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TACOM LCMC INDUSTRIAL BASE ENGINEERING SUPPORT – Board of Directors

TARDEC, Engineering Business Group
July, 2011

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Purpose

Provide an overview of the U.S. Army Tank Automotive Research, Development and Engineering Center's (TARDEC's) capabilities related to LCMC Industrial Base Support

Agenda

- Purpose
- Industrial Base Environment
- TARDEC Industrial Base Support
- Industrial Base Culture Change
- IBIT/IBET Mission
- TARDEC's DMSMS Contract
- Depot/Arsenal Support

Ground Equipment Support

Escalating Support Challenges (production & sustainment)

- Increasing O&S requirements (65-80% of Life Cycle Cost)
- Equipment condition due to deployment s (Degradation)
- Obsolescence of Army systems due to age (25-40 yrs)
- Loss/change of manufacturing sector for COTS (Support Strategy Risk)
- Inconsistent lifecycle sustainment policy & planning (Organic vs CLS vs TDPs?)
- Inconsistent engineering/design influence for sustainment (Poor Planning)
- Stove-piped industrial base issue investigation & resolution (ILSC & PM versus LCMC)
- Negative economic trends impacting commercial industrial base (Industrial Base Risk)
- Environmental and safety impacts

Result = Increase in Re-active Support Issues

Solution = Pro-active Logistics Engineering Support

Industrial Base Engineering Team (IBET)

TARDEC Engineers:

- Support LCMC Industrial Base requirements
- Provide investigation
- Leverage experience, capability & expertise
- Provide quick response to problems
- Support proactive management
- Improve LCMC communication
- Apply disciplined processes
- Implement LCMC wide solutions (standardization)

TARDEC POC: IBET Team Leader, Mr. Tony Mitek

Industrial Base Culture Change

Past Support = Component or platform focus

- Lack of standardized LCMC strategies
- Separate platform support
- Focus on select STS & OEM supported platforms
- Individual “isolated” platform solutions
- LCMC and experience was not leveraged or shared
- No pro-active Industrial Base or DMSMS management

Current/Future Support = LCMC consideration & application

- Industrial Base Integration Team (IBIT) Process (2007) = LCMC focus
- Leverages & shares common/existing LCMC solutions & capability
- Interfaces with broad commercial industrial base (DMSMS contract)
- Pro-active LCMC Industrial Base monitoring (capability & risk)
- Leverages & cultivates non-traditional sources of capability
- Documents IBIT issues and provides user access (IBIT Console)

IBIT/IBET Mission

Testing, Verification and Validation

Operational Impact Analyses

Reverse Engineering

Strategic Materials

DMSMS Management & Operation

Tracking of Bills of Material and Technical Data Packages

One
Team
One Vision

Industrial Capability Assessments

Defense Priorities Allocation System

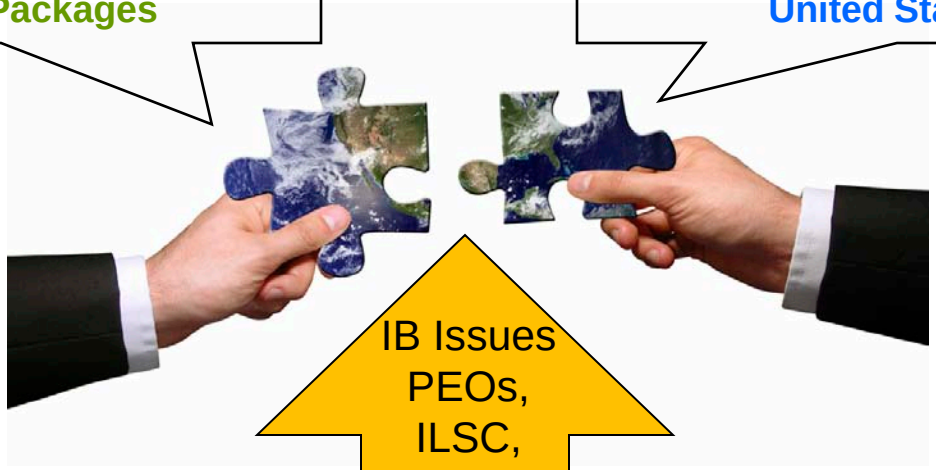
Industrial Labor Relations

Production Readiness Review

Surge and Contingency Operations

Committee on Foreign Investment in the United States (CFIUS)

Industrial Base Engineering Team IBET



Industrial Base Management Group IBMG

IB Issues PEOs, ILSC, Depots, OEMs, Etc.

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

IBIT/IBET Mission

Address all Industrial Base issues associated with lack of sources required for production and/or sustainment (technology, materials, manufacturability)

- Capable of addressing all Industrial Base issues
- Quick turn-around capability for problems
- Proactive
- Promotes communication among all members
- Disciplined project management process
- LCMC solutions
- Leverages LCMC experience and capability
- Captures historical data and metrics
- Monitor, identify, and resolve industrial manufacturing risk or non-support conditions.
- Eliminate or minimize impact and / or reduce operating and support costs for equipment supported by the TACOM LCMC
- Identification of current suppliers as well as those who have not historically conducted business with the government.
- Provide TACOM LCMC Managers maximum visibility of support options
- Occupational Safety Health Administration (OSHA), Environmental Protection Agency (EPA), Society Of Engineers (SAE) initiatives

IBIT/IBET Mission

LCMC IBIT Console/Database

- Operational 08/2010
- User has direct access from TACOM LCMC Portal
- Captures LCMC industrial base issues
- User Inputs - Industrial Base Action Report (IBAR)
- Inputs can be either “information only” or “action requested”
- Provides visibility of LCMC wide issues, requirements or data
- Supports shared LCMC investigation/resolution
- Promotes standardization Across LCMC
- Provides LCMC historical data

