

# Air Force Materiel Command

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*War-Winning Capabilities: On Time, On Cost*



**Air Force  
Knowledge Now:  
Capturing What People  
Know**

**U.S. AIR FORCE**

**Mr. Randy Adkins**

**HQ AFMC/TRCI**

**Randy.Adkins@wpafb.af.mil**

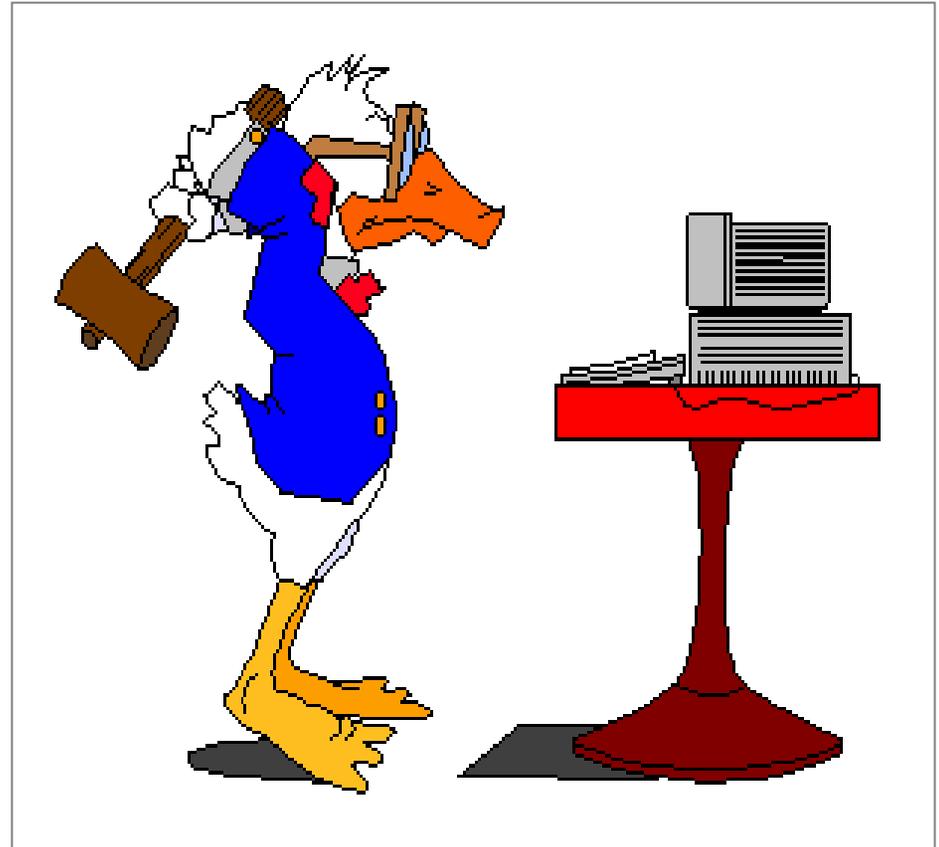
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*Integrity - Service - Excellence*



# Retirement Means...

**AFMC**





# Air Force Strategic Direction



Goal 6: Provide decision-makers and all Air Force personnel with on-demand access to authoritative, relevant and sufficient information to perform their duties efficiently and effectively.

**Goal 7: Implement knowledge management practices and technologies to assure knowledge is identified, captured, and shared.**

To enable modular, platform-independent information management capabilities and are interoperable with Department of Defense and other government information systems.





# Air Force Imperative for Knowledge Management



**“...particular attention must be focused on assuring the Air Force captures and makes available the wealth of expertise and experience the current workforce possesses – as well as that which resides outside the Air Force in similar organizations....”**

**USAF Strategic Planning  
Directive (AFSPD) FY 06-23**



# Knowledge Now Overview



Knowledge Now has been practicing knowledge management for the past 6 years

- **KNOWLEDGE DISCOVERY**- Robust search engine that locates information and knowledge in its “natural habitat”
- **AIR FORCE DESKBOOK**- Capturing, validating and deploying validated knowledge
- **COMMUNITIES OF PRACTICE**- Capturing tacit and explicit knowledge relevant to specific Air Force functions
- **WISDOM EXCHANGE**- Expert access for capturing experiential knowledge and making it available to all
- **e-LEARNING**- Ready access to learning objects and experts

**Designed to create a “boundaryless” organization**



# Question & Answer

**AFMC**





# Knowledge Now Entry



Air Force Center of Excellence for Knowledge Management (AF CIO Memo)

Exact phrase  Acronyms only

Search all the following:

- AFMC Web Sites  Deskbook  
 Pubs/Forms  Hill FAR Site



On-line Help can show you the full capability of Knowledge Now and your Community!

