Daily Applications in Knowledge Management (Aerospace)

for
APQC's 2012 Knowledge Management
Conference and Training
Houston, Texas

Bill Linn
Manager Process Engineering
Aeronautical Systems Engineering
L-3 Communications
Greenville, Texas

KM Practice
Background & Context

About L-3 Communications

L-3 is a prime contractor in Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C^3ISR) systems, aircraft modernization and maintenance, and government services.

Aeronautical Systems Engineering

Aeronautical Systems Engineering is responsible for aircraft modification and special mission systems integration over a wide variety of military and commercial aircraft programs.

Engineering activities include:
Electrical, mechanical, and structural design, manufacturing and production support, mechanical systems architecture design and development analysis and testing to validate aircraft worthiness including performance, loads, flutter, vibration, acoustic, stress, finite element, fatigue, and damage.

N352BC
NEWS & EVENTS

My role - Process Engineering

Act
Plan
Check
Do

- Monthly quality metrics reporting
- SharePoint use, architecture & training
- Process updates in department & other engineering groups
- Support MID communications, yearly goal development
- Further develop and support KM use in the department, community, and nation

KM Theory
&
Practice

Knowledge Management Definition(s)

“The use of knowledge (i.e., which enables direct action) for capitalization (e.g., competitive advantage, organization, productivity).” (Encyclopedia of Knowledge Management, 57)

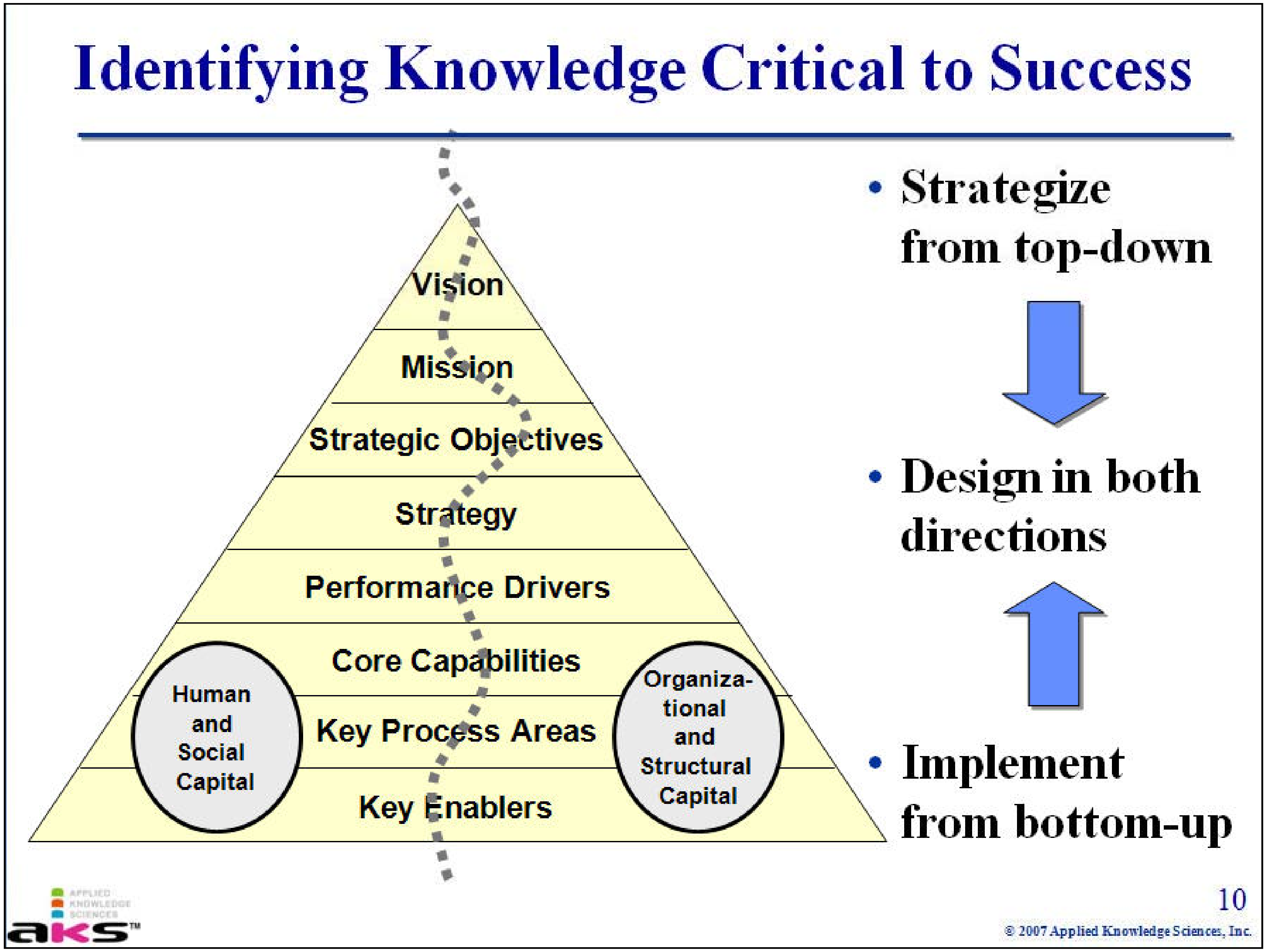
“Efforts made by an organization to manage knowledge. Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, storing, retrieving, and transferring an organization’s knowledge so as to enhance its competitive advantage.”
(Encyclopedia of Knowledge Management, 875)

Myths about Knowledge Management:

1. Knowledge management is a fad.
2. Knowledge management and data warehousing are essentially the same.
3. Knowledge management is a new concept.
4. Knowledge management is mere technology.
5. Technology distributes human intelligence.
6. Knowledge management is another form of reengineering.
7. Company employees have difficulty sharing knowledge.
8. Knowledge management only works within an organization.
9. Technology is a better alternative than face-to-face.
10. It is “no brainer” to share what you know.

(Source: Knowledge Management, Awad & Ghaziri, pg 23)

Alignment



Identifying Knowledge Critical to Success

Vision
Mission
Strategic Objectives
Strategy
Performance Drivers
Core Capabilities
Key Process Areas
Key Enablers
Human and Social Capital
Organiza-tional and Structural Capital

- Strategize from top-down
- Design in both directions
- Implement from bottom-up

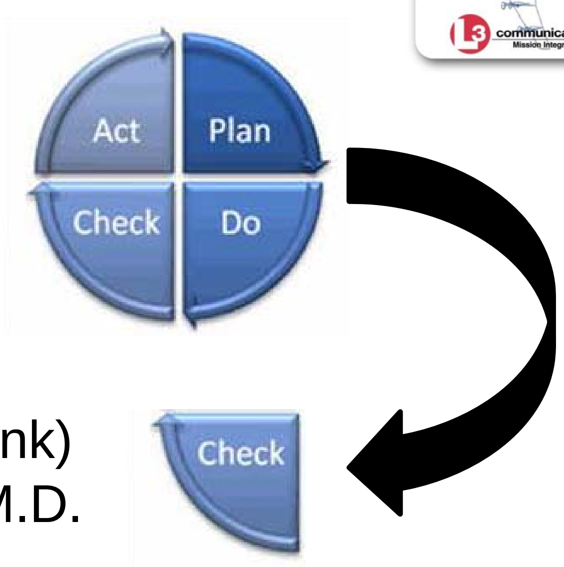
10

© 2007 Applied Knowledge Sciences, Inc.

(Source: The Use of Real Knowledge In Business, KM Event at SMU, Dallas, TX September of 2009, Arthur J. Murray, D.Sc., CEO, Applied Knowledge Sciences, Inc.)

Personal Knowledge Management (Foundation)

Personal KM Foundations



- Slow down, take time, un-plug – **check** (think)
  Edward Hallowell, M.D.

