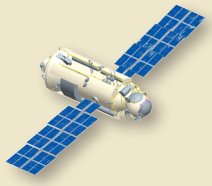
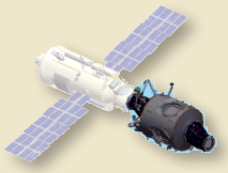
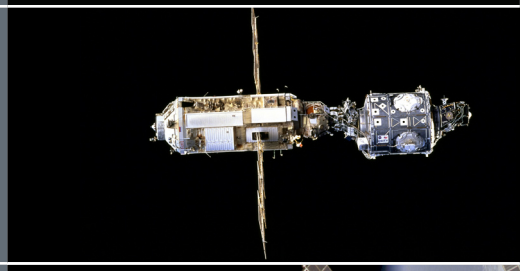
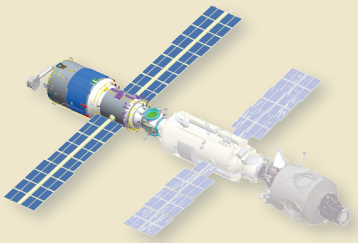
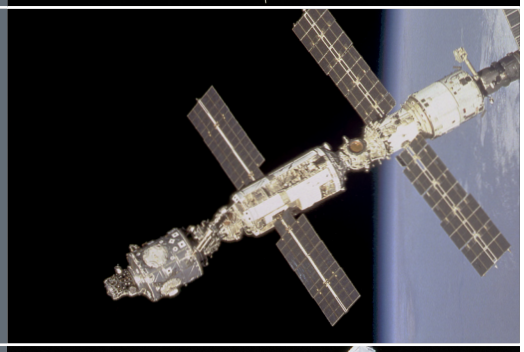
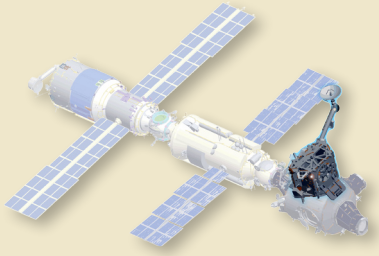
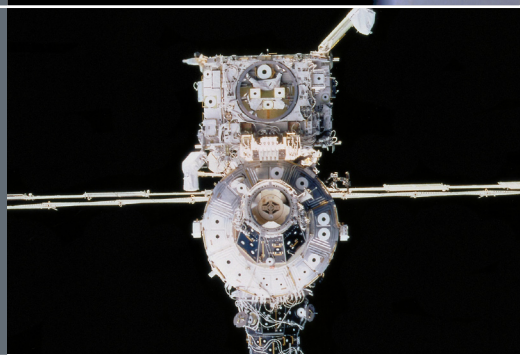
Principal Stages in Construction

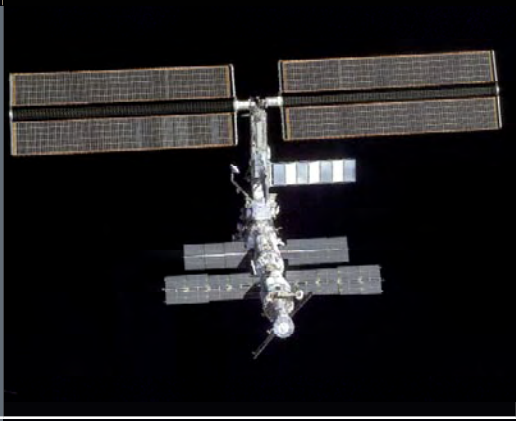
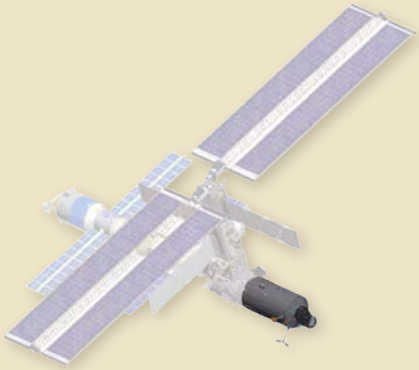
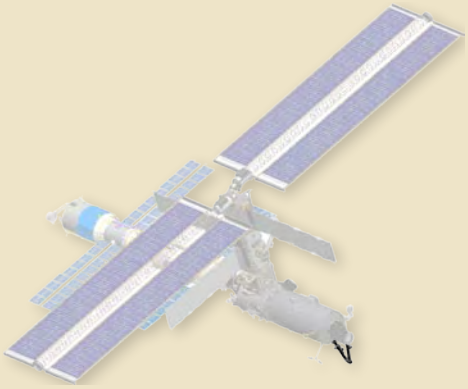
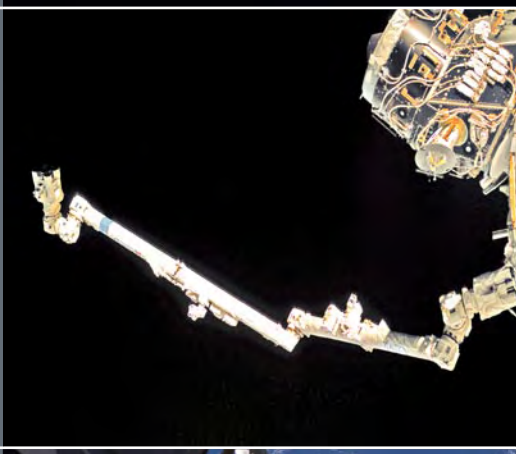
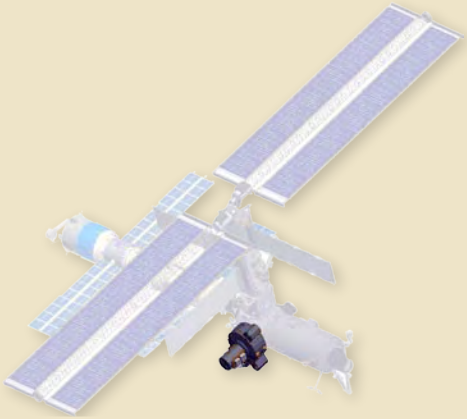
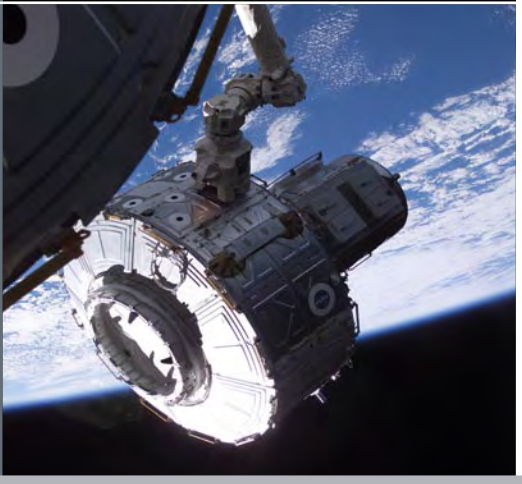
The International Space Station (ISS), at Assembly Complete in 2010, is to be the largest humanmade object ever to orbit Earth. The ISS is to have a pressurized volume of 913 m^3 (32,254 ft^3) and a mass of 386,807 kg (852,765 