
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 0.05 8070 8062
General function: Notified to the UN:	Communications Pending
Disposed or decayed: Disposal Notified to the UN:	23 August 2019
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 August 2019 02 April 2019
Additional information:	

# O3b M019

Owner/Operator:	O3b Limited 3 <sup>rd</sup> Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	04 April 2019 Kourou, French Guiana
Designation: Catalogue Number:	2019-020B 44113
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 0.04 8070 8062
General function: Notified to the UN:	Communications 23 August 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 August 2019 02 April 2019
Additional information:	

Owner/Operator:	O3b Limited 3 <sup>rd</sup> Floor Anley House Anley Street St Helier Jersey JE2 3QE
Date of launch: Location of launch:	04 April 2019 Kourou, French Guiana
Designation: Catalogue Number:	2019-020A 44112
Nodal period: Inclination: Apogee: Perigee: Orbital position:	288 0.05 8068 8057
General function: Notified to the UN:	Communications 23 August 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	29 August 2019 02 April 2019
Additional information:	

#### NSL-1

Owner/Operator:

Clyde Space Ltd 123 St Vincent Street Glasgow G2 5EA

Date of launch: Location of launch:	5 July 2019 Vostochny Cosmodrome, Eastern Russia
Designation: Catalogue Number:	2019-038E 44391
Nodal period: Inclination: Apogee: Perigee: Orbital position:	96.21 97.7 592 562
General function: Notified to the UN:	Technology Demo 21 November 2019
Disposed or decayed: Disposal Notified to the UN:	
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	December 2019 03 November 2019
Additional information:	

# **Owner/Operator:**

Inmarsat Global Ltd 99 City Road London EC1Y 1AX

Date of launch:	26 November 2019	
Location of launch:	Kourou, French Guiana	

Designation: Catalogue Number:

Nodal period: Inclination: Apogee: Perigee: Orbital position:

0.00 35786 35786 11E

44801

2019-080B

General function:CommunicationsNotified to the UN:December 2019

Disposed or decayed: Disposal Notified to the UN:

December 2019
07 November 2019

OneWeb Launch 2 (OWLID00007-OWLID00040) (See Annex 1 for details of each individual satellite in this launch)

**Owner/Operator:** 

Network Access Associates Limited 195 Wood Lane West Works Building London W12 7FQ

Date of launch:	06 February 2020
Location of launch:	Baikonur, Kazakhstan
Designation:	See Annex 1 for details
Catalogue Number:	See Annex 1 for details
Nodal period: Inclination: Apogee: Perigee: Orbital position:	110 87.9 1229 1212
General function:	Communications
Notified to the UN:	30 March 2020
Disposed or decayed:	See Annex 1 for details
Disposal Notified to the UN:	See Annex 1 for details
Accepted onto UK Register of Space Objects: Licence issued under the Outer Space Act 1986:	April 2020 31 January 2020

