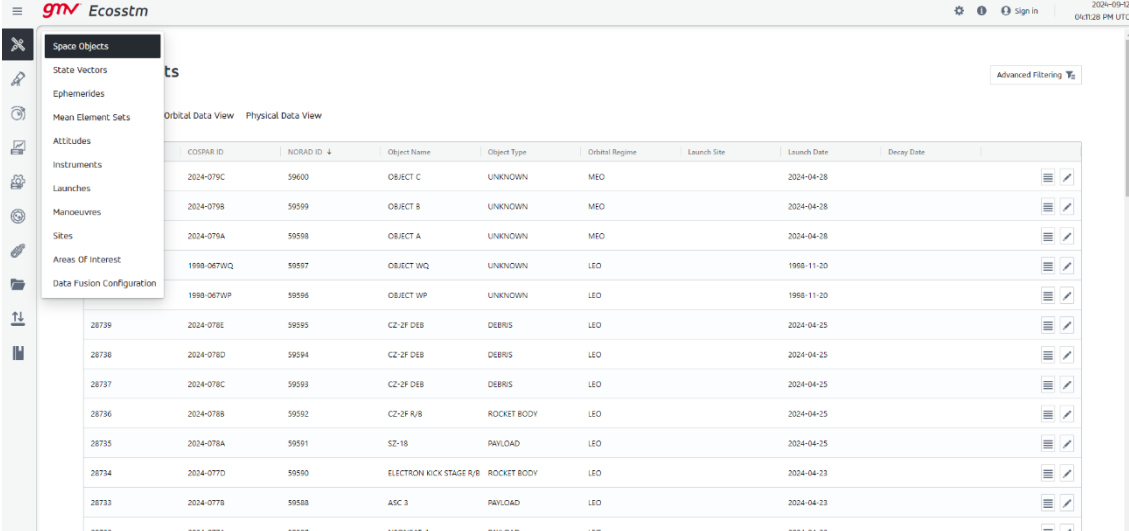


GMV's **Orca** COTS software is a software application intended to **store a database of RSOs**, including associated object properties (Norad id, Cospar id, international name, name, mass, area, etc.), orbital information (estimated state vectors, ephemerides, mean elements), estimated and propagated orbits, manoeuvres, launches and any other related object information. The software provides operations to **store, retrieve, update and delete information** of the SST Objects Catalogue through a well-defined REST API.

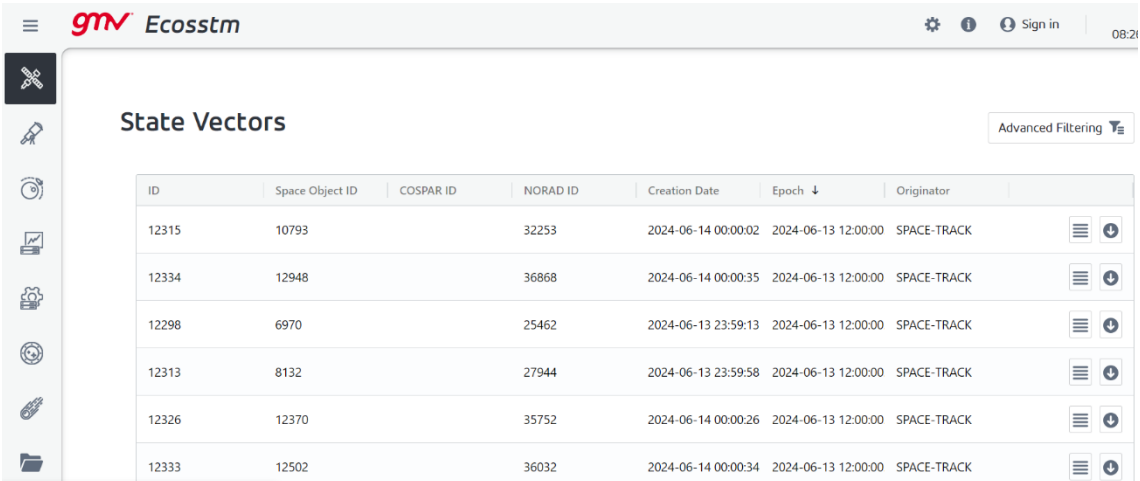


The screenshot shows the 'Space Objects' view in the Orca software. A table lists various objects with columns for COSPAR ID, NORAD ID, Object Name, Object Type, Orbital Regime, Launch Site, Launch Date, and Decay Date. A sidebar menu on the left lists other data types like State Vectors, Ephemerides, Mean Element Sets, etc.

COSPAR ID	NORAD ID	Object Name	Object Type	Orbital Regime	Launch Site	Launch Date	Decay Date
2024-079C	59600	OBJECT C	UNKNOWN	MEO		2024-04-28	
2024-079B	59599	OBJECT B	UNKNOWN	MEO		2024-04-28	
2024-079A	59598	OBJECT A	UNKNOWN	MEO		2024-04-28	
1998-067WQ	58897	OBJECT WQ	UNKNOWN	LEO		1998-11-20	
1998-067WP	58896	OBJECT WP	UNKNOWN	LEO		1998-11-20	
28779	2024-078E	59595	CZ-2F DEB	DEBRIS	LEO	2024-04-25	
28778	2024-078D	59594	CZ-2F DEB	DEBRIS	LEO	2024-04-25	
28737	2024-078C	59593	CZ-2F DEB	DEBRIS	LEO	2024-04-25	
28736	2024-078B	59592	CZ-2F R/B	ROCKET BODY	LEO	2024-04-25	
28735	2024-078A	59591	SZ-18	PAVLOAD	LEO	2024-04-25	
28734	2024-077D	59590	ELECTRON KICK STAGE R/B	ROCKET BODY	LEO	2024-04-23	
28733	2024-077B	59588	ASC 3	PAVLOAD	LEO	2024-04-23	
28732	2024-077A	59587	NEOSAR-1	PAVLOAD	LEO	2024-04-23	

Figure 1: Types of data handled by the software

The REST API is based on the OpenAPI Specification which eases the integration with other software components. It provides advanced filtering capabilities through RSQL expressions to query the orbital information.



The screenshot shows the 'State Vectors' view in the Orca software. A table lists state vector information with columns for ID, Space Object ID, COSPAR ID, NORAD ID, Creation Date, Epoch, and Originator.

ID	Space Object ID	COSPAR ID	NORAD ID	Creation Date	Epoch	Originator
12315	10793		32253	2024-06-14 00:00:02	2024-06-13 12:00:00	SPACE-TRACK
12334	12948		36868	2024-06-14 00:00:35	2024-06-13 12:00:00	SPACE-TRACK
12298	6970		25462	2024-06-13 23:59:13	2024-06-13 12:00:00	SPACE-TRACK
12313	8132		27944	2024-06-13 23:59:58	2024-06-13 12:00:00	SPACE-TRACK
12326	12370		35752	2024-06-14 00:00:26	2024-06-13 12:00:00	SPACE-TRACK
12333	12502		36032	2024-06-14 00:00:34	2024-06-13 12:00:00	SPACE-TRACK

Figure 2 Example of information provided by the software