TARDEC's DMSMS Contract

TARDEC Contract with Automation Alley (DMSMS Tool)

- DMSMS case investigation, resolution & coordination support
- Database of LCMC relevant commercial industrial capability
- Access and communication with nationwide commercial industrial base
- Industrial base management (capability, health, trend, and risk analysis)
- Pro-active obsolescence avoidance
- Reverse engineering
- Technical Data Packages (TDPs)
- Prototype & emergency replacement parts
- Test Planning and execution
- Partnership capability (commercial and organic)
- Cultivates new non-traditional sources of industrial base support
- Supports commercial economic development

Status

- Contract awarded on 21 September, 2009
- Requirements (Work Directive) based contract
- Currently available to TACOM LCMC community

TARDEC's DMSMS Contract

Diminishing
Manufacturing
Sources and
Material
Shortages

- Automation Alley, Michigan's largest technology business association, is currently on contract with TARDEC to provide industrial base support for the TACOM LCMC Diminishing Manufacturing Sources and Material Shortages (DMSMS) program
- The contract with Automation Alley has created a capability to establish commercial industrial base visibility and communicate TACOM LCMC requirements with companies across the United States
- Current Efforts:
  - Industrial Base Data & Communication Tool
  - TACOM LCMC Industrial Base Health/Risk Assessments
  - Sustainment Engineering Risk Assessments (SERA) of TACOM Equipment
  - Cadmium/Hex Chrome Replacement (High Purity Aluminum) Capability
  - Advanced Aviation Forward Area Refueling System (AAFARS)Tech Data Development
  - Common Automotive/TACOM LCMC Industrial Base Sector Study

TARDEC DMSMS Contract Officer's Representative (COR), Mr. Stan Michener

Depots / Arsenals Liaison Program

TARDEC Engineers:

- Participate in Developmental Assignments
- Have 6 to 24 months experience
- Rotate on-site assignments of 90 to 120 Days
- Are exposed to programs & issue experience
- Attend bi-weekly VTC with LCMC (PEO/PM/TARDEC/ILSC)
- Attend monthly WPU with LCMC & AMC
- Provide communication and collaboration of requirements necessary for the success of the TACOM LCMC mission
- Link experience and expertise between TACOM LCMC and the depots and arsenals
- Provide engineering support to assist with problem investigation, resolution and/or implementation
- Create synergies and standardization opportunities across the TACOM LCMC organizations and platforms
- Support individual and career development

Depot/Arsenal Support

Liaison Status

Implemented to date:

- ANAD, JAN 2009 (On site)
- RRAD, JAN 2010 (On site)
- RIA (As needed)
- SIAD (As needed)

Example Issues:

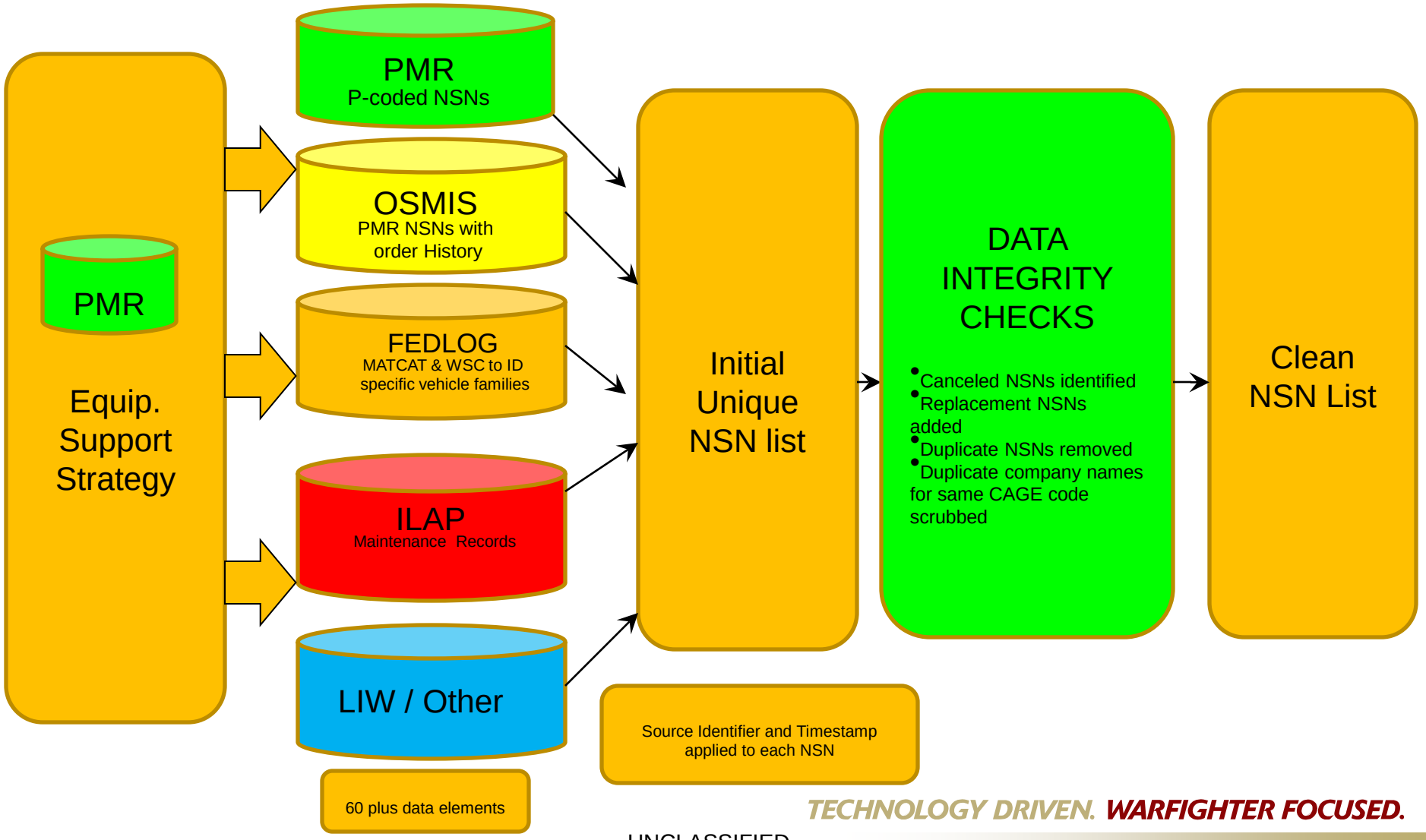
- Hexavalent Chromium/Cadmium (RRAD)
- Common Adhesive (ANAD)
- AVLB Pressure Plate (ANAD)
- Paladin Corrosion (ANAD)
- Abrams Transmission Line (ANAD)

