



Commercial Crew Program CCDev 2 Milestone Schedule



Commercial Crew Program CCDev 2 Schedule									
			Legend: ▼ = Completion Date ▽ = Current Plan Date						
Funding	Milestone	Completion Date	2011			2012			
			Q2'11	Q3'11	Q4'11	Q1'12	Q2'12	Q3'12	Q4'12
Total: \$105.6M	Sierra Nevada Corp. (SNC)								
\$12.5M	1 - SRR	06/02/2011	▼						
\$2.5M	2 - Canted Airfoil Fin Selection	06/16/2011	▼						
\$5M	3 - Cockpit Based Flight Simulator	07/20/2011		▼					
\$10M	4 - Vehicle Avionics Integration Laboratory	09/22/2011			▼				
\$12.5M	5 - System Definition Review (SDR)	10/27/2011				▼			
\$7.5M	6 - Flight Control Integration Laboratory	11/17/2011					▼		
\$12.5M	7 - Engineering Test Article (ETA) Structure Delivery	01/12/2012					▼		
\$1.3M	10a - ETA Landing Gear Drop Tests	02/29/2012						▼	
\$5M	8 - Separation System Test	02/29/2012						▼	
\$2.5M	10b - ETA Captive Carry Interface Tests	05/24/2012							▼
\$6M	11 - ETA Captive Carry Flight Test Readiness Review	05/24/2012							▼
\$7.1M	12 - ETA Captive Carry Flight Test	05/29/2012							▼
\$12.5M	9 - Preliminary Design Review (PDR)	05/30/2012							▼
\$.7M	10c - ETA Nose Landing Gear Drop Tests	06/27/2012							▼
\$8M	13 - ETA Free Flight Test								▼



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Total: \$112.9M	Boeing									
\$10M	1 - NASA Kickoff	04/20/2011	▼							
\$10M	2 - Delta Systems Definition Review (SDR) Complete	05/19/2011	▼							
\$15M	3 - Phase 0 Safety Review Complete	06/16/2011	▼							
\$10M	7 - Interim Design Review (IDR) - 4	07/14/2011		▼						
\$7.5M	5 - Landing Air Bag Drop Demo #1	08/26/2011		▼						
\$7.5M	10a - Launch Vehicle Emergency Detection System/Avionics System Integration Facility	11/17/2011			▼					
\$5M	6 - Phase 1 Wind Tunnel Tests	11/30/2011			▼					
\$7.5M	10b - Launch Vehicle Emergency Detection System/Avionics System Integration Facility	02/10/2012				▼				
\$2.5M	11 - Preliminary Design Review (PDR) Complete	03/12/2012				▼				
\$10M	4 - Launch Abort Engine (LAE) Fabrication and Hot Fire Test Demo	03/23/2012				▼				
\$4.8M	8 - Parachute Drop Test Demonstration	05/18/2012					▼			
\$13.2M	12a - Phase 1 Flight Software Preliminary Design Review (PDR)	05/18/2012					▼			
\$4.2M	13 - Orbital Maneuvering and Abort Control (OMAC) Hot Fire Test Complete	07/11/2012						▼		
\$1.2M	14 - Service Module (SM) Propulsion Cold Flow Tests Complete	07/23/2012						▼		
\$2.5M	9 - Service Module (SM) Propellant Tank Develop Tests	07/24/2012						▼		
\$2M	12b - Phase 2 Ground Software Preliminary Design Review (PDR)								▽	



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Total: \$75M	Space Exploration Technologies Corp. (SpaceX)								
\$10M	1 - CCDev2 Kickoff	05/05/2011	▼						
\$5M	2 - Launch Abort System (LAS) Propulsion Conceptual Design Review	07/26/2011		▼					
\$15M	3 - Design Status Review (DSR) 1	08/17/2011		▼					
\$10M	4 - LAS Propulsion Components Preliminary Design Review (PDR)	09/20/2011		▼					
\$15M	6 - Design Status Review (DSR) 2	12/13/2011			▼				
SpaceX Funded	5 - Crew Accommodation Concept Prototype and In-Situ Trial 1	03/12/2012				▼			
\$5M	8 - LAS Propulsion Component Test Articles Complete	05/15/2012					▼		
\$10M	10 - Concept Baseline Review (CBR)	06/14/2012						▼	
\$5M	9 - LAS Propulsion Component Initial Test Cycle	06/27/2012						▼	
SpaceX Funded	7 - Crew Accommodation Concept Delta-Prototype and In-Situ Trial 2	07/30/2012							▼



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Total: \$22.005M	Blue Origin									
\$.905M	1 - Space Vehicle (SV) Kickoff Meeting	05/20/2011	▼							
\$2M	2 - Pusher Escape Kickoff Meeting	05/20/2011	▼							
\$3.4M	3 - Reusable Booster System (RBS) Engine Kickoff Meeting	05/20/2011	▼							
\$4M	5 - RBS Engine Thrust Chamber Assembly (TCA) Interface and Test Plan Review	09/22/2011		▼						
\$.9M	4 - Space Vehicle Mission Concept Review (MCR)	09/30/2011		▼						
\$.9M	9 - Space Vehicle System Requirements Review (SRR)	05/16/2012					▼			
\$2M	6 - Pusher Escape Test Vehicle #1 Shipment	05/23/2012					▼			
\$2.25M	10a - RBS Partial-Throttle Engine Thrust Chamber Assembly (TCA) Test	06/06/2012					▼			
\$3M	7 - Pusher Escape Ground Firing	08/08/2012							▼	
\$1.9M	8 - Pusher Escape Pad Escape Test									▽
\$0.75M	10b - RBS Full-Throttle Engine Thrust Chamber Assembly (TCA) Test									▽



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Unfunded	United Launch Alliance (ULA)								
	1 - Launch Vehicle Certification Kickoff	07/18/2011		▼					
	2 - Design Equivalency Review (DER) Summary Review	09/20/2011			▼				
	4 - Tailored System Requirements Review (SRR)	12/08/2011				▼			
	3 - Probabilistic Risk Assessment (PRA) Review	12/13/2011				▼			
	5a - System Requirements Review (SRR)	06/28/2012					▼		
	5b - Hazard, System Safety and PRA Review	08/07/2012						▼	
Unfunded	Alliant Techsystems Inc. (ATK)								
	1 - Launch Service Kickoff Review	09/15/2011			▼				
	2 - Technical Interchange Meeting 1	12/15/2011				▼			
	3 - Launch System Initial System Design (ISD)	1/11/2012					▼		
	4 - Technical Interchange Meeting 2	02/29/2012						▼	
	5 - Program Status Review (PSR)	07/11/2012							▼



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Unfunded	Excalibur Almaz Incorporated (EAI)								
	1 - EAI Development Program Kickoff Review	10/28/2011			▼				
	2 - System Requirements Status Review	01/30/2012				▼			
	4 - Test Status Review	05/23/2012					▼		
	5 - Design Status Review	05/23/2012					▼		
	3 - Launch Vehicle Compatibility Review	06/13/2012						▼	