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TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

TACOM LCMC INDUSTRIAL BASE ENGINEERING SUPPORT – Board of Directors

TARDEC, Engineering Business Group
July, 2011

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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



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UNCLASSIFIED

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



TARDEC Industrial Base 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

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)

Testing, Verification and Validation

Operational Impact Analyses

Reverse Engineering

Strategic Materials

DMSMS Management & Operation

Tracking of Bills of Material and
Technical Data Packages

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)

One
Team
One Vision

Industrial Base
Engineering
Team IBET

Industrial Base
Management
Group IBMG



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



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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



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 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

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)

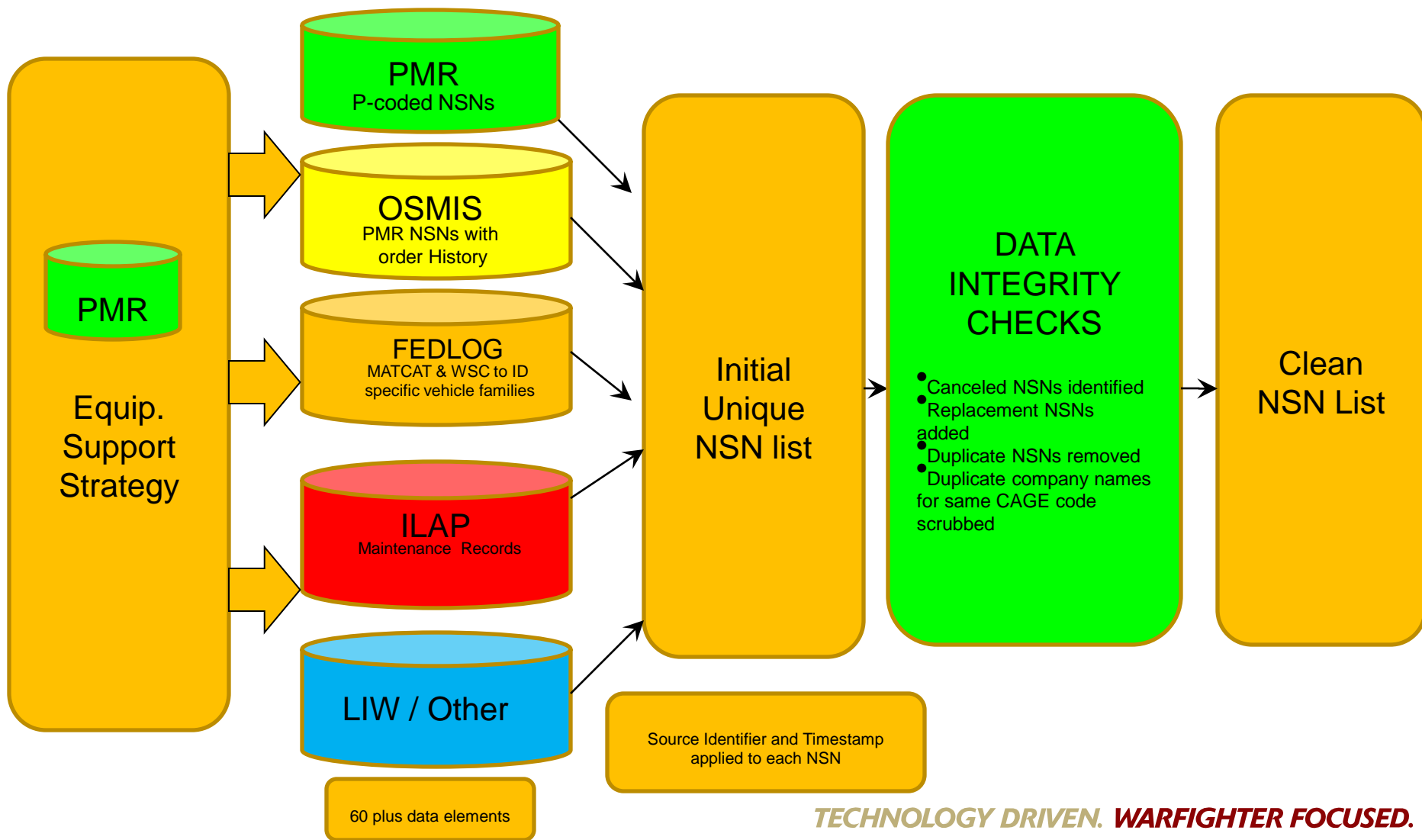
Example Issues:

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

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

Questions

BACKUP





SERA Sustainment Analysis



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									
Line #	Normalized RPI (1.000 Scale)	Overall Risk Priority Indicator	Mfg Sources									
			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	\$1,412.00	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

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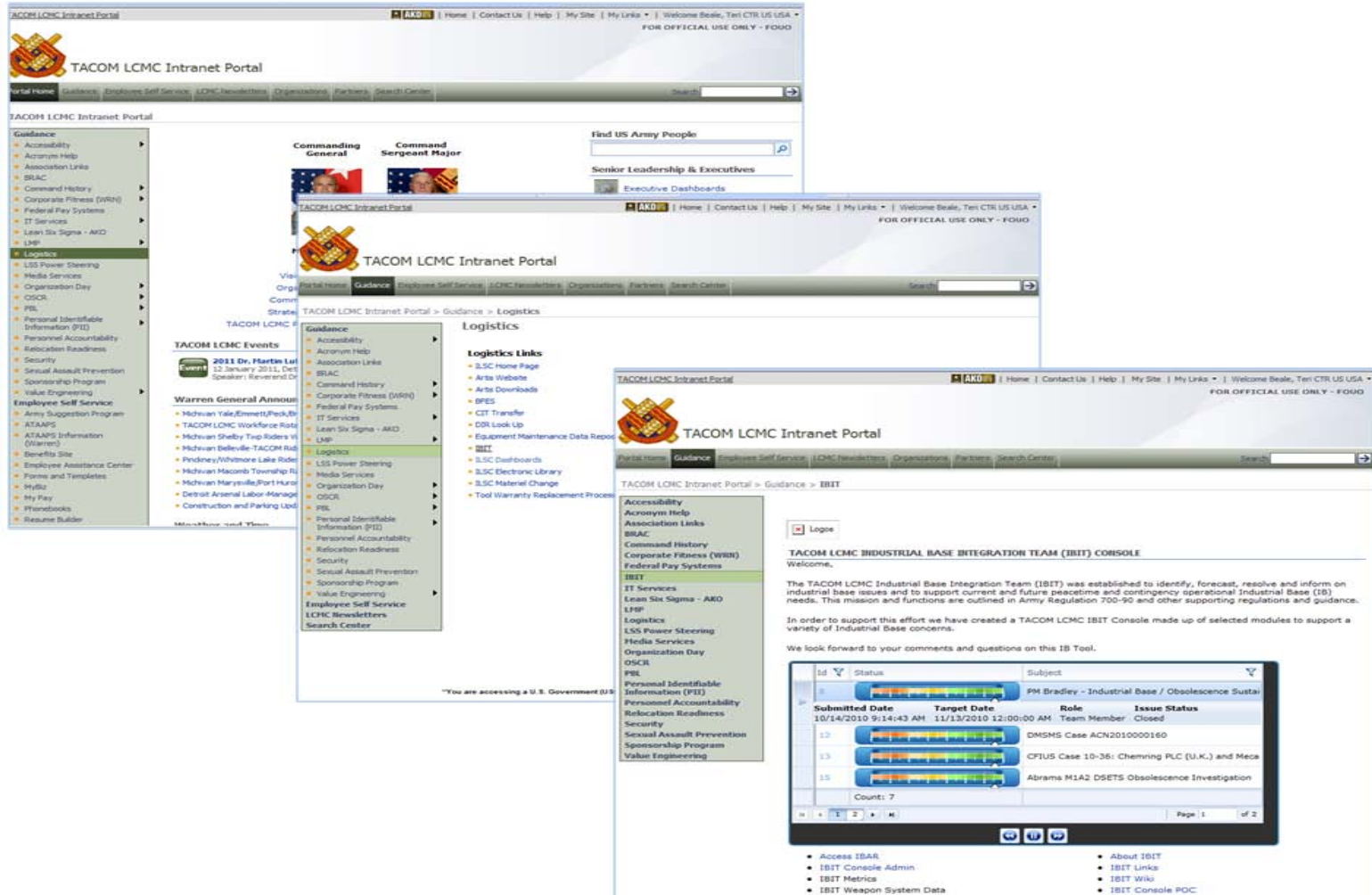
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Weight Factor	Flag Description	Risk Condition
5.0	Single or no CAGE Code	1: <=1 CAGE Code
5.0	PBO 6-Month	1: Y
4.0	Zero Balance with Due Out	1:ZBAL="Y"and OH<0.5*RO
3.5	Acquisition Advice Code	1: AAC= Y,V,N,X,T, Inactive or Nomen = Inactive
3.5	Top 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 Availability	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