lb). Its solar arrays will cover an area of 2,192 m^2 and can generate 708,000 kW-hours of electrical power per year. The ISS will have a structure that measures 110 m (361 ft) (across arrays) by 74 m (243 ft) (module length), an orbital altitude of 370–460 km (230–286 mi), an orbital inclination of 51.6°, and a crew of six.

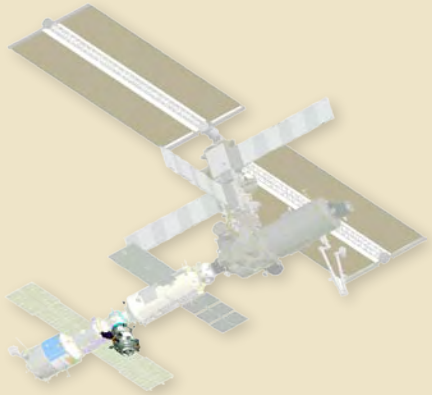
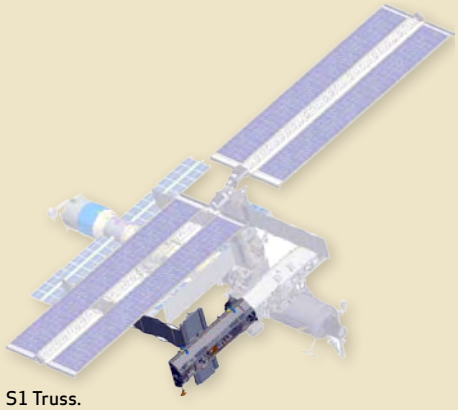
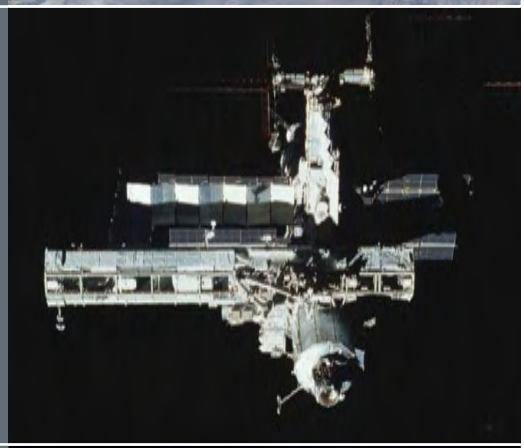
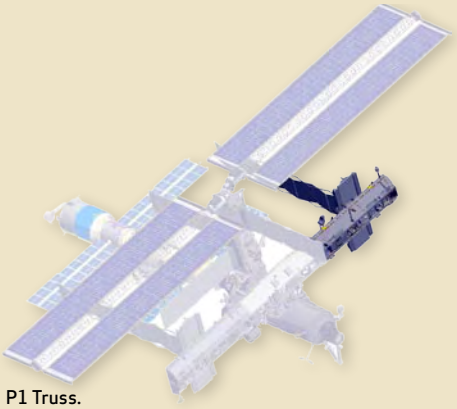
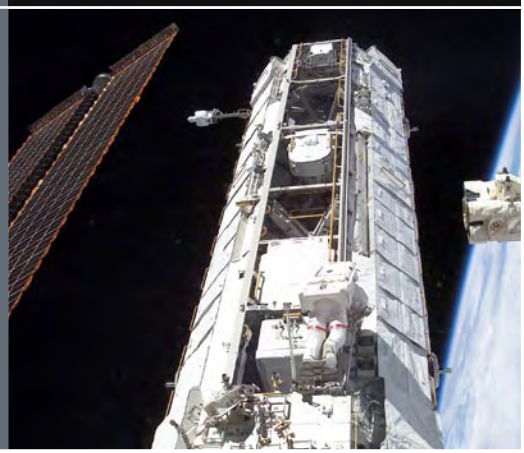
Building the ISS requires 35 Space Shuttle assembly flights and 5 Russian launches. Currently, logistics and resupply are provided through a number of vehicles including the Space Shuttle and Russian Progress and Soyuz, and European Automated Transfer Vehicle (ATV).

