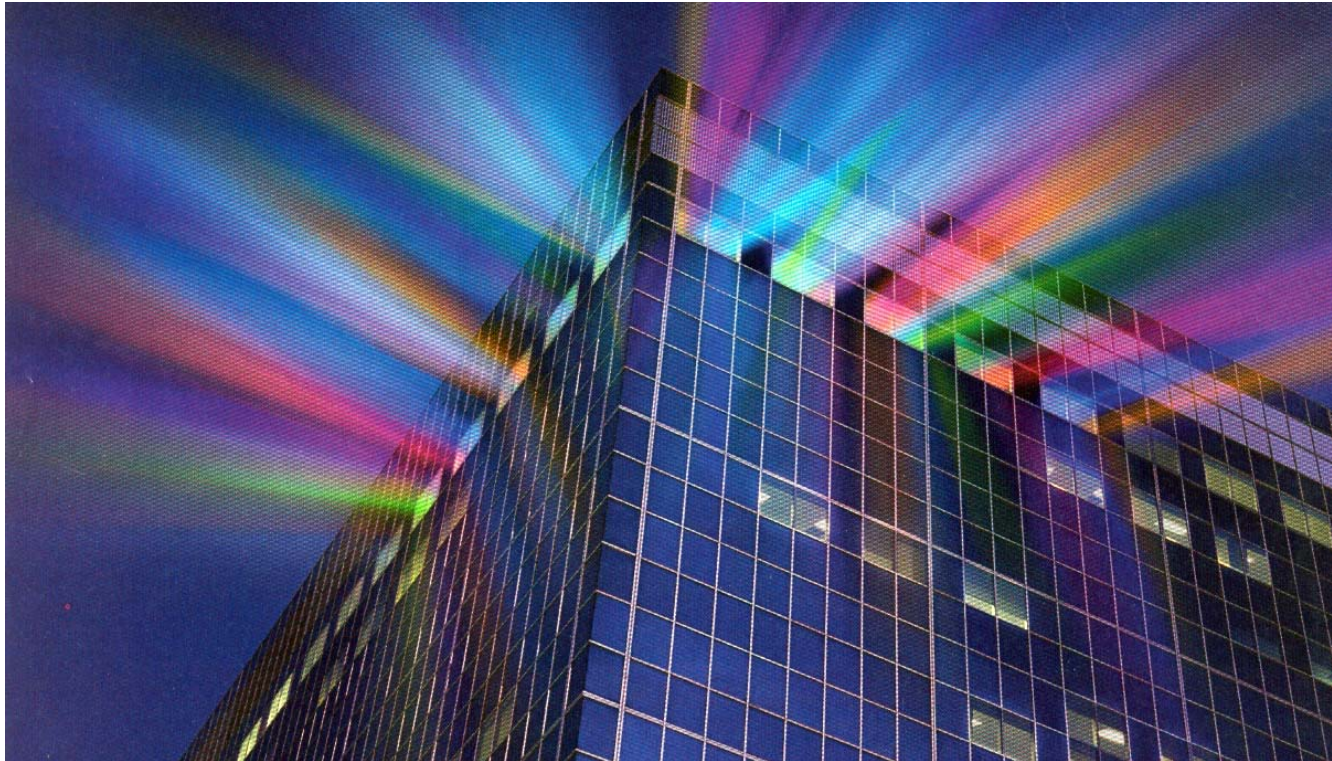


Knowledge Management at Cytec Industries

Building the Library of the Future



David A. Breiner

Boston KM Forum
September 27, 2005

CYTEC

Quote

“Small or large, the mission of the company library is the same: To select, obtain, store, and disseminate pertinent technical information to those who need it, as rapidly and efficiently as possible.”

Harold S. Sharp, Technical Librarian
General Motors, A.C. Spark Plug Division
Industrial Laboratories, November 1959

**Libraries have always been essential to
Knowledge Management in R&D.**

Outline

- Provide a brief overview of Cytec
- Review our Knowledge Management initiative
- Share our lessons learned
- Share our vision for the future
- Answer your questions

CYTEC

Technology ahead of its time™



Cytec Industries is a specialty chemicals and materials technology company with pro-forma sales in 2004, including the Surface Specialties acquisition, of approximately \$3.0 Billion. Its growth strategies are based on developing technologically advanced customer solutions for global markets, including aerospace, coatings, mining, plastics and water treatment.