- Outcome thinking, the next action – **plan** (develop)
  David Allen

- Create an environment of strength for work, **act** (align)
  Marcus Buckingham

- Alignment of outer purpose to inner purpose – **do** (be)
  Eckhart Tolle

Knowledge Management Methods

KM Method – ValueNet Work™ Analysis

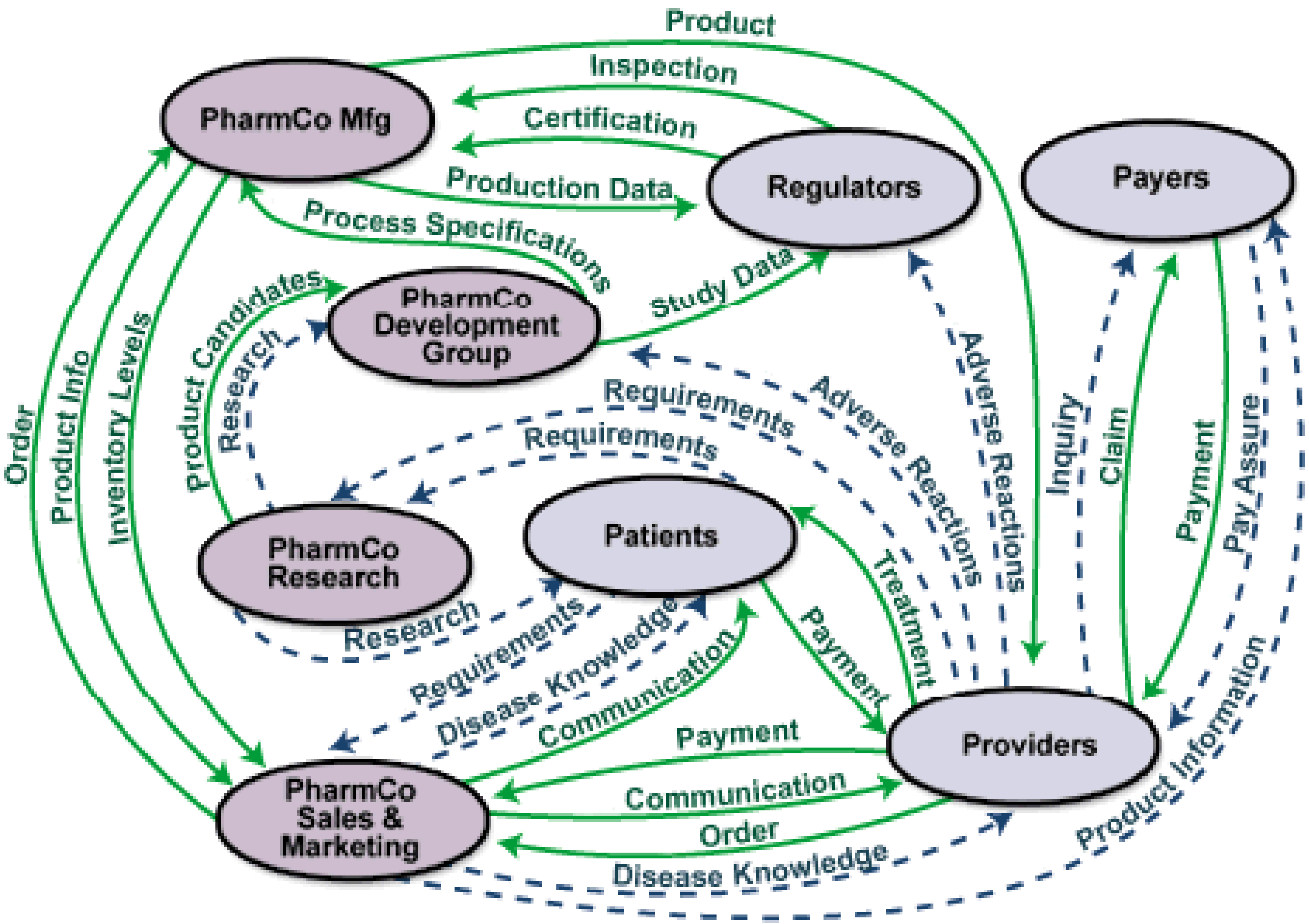
Source:
Verna Allee

KM Concept:
ValueNet Works™ Methodology

Work Application:
Engineering measures and data analysis

Key concepts:

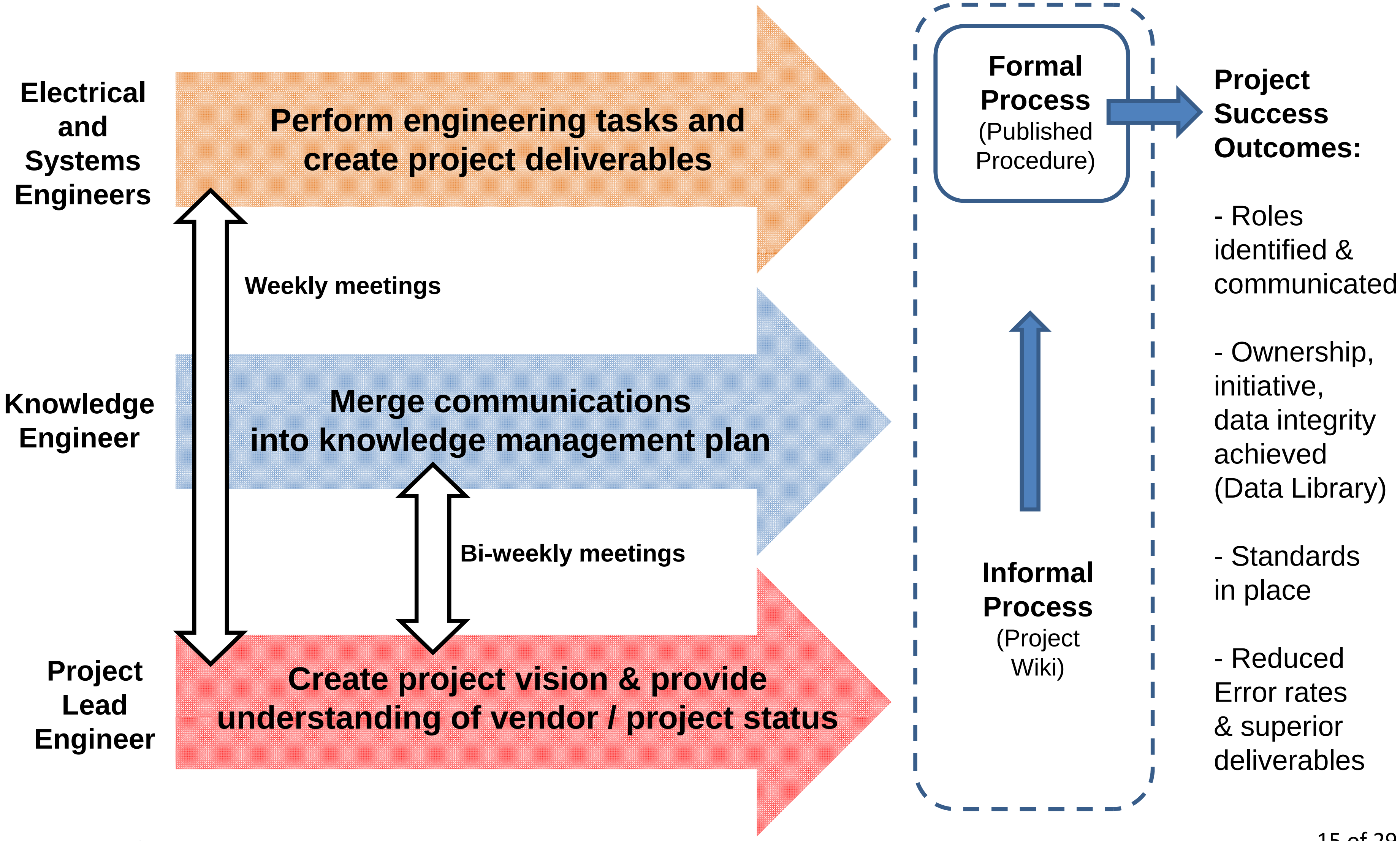
- role based identification (roles)
- tangible deliverables (solid lines)
- intangible exchanges or unstructured deliverables (dotted lines)


PharmCo Mfg
Regulators
Payers
PharmCo Development Group
PharmCo Research
Patients
Providers
PharmCo Sales & Marketing
Product
Inspection
Certification
Production Data
Process Specifications
Study Data
Product Candidates
Research
Order
Product Info
Inventory Levels
Requirements
Requirements
Adverse Reactions
Adverse Reactions
Inquiry
Claim
Payment
Pay Assure
Treatment
Payment
Research
Requirements
Disease Knowledge
Communication
Payment
Communication
Order
Disease Knowledge
Product Information

Example – Value Map (Verna Allee)

Daily KM Projects, Technology, & Tools

Capital Performance Project (Vision)



Electrical and Systems Engineers

Perform engineering tasks and create project deliverables

Weekly meetings

Knowledge Engineer

Merge communications into knowledge management plan

Bi-weekly meetings

Project Lead Engineer

Create project vision & provide understanding of vendor / project status

Formal Process
(Published Procedure)