Accessing the IBIT Console



The screenshot shows the TACOM LCMC Intranet Portal interface. The main navigation menu on the left includes sections like Guidance, Logistics, and Employee Self Service. The 'Guidance' section is expanded, showing various links. The 'Logistics' section is also visible, with a link to the IBIT Console. The 'Employee Self Service' section is also expanded, showing various links. The 'IBIT Console' link is highlighted in the 'Logistics' section.

The IBIT Console page is displayed, showing the TACOM LCMC Industrial Base Integration Team (IBIT) Console. The page includes a welcome message and a list of tasks. The tasks are listed in a table with columns for Submitted Date, Target Date, Role, and Issue Status.

Submitted Date	Target Date	Role	Issue Status
10/14/2010 9:14:43 AM	11/13/2010 12:00:00 AM	Team Member	Closed
10/14/2010 9:14:43 AM	11/13/2010 12:00:00 AM	Team Member	Closed
10/14/2010 9:14:43 AM	11/13/2010 12:00:00 AM	Team Member	Closed
10/14/2010 9:14:43 AM	11/13/2010 12:00:00 AM	Team Member	Closed

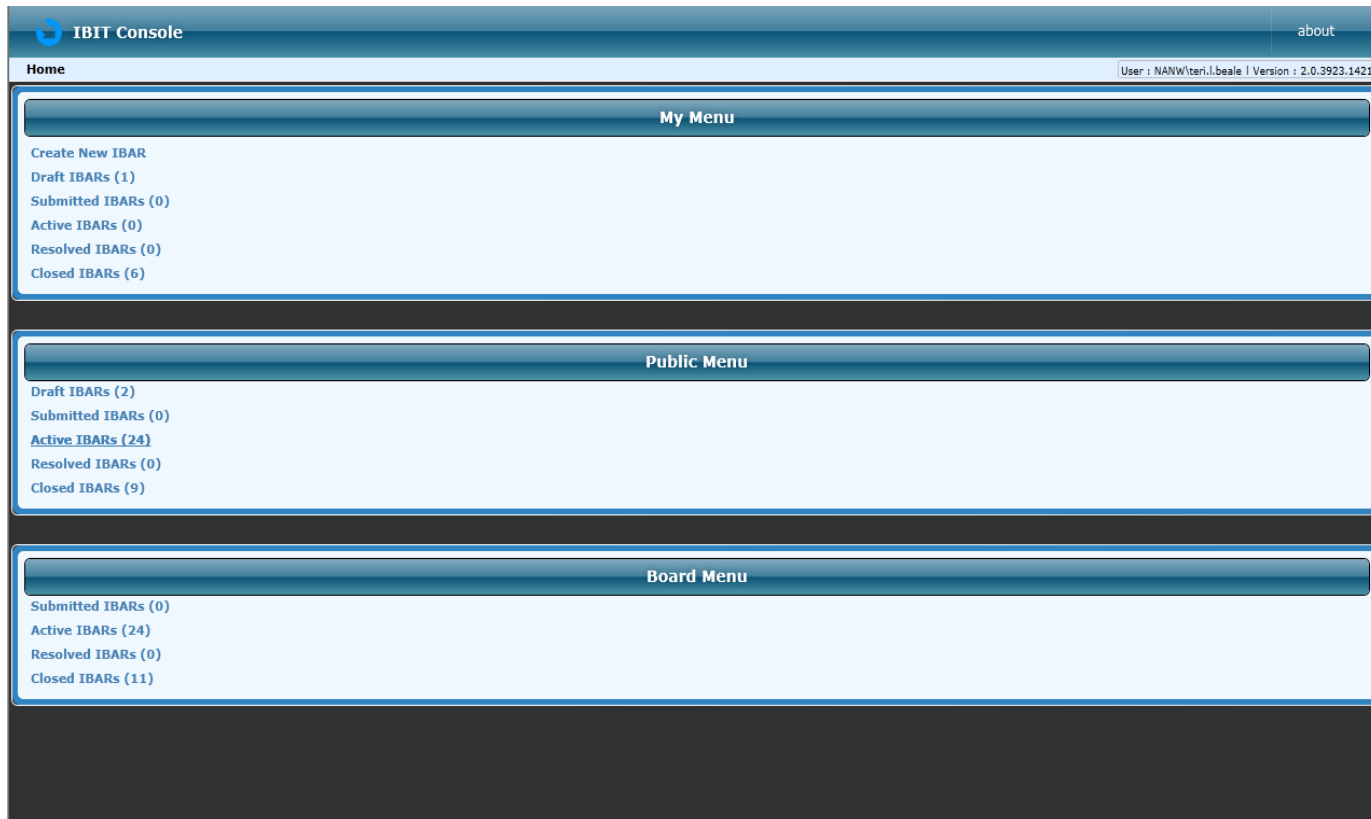
Count: 7

Page 1 of 2

Links at the bottom of the page:

- Access IBAR
- IBIT Console Admin
- IBIT Metrics
- IBIT Weapon System Data
- About IBIT
- IBIT Links
- IBIT Wiki
- IBIT Console POC

