

LEGEND: (TBD) To Be Determined
 (NET) – No Earlier Than
 (U/R) – Under Review

SMSR INTEGRATED MASTER SCHEDULE
December 1, 2020

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Delegated SMSA
Chaired by HQ
Informational Briefing

Highlight – Change from previous version

MISSION TASK NAME	MILESTONES				LAUNCH VEHICLE	LAUNCH SITE OR RETURN SITE	CHAIR	SMA REP.
	Pre-SMSR	SMA MAP MTG.	SMSR/SMSA	LAUNCH OR OPS				
<i>SpaceX-21</i>	TBD	N/A	11/20/2020	12/5/2020	Falcon 9	KSC	JSC	VH/GW
Comments: SORR: 11/19/2020; FRR: 11/23//2020 (Source: CoFR Matrix dated 11/20/2020)								
<i>Northrup Grumman-15</i>	TBD	N/A	TBD	2/1/2021 (1/31/2021 CST)	Antares	Wallops	JSC	GW
Comments: SORR: 1/21/2021 (Source: CoFR Matrix dated 11/13/2020)								
<i>76P Disposal</i>	TBD	N/A	TBD	Undock 2/13/2021	N/A	South Pacific Ocean	JSC	GW
Comments: SORR: 1/21/2021 (Source: CoFR Matrix dated 11/20/2020)								
<i>77P</i>	TBD	N/A	11/16/2020	2/15/2021	Soyuz	Kazakhstan	JSC	GW
Comments: SORR: 1/21/2021 (Source: CoFR Matrix dated 11/20/2020)								
<i>77P Disposal</i>	TBD	N/A	TBD	Spring 2021 U/R	Soyuz	South Pacific Ocean	JSC	GW
Comments: SORR: 1/21/2021 (Source: CoFR Matrix dated 11/20/2020)								
<i>3R (MLM)</i>	TBD	N/A	TBD	Spring 2021 U/R	Proton M	Kazakhstan	JSC	GW
Comments: SORR: TBD; FRR: TBD (Source: Email from Doug Morsches dated 11/30/2020)								
<i>Boeing-OFT2 (Uncrewed)</i>	TBD	N/A	TBD	3/25/2021	Atlas V N22	CCAFS	HQ	RG
Comments: SORR: TBD; FRR: TBD (Source: Email from Shandy Mcmillian dated 11/30//2020)								
<i>SpaceX Crew 2</i>	TBD	N/A	TBD	3/30/2021	Falcon 9	KSC	HQ	RG
Comments: SORR: 3/4/2021; FRR: 3/23/2021 (Source: CoFR Matrix dated 8/14/2020)								
<i>Landsat-9</i>	TBD	N/A	TBD	4/8/2021	Atlas V-401	VAFB	HQ	PP/GL
Comments: SORR: TBD; FRR: TBD (Source: Flight Planning Board (FPB) Manifest dated 4/2/2020)								
<i>64S</i>	TBD	N/A	TBD	4/10/2021	Soyuz	Kazakhstan	JSC	GW
Comments: SORR: 3/18/2021; FRR: 4/1/2021 (Source: CoFR Matrix dated 7/10/2020)								
<i>63S Return</i>	TBD	N/A	TBD	Undock 4/17/2021	Soyuz	Kazakhstan	HQ	VH/GW
Comments: SORR: 3/18/2021; FRR: 4/1/2021 (Source: CoFR Matrix dated 10/9/2020)								
<i>78P</i>	TBD	N/A	TBD	4/30/2021	Soyuz	Kazakhstan	JSC	GW
Comments: SORR: 2/25/2021 (Source: CoFR Matrix dated 11/20/2020)								
<i>75P Disposal</i>	TBD	N/A	TBD	4/30/2021	N/A	South Pacific Ocean	JSC	GW
Comments: SORR: 11/19/2020 (Source: CoFR Matrix dated 11/20/2020)								