Future logistics/resupply missions will also be provided by Japan's H-II Transfer Vehicle (HTV). The U.S. Crew Exploration Vehicle (CEV) and commercial systems will support ISS logistics in the future.

STAGE/ DATE	ELEMENT ADDED	LAUNCH VEHICLE	
1A/R Nov. 1998	 Functional Cargo Block (FGB).	Proton	
2A Dec. 1998	 Node 1, Pressurized Mating Adapter (PMA) 1, 2.	Space Shuttle STS-88	
1R July 2000	 Service Module (SM).	Proton	
3A Oct. 2000	 Zenith 1 (Z1) Truss, PMA 3.	Space Shuttle STS-92	

A=U.S. Assembly J=Japanese Assembly E=European Assembly R=Russian Assembly

STAGE/DATE	ELEMENT ADDED	LAUNCH VEHICLE	
4A Dec. 2000	 Port 6 (P6) Truss.	Space Shuttle STS-97	
5A Feb. 2001	 U.S. Lab.	Space Shuttle STS-98	
6A Apr. 2001	 Space Station Remote Manipulator System (SSRMS).	Space Shuttle STS-100	
7A July 2001	 U.S. Airlock.	Space Shuttle STS-104	

STAGE/DATE	ELEMENT ADDED	LAUNCH VEHICLE	
4R Sept. 2001	 Russian Docking Compartment (DC) and Airlock.	Soyuz	
8A Apr. 2002	 Starboard Zero (S0) Truss.	Space Shuttle STS-110	
9A Oct. 2002	 S1 Truss.	Space Shuttle STS-112	
11A Nov. 2002	 P1 Truss.	Space Shuttle STS-113	