# Annex 1

# OneWeb Launch 2 – Baikonur, Kazakhstan, 06 February 2020

Name	Designation	Catalogue number	Disposed or decayed	Disposal notified to the UN	Additional information (Other names)
OWLID00007	2020-008A	45131			SL0013
OWLID00008	2020-008B	45132			SL0017
OWLID00009	2020-008C	45133			SL0020
OWLID00010	2020-008D	45134			SL0021
OWLID00011	2020-008E	45135			SL0022
OWLID00012	2020-008F	45136			SL0023
OWLID00013	2020-008G	45137			SL0024
OWLID00014	2020-008H	45138			SL0025
OWLID00015	2020-008J	45139			SL0026
OWLID00016	2020-008K	45140			SL0028
OWLID00017	2020-008L	45141			SL0032
OWLID00018	2020-008M	45142			SL0033
OWLID00019	2020-008N	45143			SL0035
OWLID00020	2020-008P	45144			SL0036
OWLID00021	2020-008Q	45145			SL0038
OWLID00022	2020-008R	45146			SL0039
OWLID00023	2020-008S	45147			SL0040
OWLID00024	2020-008T	45148			SL0041
OWLID00025	2020-008U	45149			SL0043
OWLID00026	2020-008V	45150			SL0044
OWLID00027	2020-008W	45151			SL0045
OWLID00028	2020-008X	45152			SL0047
OWLID00029	2020-008Y	45153			SL0048
OWLID00030	2020-008Z	45154			SL0049
OWLID00031	2020-008AA	45155			SL0051
OWLID00032	2020-008AB	45156			SL0052
OWLID00033	2020-008AC	45157			SL0053
OWLID00034	2020-008AD	45158			SL0054
OWLID00035	2020-008AE	45159			SL0056
OWLID00036	2020-008AF	45160			SL0057
OWLID00037	2020-008AG	45161			SL0058
OWLID00038	2020-008AH	45162			SL0059
OWLID00039	2020-008AJ	45163			SL0062
OWLID00040	2020-008AK	45164			SL0065

21 March 2020

OneWeb Launch 3 (OWLID00041-OWLID00074) (See Annex 2 for details of each individual satellite in this launch)

**Owner/Operator:** 

Date of launch:

Network Access Associates Limited 195 Wood Lane West Works Building London W12 7FQ

Date of launch.	
Location of launch:	Baikonur, Kazakhstan
	,
Designation:	See Annex 2 for details
Catalogue Number:	See Annex 2 for details
Catalogue Nullibel.	See Annex 2 101 details
Nodal period:	109.4
Inclination:	87.9
Apogee:	1229
Perigee:	1212
Orbital position:	
General function:	Communications
	-
Notified to the UN:	17 April 2020
Disposed or decayed:	See Annex 2 for details
Disposal Notified to the UN:	See Annex 2 for details
•	
Accorted onto LIK Perister of	May 2020
Accepted onto UK Register of	May 2020
Space Objects:	
Licence issued under the Outer	
Space Act 1986:	06 March 2020
	00 11141 011 2020

Additional information:

### OneWeb Launch 3 – Baikonur, Kazakhstan, 21 March 2020

Name	Designation	Catalogue number	Disposed or decayed	Disposal notified to the UN	Additional information (Other names)
OWLID00041	2020-020L	45434			SL0018
OWLID00042	2020-020AB	45449			SL0019
OWLID00043	2020-020J	45432			SL0027
OWLID00044	2020-020X	45445			SL0029
OWLID00045	2020-020H	45431			SL0031
OWLID00046	2020-020AG	45454			SL0034
OWLID00047	2020-020S	45440			SL0037
OWLID00048	2020-020T	45441			SL0042
OWLID00049	2020-020Z	45447			SL0046
OWLID00050	2020-020AF	45453			SL0050
OWLID00051	2020-020V	45443			SL0055
OWLID00052	2020-020AH	45455			SL0060
OWLID00053	2020-020E	45428			SL0061
OWLID00054	2020-020AA	45448			SL0063
OWLID00055	2020-020K	45433			SL0064
OWLID00056	2020-020A	45424			SL0066
OWLID00057	2020-020B	45425			SL0067
OWLID00058	2020-020Y	45446			SL0068
OWLID00059	2020-020G	45430			SL0069
OWLID00060	2020-020C	45426			SL0080
OWLID00061	2020-020F	45429			SL0081
OWLID00062	2020-020AE	45452			SL0082
OWLID00063	2020-020M	45435			SL0083
OWLID00064	2020-020Q	45438			SL0085
OWLID00065	2020-020AJ	45456			SL0086
OWLID00066	2020-020AD	45451			SL0087
OWLID00067	2020-020AK	45457			SL0088
OWLID00068	2020-020D	45427			SL0090
OWLID00069	2020-020P	45437			SL0092
OWLID00070	2020-020W	45444			SL0093
OWLID00071	2020-020AC	45450			SL0094
OWLID00072	2020-020N	45436			SL0095
OWLID00073	2020-020R	45439			SL0096
OWLID00074	2020-020U	45442			SL0098