... or select only the areas you want

Check out the new Vote feature in Deskbook! [Click here for details.](#)

## Award Winning Communities of Practice [\[be a Champion CoP\]](#)

For demonstrated outstanding achievement in the utilization of Communities of Practice

2003 Annual Winner - [Packaging CoP](#)

2004 1st Quarter Winner - [Automatic Identification Technology Technical Working Group CoP](#)

## Knowledge Areas/Communities of Practice [\[All CoPs\]](#) [\[All CoPs Alpha\]](#)

- [Acquisition](#)
- [Comm. & Info.](#)
- [Contract Mgt.](#)
- [Educ. & Training](#)
- [Engineering](#)
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- [Operations](#)
- [Personnel](#)
- [Plans & Programs](#)
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- [Test & Evaluation](#)
- [Other](#)

## What is a Community of Practice? [Example](#)

A Community of Practice (CoP) workspace provides a web-based collaborative environment where members of a group use shared information and administrative and

## How to use this site/FAQ

### AF DESKBOOK

(Pedigreed & Vetted Info)

- [Common Practices](#)
- [Samples & Examples](#)
- [Wisdom & Advice](#)



[Deskbook Tools](#)

### RESOURCES

- [AFMC Organizations](#)
- [Air Force Link](#)
- [Air Force Portal](#)
- [AKSS](#)
- [AFMC Experts/POCs](#)

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### SPECIAL INTEREST

- [Mentoring](#)
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Which KN feature do you find most useful?

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# Air Force Deskbook



KN Home | Feedback | Tell a Friend | Login

## AF Deskbook

Knowledge Now | AF Deskbook

[Suggest a sample](#)

### Resources

- Acronyms
- Forms
- Keywords
- References
- Web Site Links

### Categories

#### All Categories

- Acquisition
- Comm. & Information
- Contract Management
- Education & Training
- Engineering
- Financial Management
- Foreign Military Sales
- Inspections
- Intelligence
- Logistics
- Operations
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- Program Management
- Public Affairs
- Requirements
- Safety
- Science & Technology
- Security
- Test & Evaluation

Search AF Deskbook Collection  Exact phrase

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Wisdom & Advice

Common Practices

Samples & Examples

### AF Deskbook Samples & Examples (All Categories)

	Viewed	User Rating	Rate	Updated/ Reviewed	POC
1. <a href="#">AF - Cable Television (CATV) License Agreement Template</a>	149	★★★★★	✔OTE	6/2003	
2. <a href="#">AF - Computer Resources Life Cycle Management Plan Example</a>	224	★★★●●	✔OTE	1/2003	
3. <a href="#">AF - Cooperative Research and Development Agreement Template</a>	224	★★★★★	✔OTE	1/2004	
4. <a href="#">AF - Operational Requirements Document (ORD)</a>	291	★★★★★	✔OTE	7/2003	
5. <a href="#">AF - Summary Statement of Intent (SSOI)</a>	42	No Votes	✔OTE	12/2003	
6. <a href="#">AFMC - Acceptance Letter for B-2 Certification of IOT&amp;E</a>	81	No Votes	✔OTE	2/2004	
7. <a href="#">AFMC - Acquisition Plan Preparation Guide/Template</a>	503	No Votes	✔OTE	8/2003	
8. <a href="#">AFMC - Action Of</a>					
9. <a href="#">AFMC - AFMC So Template</a>					
10. <a href="#">AFMC - AFMC So Template</a>					
11. <a href="#">AFMC - Amendm Acceptance</a>					

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# What is a “Community of Practice”?