TARDEC POC: Depot Liaison Action Officer,
Ms. Adrennia Hughley

Questions

BACKUP

SERA Data Sources



SERA Selection Matrix & Risk Priority Indicator

Risk Priority Flags - Weighting Factors:	1	3	5	When 0, RPI=0

48 max

NOTE: Sort Order: 1) Decreasing RPI 2) Decreasing Unit Price

Mfg Sources

Line #	Normalized RPI (1.000 Scale)	Overall Risk Priority Indicator	FSC	FSC Group Description	NIIN	NOMENCLATURE	CON/ REP	AMDF UNIT PRICE	Unit Price Flag	Count of CAGE CODEs	CAGE Code Flag	CAGE Code Exclusion Factor
1	0.938	45	2815	Diesel Engines and Components	01-523-6667	ENGINE,DIESEL	R	$32,685.00	1	1	1	1
2	0.938	45	2520	Vehicle Power Transmission Components	01-435-0408	PROPELLER SHAFT WIT	C	$619.00	1	1	1	1
3	0.833	40	2940	Engine Air and Oil Filters - Nonaircraft	01-514-2457	FILTER ELEMENT,INTA	C	$73.18	1	1	1	1
4	0.771	37	2520	Vehicle Power Transmission Components	01-347-7646	TRANS ASSY W CONTAI	R	$11,065.00	1	1	1	1
5	0.771	37	2530	Vehicle Brake Steering Axle Wheel Components	01-327-1350	STEERING GEAR	C	$905.00	1	2	0	1
6	0.729	35	2520	Vehicle Power Transmission Components	01-505-7556	AXLE ASSEMBLY,AUTOM	R	$27,342.00	1	2	0	1
7	0.729	35	6680	Liquid-Gas-Motion Measuring Instruments	01-540-3074	METER-RECORDER,TIME	C	$2,048.00	1	1	1	1
8	0.729	35	2930	Engine Cooling Sys Comps - Nonaircraft	01-331-2987	RADIATOR,ENGINE COO	C	$1,950.00	1	1	1	1
9	0.729	35	4330	Centrifugals Separators and Filters	01-538-9923	PARTS KIT,FLUID PRE	C	$415.00	1	1	1	1
10	0.729	35	5330	Packing and Gasket Materials	01-150-9812	GASKET AND SEAL SET	C	$88.23	1	2	0	1
11	0.729	35	6220	Electric Vehicular lights and Fixtures	01-495-2851	LIGHT,WARNING	C	$36.89	1	1	1	1
12	0.729	35	2590	Miscellaneous Vehicular Components	00-778-0324	TRAILER COUPLING,TE	C	$19.61	1	4	0	1
13	0.708	34	2815	Diesel Engines and Components	01-479-4199	ENGINE,DIESEL	R	$3,275.00	1	3	0	1
14	0.708	34	2920	Engine Electrical Sys Comps Nonaircraft	01-517-1792	MODULATOR ASSEMBLY,	C	$3,412.00	1	1	1	1
15	0.708	34	7025	ADP Input/Output and Storage Devices	01-509-8642	DATA ENTRY UNIT	C	$106.29	1	4	0	1
16	0.708	34	5330	Packing and Gasket Materials	01-319-2137	GASKET	C	$32.59	1	2	0	1
17	0.688	33	4710	Pipe and Tube	01-331-6720	TUBE ASSEMBLY,METAL	C	$119.85	1	1	1	1

