



BAA Project Examples

Projects we have led or been involved in

Name	Description	Ref Date
ATS Solution Sets	Created fault code diagnostic information and entered into the service publication tool for an automatic transfer switch (ATS) for use with a genset application.	2019
Service Manuals	Created the service remove and installation procedures for HHP gas engines with Murphy controls	2019
Fault Code Validation	Validated that service manuals for Tier 2 products contains the same information, with a similar layout, flow, and hyperlinks to procedures. Analyzed the quality of service manuals and provided specific notes for missing information, incorrect information, etcetera to ascertain the overall quality of service manual content provided to the technician.	2018-2019
Graphical Database GUI / Integrity Add-on	Define processes and tool to allow graphical interaction with database (Integrity) to facilitate system interface design and improve data loading efficiency.	2018
OBD MCID Report Import into Integrity	Created and implemented the strategy for taking current MSWord malfunction criteria requirement reports and placing into Integrity	2018
Fuel Systems Integrity Architecture	Created software and controls level engineering requirements, often by means of reverse engineering, in Integrity, developed and implemented additional hierarchy within requirements structure to enhance requirements management.	2018-2019
OBD Requirement Definition and Management for NG Engines	Provided gap analysis of requirements for Euro VI NG engines by creating a master daignostic list, a non-features list and clarifying any requirements with internal and external regulatory experts.	2018
OBD Project - processes	Mapped current diagnostic development and certification documentation processes and documented them into FEPs, while identifying any gaps in the processes.	2018
OBD Project - data management	System analysis of design review material data storage, aligning with customer requirements and corporate database structure standards	2018
Interface System Configurator	Mapped out an automated process for enterprise to allow the adoption of wiring harness service strategies for multiple platforms, that includes the use of repair wire assemblies to service connectors which had experienced a terminal or wire crimp failure.	2017-2018
OBD	Calibration of aftertreatment sensor diagnostics: -Root cause analysis for faults set in field test -Test plan definition -Failed part data collection on test trucks -Matlab based simulation on failed part and field test data -Calibration recommendation	2017-2018

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OBDD PMO (Project Management Office)	Support for OBDD Project Management -Enhanced and created metrics and tracking tools to speed progress and highlight issues in the diagnostic development process. -Developed requirements for a database to handle issue tracking.	2018
HHP Tech Profiles and DVP&Rs	Imported design verification plans and reports into integrity using a custom wizard Importing Requirements using a custom import template Created scripts to mass update records quickly and efficiently	2017-2018
Troubleshooting Trees	Developed content for five Tier 4 engine platform fault code diagnostic trees.	2017-2018
Common Diagnostic Systems	Define and document OBDD development processes that work with software factory	2017-2018
SmartPath development	System architecture and prototyping for semi-autonomous mower startup	2015-2017
Electrical Schematic Creation	Using AutoCAD, converted European (Polish) Schematics of a Patch Sprayer to US dimensions to serve as a troubleshooting aid for the service technicians.	2016
Diagnostics Capability Tool	Data mapping tool to capture diagnostic capability on multiple duty cycle scenarios	2016
Warranty Analysis Automation	Radical process re-engineering to achieve 10x throughput	2015 - present
Electronic Hardware Interface	Adapt iVRT to hardware component management - include V&V tracking and CM (change management) linkage	2016
iVRT	Created a tool that visualizes data from structured sources such as excel and databases (Requirements Management Tools) Create customize add-ons within the tool to meet customer needs Provide Maintenance and Training for iVRT	2014 - 2018
Smart Boundary Diagram Development	Create system and subsystem boundary diagrams that are linked to RMT and other structured data	2014-2017
Reqs Mgmt Tool Training	Global training program for RMT adoption	2014-2017
Reqs Mgmt Tool Administration	Provide system admin and consulting for RMT global rollout	2012-2013
Electronic Test	Manufacturing test line setup – strategy, hardware and software (Labview)	2012
Electronic Hardware Design	Zuken install, library setup, layout ECM sub module library and configuration management setup and use	2012-2013
Communications	Datalink standards development, application test	1996, 2003, 2012
Requirements Allocation	Define user need and create a tool (Oracle-Apex D/B)	2012- 2016