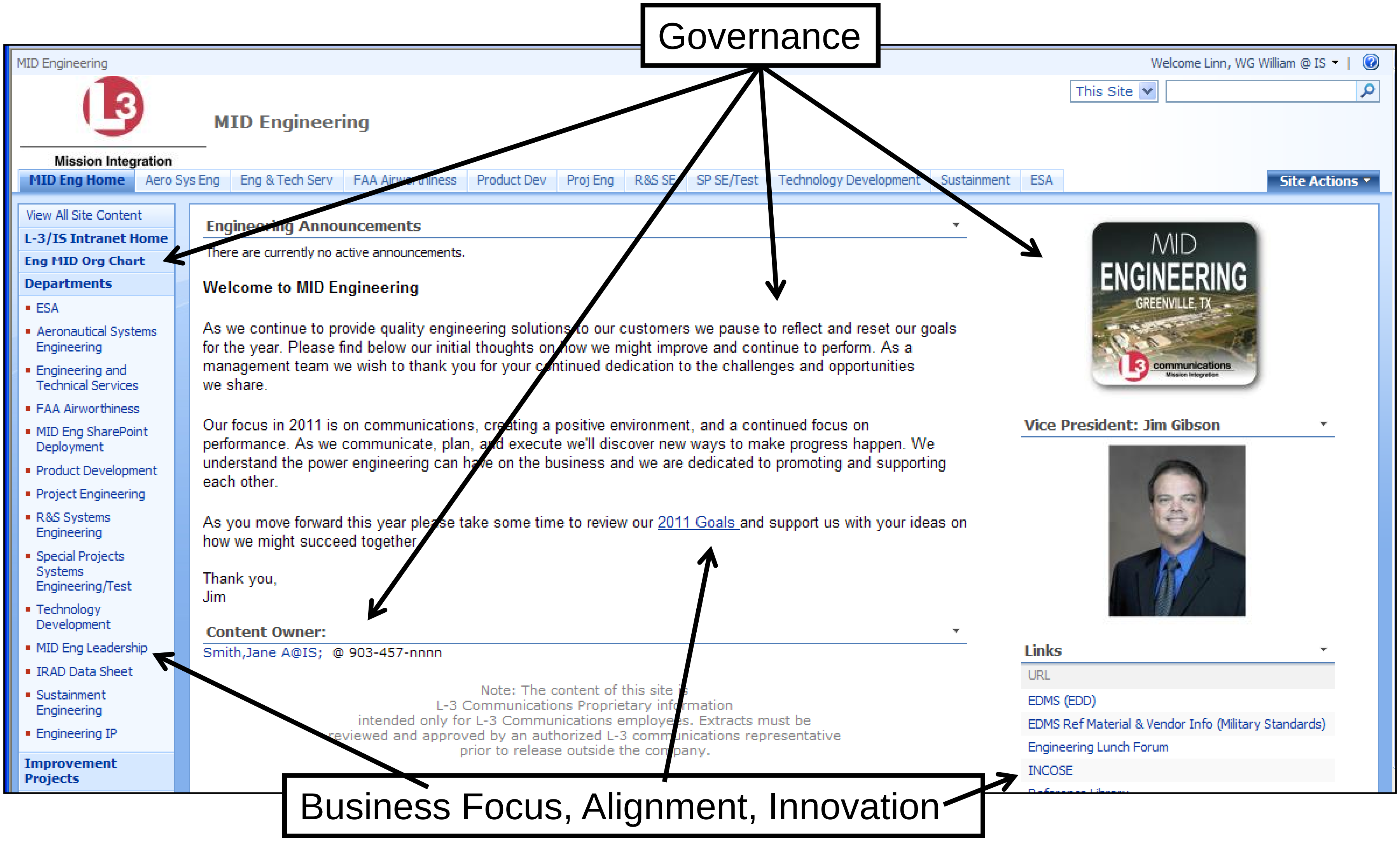
Informal Process
(Project Wiki)

Project Success Outcomes:

- Roles identified & communicated
- Ownership, initiative, data integrity achieved (Data Library)
- Standards in place
- Reduced Error rates & superior deliverables

Mission Integration

Daily Applications in Knowledge Management (Aerospace)



MID Engineering
Welcome Linn, WG William @ IS
This Site
Mission Integration
MID Eng Home
Aero Sys Eng
Eng & Tech Serv
FAA Airworthiness
Product Dev
Proj Eng
R&S SE
SP SE/Test
Technology Development
Sustainment
ESA
Site Actions
View All Site Content
L-3/IS Intranet Home
Eng MID Org Chart
Departments
ESA
Aeronautical Systems Engineering
Engineering and Technical Services
FAA Airworthiness
MID Eng SharePoint Deployment
Product Development
Project Engineering
R&S Systems Engineering
Special Projects Systems Engineering/Test
Technology Development
MID Eng Leadership
IRAD Data Sheet
Sustainment Engineering
Engineering IP
Improvement Projects
MID ENGINEERING GREENVILLE, TX
communications Mission Integration

Governance

MID Engineering

Engineering Announcements

There are currently no active announcements.

Welcome to MID Engineering

As we continue to provide quality engineering solutions to our customers we pause to reflect and reset our goals for the year. Please find below our initial thoughts on how we might improve and continue to perform. As a management team we wish to thank you for your continued dedication to the challenges and opportunities we share.

Our focus in 2011 is on communications, creating a positive environment, and a continued focus on performance. As we communicate, plan, and execute we'll discover new ways to make progress happen. We understand the power engineering can have on the business and we are dedicated to promoting and supporting each other.

As you move forward this year please take some time to review our 2011 Goals and support us with your ideas on how we might succeed together.

Thank you,
Jim

Content Owner:

Smith,Jane A@IS; @ 903-457-nnnn

Note: The content of this site is
L-3 Communications Proprietary information
intended only for L-3 Communications employees. Extracts must be
reviewed and approved by an authorized L-3 communications representative
prior to release outside the company.

Vice President: Jim Gibson

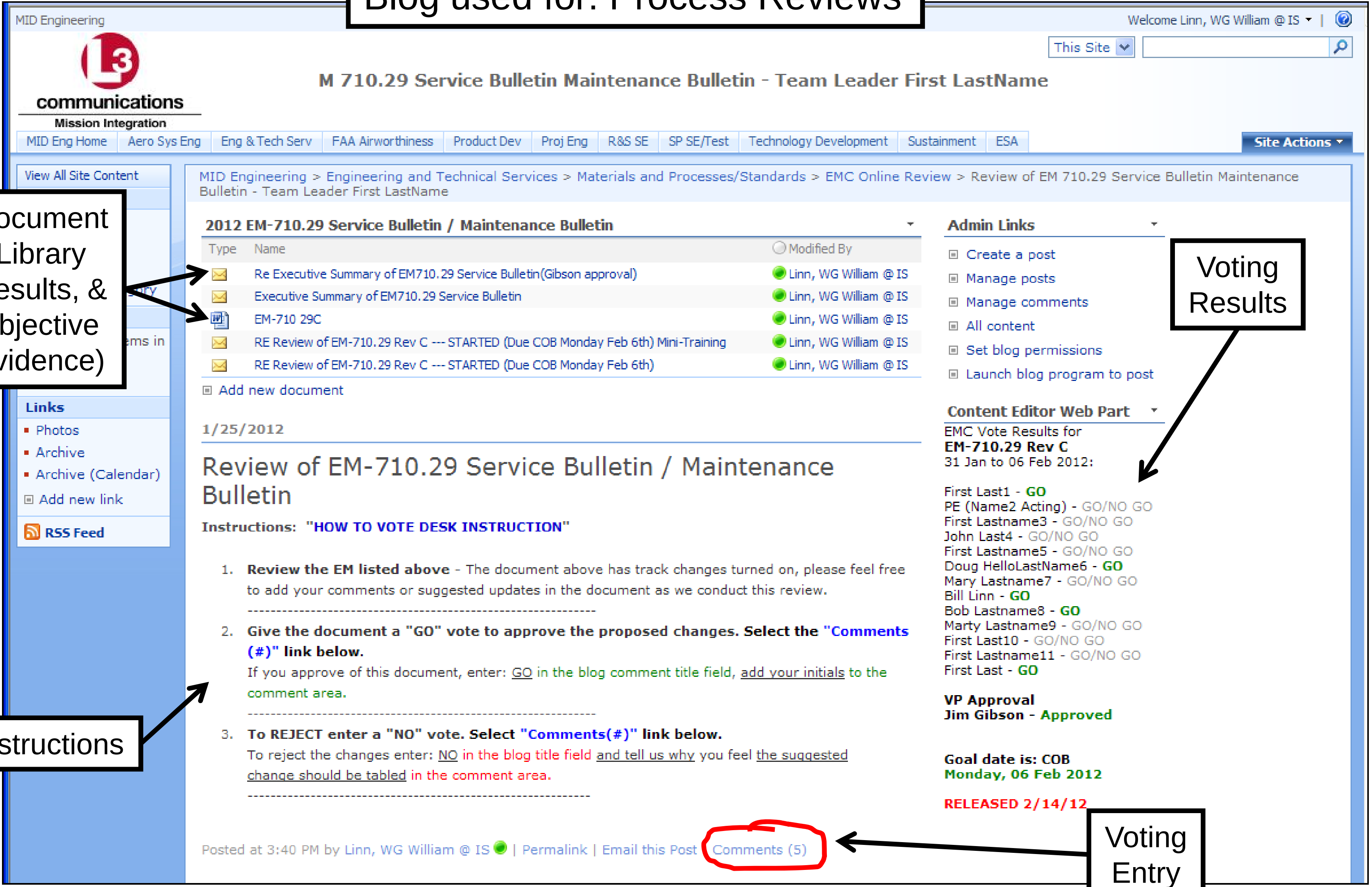
Links

URL
EDMS (EDD)
EDMS Ref Material & Vendor Info (Military Standards)
Engineering Lunch Forum
INCOSE

