

ISS Implementation Partner Capabilities

Implementation Partner	Services											Hardware	
	Space Flight Requirements Definition	Hardware Ground Testing	Hardware Mod Evaluation	Hardware Modification	Flight Certification & Verification	Mission Management Input & Support	Crew Training	Support Bench Reviews	Real-time Payload Ops Support	Provide Hardware-Unique Services	Post-flight Support & Analysis	Manufactured/Designed	Owned
BioServe	X	X	X	X	X	X	X	X	X	X	X	SLCC (Single Loop Cell Culture)	CGBA, PGBA, GAPs, FPAs, BCA, MOBIA, Chab, various small habitats for the CSI program, camera modules for imaging (still and video) capabilities
Dynamac						X			X		X		
EADS Astrium	X	X	X	X	X	X	X	X	X	X	X	MELFI (-80° Freezer), MSG (Multipurpose Science Glovebox), SpaceDrums (Levigator), EMCS (European Modular Cultivation System), PCDF (Protein Crystallization & Diagnostics Facility), DECLiC (Critical Liquids Research), MSL (Material Science Lab), BIOLAB (Gravitational Biology), Cardiolab (Sensors & Stressors), ACES (Atomic Clock, external Fac.), Experiment Inserts for FSL/MSG/MSL/EMCS/BIOLAB/KUBIK/PCDF	SpaceDrums utilization rights External payload carrier /support hardware (avionics interfaces)
MEI Technologies	X	X	X	X	X	X	X	X	X	X	X	CAPE (Canister for All Payload Ejections), SSPL (Space Shuttle Payload Launcher)	Patent for CAPE
Tec-Masters	X	X	X	X	X	X	X	X	X	X	X	SUBSA: Solidification Using a Baffle in Sealed Ampoules PFMI: Pore Formation and Mobility During Controlled Directional Solidification In a Microgravity Environment Investigation CGH SACA: Coupled Growth in Hypermonotectics PEP SACA: Particle Engulfment and Pushing by Solidifying Interfaces Sample Ampoule Cartridge Assembly PEP: Particle and Engulfment and Pushing WCI: Wetting Characteristics of Immiscibles QMI: Quench Module Insert AGHF: Advanced Gradient Heating Facility IPF: Interfacial Pore Formation BUNDLE: Bridgman Unidirectional in Liquids Experiment Furnace	
Tissue Genesis	X	X	X	X	DoD/NASA*	X	X	X	X	X	X	CCM, CCM-C, STL-B	DoD/NASA owned
UAB	X	X	X	X ISO-9001 with Design, AS 9100B by 10/10	X Shuttle, ISS, Soyuz, HTV	X	X	X	X Fully operational Remote site	X Design Mechanical Electrical / Electronic Software	X SER-CAT member for beamline access	Glacier, STC	MERLIN, HDPCG, PCF, CVDA, VDA-2, DCPCG, PCFVG, PCFLST, CRIM-M

Note: As part of the Life Sciences Services Contract at KSC, Dynamac provides pre-, during, and post-processing labs for science payloads.
*Flight certification and verification inputs provided by Tissue Genesis. The documentation package is prepared by MEI Engineering.

- CRIM-M - Commercial Refrigerator Incubator Module - Modified
- CVDA - Commercial Vapor Diffusion Apparatus
- DCPCG - Dynamically Controlled Protein Crystal Growth
- GLACIER - General Laboratory Active Cryogenic ISS Experiment Refrigerator
- HDPCG - High Density Protein Crystal Growth
- MERLIN - Microgravity Experiment Research Locker Incubator
- PCF - Protein Crystallization Facility
- PCFLST - Protein Crystallization Facility w/ Light Scattering and Temperature
- PCFVG - Protein Crystallization Facility - Variable Gradient
- STC - Sample Transport Container
- VDA-2 - Vapor Diffusion Apparatus 2nd Generation