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<i>SpaceX-22</i>	TBD	N/A	TBD	5/12/2021	Falcon 9	CCAFS	JSC	GW
Comments: SORR: 2/16/2021 (Source: LSP Waterfall dated 10/22/2020)								
<i>Boeing-CFT 1 Launch (crewed)</i>	TBD	N/A	TBD	Jun 2021	Atlas V N22	CCAFS	HQ	RG
Comments: SORR: TBD; FRR: TBD (Source: CoFR Matrix dated 11/20/2020)								
<i>Artemis I</i>	TBD	N/A	TBD	7/9/2021 NET	SLS	KSC	HQ	SM
Comments: With the Artemis program, NASA will land the first woman and next man on the Moon by 2024, using innovative technologies to explore more of the lunar surface than ever before. We will collaborate with our commercial and international partners and establish sustainable exploration by 2028. (Source: Flight Planning Board (FPB) Manifest dated 6/5/2020)								

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<i>Double Asteroid Redirection Test (DART)</i>	TBD	N/A	TBD	7/21/2021	Falcon 9	VAFB	HQ	PP/GL
Comments: DART is a planetary defense-driven test of technologies for preventing an impact of Earth by a hazardous asteroid. DART will be the first demonstration of the <i>kinetic impactor</i> technique to change the motion of an asteroid in space. (Source: LSP Milestone Review Schedule dated 4/2/2020)								
<i>SpaceX-23</i>	TBD	N/A	TBD	9/1/2021	Falcon 9	CCAFS	JSC	GW
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 11/19/2020)								
<i>SpaceX Crew 3</i>	TBD	N/A	TBD	9/1/2021	Falcon 9	KSC	HQ	RG
Comments: (Source: LSP Waterfall dated 11/5/2020)								
<i>Lucy</i>	TBD	N/A	TBD	10/16/2021	Atlas V-401	CCAFS	HQ	PP/GL
Comments: Lucy will explore six Trojan asteroids, a unique family of asteroids that orbit the Sun in front of and behind Jupiter. (Source: LSP Milestone Review Schedule dated 2/6/2020)								
<i>James Webb Space Telescope (JWST)</i>	TBD	N/A	TBD	10/30/2021	Ariane V	Kourou	HQ	PP/GL
Comments: JWST will peer through dusty clouds to see stars forming planetary systems, connecting the Milky Way to our own Solar System. (Website Source: www.jwst.nasa.gov) (Source: Flight Planning Board (FPB) Manifest dated 8/3/2020)								
<i>Imaging X-ray Polarimetry Explorer (IXPE)</i>	TBD	N/A	TBD	Nov 2021	Falcon 9	CCAFS	HQ	PP/GL
Comments: The Imaging X-ray Polarimetry Explorer will be launched on or after November 20, 2020 into a 540-km circular orbit at 0° inclination. During IXPE's two-year mission, targets such as active galactic nuclei (AGN), microquasars, pulsars and pulsar wind nebulae, magnetars, accreting X-ray binaries, supernova remnants, and the Galactic center will be studied. (Source: LSP Waterfall dated 11/5/2020)								
<i>SpaceX-24</i>	TBD	N/A	TBD	11/15/2021	Falcon 9	CCAFS	JSC	GW
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 11/5/2020)								

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<i>NASA ISRO Synthetic Aperture Radar (NISAR)</i>	TBD	N/A	TBD	Dec 2021	GSLV-Mark-II	Satish Dhawan Space Center	HQ	PP/GL
Comments: Using advanced radar imaging that will provide an unprecedented, detailed view of Earth, the NASA-ISRO Synthetic Aperture Radar, or NISAR, satellite is designed to observe and take measurements of some of the planet's most complex processes, including ecosystem disturbances, ice-sheet collapse, and natural hazards such as earthquakes, tsunamis, volcanoes and landslides. (Source: LSP Milestone Review Schedule dated 2/6/2020)								
<i>Geostationary Operational Environmental Satellite (GOES-T)</i>	TBD	N/A	TBD	12/7/2021	Atlas V-541	CCAFS	HQ	PP/GL
Comments: The GOES-R satellite series consists of GOES-R, GOES-S, GOES-T, and GOES-U. This series is more advanced than the previous GOES fleet in that the imager can scan the Earth five times faster, at four times the image resolution, with triple the number of channels for more accurate, reliable weather forecasts and severe weather outlooks. They will also provide critical solar monitoring and space weather observations. (Source: LSP Milestone Review Schedule dated 4/2/2020)								
<i>SpaceX Crew 4</i>	TBD	N/A	TBD	2/4/2022	Falcon 9	KSC	HQ	RG
Comments: (Source: LSP Waterfall dated 6/18/2020)								
<i>Boeing Crew 1</i>	TBD	N/A	TBD	2/24/2022	Atlas V N22	CCAFS	HQ	RG
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 6/4/2020)								
<i>Surface Water and Ocean Topography (SWOT)</i>	TBD	N/A	TBD	3/5/2022	Falcon 9	VAFB	HQ	PP/GL
Comments: The SWOT mission brings together two communities focused on a better understanding of the world's oceans and its terrestrial surface waters. U.S. and French oceanographers and hydrologists and international partners have joined forces to develop this satellite mission to make the first global survey of Earth's surface water, observe the fine details of the ocean's surface topography, and measure how water bodies change over time. (Source: LSP Milestone Review Schedule dated 4/2/2020)								
<i>SpaceX-25</i>	TBD	N/A	TBD	Apr 2022	Falcon 9	CCAFS	JSC	GW
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 6/4/2020)								
<i>Boeing Crew 2</i>	TBD	N/A	TBD	4/21/2022	Atlas V N22	CCAFS	HQ	RG
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 6/4/2020)								
<i>Low-Boom Flight Demonstrator (LBD) X-59 QueSST</i>	TBD	N/A	TBD	Jun 2022	X-59	AFRC	HQ	JL
Comments: The Lockheed Martin X-59 QueSST is an American experimental supersonic aircraft being developed at Skunk Works for NASA's Low-Boom Flight Demonstrator program. (Source: Tuesday Tag-up comments from John Lapointe on 9/29/2020)								