AFMC

A Community of Practice is a group of people connected to each other by a need to solve business problems and sharpen skills by sharing common practices and experiences



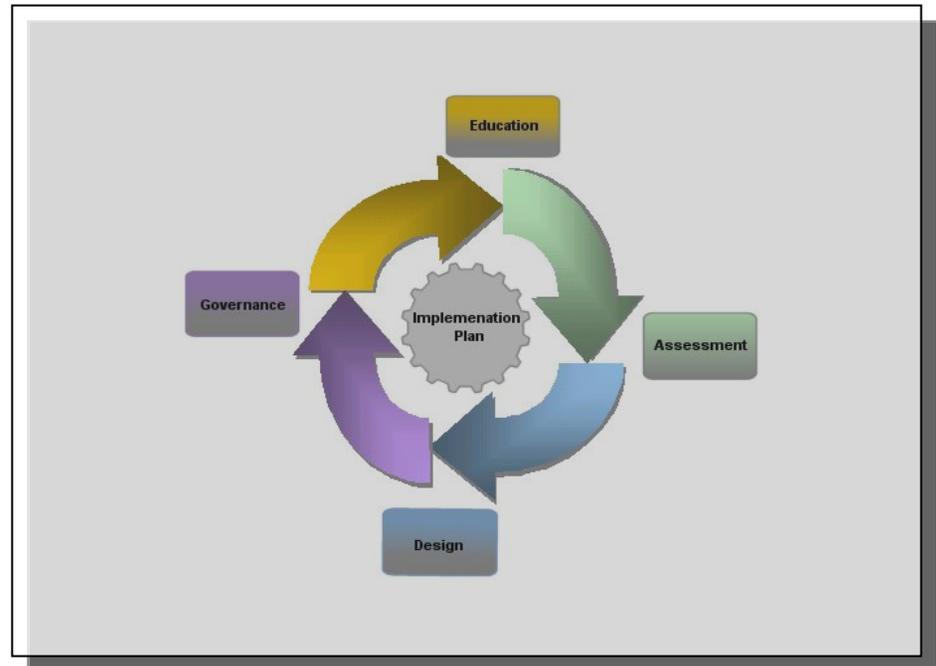
Think of a CoP as a “**Community of Experience**”  
Experience is what has to be transferred to achieve efficiencies



# Knowledge Now Methodology



- **Education** - Educate key community decision makers
- **Assessment** - Perform knowledge mapping process
- **Design** - Align knowledge needs with business processes
- **Implementation Plan** - Capture information to develop an Implementation Plan
- **Governance** - Define Community of Practice roles, responsibilities and rules





# Peer-to-peer Collaboration: Knowledge Now Wisdom Exchange

AFMC

*People  
with problems  
or questions*

**Are  
connected  
with**

*People  
with answers  
or expertise*

Three challenges to knowledge transfer are:

- 1) finding the right person at the right time
- 2) capturing knowledge
- 3) leveraging or re-using knowledge

**Wisdom Exchange helps capture and disseminate tacit knowledge that is gained by individual experience**



# USAF Knowledge Structure



The screenshot shows the Air Force Portal interface. At the top, it says "Air Force Portal" with navigation links for Alerts, Email, and AFIM. Below the header, there are sections for "My Workspace", "Library", "Career", and "Life". The main content area includes "Center", "Leadership Messages", "AF Leadership: Cross Further Into the...", "Speeches", "Viewpoints", and "World Wide Roll Out Metrics".

Annotations on the screenshot include:

- Sharing:** A box around a photo of two people in military uniforms looking at a document.
- Learning:** A box around a photo of a person in a military uniform in a classroom setting.
- Experts:** A box around a photo of two people looking at a large aircraft engine.
- Knowledge Discovery:** A box around a photo of a person in a suit looking at a computer monitor.
- Information Systems:** A box around a photo of a computer monitor displaying the Air Force logo.

The word "Community" is written in large, semi-transparent letters across the bottom center of the screenshot.



# Knowledge Now; What we've learned



## - SUMMARY -

- **Our success factors:**
  - **FAST**- Easy to deploy, responsive to end user questions
  - **SIMPLE**- Intuitive, use conventional technology, not too many “bells & whistles”
  - **FLEXIBLE**- Each group has specific needs; level of adoption related to ability to “make it their own”
  - **CONTEXTUAL**- Applies to work I do today; Common language/taxonomy
  - **USER- CENTRIC**- Focus on business needs of individual customers
  - **“BOUNDARYLESS”**- Not limited to organizational, cultural, or physical boundaries



# Backup

A vertical strip of an American flag is visible on the left side of the slide, showing the stars and stripes.

