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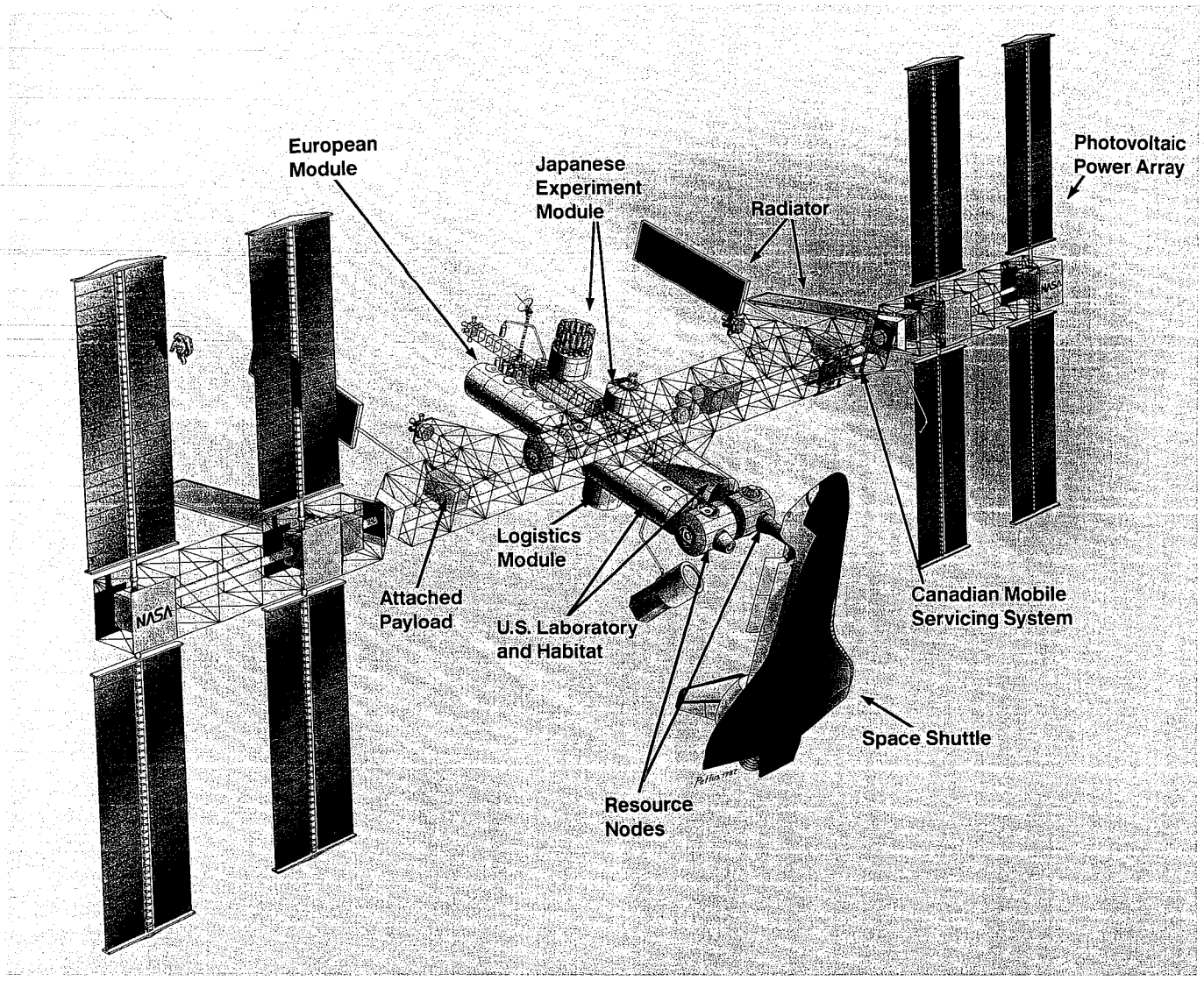
Baseline Configuration Definition and Development Schedule

Definition		Development	
Contract Start Date (CSD)	April, 1985	Contract Start Date Target	December, 1987
Interface Requirements Review (IRR)	January, 1986	Preliminary Design Review	January, 1990
Baseline Configuration Adopted	May, 1986	Critical Design Review	May, 1991
CETF Revision	September, 1986	First Element Launch	1st Quarter, 1995
System Design Review	December, 1986	Man-Tended Capability	4th Quarter, 1995
Completion 21 Month Definition Contract	January, 1987	Permanently Manned	4th Quarter, 1996
Completion Program Cost Review	January, 1987	Revised Baseline Complete	1st Quarter, 1998
Revised Baseline Configuration	April, 1987	Enhanced Capabilities	TBD

In the future, Space Station users — and the nations that support them — will want to do even more with the Station. Its initial capabilities established, Space Station users will want Station capabilities expanded. So NASA is designing the Space Station to be able to grow. Table 1 lists a few of the features of the Baseline Configuration that allow for evolution. Figure 2 illustrates an Enhanced Capability that NASA is presently reviewing. It includes additional structure (for stiffness and attached payloads), a spacecraft servicing facility and additional power provided via a solar dynamic power system. This power system could offer the potential of less drag and greater conversion efficiency. Such provisions for evolution also offer to Europe, Canada and Japan the potential to increase their own Space Station capabilities.

The pace of Space Station development is about to accelerate. With the completion of extensive preliminary analysis, the program has entered a new stage: detailed design and development. NASA, its development contractors, and the international partners, soon will be initiating the hardware portion of the program.