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<i>Psyche</i>	TBD	N/A	TBD	7/13/2022-8/26/2022	Falcon Heavy	KSC	HQ	PP/GL
Comments: The Psyche mission is a journey to a unique metal asteroid orbiting the Sun between Mars and Jupiter. What makes the asteroid Psyche unique is that it appears to be the exposed nickel-iron core of an early planet, one of the building blocks of our solar system. (Source: LSP Milestone Review dated 6/25/2020)								
<i>SpaceX-26</i>	TBD	N/A	TBD	Sep 2022	Falcon 9	CCAFS	JSC	GW
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 6/4/2020)								
<i>Joint Polar Satellite System 2 (JPSS-2)/Low-Earth Orbit Flight Test of an Inflatable Decelerator (LOFTID)</i>	TBD	N/A	TBD	9/30/2022	Atlas V-401	VAFB	HQ	PP/GL
Comments: The Joint Polar Satellite System (JPSS) is the restructured civilian portion of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) that will make afternoon observations as it orbits Earth. The system includes the satellites and sensors supporting civil weather and climate measurements and a shared ground infrastructure with the Department of Defense weather satellite system. (Source: Flight Planning Board (FPB) Manifest dated 8/3/2020)								

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<i>OSAM-1</i>	TBD	N/A	TBD	12/1/2022	TBD	TBD	HQ	PP/GL
Comments: Changed the name or Restore-L to OSAM-1 (On-orbit Servicing, Assembly and Manufacturing 1 as informed by the OSAM-a Project Manager and LSP on 4/22/2020. (Source: Flight Planning Board (FPB) Manifest dated 5/1/2020)								
<i>Boeing Crew 3</i>	TBD	N/A	TBD	12/14/2022	Atlas V N22	CCAFS	HQ	RG
Comments: SORR: TBD; FRR: TBD (Source: LSP Waterfall dated 6/4/2020)								
<i>Plankton, Aerosol, Cloud, ocean Ecosystem (PACE)</i>	TBD	N/A	TBD	12/15/2022	Falcon 9	CCAFS	HQ	PP/GL
Comments: PACE's data will help us better understand how the ocean and atmosphere exchange carbon dioxide. In addition, it will reveal how aerosols might fuel phytoplankton growth in the surface ocean. (Source: LSP Milestone Review Schedule dated 2/6/2020)								
<i>Polarimeter to Unify the Corona and Heliosphere (PUNCH)</i>	TBD	N/A	TBD	Feb 2023	TBD	TBD	HQ	PP/GL
Comments: PUNCH will focus directly on the Sun's outer atmosphere, the corona, and how it generates the solar wind. Composed of four suitcase-sized satellites, PUNCH will image and track the solar wind as it leaves the Sun. The spacecraft also will track coronal mass ejections – large eruptions of solar material that can drive large space weather events near Earth – to better understand their evolution and develop new techniques for predicting such eruptions. (Source: LSP Milestone Review Schedule dated 4/2/2020)								
<i>Artemis II</i>	TBD	N/A	TBD	Jun 2023	SLS	KSC	HQ	SM
Comments: With the Artemis program, NASA will land the first woman and next man on the Moon by 2024, using innovative technologies to explore more of the lunar surface than ever before. We will collaborate with our commercial and international partners and establish sustainable exploration by 2028. (Source: Information from Shandy McMillian on 8/24/2020)								
<i>Europa Clipper</i>	TBD	N/A	TBD	Jul 2023	TBD	TBD	HQ	PP/GL
Comments: NASA's Europa Clipper will conduct detailed reconnaissance of Jupiter's moon Europa and investigate whether the icy moon could harbor conditions suitable for life. (Source: LSP Milestone Review Schedule dated 2/6/2020)								
<i>PPE+HALO</i>	TBD	N/A	TBD	Nov 2023	TBD	KSC	HQ	SM
Comments: The Habitation and Logistics Outpost (HALO) also called the Minimal Habitation Module (MHM) and formerly known as the Utilization Module, will be built by Northrop Grumman Innovation Systems (NGIS). A commercial launch vehicle would launch the HALO in November 2023 with Power and Propulsion Element (PPE) module. The HALO is based on a Cygnus Cargo resupply module. (Source: LSP Waterfall dated 5/7/2020)								