#### Faraday-1

<b>Owner/Op</b>	erator:
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In-Space Missions Limited Whitmore View Hammer Lane Grayshott Hampshire GU26 6JD

Date of launch: Location of launch: 4 July 2020 Mahia Launch Facility

Designation: Catalogue Number:

Nodal period: Inclination: Apogee: Perigee: Orbital position:

General function: Notified to the UN: In Orbit Demonstration

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects: September 2020

Licence issued under the Outer Space Act 1986: 02 July 2020

Additional information: The Electron Launch vehicle failed during the second stage burn and the satellite was lost

**OneWeb Launch 4 (OWLID00075-OWLID000110)** (See Annex 3 for details of each individual satellite in this launch)

Network Access Associates Limited

	195 Wood Lane West Works Building London W12 7FQ
Date of launch:	18 December 2020
Location of launch:	Vostochny Cosmodrome, Russia
Designation:	See Annex 3 for details
Catalogue Number:	See Annex 3 for details
Nodal period:	109.4
Inclination:	87.9
Apogee:	1213
Perigee:	1209
Orbital position:	
General function:	Communications
Notified to the UN:	07 January 2021
Disposed or decayed:	See Annex 3 for details
Disposal Notified to the UN:	See Annex 3 for details
Accepted onto UK Register of Space Objects:	08 January 2021
Licence issued under the Outer Space Act 1986:	07 December 2020

Additional information:

**Owner/Operator:** 

## OneWeb Launch 4 – Vostochny Cosmodrome 18 December 2020

Name	Designation	Catalogue number	Disposed or decayed	Disposal notified to the UN	Additional information (Other names)
OWLID00075	2020-100A	47258			SL0102
OWLID00076	2020-100B	47259			SL0109
OWLID00077	2020-100C	47260			SL0110
OWLID00078	2020-100D	47261			SL0111
OWLID00079	2020-100E	47262			SL0114
OWLID00080	2020-100F	47263			SL0117
OWLID00081	2020-100G	47264			SL0118
OWLID00082	2020-100H	47265			SL0119
OWLID00083	2020-100J	47266			SL0120
OWLID00084	2020-100K	47267			SL0121
OWLID00085	2020-100L	47268			SL0122
OWLID00086	2020-100M	47269			SL0123
OWLID00087	2020-100N	47270			SL0124
OWLID00088	2020-100P	47271			SL0125
OWLID00089	2020-100Q	47272			SL0126
OWLID00090	2020-100R	47273			SL0127
OWLID00091	2020-100S	47274			SL0128
OWLID00092	2020-100T	47275			SL0129
OWLID00093	2020-100U	47276			SL0130
OWLID00094	2020-100V	47277			SL0131
OWLID00095	2020-100W	47278			SL0132
OWLID00096	2020-100X	47279			SL0133
OWLID00097	2020-100Y	47280			SL0134
OWLID00098	2020-100Z	47281			SL0135
OWLID00099	2020-100AA	47282			SL0136
OWLID00100	2020-100AB	47283			SL0137
OWLID00101	2020-100AC	47284			SL0138
OWLID00102	2020-100AD	47285			SL0139
OWLID00103	2020-100AE	47286			SL0140
OWLID00104	2020-100AF	47287			SL0141
OWLID00105	2020-100AG	47288			SL0142
OWLID00106	2020-100AH	47289			SL0143
OWLID00107	2020-100AJ	47290			SL0144
OWLID00108	2020-100AK	47291			SL0145
OWLID00109	2020-100AL	47292			SL0146
OWLID00110	2020-100AM	47293			SL0147