Business Focus, Alignment, Innovation

Daily Applications in Knowledge Management (Aerospace)

Blog used for: Process Reviews



MID Engineering

Welcome Linn, WG William @ IS | This Site

communications
Mission Integration

M 710.29 Service Bulletin Maintenance Bulletin - Team Leader First LastName

MID Engineering > Engineering and Technical Services > Materials and Processes/Standards > EMC Online Review > Review of EM 710.29 Service Bulletin Maintenance Bulletin - Team Leader First LastName

2012 EM-710.29 Service Bulletin / Maintenance Bulletin

Type	Name	Modified By
✉	Re Executive Summary of EM710.29 Service Bulletin(Gibson approval)	Linn, WG William @ IS
✉	Executive Summary of EM710.29 Service Bulletin	Linn, WG William @ IS
W	EM-710 29C	Linn, WG William @ IS
✉	RE Review of EM-710.29 Rev C --- STARTED (Due COB Monday Feb 6th) Mini-Training	Linn, WG William @ IS
✉	RE Review of EM-710.29 Rev C --- STARTED (Due COB Monday Feb 6th)	Linn, WG William @ IS

Add new document

Links

- Photos
- Archive
- Archive (Calendar)

Add new link

RSS Feed

1/25/2012

Review of EM-710.29 Service Bulletin / Maintenance Bulletin

Instructions: "HOW TO VOTE DESK INSTRUCTION"

1. **Review the EM listed above** - The document above has track changes turned on, please feel free to add your comments or suggested updates in the document as we conduct this review.

   ----

2. **Give the document a "GO" vote to approve the proposed changes. Select the "Comments (#)" link below.**

   If you approve of this document, enter: GO in the blog comment title field, add your initials to the comment area.

   ----

3. **To REJECT enter a "NO" vote. Select "Comments(#)" link below.**

   To reject the changes enter: NO in the blog title field and tell us why you feel the suggested change should be tabled in the comment area.

Posted at 3:40 PM by Linn, WG William @ IS | Permalink | Email this Post | Comments (5)

Admin Links

- Create a post
- Manage posts
- Manage comments
- All content
- Set blog permissions
- Launch blog program to post

Content Editor Web Part

EMC Vote Results for
EM-710.29 Rev C
31 Jan to 06 Feb 2012:

First Last1 - **GO**
PE (Name2 Acting) - GO/NO GO
First Lastname3 - GO/NO GO
John Last4 - GO/NO GO
First Lastname5 - GO/NO GO
Doug HelloLastName6 - **GO**
Mary Lastname7 - GO/NO GO
Bill Linn - **GO**
Bob Lastname8 - **GO**
Marty Lastname9 - GO/NO GO
First Last10 - GO/NO GO
First Lastname11 - GO/NO GO
First Last - **GO**

VP Approval
Jim Gibson - Approved

Goal date is: COB
Monday, 06 Feb 2012

RELEASED 2/14/12

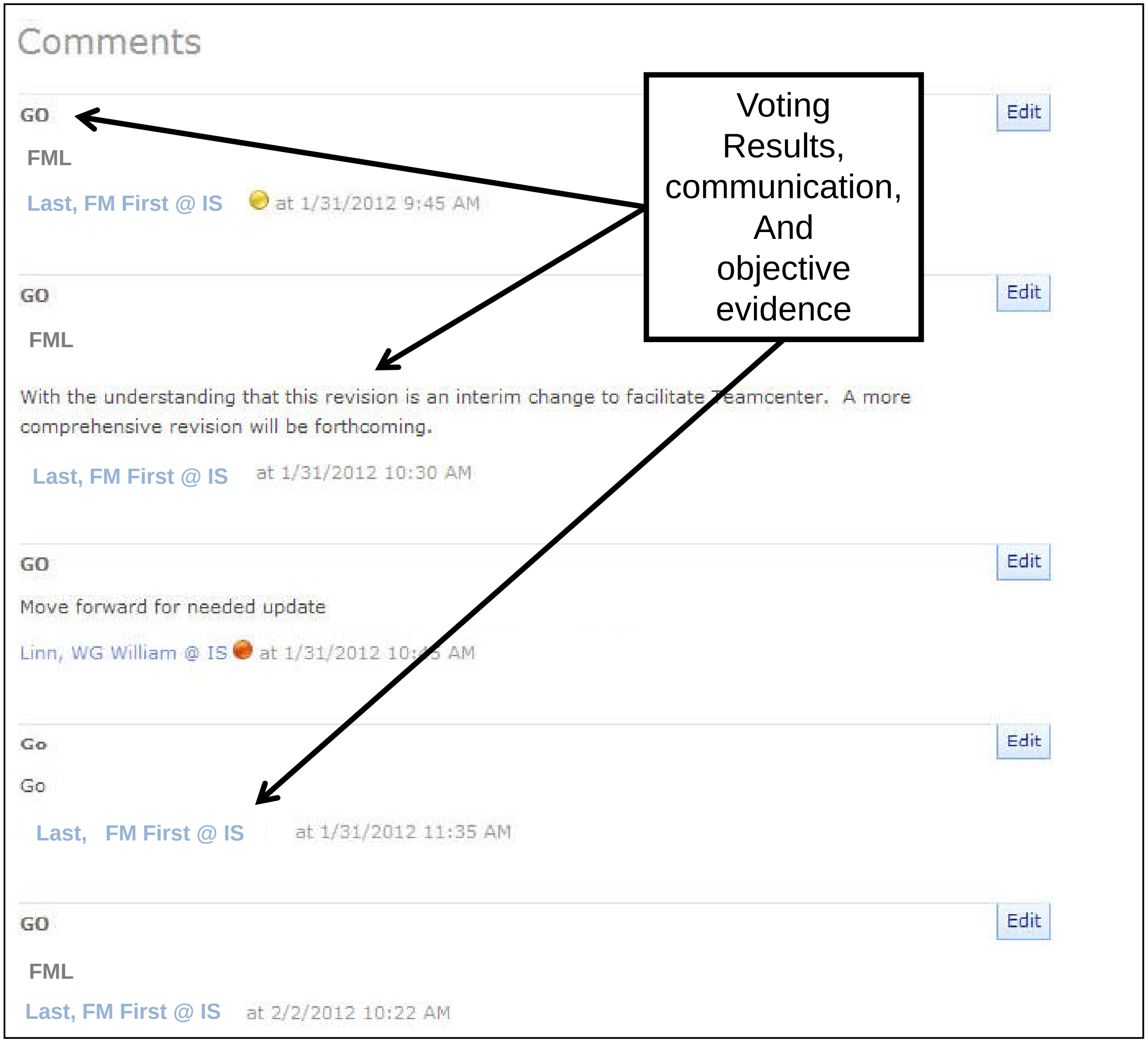
Document Library (results, & objective evidence)

Voting Results

Instructions

Voting Entry

Daily Applications in Knowledge Management (Aerospace)



Comments

GO Edit

FML

Last, FM First @ IS ● at 1/31/2012 9:45 AM

GO Edit

FML

With the understanding that this revision is an interim change to facilitate Teamcenter. A more comprehensive revision will be forthcoming.