All Data Elements & Flags

All Repair Parts / NSNs

SERA Sustainment Analysis Flags

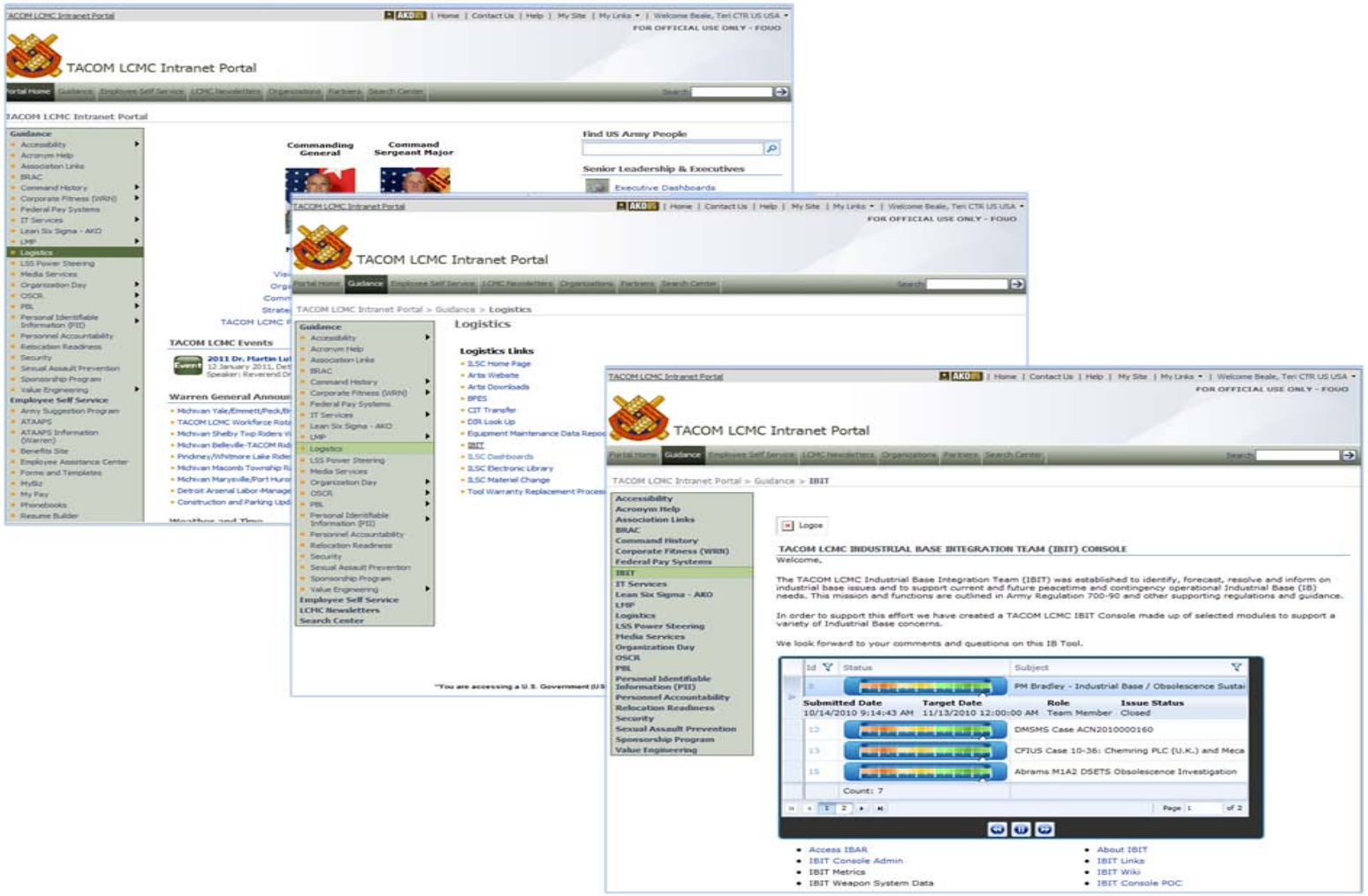
Weight Factor	Flag Description	Risk Condition
5.0	Single or no CAGE Code	1: <=1 CAGE Code
5.0	PBO 6-Month	1: Y
4.0	Zero Balance with Due Out	1:ZBAL="Y"and OH<0.5*RO
3.5	Acquisition Advice Code	1: AAC= Y,V,N,X,T, Inactive or Nomen = Inactive
3.5	Top 15% CWT	1: >= top 15% in latest year
3.5	Warehouse OH Stock < RO	1: OH<RO
3.0	Zero Stock with Recent Demand	1: OH=0 with Dmd in last 2 yrs
3.0	No Recent Demand	1: OSMIS & ILAP=0 in last 2 yrs
3.0	D&B High Risk Flag	1: Y
2.5	OCONUS Only CAGE Code	1: All CAGE Codes(>0) = OCONUS
2.5	Top 15% Closed Maint Workorder	1: >= top 15%
2.5	Top 15% Open Maint W/O in past 12M	1: >top 15%
2.5	Readiness Driver	1: Y
2.5	Technical Data Availbility	AMC/AMSC & DAC
2.0	Closed Maint Workorder	1:>0
2.0	Open Maint W/O in past 12M	1:>0
2.0	CWT Increasing	1:Latest FY >1.1*Prev FY AND Latest FY > Median
2.0	Recent Back Order (60 day)	1: Y
2.0	Hazardous Materials	HMIC, HCC, & characterisitcs

Results from SERA

- Evaluate all known support risk for the forecasted remaining life of the subject equipment
- Document fact-based evidence of risk
- Provide data for platform and / or strategic manager use
- Allow managers to tailor risk factors
- Could support Sustainment health Metrics