Using the IBIT Console – Homepage

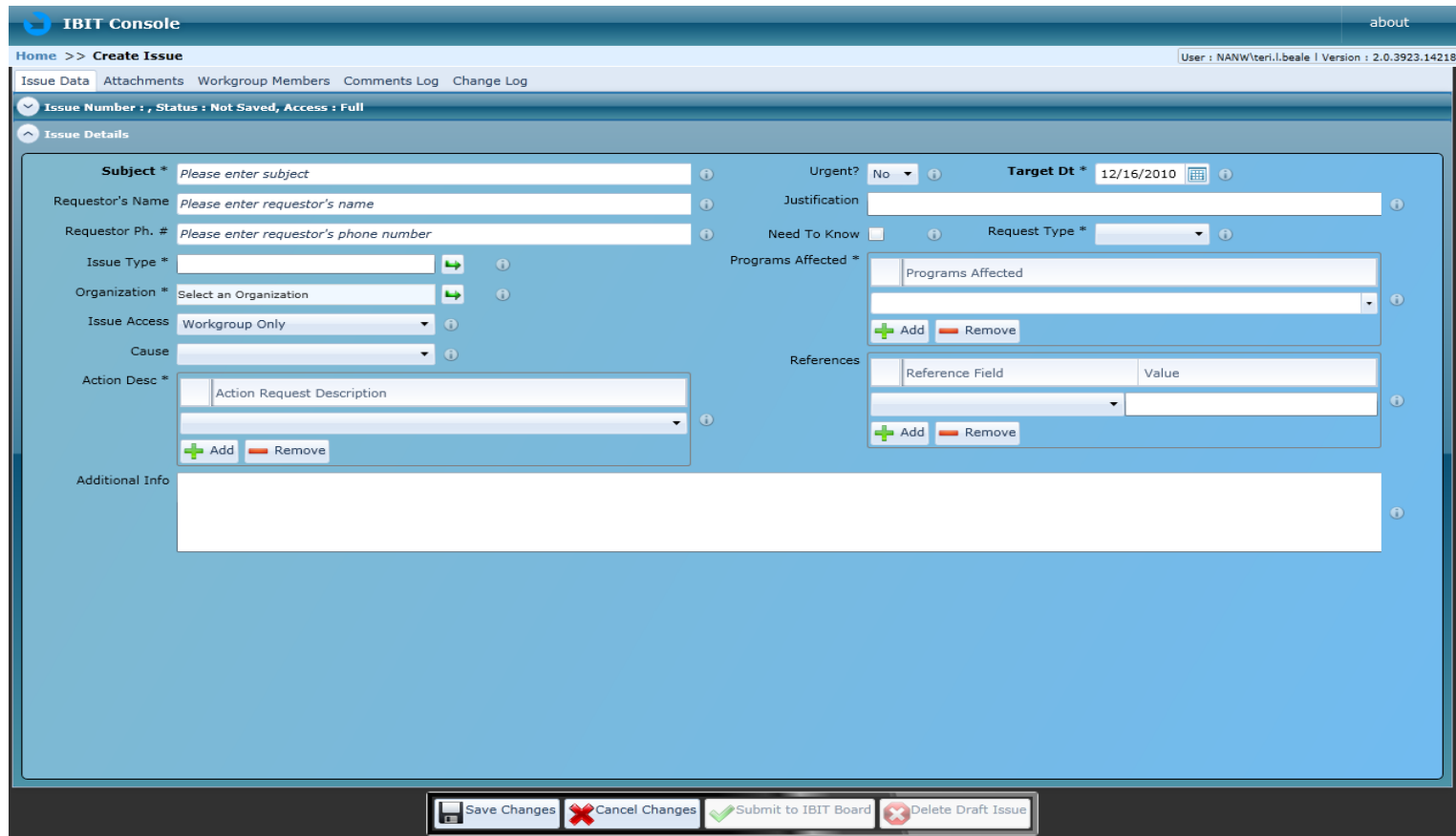


The screenshot shows the IBIT Console homepage. At the top, there is a header bar with the "IBIT Console" logo on the left and an "about" link on the right. Below the header, a "Home" section displays the user's name "User : NANW/teri.i.beale" and the version "Version : 2.0.3923.14218". The main content area is divided into three sections: "My Menu", "Public Menu", and "Board Menu". Each section contains a list of links to various IBARs (Issues, Bugs, and Action Requests).

Menu	Item	Count
My Menu	Create New IBAR	
	Draft IBARs	(1)
	Submitted IBARs	(0)
	Active IBARs	(0)
	Resolved IBARs	(0)
Public Menu	Draft IBARs	(2)
	Submitted IBARs	(0)
	Active IBARs	(24)
	Resolved IBARs	(0)
	Closed IBARs	(9)
Board Menu	Submitted IBARs	(0)
	Active IBARs	(24)
	Resolved IBARs	(0)
	Closed IBARs	(11)

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

Issue Data Tab



IBIT Console about

Home >> **Create Issue** User : NANW\teri.l.beale | Version : 2.0.3923.14218

Issue Data | Attachments | Workgroup Members | Comments Log | Change Log

Issue Number : , Status : Not Saved, Access : Full

Issue Details

Subject * ⓘ

Requestor's Name ⓘ

Requestor Ph. # ⓘ

Issue Type * ⓘ

Organization * ⓘ

Issue Access ⓘ

Cause ⓘ

Action Desc * ⓘ

Additional Info

Urgent? ⓘ

Justification ⓘ

Need To Know ☐ ⓘ

Request Type * ⓘ


Target Dt * ⓘ

Programs Affected * ⓘ

References ⓘ

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

Workgroup Member Tab


IBIT Console

about

[Home](#) >> [Create Issue](#)

User : NANW\teri.l.beale | Version : 2.0.3923.14218

[Issue Data](#)
[Attachments](#)
[Workgroup Members](#)
[Comments Log](#)
[Change Log](#)

Members

User Name	Role	Access	Date Added	Email	Issue Last Accessed
teri.l.beale	Team Member	Full	11/16/2010 2:10:23 PM	teri.l.beale.ctr@us.army.mil	
Count: 1					

1

Page 1 of 1

Note: Use DELETE key to delete a row.