Last, FM First @ IS at 1/31/2012 10:30 AM

GO Edit

Move forward for needed update

Linn, WG William @ IS ● at 1/31/2012 10:45 AM

Go Edit

Go

Last, FM First @ IS at 1/31/2012 11:35 AM

GO Edit

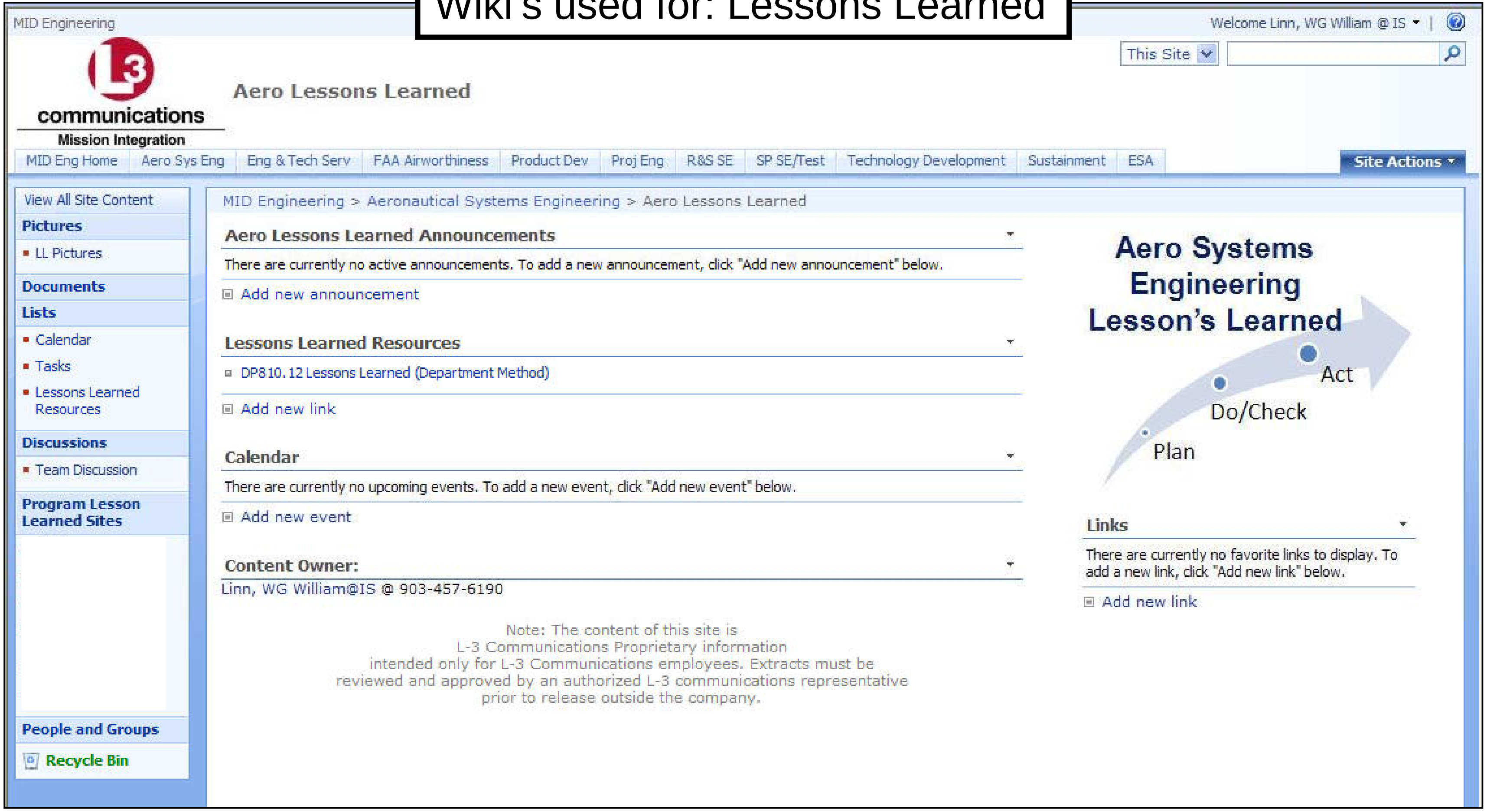
FML

Last, FM First @ IS at 2/2/2012 10:22 AM

Voting
Results,
communication,
And
objective
evidence

Daily Applications in Knowledge Management (Aerospace)

Wiki's used for: Lessons Learned


MID Engineering
Welcome Linn, WG William @ IS
This Site
communications
Mission Integration
MID Eng Home
Aero Sys Eng
Eng & Tech Serv
FAA Airworthiness
Product Dev
Proj Eng
R&S SE
SP SE/Test
Technology Development
Sustainment
ESA
Site Actions
View All Site Content
Pictures
LL Pictures
Documents
Lists
Calendar
Tasks
Lessons Learned Resources
Discussions
Team Discussion
Program Lesson Learned Sites
People and Groups
Recycle Bin
Act
Do/Check
Plan

Aero Lessons Learned

MID Engineering > Aeronautical Systems Engineering > Aero Lessons Learned

Aero Lessons Learned Announcements

There are currently no active announcements. To add a new announcement, click "Add new announcement" below.

Add new announcement

Lessons Learned Resources

DP810.12 Lessons Learned (Department Method)

Add new link

Calendar

There are currently no upcoming events. To add a new event, click "Add new event" below.

Add new event

Content Owner:

Linn, WG William@IS @ 903-457-6190

Note: The content of this site is
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Aero Systems Engineering Lesson's Learned

Links

There are currently no favorite links to display. To add a new link, click "Add new link" below.

Add new link

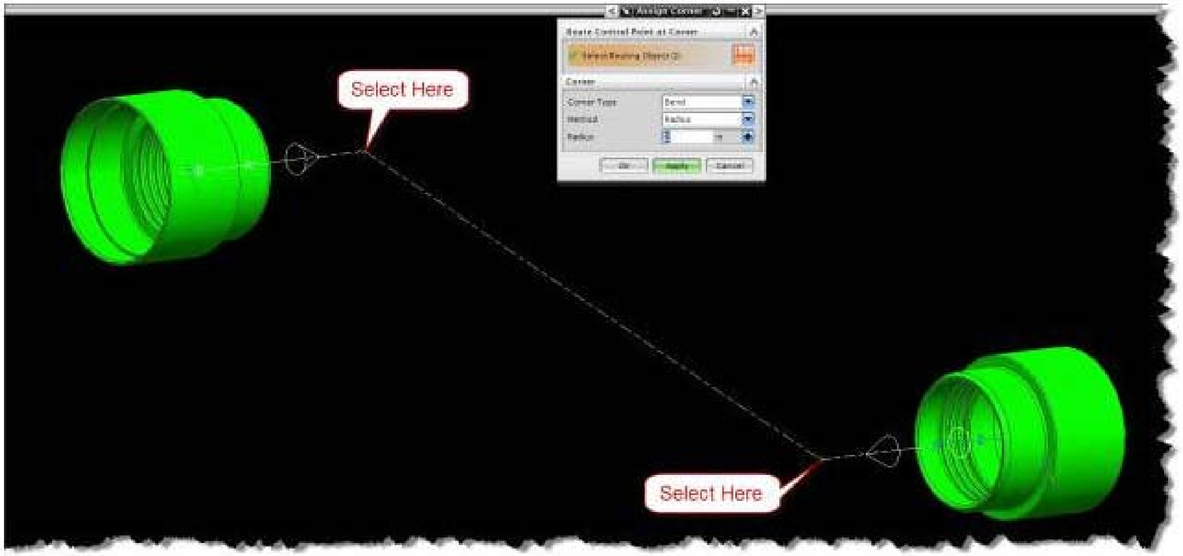
Mission Integration

Daily Applications in Knowledge Management (Aerospace)

Aeronautical Systems ENGINEERING

Wiki's used for: Application of Knowledge Center

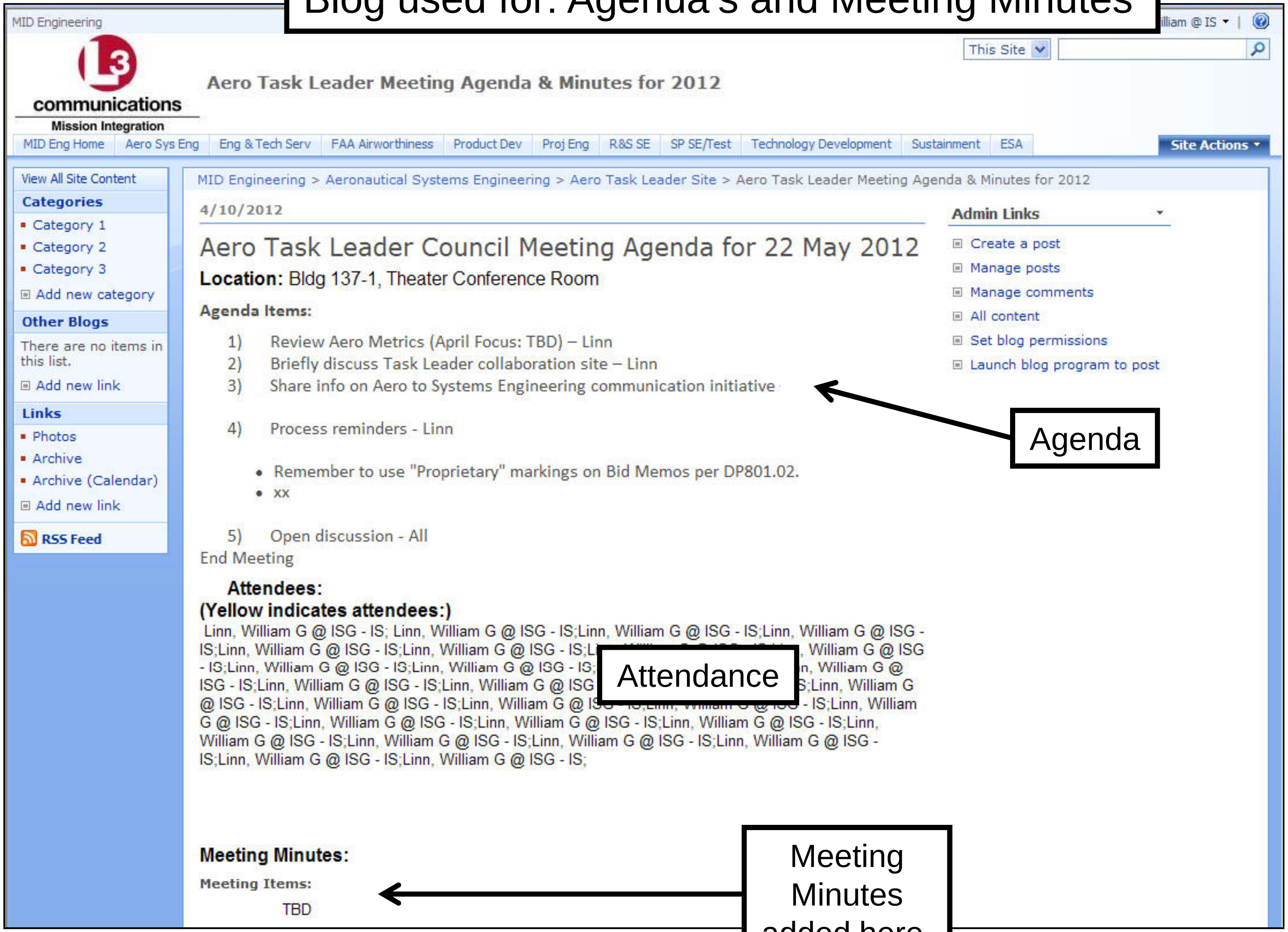
Select corner as shown in the following image