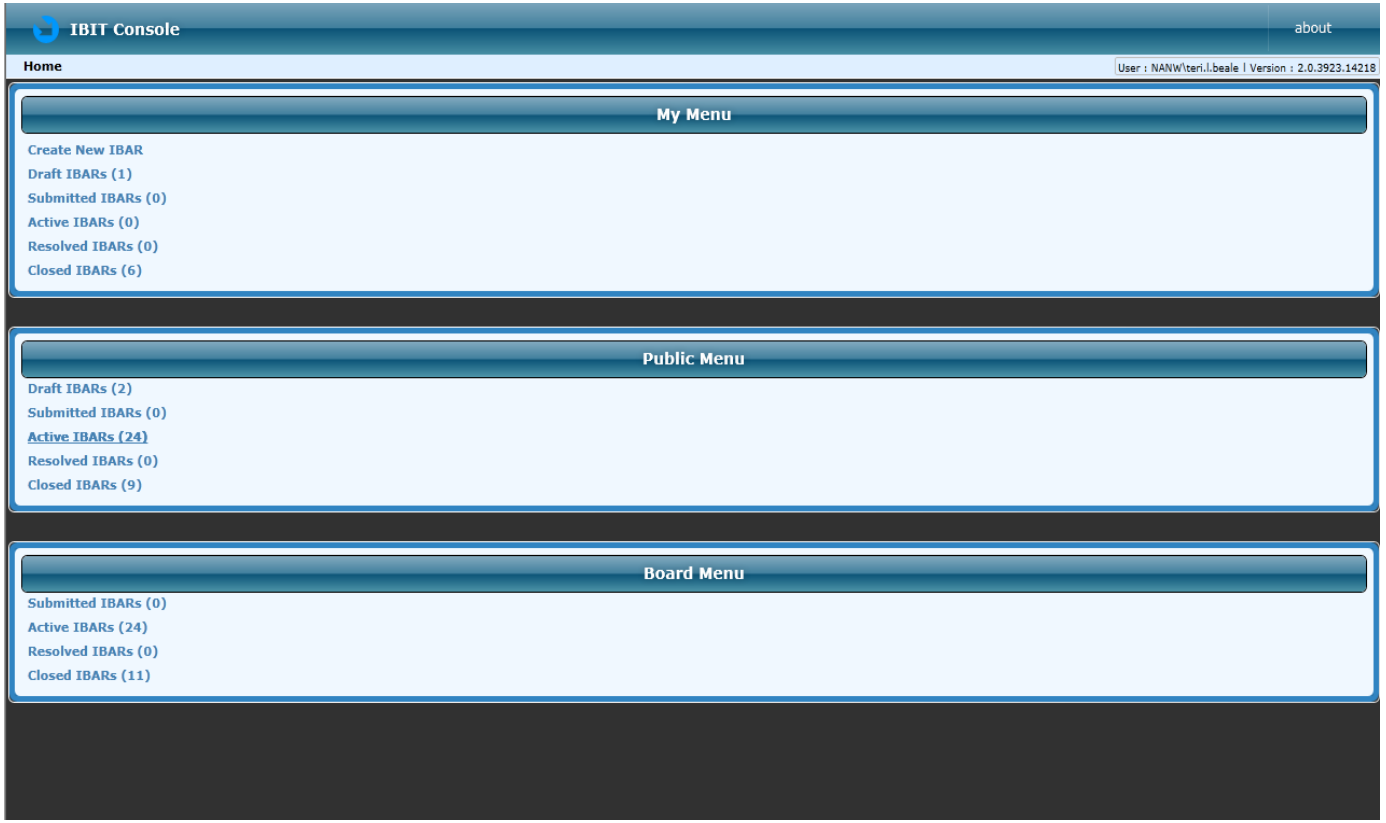
IBIT Console

Accessing the IBIT Console



IBIT Console

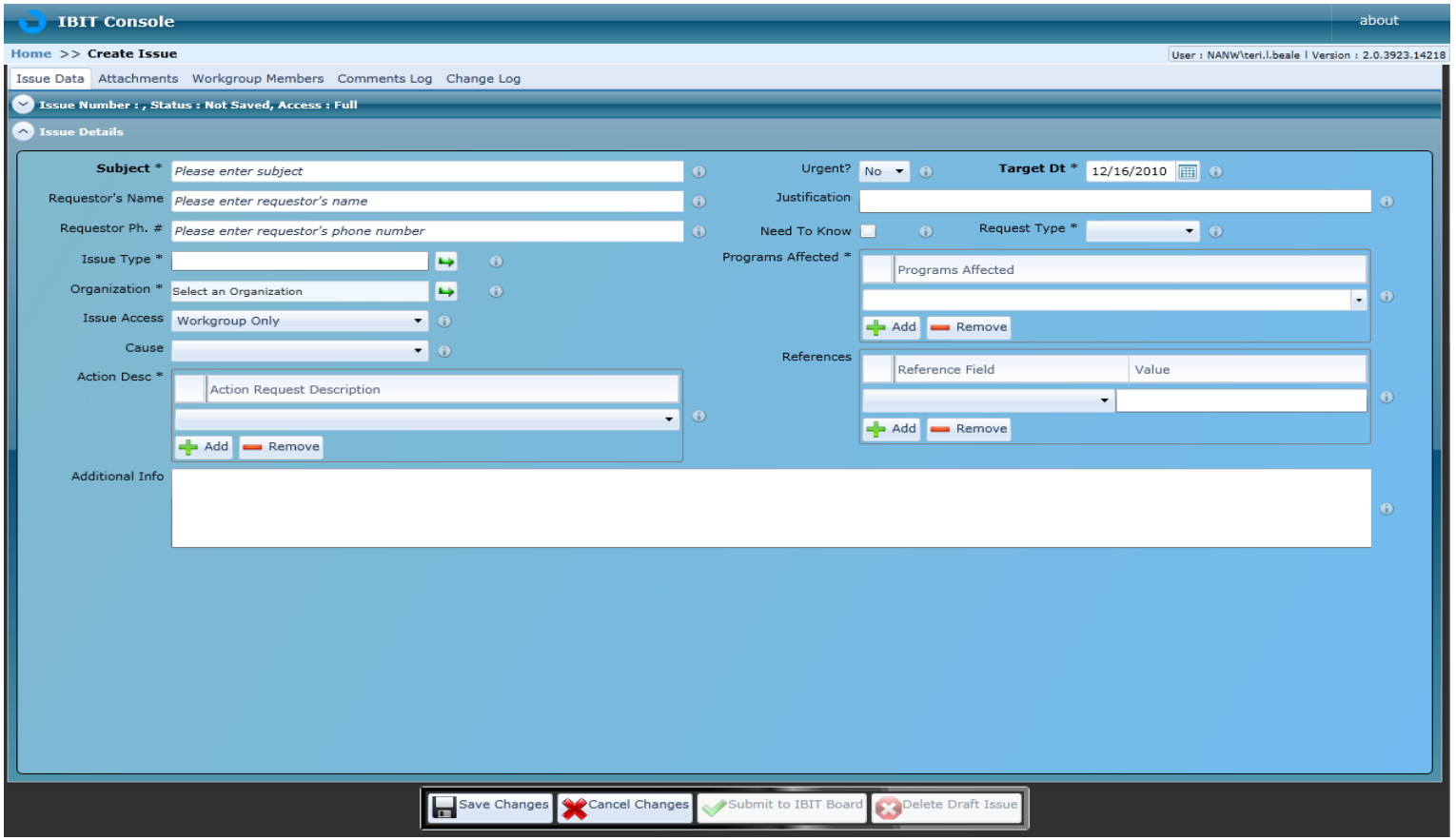
Using the IBIT Console – Homepage



- User selects an existing issue or creates a new one.