**OneWeb Launch 5 (OWLID00110-OWLID000146)** (See Annex 4 for details of each individual satellite in this launch)

Network Access Associates Limited

	195 Wood Lane West Works Building London W12 7FQ
Date of launch: Location of launch:	25 March 2021 Vostochny Cosmodrome, Russia
Designation: Catalogue Number:	See Annex 4 for details See Annex 4 for details
Nodal period: Inclination: Apogee: Perigee: Orbital position:	109.4 87.9 1213 1209
General function: Notified to the UN:	Communications 12 April 2021
Disposed or decayed: Disposal Notified to the UN:	See Annex 4 for details See Annex 4 for details
Accepted onto UK Register of Space Objects:	12 April 2021
Licence issued under the Outer Space Act 1986:	25 January 2021

Additional information:

**Owner/Operator:** 

## OneWeb Launch 5 – Vostochny Cosmodrome 25 March 2021

Name	Designation	Catalogue number	Disposed or decayed	Disposal notified to the UN	Additional information (Other names)
OWLID000111	2021-025A	48042			SL0115
OWLID000112	2021-025B	48043			SL0152
OWLID000113	2021-025C	48044			SL0153
OWLID000114	2021-025D	48045			SL0154
OWLID000115	2021-025E	48046			SL0116
OWLID000116	2021-025F	48047			SL0150
OWLID000117	2021-025G	48048			SL0107
OWLID000118	2021-025H	48049			SL0101
OWLID000119	2021-025J	48050			SL0113
OWLID000120	2021-025K	48051			SL0112
OWLID000121	2021-025L	48052			SL0156
OWLID000122	2021-025M	48053			SL0161
OWLID000123	2021-025N	48054			SL0158
OWLID000124	2021-025P	48055			SL0157
OWLID000125	2021-025Q	48056			SL0162
OWLID000126	2021-025R	48057			SL0155
OWLID000127	2021-025S	48058			SL0149
OWLID000128	2021-025T	48059			SL0148
OWLID000129	2021-025U	48060			SL0160
OWLID000130	2021-025V	48061			SL0163
OWLID000131	2021-025W	48062			SL0159
OWLID000132	2021-025X	48063			SL0164
OWLID000133	2021-025Y	48064			SL0167
OWLID000134	2021-025Z	48065			SL0166
OWLID000135	2021-025AA	48066			SL0151
OWLID000136	2021-025AB	48067			SL0170
OWLID000137	2021-025AC	48068			SL0168
OWLID000138	2021-025AD	48069			SL0173
OWLID000139	2021-025AE	48070			SL0171
OWLID000140	2021-025AF	48071			SL0172
OWLID000141	2021-025AG	48072			SL0174
OWLID000142	2021-025AH	48073			SL0175
OWLID000143	2021-025AJ	48074			SL0177
OWLID000144	2021-025AK	48075			SL0178
OWLID000145	2021-025AL	48076			SL0108
OWLID000146	2021-025AM	48077			SL0169

#### 3B5GSAT (SOSAT)

#### **Owner/Operator:**

Open Cosmos Ltd Electron Building Fermi Avenue Harwell OX11 0QR

Date of launch:	22 March 2021
Location of launch:	Baikonur, Kazakhstan
Designation:	2021-022Y
Catalogue Number:	47954
Nodal period: Inclination: Apogee: Perigee: Orbital position:	95.64 97.57 564 535
General function:	IOT Demo
Notified to the UN:	01 April 2021
Disposed or decayed:	

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects:	01 April 2021
Licence issued under the Outer Space Act 1986:	12 March 2021

Additional information:

#### LacunaSat-2B

<b>Owner/Op</b>	perator:
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Open Cosmos Ltd Electron Building Fermi Avenue Harwell OX11 0QR

Date of launch:	22 March 2021
Location of launch:	Baikonur, Kazakhstan
Designation:	2021-022S
Catalogue Number:	47948
Nodal period:	95.65
Inclination:	97.00
Apogee:	562
Perigee: Orbital position:	535
General function:	IOT Analysis
Notified to the UN:	01 April 2021

Disposed or decayed: Disposal Notified to the UN:

Accepted onto UK Register of Space Objects:	01 April 2021
Licence issued under the Outer Space Act 1986:	12 March 2021