Founded in 1993 as a spin-off from American Cyanamid

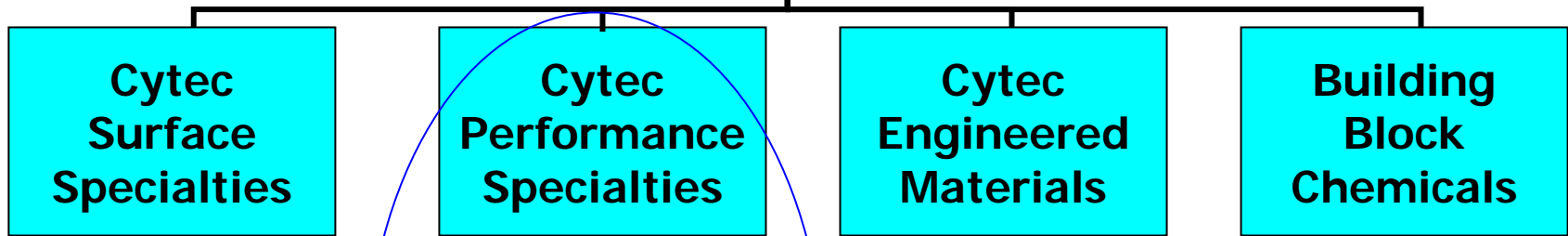
<http://www.cytec.com/>

CYTEC

Cytec Businesses



David Lilley
CEO, Cytec Industries



Ben Van Assche
President, CSS

54%



Shane Fleming
President, CPS

21%



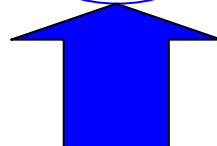
Steve Speak
President, CEM

17%



Jas Gill
President, BBC

8%



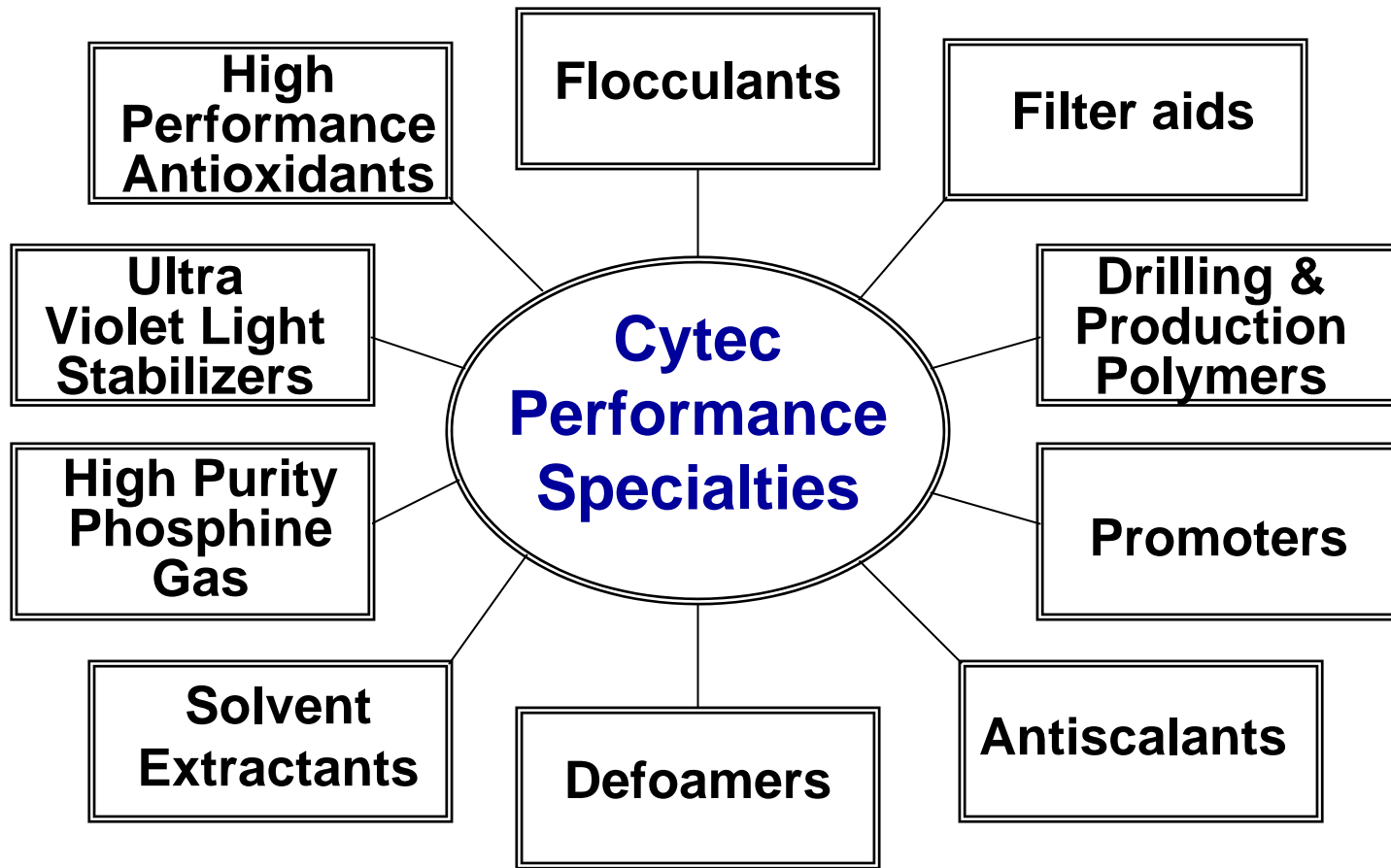
Cytec Performance Specialties (CPS)