IBIT Console

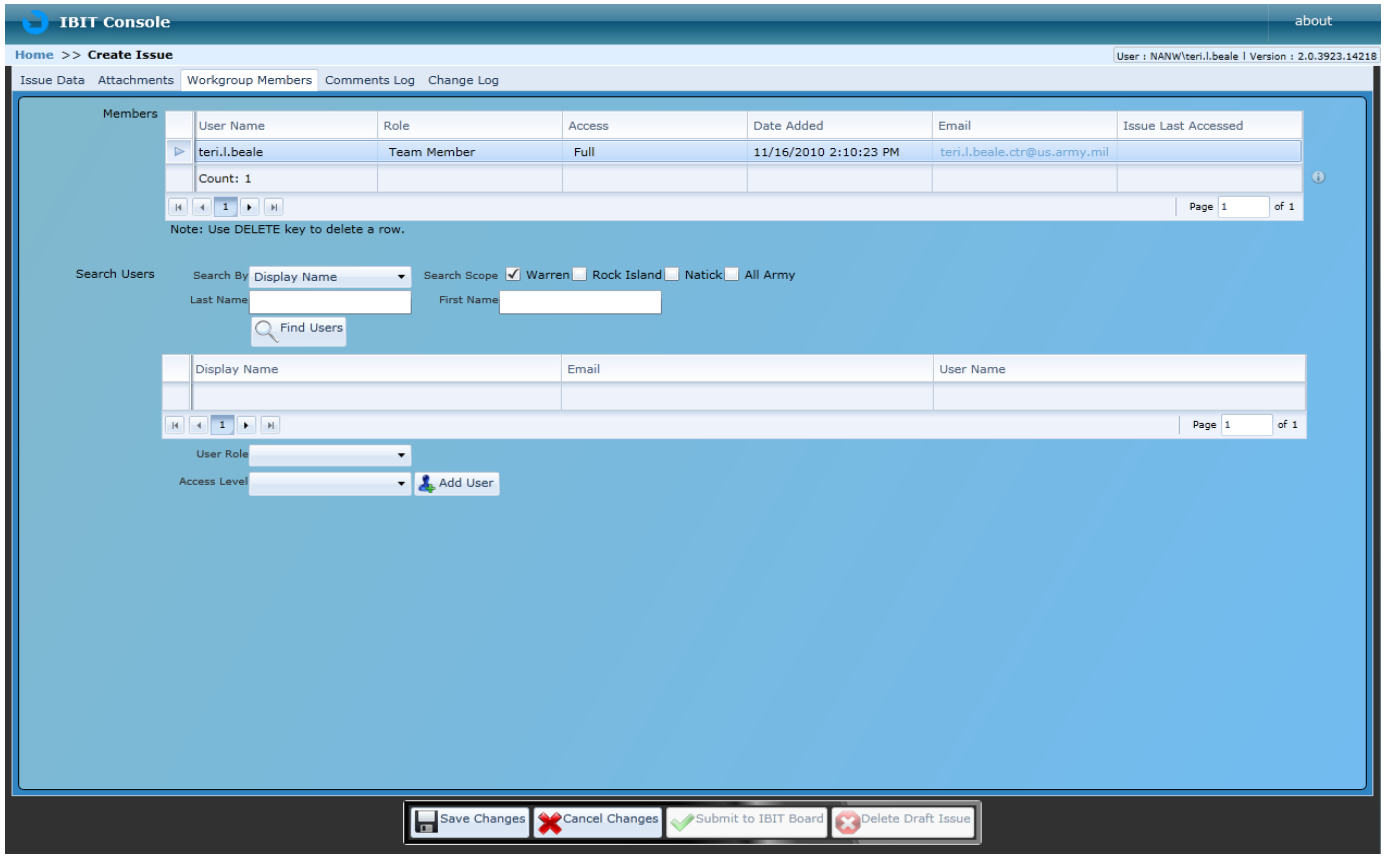
Issue Data Tab



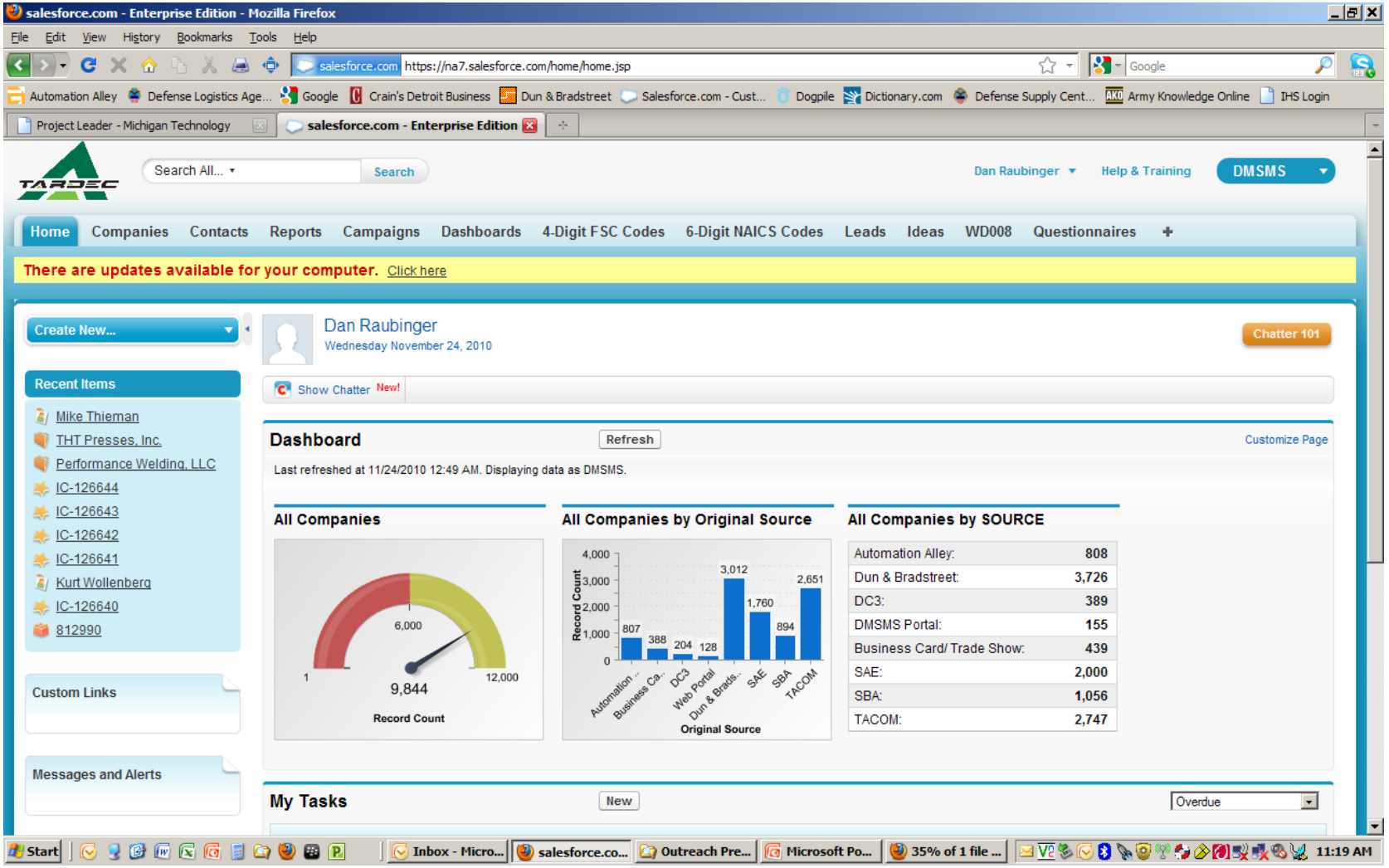
- User Completes fields to describe the issue and provides pertinent information

