



Examples of SIE Industry and Technical Experience

Structural Engineering and Analysis Design, Stress Systems Integration Satcom and Interiors Major Modifications: Commercial, Military, & Special Ops Modifications and Conversions

1	Principal design, supply chain management and certification firm for ORBIS International's MD-10 Flying Eye Hospital including cabin reconfiguration, seating, IFE, surgery rooms, ECS, water purification, and systems integration;	YES	YES	YES
2	Principal design and certification firm for B757 Passenger-to-Combi conversions for National Airlines , including cabin interiors IFE and systems integration;	YES	YES	YES
3	Principal design and engineering firm for the Honeywell B757 Flying Test Bed (Engine Test Aircraft) including creating a specialized test engine pylon and all systems integration;	YES	YES	YES
4	Principal design, engineering, and certification firm for National Airlines 757-200 Passenger-to-Combi conversion program (Passenger/Freighter) including all structural modifications and system integration.	YES	YES	YES
5	Principal design, engineering, and certification for Row 44's Ku-Band Broadband Wi-Fi antenna and cabin	YES	YES	YES

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	interior system - Southwest, Norwegian Air Shuttle, Iceland Air (757, 737)			
6	GE Aviation 747-100 Flying Test Bed Engine Pylon Re-Design, Supply Chain Management & Certification	YES	YES	YES
7	GE Aviation 747-400 Flying Test Bed Engine Pylon Re-Design, Supply Chain Management & Certification	YES	YES	YES
8	Structural design and certification for JetBlue's A320 LiveTV antenna installation	YES	YES	
9	Structural design and certification for Frontier Airlines A319/A318 LiveTV antenna installation	YES	YES	
10	United Airlines 757-200 engineering design & certification of Ku-Band Satcom System	YES	YES	YES
11	Structural certification of F-22 and JSF airframe and engine components;	YES		
12	Fatigue and damage tolerance design certification of	YES		

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	USAF B-2 metallic and composite structures;			
13	Analysis of F-4 repairs for USAF approval;	YES		
14	Fatigue and damage tolerance analysis of (Textron) helicopter engine and transmission components;	YES		
15	Fatigue life extension programs of Sikorsky S-64 helicopter main rotor blade, hub, and shaft based on damage tolerance analyses;	YES		
16	Principal design and certification agent for Alcoa-SIE B757 Cargo conversion;	YES	YES	YES
17	Investigation and solution of cracking problems on B737 freighter conversions.	YES		
18	Re-design and re-certification of passenger to freighter conversions for the DC-8 Joint Industry Consortium Task Force, (Airborne, BAX Global, Emery, and others)	YES		
19	DHC-6 (Twin Otter) wing life extension;	YES		YES



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20	B707 engine nacelle modification certification;	YES
21	B727 freighter Supplementary Structural Inspection programs and	YES
22	B727 freighter floor modifications.	YES
23	Provided damage tolerance analysis and FAA certification of the Gulfstream G-IV wing ;	YES
24	Provided damage tolerance and safe life design for the B-1 Bomber to Rockwell International - Los Angeles Division;	YES
25	Provided fatigue and crack growth reliability analysis of Space Shuttle Main Engine (SSME) components with the Jet Propulsion Laboratory, Pratt and Whitney, Aerojet, and Rocketdyne ;	YES
26	Developed and implemented fracture control plans for pressure vessels and space shuttle payloads for the Jet	YES



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Propulsion Laboratory;

27	Developed damage tolerant design procedures and special finite element analysis techniques for the residual strength analysis of reinforced structure at the Lockheed-California Company	YES
28	Development of appropriate proof test programs for the space shuttle main engine at Rocketdyne	YES
29	Designed and performed stress/fatigue/damage tolerance analyses of numerous FAA Alternate Means of Compliance efforts regarding Boeing 727, 737, 747 critical lap splices for FAA substantiation;	YES
30	Prepared numerous mechanical and propulsion structural integrity analyses and USAF certification of F-22 Advanced Tactical Fighter aircraft components;	YES
31	Provided structural design of all-composite General Atomics Raptor (high altitude unmanned aircraft) 7-Foot long propeller blades	YES



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32	Provided structural analysis of composite passenger aircraft (747, DC-9) radomes;	YES
33	Provided aerodynamic loads analysis for C-130 radomes;	YES
34	Performed aeroelastic flutter analysis of passenger aircraft (DC-8, B707);	YES
35	Provided structural analysis and certification for DC-8 Passenger to Freighter Conversion STC's cargo doors and surround structure.	YES
36	Prepared structural and aerodynamic loads analysis for certification of weight increases on DC-8 and 727 aircraft;	YES
37	Prepared finite element modeling and analysis of B727, B747, DC-8 aircraft structure;	YES
38	Prepared finite element modeling and analysis of B727, B747, DC-8 aircraft structure;	YES



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39	Provided strength and damage tolerance analysis of Boeing 717 and 737, the de Havilland Dash 8-400, the Fokker F100, and the ATR-72 engine mount systems under contract to Barry Controls .	YES
40	Performed strength, fatigue, and dynamic analysis of mount systems for Auxiliary Power Units (APU) on Boeing 777 and Airbus A320 and A340 for Barry Controls .	YES