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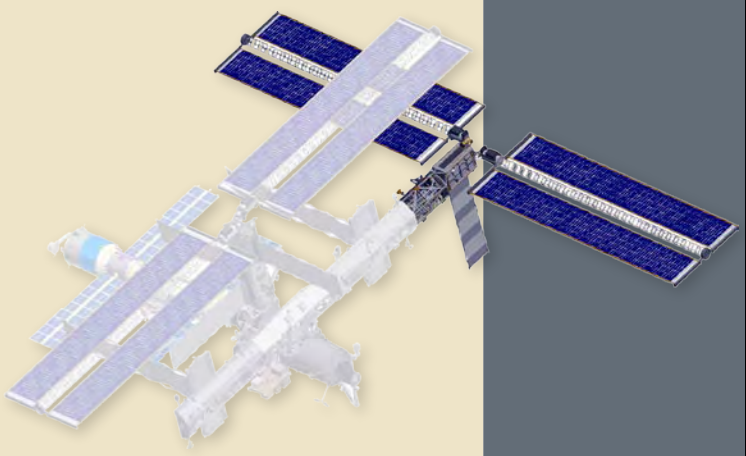
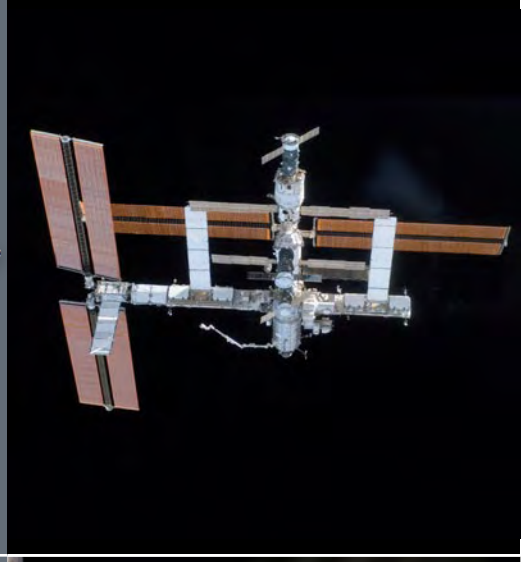
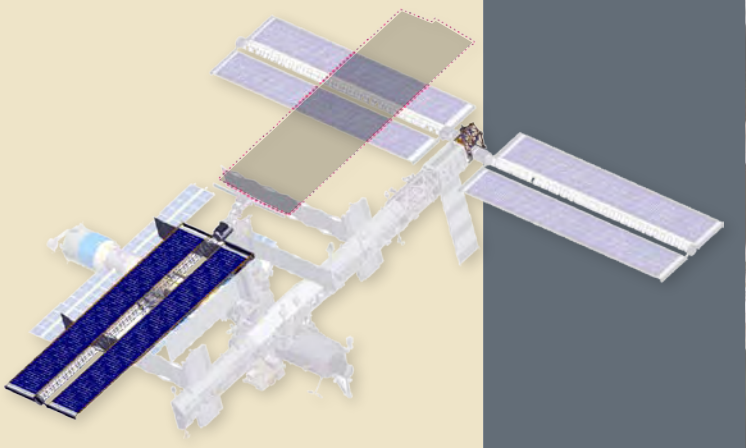
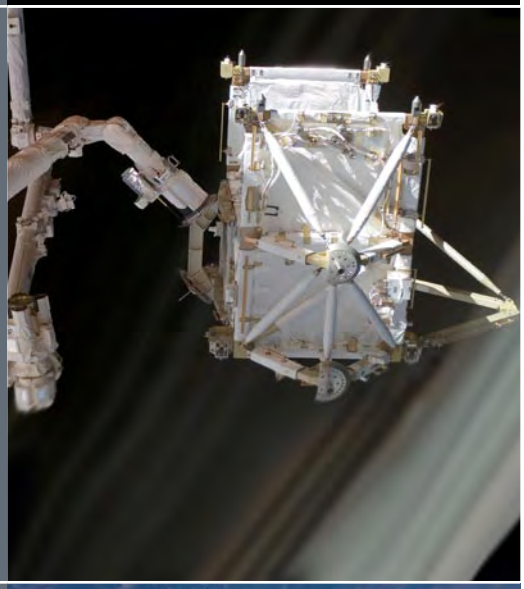
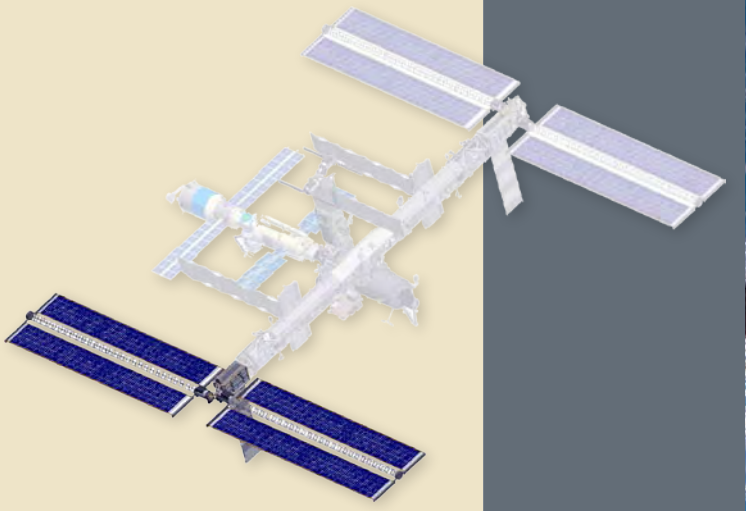
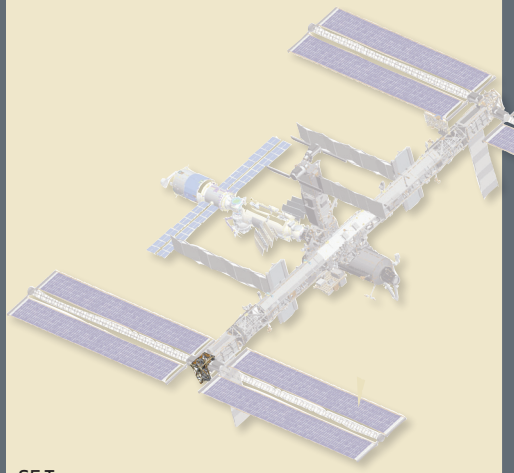
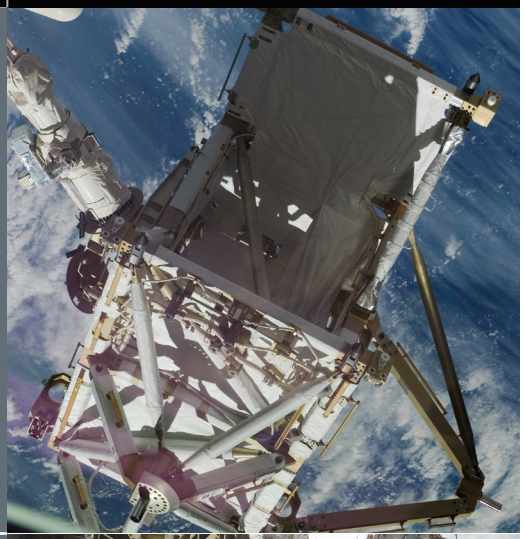
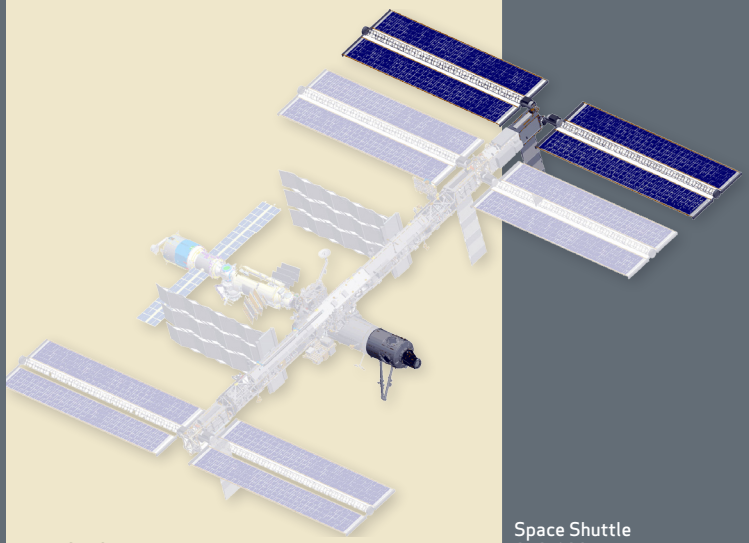
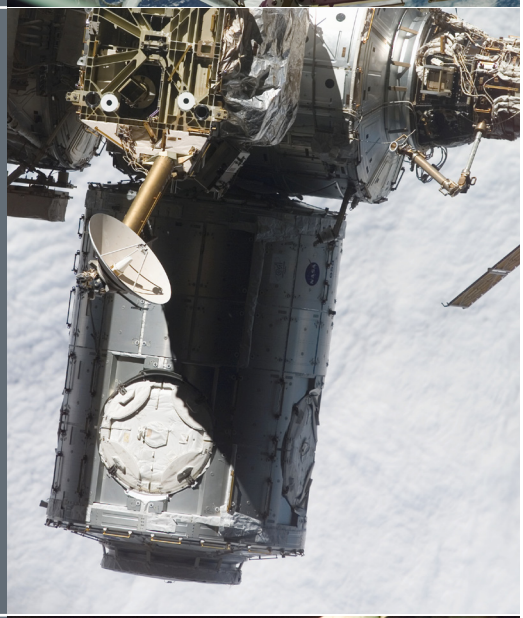
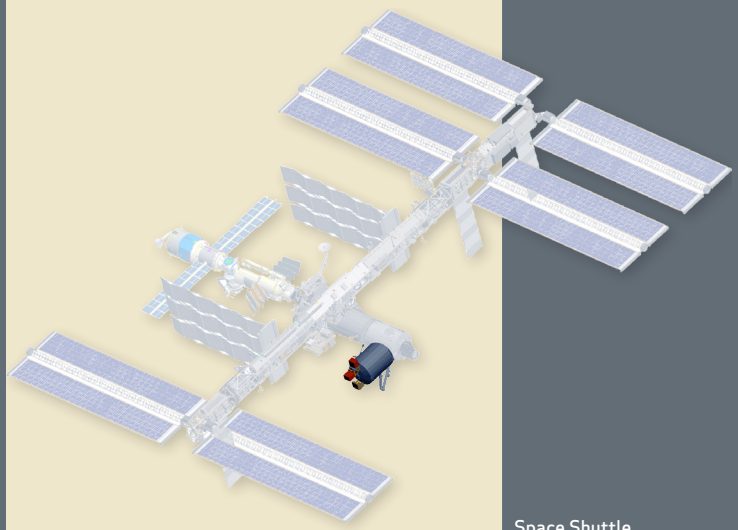
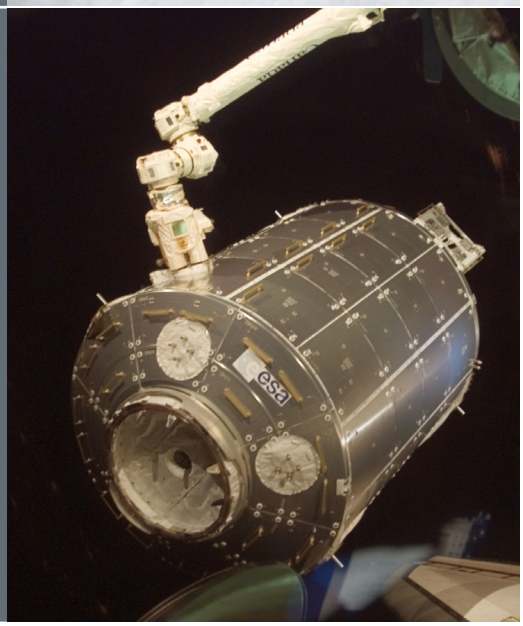
STAGE/DATE	ELEMENT ADDED	LAUNCH VEHICLE	