# Knowledge Retention at the Tennessee Valley Authority

2004 Federal Workforce Conference

Knowledge Management Session

You Can't Leave; We Don't Know What You Do

# Organizational Knowledge



A vertical strip of an American flag is visible on the left side of the slide, showing the stars and stripes.

# Kinds of Organizational Knowledge

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- **Public / private**
- **Component / architectural**
- **Individual / collective**
- **Explicit / tacit**



# Kinds of Organizational Knowledge

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- **Explicit**
  - **Objective**
  - **Expressed in words, numbers, specifications**
  - **Documented & transferred in formal statements, rules, procedures, checklists, employee handbooks, standards**
  - **Processed by computers, transmitted electronically & stored in databases**



# Kinds of Organizational Knowledge

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- **Tacit**
  - **Oral**
  - **Personal**
    - Insight, intuitive beliefs, hunches
    - Unconscious values, mental models
    - Unwritten rules---organizational routines
  - **Skill or expertise**
    - Learned through experience
    - Contextual
    - Knowledge depends on relationships
    - Not only the facts, but the relationship between the facts
  - **People unaware of what they know**  
“We know more than we can tell”- Polanyi



# Value of Tacit Knowledge

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- **Key component of intellectual capital**
  - **Intellectual assets**
  - **Intellectual property**
  - **Human capital**
- **Firm's intellectual capital may determine success or failure**
- **Firm's value threatened when expertise leaves**



# **The Tennessee Valley Authority– “Our bottom line is the public good”**

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- **Serve 8.5 million residents in 7 states**
- **Power facilities include:**
  - **11 fossil plants**
  - **29 hydroelectric dams**
  - **3 nuclear plants**
  - **6 combustion turbine plants**
  - **A pumped-storage facility**
  - **17,000 miles of transmission lines**



# TVA's Workforce demographics

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- **13,000 employees**
- **Impacted by the baby boom generation**
  - **30-40% retirement eligible in five years**
- **Average age 46, compared to industry average of 43, national average of 40**
- **85% of non-management employees require technical education, training, or both**
- **Long lead time for training---many positions require 2-4 years of training for certification**



# TVA's Business drivers

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- **Pressure to lower labor costs to keep power costs down**
- **Increasing competition for supply of candidates**
- **Capable workforce required for safety and reliability of power supply**
- **Pressure to shorten time to competence**

# The TVA Approach to Knowledge Retention

## *TVA's Process*



**Identify the knowledge**



**Assess the risk**



**Mitigate the impact**



# Step One—Conduct Assessment

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- **Identify positions and/or people**
  - Knowledge loss greatest, most imminent
- **Determine knowledge risk factor**
  - Time to retirement score --1 to 5
    - Employees provide retirement / attrition information annually
    - 80% share this information voluntarily
  - Knowledge criticality score --1 to 5
    - Manager determines criticality score

# Knowledge Loss Risk Assessment

- Retirement factor X Position Risk Factor =  
Total Attrition Factor

## Retirement Factor:

- 5 within 1 year
- 4 within 1 to 2 years
- 3 within 2 to 3 years
- 2 within 3 to 5 years
- 1 > 5 years

# Position Risk Factor

5

4

3

2

1

- 
- **Critical and unique knowledge and skills**
  - **Significant reliability or safety impacts**
  - **TVA or site-specific knowledge**
  - **Knowledge undocumented**
  - **Requires 3-5 years training & experience**
  - **No ready replacements available**

# Position Risk Factor

5

4

3

2

1

- 
- **Critical knowledge and skills**
  - **Mission critical**
  - **Limited duplication**
  - **Some documentation**
  - **Requires 2-4 years focused training & experience**

# Position Risk Factor

---

5

4

3

2

1



- **3** – Important, systemized
- **2** – Proceduralized or non-mission critical
- **1** – Common knowledge and skills