The management structure of the Space Station Program, including the roles of the work package centers, is depicted in Figure 3. The Office of Space Station at NASA Headquarters in Washington, D.C., sets program policy and is responsible for overall program direction. The Space Station Program Office in Reston, Virginia, manages the program and is responsible for its technical content. The Space Station project offices at the NASA field centers manage their discrete elements of the program and are responsible for the performance of their contractors. Both part of and separate from this structure, the respective roles of our partners are defined by the international agreements presently in place.



For Space Station hardware itself, NASA has established four "work packages." NASA field centers are responsible for actual project development. The four centers are the Marshall Space Flight Center in Huntsville, Alabama; the Johnson Space Center in Houston, Texas; the Goddard Space Flight Center in Greenbelt, Maryland; and the Lewis Research Center in Cleveland, Ohio. While not work package centers, the Kennedy Space Center at Cape Canaveral, Florida, and the Langley Research Center in Hampton, Virginia have key Space Station responsibilities. So does the Jet Propulsion Laboratory in Pasadena, California, which will play a central role in Space Station program requirements and assessment.

Program Management Approach

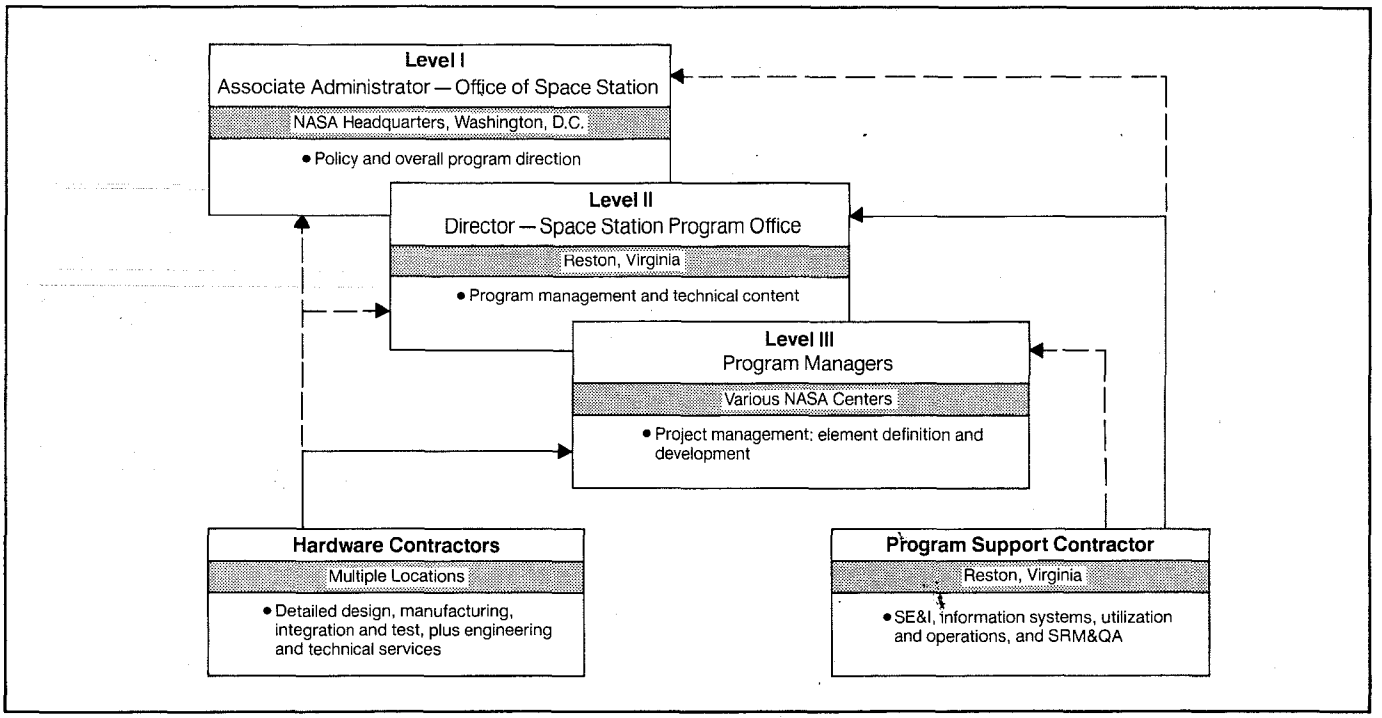


Figure 3

Three activities essential to detailed design and development have been defined and initiated. The contractor for a "Software Support Environment" (SSE), a set of rules and tools for Space Station software, is in place. A Technical and Management Information System (TMIS) is being established. This will facilitate both program control and engineering. In addition, a Program Support Contractor (PSC) has been retained to support NASA in a variety of program management activities, most notably systems integration.

Contractor teams have been selected for the three supporting activities, and they have begun their work. Prime contractor for the Software Support Environment is the Lockheed Missiles and Space Company. For TMIS, the prime contractor is Boeing Computer Services. The prime contractor for Program Support is Grumman.

U.S. and other international aerospace companies will play key roles in the development of the Space Station.

Although the program is the initiative of governments, the engineering is the work of industry. For U.S. industry, NASA will set policy and establish requirements. U.S. industry will do much of the technical analysis and much of the actual building. Space Station is not only an international partnership. It is also a partnership of government and industry.

Any Space Station is highly dependent upon a transportation system. The MIR station, for example, is supported by Soyuz and Progress vehicles and, like its Salyut predecessors, will have to have frequent flights to support safe and productive operations. The Space Station under development by the United States and its partners will utilize the Space Shuttle. With the resumption of flight operations, Discovery and her sister ships will again carry payloads and people into orbit. The United States expects the Shuttle flight rate to reach 12-14 flights a year. By the mid-1990's, the United States Shuttle fleet will be flying regularly and safely.