Step 8: The "Stock" feature will create the 3D tube. From the main menu bar select: **Insert →** **Routing Stock →** **Stock,** or select the button icon shown below from the Routing Stock toolbar.

Daily Applications in Knowledge Management (Aerospace)

Blog used for: Agenda’s and Meeting Minutes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illiam @ IS
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Mission Integration
MID Eng Home
Aero Sys Eng
Eng & Tech Serv
FAA Airworthiness
Product Dev
Proj Eng
R&S SE
SP SE/Test
Technology Development
Sustainment
ESA
Site Actions
View All Site Content
Categories
Category 1
Category 2
Category 3
Add new category
Other Blogs
There are no items in this list.
Add new link
Links
Photos
Archive
Archive (Calendar)
Add new link
RSS Feed
Admin Links
Create a post
Manage posts
Manage comments
All content
Set blog permissions
Launch blog program to post

Aero Task Leader Meeting Agenda & Minutes for 2012

MID Engineering > Aeronautical Systems Engineering > Aero Task Leader Site > Aero Task Leader Meeting Agenda & Minutes for 2012

4/10/2012

Aero Task Leader Council Meeting Agenda for 22 May 2012

Location: Bldg 137-1, Theater Conference Room

Agenda Items:

1) Review Aero Metrics (April Focus: TBD) – Linn
2) Briefly discuss Task Leader collaboration site – Linn
3) Share info on Aero to Systems Engineering communication initiative

4) Process reminders - Linn

- Remember to use "Proprietary" markings on Bid Memos per DP801.02.
- xx

5) Open discussion - All

End Meeting

Attendees:
(Yellow indicates attendees:)

Linn, William G @ ISG - IS; Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;L , William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS; n, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG S;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ I - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;Linn, William G @ ISG - IS;

Meeting Minutes:

Meeting Items:

TBD

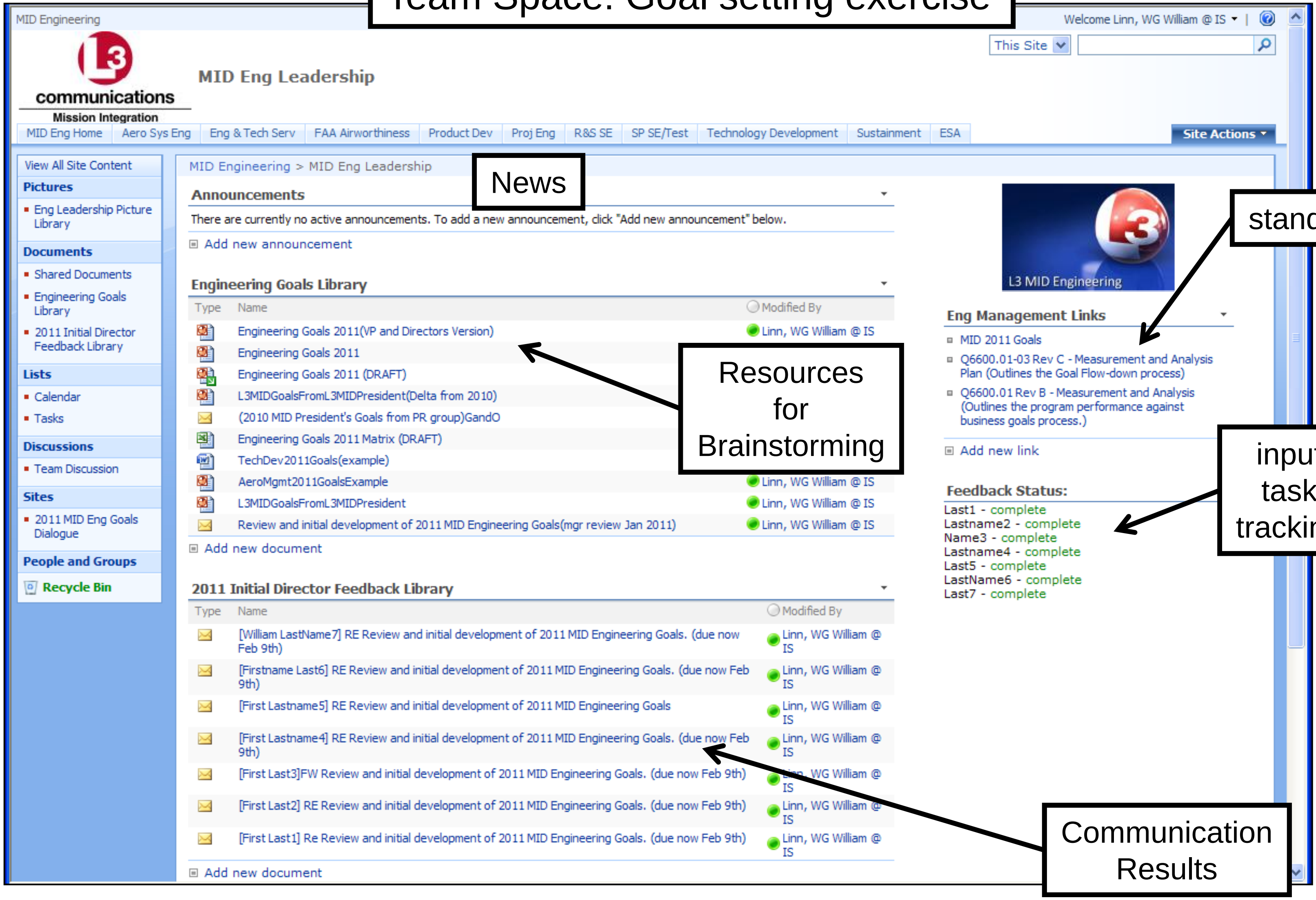
Agenda

Attendance

Meeting Minutes added here.

Daily Applications in Knowledge Management (Aerospace)

Team Space: Goal setting exercise



MID Engineering

Welcome Linn, WG William @ IS

This Site

MID Eng Leadership

communications
Mission Integration

MID Eng Home | Aero Sys Eng | Eng & Tech Serv | FAA Airworthiness | Product Dev | Proj Eng | R&S SE | SP SE/Test | Technology Development | Sustainment | ESA | Site Actions

View All Site Content

Pictures
- Eng Leadership Picture Library

Documents
- Shared Documents
- Engineering Goals Library
- 2011 Initial Director Feedback Library

Lists
- Calendar
- Tasks

Discussions
- Team Discussion

Sites
- 2011 MID Eng Goals Dialogue

People and Groups

Recycle Bin

MID Engineering > MID Eng Leadership

Announcements

There are currently no active announcements. To add a new announcement, click "Add new announcement" below.