12A Sept. 2006	 P3/P4 Truss.	Space Shuttle STS-115	
12A.1 Dec. 2006	 P5 Truss, retracting P6 arrays.	Space Shuttle STS-116	
13A June 2007	 S3/S4 Truss.	Space Shuttle STS-117	

STAGE/ DATE	ELEMENT ADDED	LAUNCH VEHICLE	
13A.1 Aug. 2007	 S5 Truss.	Space Shuttle STS-118	
10A Oct. 2007	 Node 2, P6 relocated.	Space Shuttle STS-120	
1E Feb. 2008	 ESA Columbus Module.	Space Shuttle STS-122	

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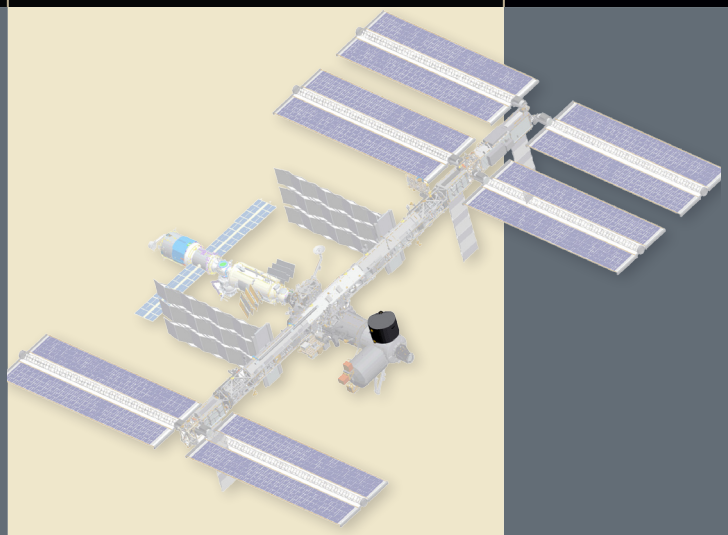
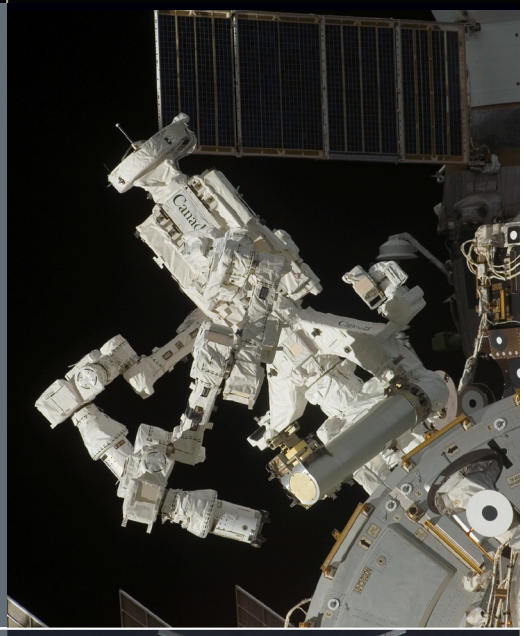
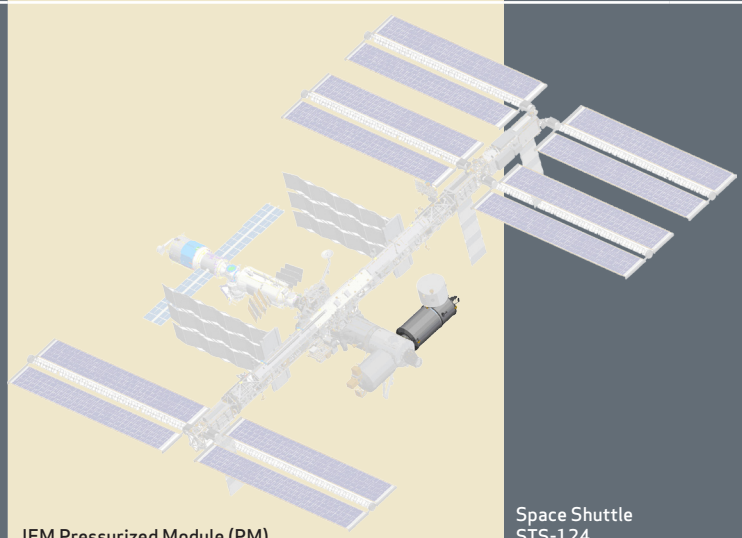