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Database (RAD)	- allocate requirements to common modular architectures - manage quality process scheduling and delivery	
RAD - System Hierarchy Feature	Identify, clarify and manage systemic relationships between requirements and product architecture and it's controls and components	2013
RAD II	Application to enhance RAD to support common field service on/offboard tools, processes and schedules.	2013
PM Support System	Provide system and personnel for technical and project management of electronic controls development teams	2007- 2013
Certification Document Tool	Develop ARB Certification Literature Tool -Define requirements, coordinate user needs -Develop java based software and tie to multiple d/b -Provide user training and manual	2007-2009
Service Requirements Translation	Requirements translation: - field service diagnostics (on/offboard) - service standards	2010-2016
OBD Requirements Translation	Translation of ARB 1971, 1968 and EPA SCR regulations and related subsidiary regulations (SIR, etc.)	2004, 2007, 2010, 2016
Euro Regulation Translation	Translation of Euro IV/V/VI (HD), Euro 4/5/6 (LD) and SCR regulations and related subsidiary regulations	2010-2012, 2016-2017
OBD Regulation Design, Audit and Monitoring	OBD design analysis - algorithms and hardware	2009-2017
OBD Certification	Project Management of Project/Functional teams as they went through the Diagnostic Development Process and Diagnostic Tuning Process	2004-2016
Requirement Management Tool Setup and Operation	Setup schema and populate d/b - IBM DOORS, Siemens Teamcenter, other - OBD requirements (various releases) - Service requirements (diagnostics, SIR, RMI, etc.) - Port to future tool (PTC Integrity and other)	2008, 2010-2012-2016
Regulatory Data Management	Create processes and tools for interfacing with ARB/EPA regulatory agencies	2008-2018
NTF Process & Analysis	Create process for analyzing and managing warranty data for NTF (No Trouble Found) returns Analyze returns and create reports on NTF data for root cause and follow up	2010-2013
Requirements Data Structure	Evaluate requirements data structure and requirements management tool schema and porting to determine tool interoperability for PLM suite adoption	2010
Urea Supply Panel for Engine Test Cell	Create specification and source Urea supply and monitoring panel for high horsepower engine test cells	2012
Develop Team FMEA Process and Results	Define process for team FMEAs and perform on - Tractor/loader transmission systems - Aftertreatment control system	1999, 2003, 2010

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	- Transmission control system - Gas turbine engine	
Motor Control	Prototype motor control for demonstration of confidential industrial plant application	2010
Common Tool Architecture	Enterprise wide hardware and software platform development to achieve maximum reuse and global supportability -Target users (R&D, Engineering, Manufacturing, Test, Field Support organizations) -Define requirements and organize enterprise architecture -Develop multi-vendor solutions -Developed processes to define standard work for how to test products in manufacturing and design verification	2012-2013
Automated Opening and Performance Tester	Lab VIEW programming to add functionality to existing equipment to measure and record vertical and angular position of bottle cap, force and pressure	2013
Paver Coating Vehicle Wiring Analyses	Evaluate existing paver coating machine for wiring architecture loads and capacities. Supply improved manufacturing processes to support analysis. Recommend future product improvements on same.	2010
Perform PVE Test	Analyze regulations, write test procedures and perform test for OBD PVE on vehicles	2012
Datalink Test and AEB Update	Define and run tests on vehicle subsystem j1939 datalinks to determine interoperability. Update application engineering bulletins for OEM and suppliers.	2012
Vehicle EMI Analysis	Evaluate paving machine for EMI susceptibility and emissivity. Assess regulations and applicability. Define test plans for component level, machine in open field and machine in chamber.	2011
FP4 Redesign	Evaluated product design to address field issues. Recommended component change, circuit changes, and improved serviceability.	2012
Sensor Development	Evaluate and study sensors during the design process. Conducted field studies to verify expected performance. Performed Root Cause Analysis on failures. Report findings to suppliers and management.	2012-2013
Sensor Specification	Determine useful life data using fleet test. Extrapolate for regulatory requirements.	2012
Hardware Group	Worked with start-up department to develop electronic hardware focusing on circuit library designs, implementing new cad package and parts library, validation testing, and develop technical product specifications.	2012-2013
CCB	Setup tools and processes for Change Control Boards and operate for customer	2012-2013
Workflow	Facilitate definition of improved workflow and document AS IS. Design TO BE workflow.	2011-2012
Documentation Tool for EPA Emission Control Device	Create tool to document emission control modes for EPA per OEM guidelines. Develop process to support and provide training.	2011-2012
Design Sensor Module	Hardware design and development for a aftertreatment sensor module - low voltage impedance translator for high impedance sensor	2012
Design and Deliver DV Test	Create test stand for electronic control module for design validation and engineering evaluation.	2012

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Design and Deliver PV Test	Create test stand for electronic control module for productions validation, audit test and manufacturing support.	2013
Design, Deliver and Support Elec Mfg Test	Create test stands for electronic control module production, support as necessary for training, trouble shooting and maintenance	2013
Boundary Diagrams - HHP	Facilitate the aggregation of disjoint subsystem boundary diagrams into a complete engine and aftertreatment boundary diagram with a conversion into a smart (iVRT) boundary diagram	2016-2017

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