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Additional information:

**OneWeb Launch 6 (OWLID00147-OWLID000182)** (See Annex 5 for details of each individual satellite in this launch)

Network Access Associates Limited

	195 Wood Lane West Works Building London W12 7FQ			
Date of launch: Location of launch:	25 April 2021 Vostochny Cosmodrome, Russia			
Designation: Catalogue Number:	See Annex 5 for details See Annex 5 for details			
Nodal period: Inclination: Apogee: Perigee: Orbital position:	109.4 87.9 1213 1209			
General function: Notified to the UN:	Communications 07 May 2021			
Disposed or decayed: Disposal Notified to the UN:	See Annex 5 for details See Annex 5 for details			
Accepted onto UK Register of Space Objects:	07 May 2021			
Licence issued under the Outer Space Act 1986:	08 April 2021			

Additional information:

**Owner/Operator:** 

## OneWeb Launch 6 – Vostochny Cosmodrome 25 April 2021

Name	Designation	Catalogue number	Disposed or decayed	Disposal notified to the UN	Additional information (Other names)
OWLID000147	2021-031A	48210			SL0176
OWLID000148	2021-031B	48211			SL0184
OWLID000149	2021-031C	48212			SL0179
OWLID000150	2021-031D	48213			SL0180
OWLID000151	2021-031E	48214			SL0218
OWLID000152	2021-031F	48215			SL0209
OWLID000153	2021-031G	48216			SL0198
OWLID000154	2021-031H	48217			SL0189
OWLID000155	2021-031J	48218			SL0196
OWLID000156	2021-031K	48219			SL0183
OWLID000157	2021-031L	48220			SL0185
OWLID000158	2021-031M	48221			SL0187
OWLID000159	2021-031N	48222			SL0192
OWLID000160	2021-031P	48223			SL0219
OWLID000161	2021-031Q	48224			SL0202
OWLID000162	2021-031R	48225			SL0204
OWLID000163	2021-031S	48226			SL0205
OWLID000164	2021-031T	48227			SL0206
OWLID000165	2021-031U	48228			SL0182
OWLID000166	2021-031V	48229			SL0186
OWLID000167	2021-031W	48230			SL0181
OWLID000168	2021-031X	48231			SL0188
OWLID000169	2021-031Y	48232			SL0220
OWLID000170	2021-031Z	48233			SL0165
OWLID000171	2021-031AA	48234			SL0199
OWLID000172	2021-031AB	48235			SL0203
OWLID000173	2021-031AC	48236			SL0197
OWLID000174	2021-031AD	48237			SL0194
OWLID000175	2021-031AE	48238			SL0193
OWLID000176	2021-031AF	48239			SL0191
OWLID000177	2021-031AG	48240			SL0195
OWLID000178	2021-031AH	48241			SL0201
OWLID000179	2021-031AJ	48242			SL0207
OWLID000180	2021-031AK	48243			SL0208
OWLID000181	2021-031AL	48244			SL0200
OWLID000182	2021-031AM	48245			SL0217

### Decayed UK objects not in registry

Name	Cat. No.	COSPAR	Launched	Decayed
		No.		
SKYNET 2A	07096	1974-002A	19 Jan 1974	25 Jan 1974
ARIEL 4 (UK-4)	05675	1971-109A	11 Dec 1971	12 Dec 1971
BLACK ARROW DEB	05582	1971-093C	29 Oct 1971	16 Dec 1979
SKYNET 1B	04493	1970-062A	19 Aug 1970	
ARIEL 3 (UK-3)	02773	1967-042A	5 May 1967	14 Dec 1970
ARIEL 2 (UK-2)	00771	1964-015A	27 Mar 1964	18 Nov 1967
ARIEL 1 (UK-1)	00285	1962-015A	26 Apr 1962	24 May 1976
Ariel 4 (UK-4)				12 Dec 1978

For any enquiries regarding this publication, please contact:

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