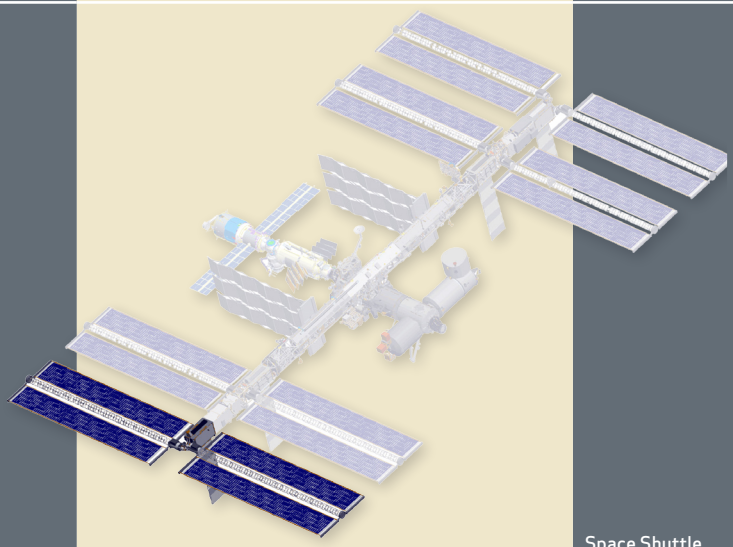
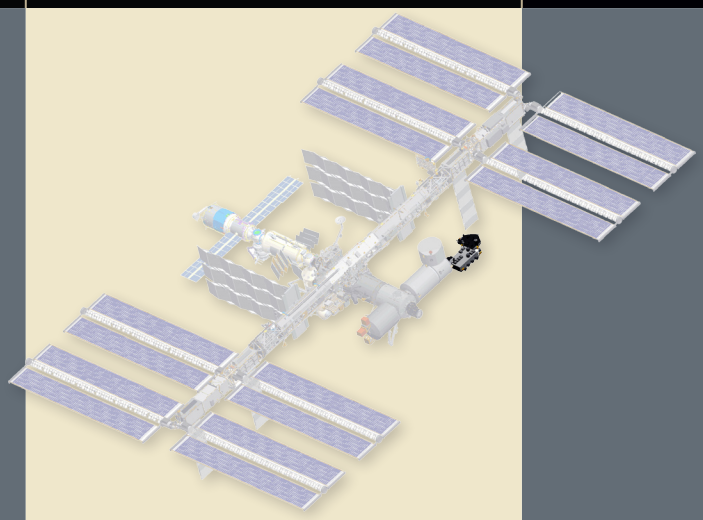
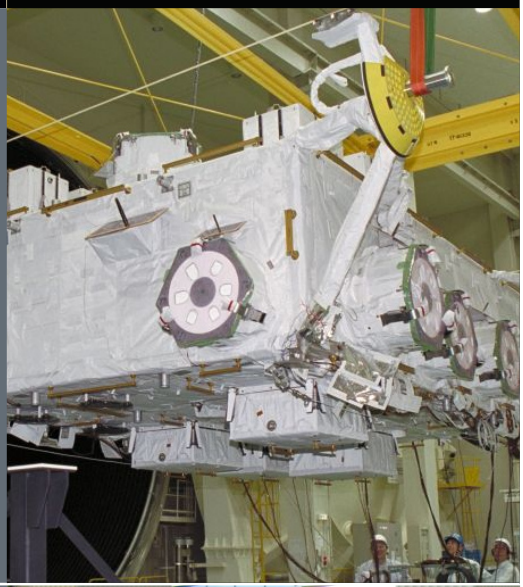
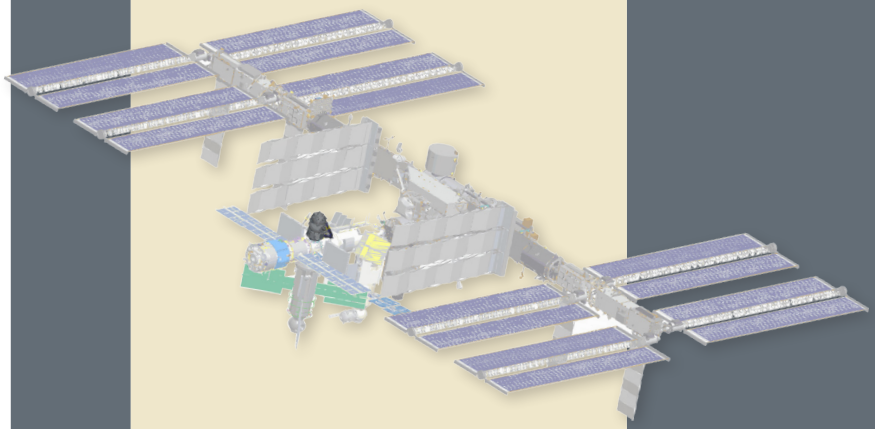
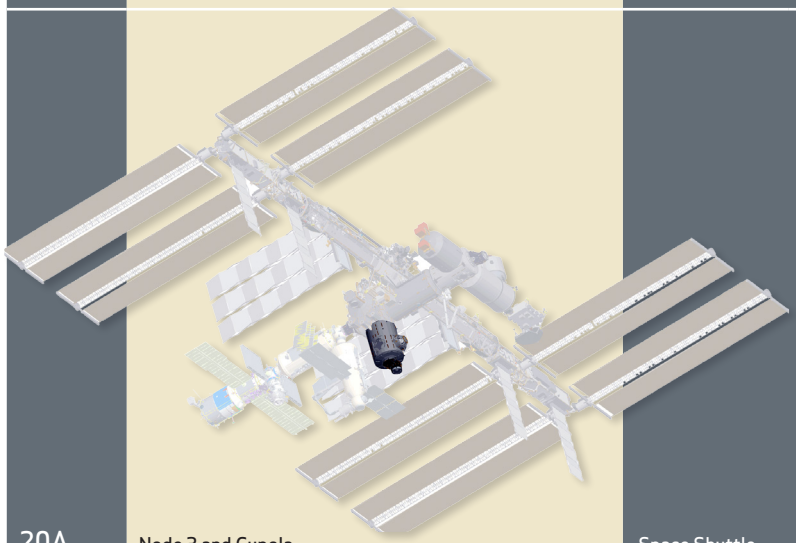
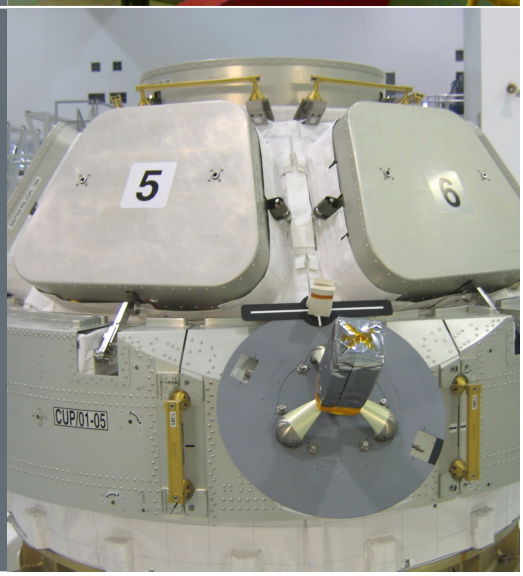
STAGE/ DATE	ELEMENT ADDED	LAUNCH VEHICLE	
1J/A Mar. 2008	 Japanese Experiment Module Experiment Logistics Module Pressurized Section (JEM-ELM-PS), and Canadian Special Purpose Dexterous Manipulator (Dextre).	Space Shuttle STS-123	
1J Jun. 2008	 JEM Pressurized Module (PM).	Space Shuttle STS-124	