Add new announcement

Engineering Goals Library

Type	Name	Modified By
	Engineering Goals 2011(VP and Directors Version)	Linn, WG William @ IS
	Engineering Goals 2011	
	Engineering Goals 2011 (DRAFT)	
	L3MIDGoalsFromL3MIDPresident(Delta from 2010)	
	(2010 MID President's Goals from PR group)GandO	
	Engineering Goals 2011 Matrix (DRAFT)	
	TechDev2011Goals(example)	
	AeroMgmt2011GoalsExample	Linn, WG William @ IS
	L3MIDGoalsFromL3MIDPresident	Linn, WG William @ IS
	Review and initial development of 2011 MID Engineering Goals(mgr review Jan 2011)	Linn, WG William @ IS

Add new document

2011 Initial Director Feedback Library

Type	Name	Modified By
	[William LastName7] RE Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS
	[Firstname Last6] RE Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS
	[First Lastname5] RE Review and initial development of 2011 MID Engineering Goals	Linn, WG William @ IS
	[First Lastname4] RE Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS
	[First Last3]FW Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS
	[First Last2] RE Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS
	[First Last1] Re Review and initial development of 2011 MID Engineering Goals. (due now Feb 9th)	Linn, WG William @ IS

Add new document

L3 MID Engineering

Eng Management Links
- MID 2011 Goals
- Q6600.01-03 Rev C - Measurement and Analysis Plan (Outlines the Goal Flow-down process)
- Q6600.01 Rev B - Measurement and Analysis (Outlines the program performance against business goals process.)

Add new link

Feedback Status:

Last1 - complete
Lastname2 - complete
Name3 - complete
Lastname4 - complete
Last5 - complete
LastName6 - complete
Last7 - complete

News

standards

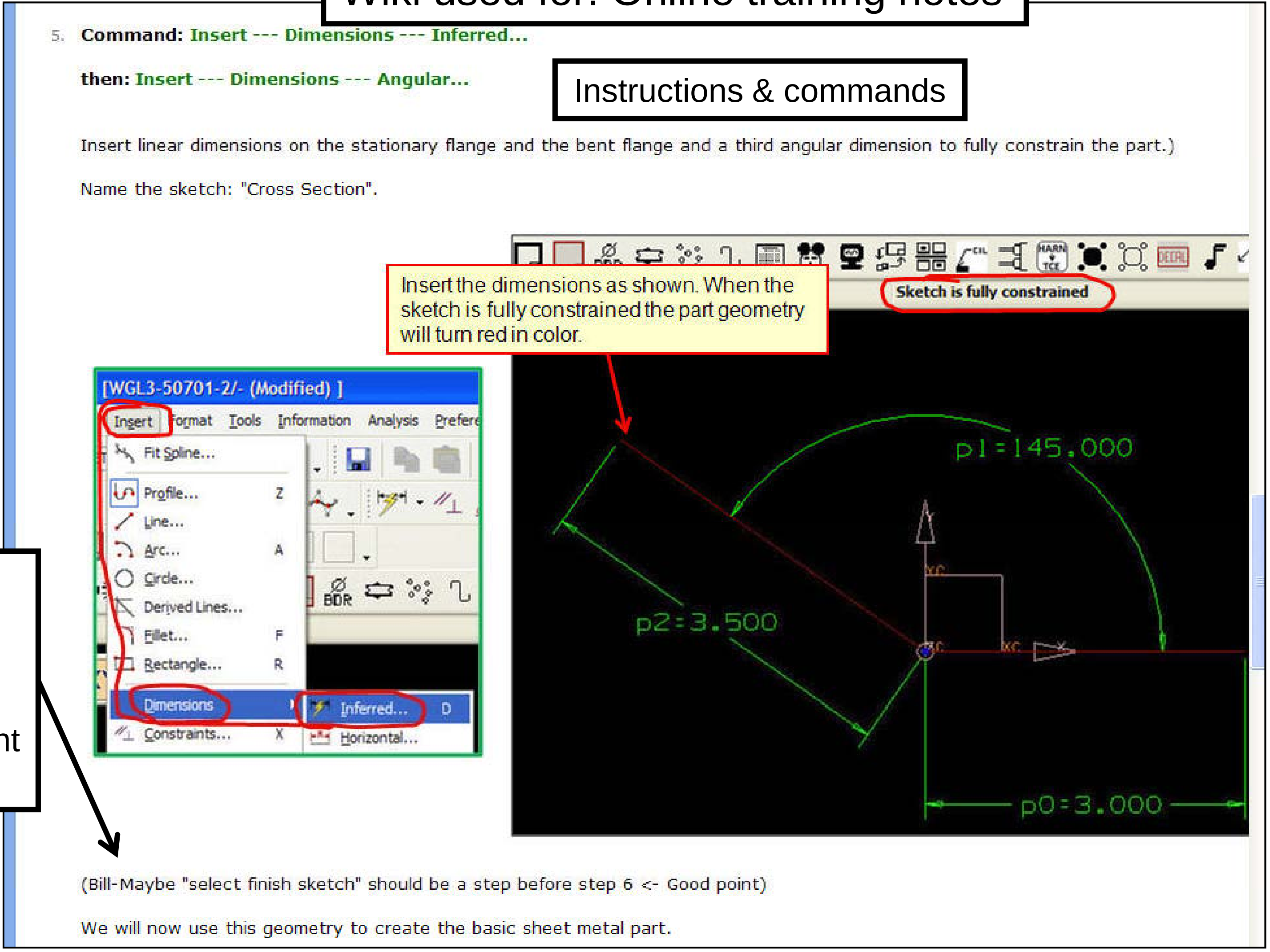
Resources for Brainstorming

input task tracking

Communication Results

Daily Applications in Knowledge Management (Aerospace)

Wiki used for: Online training notes



5. **Command:** **Insert --- Dimensions --- Inferred...**

then: **Insert --- Dimensions --- Angular...**

Instructions & commands

Insert linear dimensions on the stationary flange and the bent flange and a third angular dimension to fully constrain the part.)

Name the sketch: "Cross Section".

Insert the dimensions as shown. When the sketch is fully constrained the part geometry will turn red in color.

Sketch is fully constrained

[WGL3-50701-2/- (Modified)]
Insert
Format
Tools
Information
Analysis
Prefere
Fit Spline...
Profile... Z
Line...
Arc... A
Circle...
Derived Lines...
Fillet... F
Rectangle... R
Dimensions
Constraints... X
Inferred... D
Horizontal...
p1=145.000
p2=3.500
p0=3.000
XC
YC

(Bill-Maybe "select finish sketch" should be a step before step 6 <- Good point)

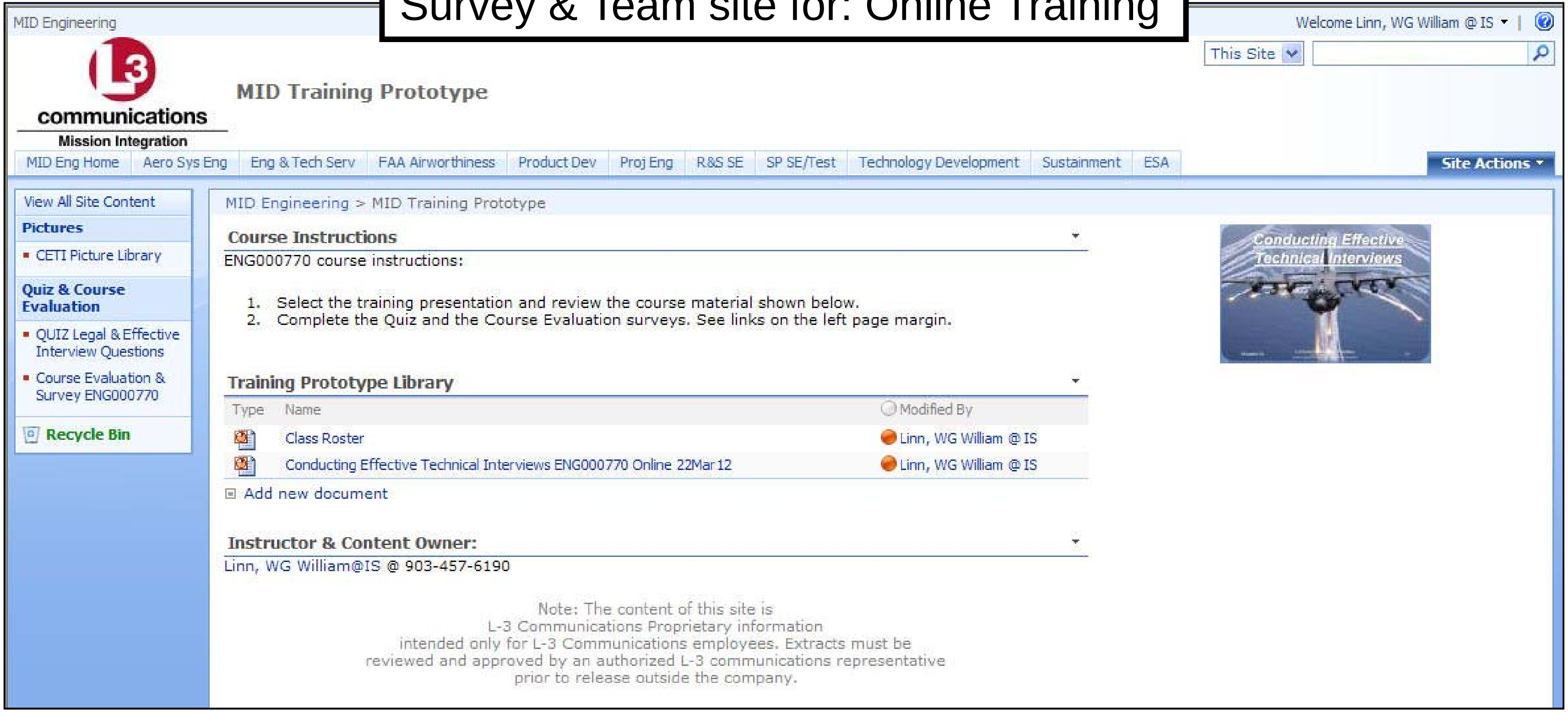
We will now use this geometry to create the basic sheet metal part.