Search Users

Search By

Display Name

Search Scope

☒ Warren
 ☐ Rock Island
 ☐ Natick
 ☐ All Army

Last Name

First Name

Find Users

Display Name	Email	User Name

1

Page 1 of 1

User Role

Access Level

Add User

Save Changes

Cancel Changes

Submit to IBIT Board

Delete Draft Issue



Industrial Base Database Homepage

salesforce.com - Enterprise Edition - Mozilla Firefox

File Edit View History Bookmarks Tools Help

salesforce.com https://na7.salesforce.com/home/home.jsp

Automation Alley Defense Logistics Age... Google Crain's Detroit Business Dun & Bradstreet Salesforce.com - Cust... Dogpile Dictionary.com Defense Supply Cent... AKO Army Knowledge Online IHS Login

Project Leader - Michigan Technology salesforce.com - Enterprise Edition

TARDEC Search All... Search Dan Raubinger Help & Training DMSMS

Home Companies Contacts Reports Campaigns Dashboards 4-Digit FSC Codes 6-Digit NAICS Codes Leads Ideas WD008 Questionnaires +

There are updates available for your computer. [Click here](#)

Create New... Dan Raubinger Wednesday November 24, 2010 Chatter 101

Show Chatter New!

Recent Items

- Mike Thiemann
- THT Presses, Inc.
- Performance Welding, LLC
- IC-126644
- IC-126643
- IC-126642
- IC-126641
- Kurt Wollenberg
- IC-126640
- 812990

Custom Links

Messages and Alerts

Dashboard Refresh Customize Page

Last refreshed at 11/24/2010 12:49 AM. Displaying data as DMSMS.

All Companies

Record Count

All Companies by Original Source

Original Source	Record Count
Automation Alley	807
Business Card/Trade Show	388
DC3	204
Web Portal	128
Dun & Bradstreet	3,012
SAE	1,760
SBA	894
TACOM	2,651