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<i>Geostationary Operational Environmental Satellite (GOES-U)</i>	TBD	N/A	TBD	Apr 2024	TBD	CCAFS	HQ	PP/GL
Comments: The GOES-R satellite series consists of GOES-R, GOES-S, GOES-T, and GOES-U. This series is more advanced than the previous GOES fleet in that the imager can scan the Earth five times faster, at four times the image resolution, with triple the number of channels for more accurate, reliable weather forecasts and severe weather outlooks. They will also provide critical solar monitoring and space weather observations. (Source: LSP Milestone Review Schedule dated 4/2/2020)								
<i>Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx)</i>	TBD	N/A	TBD	6/17/2024	TBD	TBD	HQ	PP/GL
Comments: SPHEREx will survey the sky in optical as well as near-infrared light which, though not visible to the human eye, serves as a powerful tool for answering cosmic questions. Astronomers will use the mission to gather data on more than 300 million galaxies, as well as more than 100 million stars in our own Milky Way. (Source: LSP Milestone Chart dated 8/20/2020)								
<i>Artemis III</i>	TBD	N/A	TBD	Sept 2024	SLS	KSC	HQ	SM
Comments: With the Artemis program, NASA will land the first woman and next man on the Moon by 2024, using innovative technologies to explore more of the lunar surface than ever before. We will collaborate with our commercial and international partners and establish sustainable exploration by 2028. (Source: Information from Shandy McMillian on 8/24/2020)								

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<i>Interstellar Mapping and Acceleration Probe (IMAP)</i>	TBD	N/A	TBD	Oct 2024	TBD	TBD	HQ	PP/GL
Comments: IMAP will sample, analyze, and map particles streaming to Earth from the edges of interstellar space. IMAP will help researchers better understand the boundary of the heliosphere, a sort of magnetic bubble surrounding and protecting our solar system. (Source: LSP Milestone Review Schedule dated 4/2/2020)								

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<i>OSAM-I</i>	TBD	TBD	TBD	Jan 2025				
Comments: A robotic spacecraft equipped with the tools, technologies, and techniques needed to extend satellites' lifespans. Source: LSP Waterfall dated 11/2/2020)								
<i>Nancy Grace Roman Telescope</i>	TBD	TBD	TBD	Sept 2025	TBD	TBD	JPL	PP/GL
The Nancy Grace Roman Space Telescope (formerly known as WFIRST, the Wide Field Infrared Survey Telescope) – a mission concept to answer vital questions in both exoplanet detection and dark energy research. Source: LSP Waterfall dated 11/19/2020)								
<i>Sentinel 6B</i>	TBD	TBD	TBD	Nov 2025	TBD	TBD	JPL	PP/GL
The Sentinel-6 program includes two identical satellites, to be launched five years apart, Sentinel-6 Michael Freilich, which launched on 21 November 2020 ^[2] and Sentinel-6B, which will launch in 2025. ^[3] These satellites will measure sea level change from space .Source: LSP Waterfall dated 11/19/2020)								