Used also as interactive development site

Mission Integration

Daily Applications in Knowledge Management (Aerospace)

Survey & Team site for: Online Training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SP SE/Test
Technology Development
Sustainment
ESA
Site Actions
View All Site Content
Pictures
CETI Picture Library
Quiz & Course Evaluation
QUIZ Legal & Effective Interview Questions
Course Evaluation & Survey ENG000770
Recycle Bin
MID Engineering > MID Training Prototype
Conducting Effective Technical Interviews

MID Training Prototype

Course Instructions

ENG000770 course instructions:

1. Select the training presentation and review the course material shown below.
2. Complete the Quiz and the Course Evaluation surveys. See links on the left page margin.

Training Prototype Library

Type	Name	Modified By
	Class Roster	Linn, WG William @ IS
	Conducting Effective Technical Interviews ENG000770 Online 22Mar12	Linn, WG William @ IS

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Instructor & Content Owner:

Linn, WG William@IS @ 903-457-6190

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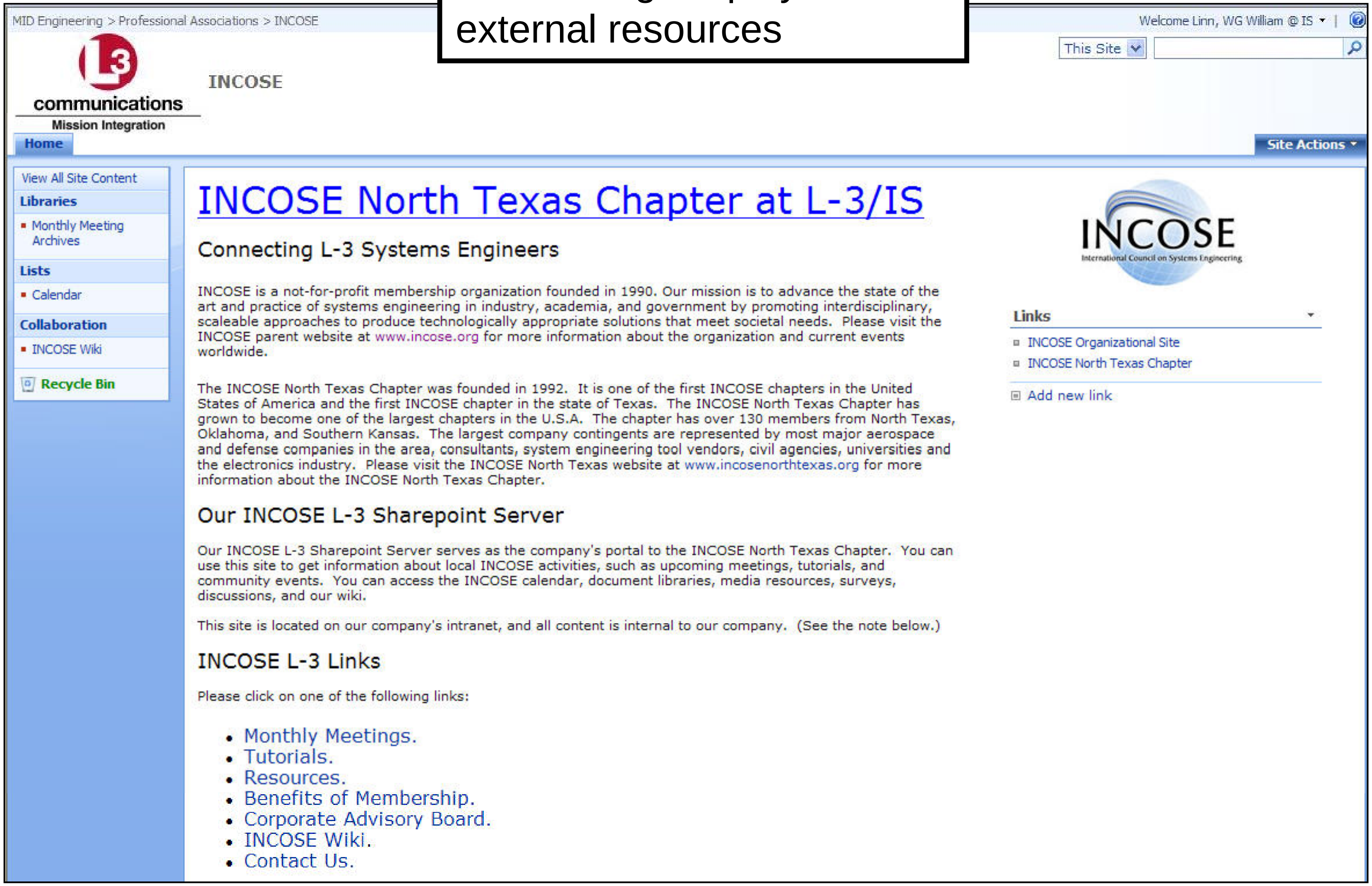
Connecting Employees with external resources


MID Engineering > Professional Associations > INCOSE
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Lists
Calendar
Collaboration
INCOSE Wiki
Recycle Bin
INCOSE
International Council on Systems Engineering
Links
INCOSE Organizational Site
INCOSE North Texas Chapter
Add new link

INCOSE North Texas Chapter at L-3/IS

Connecting L-3 Systems Engineers

INCOSE is a not-for-profit membership organization founded in 1990. Our mission is to advance the state of the art and practice of systems engineering in industry, academia, and government by promoting interdisciplinary, scaleable approaches to produce technologically appropriate solutions that meet societal needs. Please visit the INCOSE parent website at www.incose.org for more information about the organization and current events worldwide.

The INCOSE North Texas Chapter was founded in 1992. It is one of the first INCOSE chapters in the United States of America and the first INCOSE chapter in the state of Texas. The INCOSE North Texas Chapter has grown to become one of the largest chapters in the U.S.A. The chapter has over 130 members from North Texas, Oklahoma, and Southern Kansas. The largest company contingents are represented by most major aerospace and defense companies in the area, consultants, system engineering tool vendors, civil agencies, universities and the electronics industry. Please visit the INCOSE North Texas website at www.incosenorthtexas.org for more information about the INCOSE North Texas Chapter.

Our INCOSE L-3 Sharepoint Server

Our INCOSE L-3 Sharepoint Server serves as the company's portal to the INCOSE North Texas Chapter. You can use this site to get information about local INCOSE activities, such as upcoming meetings, tutorials, and community events. You can access the INCOSE calendar, document libraries, media resources, surveys, discussions, and our wiki.

This site is located on our company's intranet, and all content is internal to our company. (See the note below.)

INCOSE L-3 Links

Please click on one of the following links:

- Monthly Meetings.
- Tutorials.
- Resources.
- Benefits of Membership.
- Corporate Advisory Board.
- INCOSE Wiki.
- Contact Us.

Local and National KM Development

Inside L-3

LEARNING & PERFORMANCE
L&P CoP
COMMUNITY OF PRACTICE
Focused on quality learning solutions to improve performance across L-3 businesses

- Mechanical engineering mentoring development
- Information Architecture & Quarterly SharePoint discussions
- Consulting on divisional mentoring programs
- L-3 Learning & Performance Community of Practice
- L-3 KM Community of Practice

Outside L-3

kma knowledge management association

KMA – Knowledge Management Association

- Mission, Vision, and Goals created
- Web site in development and local Chapters forming
- Development teams in work and volunteer base growing
- Partnerships and Special Interest Groups (SIGs) forming

Questions?

Contact Information:

Bill Linn
Manager Process Engineering
Aeronautical Systems Engineering
L-3 Communications
Greenville, Texas

Email: william.g.linn@l-3com.com
or wglinn@gmail.com

Office: 903-457-6190