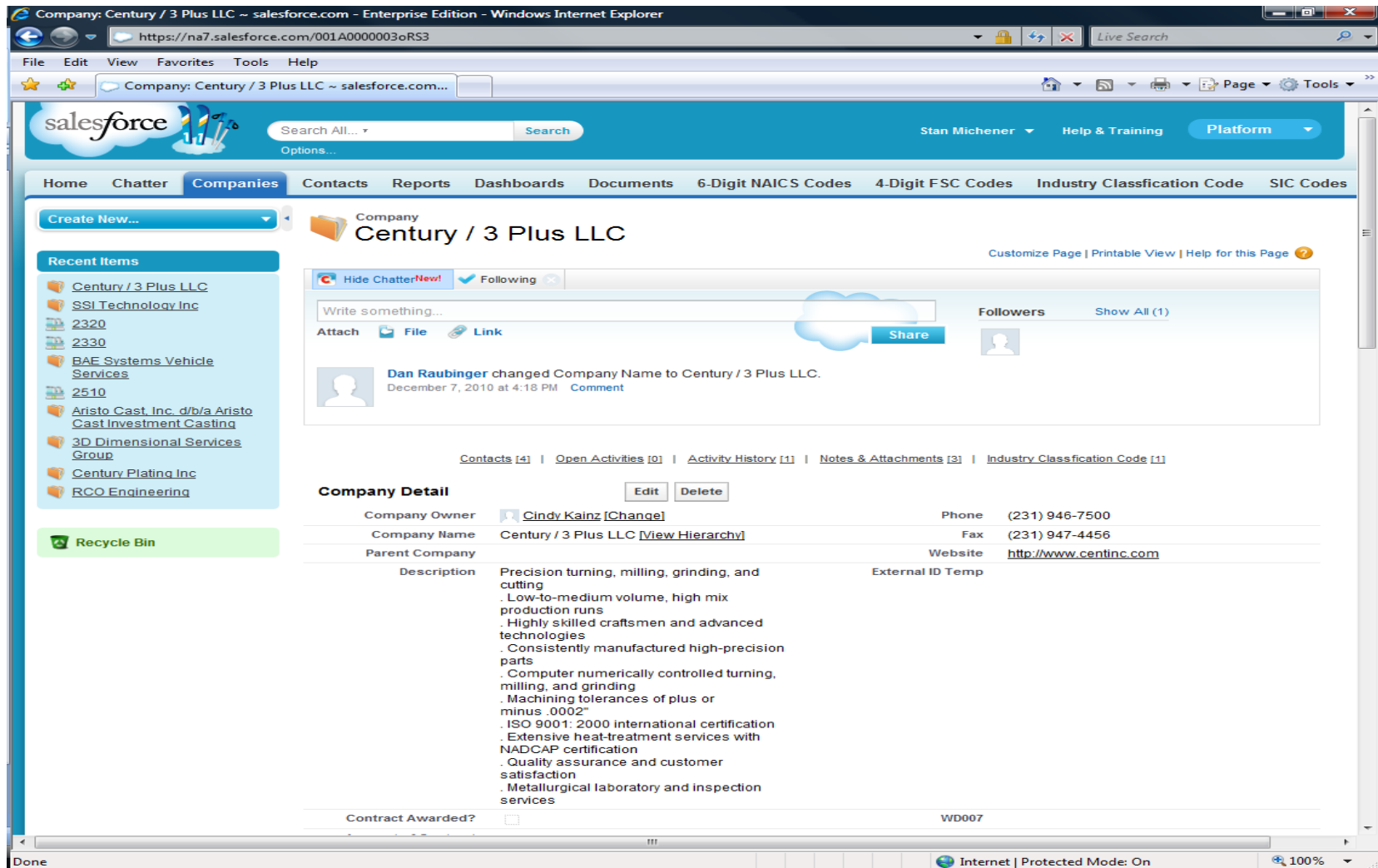
Original Source

All Companies by SOURCE

SOURCE	Record Count
Automation Alley:	808
Dun & Bradstreet:	3,726
DC3:	389
DMSMS Portal:	155
Business Card/ Trade Show:	439
SAE:	2,000
SBA:	1,056
TACOM:	2,747

My Tasks New Overdue

Company Search – provides relevant company information



The screenshot shows the Salesforce interface for the company "Century / 3 Plus LLC". The browser address bar indicates the URL is <https://na7.salesforce.com/001A0000003oRS3>. The Salesforce navigation bar includes tabs for Home, Chatter, Companies, Contacts, Reports, Dashboards, Documents, 6-Digit NAICS Codes, 4-Digit FSC Codes, Industry Classification Code, and SIC Codes. The "Companies" tab is active, showing a list of recent items on the left and a detailed view of "Century / 3 Plus LLC" on the right. The detailed view includes a "Company Detail" section with fields for Company Owner, Company Name, Parent Company, Description, Phone, Fax, Website, and External ID Temp. The description for "Century / 3 Plus LLC" is: "Precision turning, milling, grinding, and cutting. Low-to-medium volume, high mix production runs. Highly skilled craftsmen and advanced technologies. Consistently manufactured high-precision parts. Computer numerically controlled turning, milling, and grinding. Machining tolerances of plus or minus .0002". The website is <http://www.centinc.com> and the external ID temp is WD007.

Company Search – provides relevant company information

Company: Century / 3 Plus LLC ~ salesforce.com - Enterprise Edition - Windows Internet Explorer

https://na7.salesforce.com/001A0000003oRS3

File Edit View Favorites Tools Help

Company: Century / 3 Plus LLC ~ salesforce.com...