IBIT Console

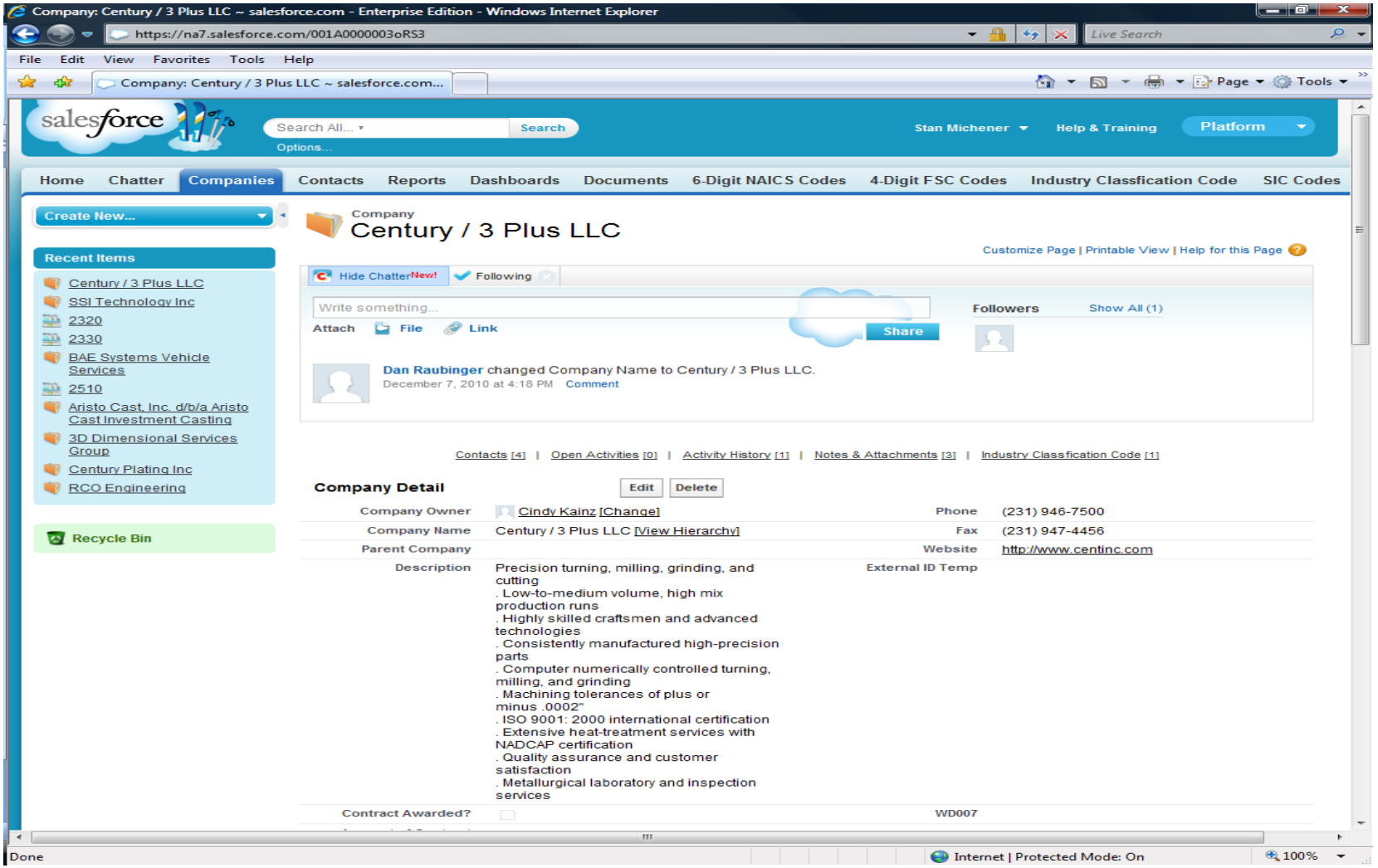
Workgroup Member Tab



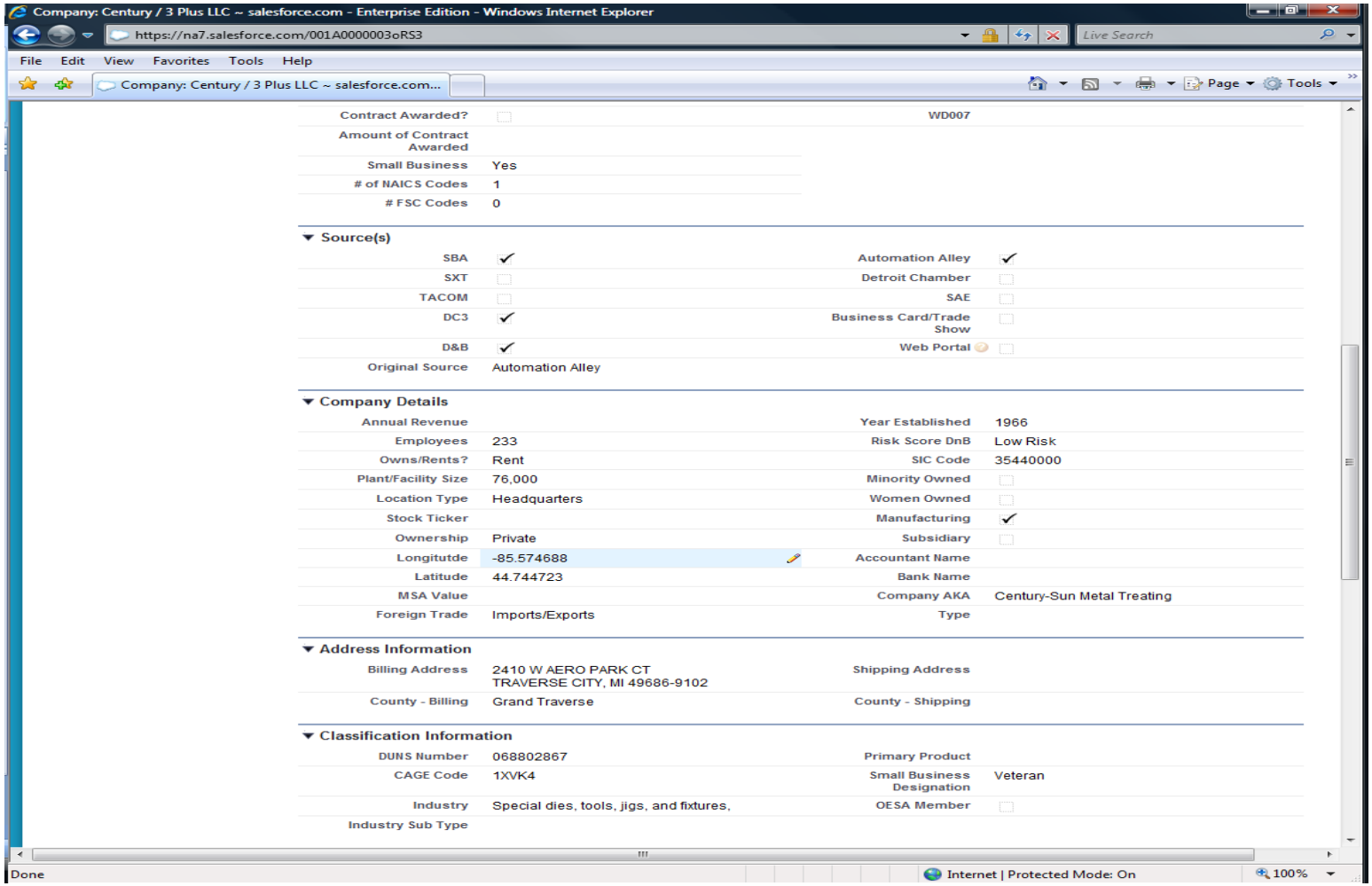
Industrial Base Database Homepage



Company Search – provides relevant company information



Company Search – provides relevant company information



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