# Assess criticality of the knowledge

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- Interview employee & supervisor
- Identify job's knowledge content
  - General questions
  - Task questions
  - Fact or information questions
  - Pattern recognition questions
- Compile and narrow list of potential “knowledge loss items” to critical few



# Step Two – Determine the Approach

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- **Codification**
  - **Document knowledge or annotate current procedures**
  - **Establish or revise formal procedures and processes**
  - **Create photographic or videotape record**
  - **Establish systems to store and share knowledge**
    - **Documents**
    - **Databases**
    - **On-line references**
  - **Establish process to periodically gather and distribute new information**



# Step Two – Determine the Approach

---

- **Education & Training**
  - **Classroom and simulator training**
  - **CBT, video-based & alternative delivery**
  - **Coaching and mentoring**
  - **OJT/job rotation**
    - **Self-study**
    - **On the job demonstration for supervisory sign-off**
  - **Targeted work assignments**
  - **Apprenticeship programs**

A vertical strip of an American flag is visible on the left side of the slide, showing the stars and stripes.

# Step Two – Determine the Approach

---

- **Engineer It Out**
  - **Process improvement**
  - **Update equipment**
  - **“Smart” tools and technology**



# Step Two – Determine the Approach

---

- **Rely on Alternative Resources**
  - **Agency / site / department expert**
  - **Rotational / visiting staff**
  - **Multi-skilling / cross-training**
  - **Contractors, part-timers, retirees**
  - **Communities of practice / networking**



# Step Three – Evaluate

---

- **Create Knowledge Retention Plan**
  - Document actions to be taken
  - Obtain appropriate approvals and concurrence for action plan
- **Implement plan**
  - Ensure plan reflected in performance goals, work management system
  - Monitor ongoing



# Research Approach

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- **Analyze the database**
  - **Identify common factors of those with knowledge criticality score of 4 or 5**
    - **Why do they have a higher score?**
    - **What is special about their experience?**
    - **What is an expert?**
  - **Describe database statistics**
- **Examine the process**
  - **Compare with other approaches**
  - **Evaluate success of the program**
  - **Complete case study**



# Contact Information

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For more information,  
visit us on the web at

[www.tva.gov](http://www.tva.gov)

**Susie Trinkle**

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Lynne Feingold  
Senior Analyst  
Financial Management Service of the Department of Treasury

This presentation will demonstrate the power of story in sharing knowledge and sparking organizational change.

My objective in using story was to share the lessons learned of an emerging technology in such a way that people would want to understand the issues and be moved to action. As Steve Denning, former director of the World Bank wrote, “Analysis might excite the mind but it hardly offers a route to the heart. And that is where leaders have to go if they are to motivate people to launch transformational change and spark action with energy and enthusiasm.”

While working in the Smart Card Office of the General Services Administration, I analyzed lessons learned from government-wide smart card pilots and wrote a comprehensive report. For several weeks, I interviewed the leaders of smart card technology in the public and private sectors who were involved with the pilots. My objective was to make sure the report findings were ingested and shared with enthusiasm and commitment – not put on a bookshelf never to be thought of again.

Using the information I gleaned from the interviews, I wrote a performance piece about a fortune teller who tells the audience the past, present, and future of smart cards. Dressed as a fortune teller and reading smart cards instead of tarot cards, I made my audience (the Senior Executive Staff of GSA) who were listening to the analysis, the recipients of the fortune telling. They were as an important and integral part of the performance piece as they were in the interviews and analysis.

The performance piece went over so well that one of the senior execs asked me to make a video of the performance. The TV studio at GSA with funding from the Financial Management Service of the Department of Treasury produced my video, “Madame Lynne Predicts Smart Cards are the Future!” The story of the lessons learned, narrated by me as the fortune teller, was so well received that the senior execs took it to the G7 Government meetings in Lisbon and several international technology conferences. The foreign delegates viewed the video after lunch and thoroughly enjoyed it. It wasn’t just the good food and wine that explained their positive reception – after the G7 meetings, I received several requests from the foreign delegates for more copies of the video!

Through the use of a future story – created with the background information – I connected with more people in many more countries than I (even as Madame Lynne, the fortune teller!) could have ever predicted. People were given information they needed to expand the use of smart cards. They were able to really hear what each other had to say, and I accomplished my goal of passing on vital information that would determine success of the initiative.