Live Search

Contract Awarded? ☐ WD007

Amount of Contract Awarded

Small Business Yes

of NAICS Codes 1

FSC Codes 0

▼ Source(s)

SBA ☒ Automation Alley ☒

SXT ☐ Detroit Chamber ☐

TACOM ☐ SAE ☐

DC3 ☒ Business Card/Trade Show ☐

D&B ☒ Web Portal ☐

Original Source Automation Alley

▼ Company Details

Annual Revenue

Employees 233

Owns/Rents? Rent

Plant/Facility Size 76,000

Location Type Headquarters

Stock Ticker

Ownership Private

Longitude -85.574688

Latitude 44.744723

MSA Value

Foreign Trade Imports/Exports

Year Established 1966

Risk Score DnB Low Risk

SIC Code 35440000

Minority Owned ☐

Women Owned ☐

Manufacturing ☒

Subsidiary ☐

Accountant Name

Bank Name

Company AKA Century-Sun Metal Treating

Type

▼ Address Information

Billing Address 2410 W AERO PARK CT
TRAVERSE CITY, MI 49686-9102

Shipping Address

County - Billing Grand Traverse

County - Shipping

▼ Classification Information

DUNS Number 068802867

CAGE Code 1XVK4

Primary Product

Small Business Designation Veteran

Industry Special dies, tools, jigs, and fixtures,

OESA Member ☐

Industry Sub Type

Done

Internet | Protected Mode: On

100%

Company Search – provides relevant company information

Company: Century / 3 Plus LLC ~ salesforce.com - Enterprise Edition - Windows Internet Explorer

https://na7.salesforce.com/001A0000003oRS3

File Edit View Favorites Tools Help

Company: Century / 3 Plus LLC ~ salesforce.com...

AA External ID 0016000000MieCw

Custom Links

[Google Search](#) [Google Maps](#) [Google News](#)

[Hoovers Profile](#)

[Edit](#) [Delete](#)

Contacts [New Contact](#) [Merge Contacts](#) [Contacts Help](#)

Action	Contact Name	Title	Email	Phone	Primary Contact
Edit Del	Andrew Halonen	Technical Business Development	ahalonen@light-weighting.com	(906) 370-4984	<input type="checkbox"/>
Edit Del	Jim McManus	New Business Development Manager	jmcmanus@centinc.com	(231) 946-7500	<input checked="" type="checkbox"/>
Edit Del	Todd Mackey		tmackey@centinc.com	(231) 946-7500	<input type="checkbox"/>
Edit Del	Jeff McMullen	CEO	jcmullen@centinc.com	(231) 941-6230	<input type="checkbox"/>

Open Activities [New Task](#) [New Event](#) [Open Activities Help](#)

No records to display

Activity History [Log A Call](#) [Mail Merge](#) [Send An Email](#) [View All](#) [Activity History Help](#)

Action	Subject	Name	Related To	Task	Due Date	Assigned To	Last Modified Date/Time
Edit Del	Email: RE: thanks for the update	Jim McManus		<input checked="" type="checkbox"/>	11/3/2010	Dan Raubinger	12/7/2010 4:18 PM

Notes & Attachments [New Note](#) [Attach File](#) [View All](#) [Notes & Attachments Help](#)

Action	Type	Title	Related To	Last Modified	Created By
Edit View Del	Attachment	image001.jpg	Jim McManus	12/7/2010 4:18 PM	Dan Raubinger
Edit View Del	Attachment	Gibbs Die cast survey form.xls	Jim McManus	12/7/2010 4:18 PM	Dan Raubinger
Edit View Del	Attachment	CompassAutomotive survey response Nov 3 2010.xls	Jim McManus	12/7/2010 4:18 PM	Dan Raubinger

Industry Classification Code [New Industry Classification Code](#) [Industry Classification Code Help](#)

Action	Classification Link	NAICS Code	NAICS Desc	FSC Code	FSC Desc	SIC Code	SIC Desc	Record ID
Edit Del	IC-58576	333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing					a00A0000001CZFF

[Back To Top](#) Always show me [fewer](#) / [more](#) records per related list

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Internet | Protected Mode: On 100%