15A	 S6 Truss.	Space Shuttle STS-119	

STAGE/ DATE	ELEMENT ADDED	LAUNCH VEHICLE	
2 J/A	 JEM-ELM Exposed Section (ES), JEM-Exposed Facility (JEM-EF).	Space Shuttle	
5R	 Russian Mini-Research Module 2.	Soyuz	
20A	 Node 3 and Cupola.	Space Shuttle	

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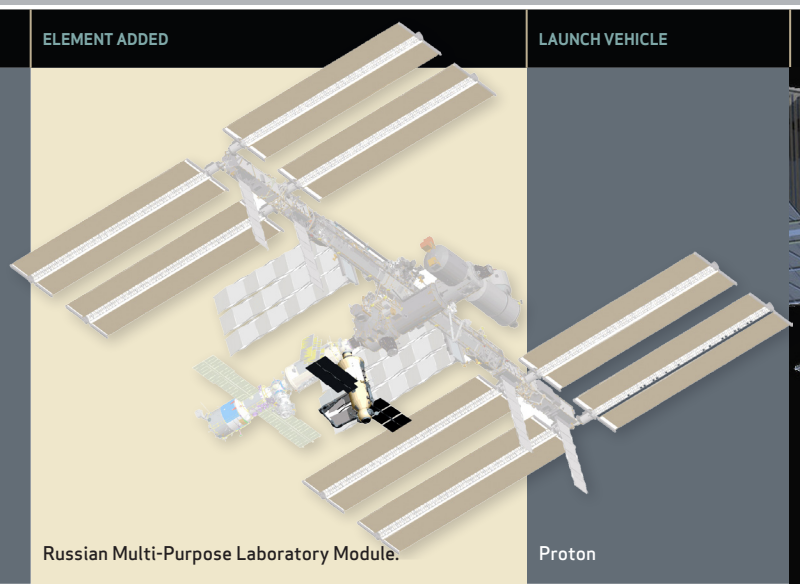
STAGE/ DATE	ELEMENT ADDED	LAUNCH VEHICLE
3R	Russian Multi-Purpose Laboratory Module.	Proton



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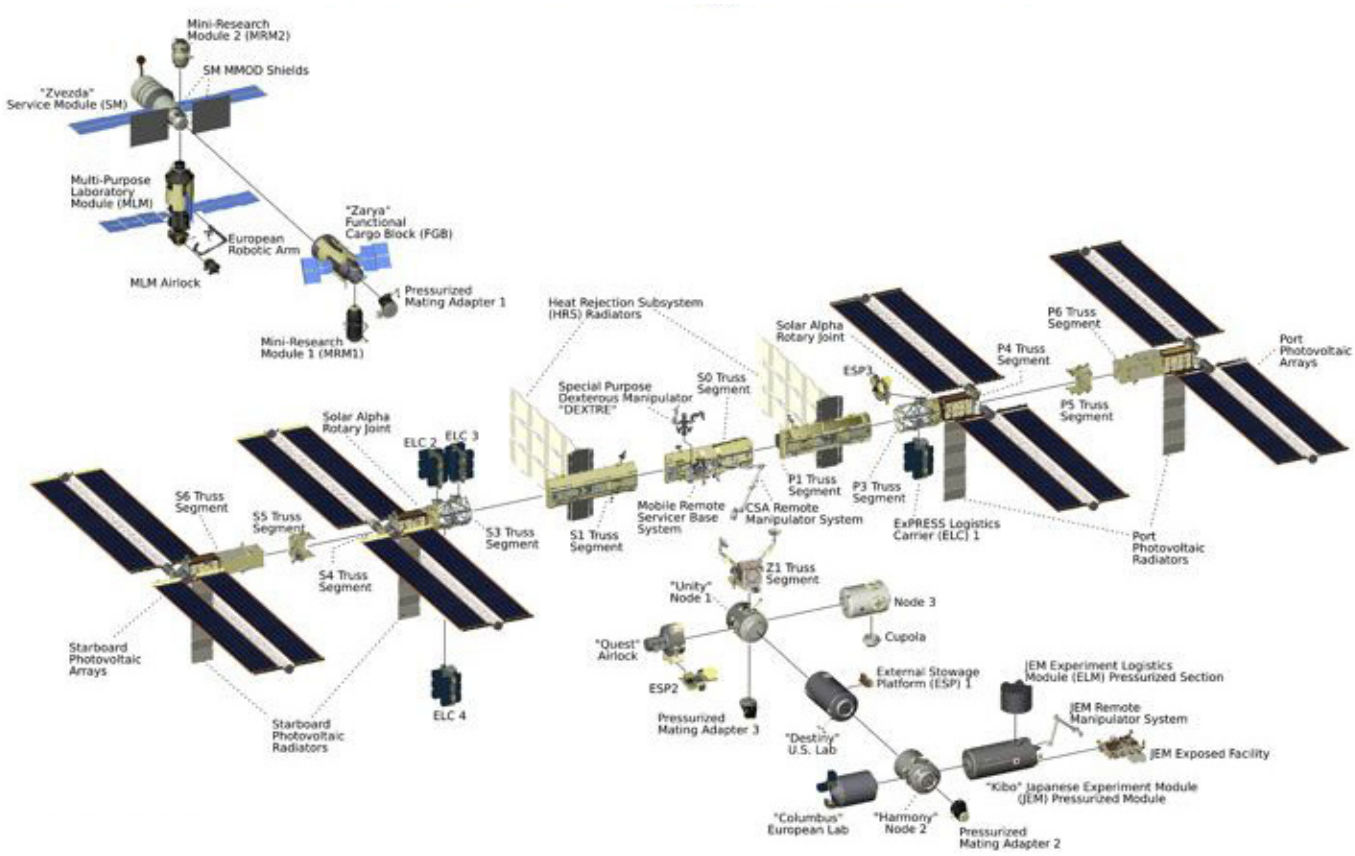

ISS Configuration