- 2004 net sales approximately \$650M / '05P \$733M
- Approximately 1,800 employees
- Business Units include:
 - Mining Chemicals (\$174 M)
 - Phosphines & Phosphorous Specialties (\$41 M)
 - Polymer Additives (\$155 M)
 - Specialty Additives (\$123 M)
 - Water Treatment Chemicals (\$241 M)
- Research sites in Stamford CT, Canada, United Kingdom, Netherlands, and Chile
- Global Application Specialists located remotely

The Commitment of Good People to Technology and Customers

CYTEC

CPS Product Examples



Many existing products and new products in portfolio

Why did we need
Knowledge Management
in CPS R&D?

State of CPS R&D: May 2003

- All Business Units manage their own documents with no standardized processes
- Site-focused information management
- No centralized document repository
- Poor documenting of R&D work
- Difficult retrieval of internal information
- Limited access to external information
- Stamford site undergoing \$50M renovation
- Stamford Library has no manager and considered obsolete by scientific community



American Cyanamid Stamford Library 1938

Loss of
in-house
knowledge

Obsolete
Library

Paper, email, &
hard drive
files

**We needed
KM...but how
would we
do it?**

Decreased
productivity

Information
silos

Limited
external
information

Knowledge Management Project

Objectives:

- Design and implement processes and supporting systems to effectively document, archive, and retrieve relevant technical information across global Cytec Performance Specialties (CPS) R&D.
- Design the “Library of the Future” to enable our scientific community to acquire the knowledge and information necessary to discover advanced technology.
- Remain budget neutral.

*Bring the Technical Information Center
into the 21st Century!*

Knowledge Management Project

- **Sponsor:** Dr. Joseph Kozakiewicz (VP, CPS R&D)
- **Leader:** David Breiner (TIC Manager)
- **Team Members:** Jeanne Courter (Coatings), Leonard Davis (PA), Raymond Farinato (WT), Steve Greenhouse (Analytical), Nimal Jayasuriya (SA), James Jubinsky (Patent), John Hillhouse (Phosphines), Dana Moore (TIC), Wilfred Perez (Mining), Gary Walters (IT)
- **Timeline:** July 2003 – December 2005
 - July – December 2003: “As Is” Analysis and Requirements Gathering
 - January – April 2004: “To Be” Design
 - May 2004: Approval by VP R&D, Business Unit R&D Leaders, and Legal Department
 - June – December 2004: Implementation
 - January – December 2005: Institutionalization

TIC Mission

Be a premier **Technical Information Center**, enabling Cytec Performance Specialties to achieve 25% sales of new products by:

- (1) Partnering with CPS R&D and other key customers
- (2) Leveraging appropriate technology to search, archive, and disseminate internal data and documents and external published information in a cost-effective, user-friendly manner
- (3) Providing a center for learning, idea exchange, and innovation



Our Logo

Technical Information Center

Knowledge for technology ahead of its time

CYTEC

Project Scope: Internal Information

- Analytical Work (LIMS)
- Laboratory Notebooks
- Monthly Reports
- New Product Development
- Non-Disclosure Agreements
- Research Reports
- Technical Service Reports
- Technical Presentations
- Trip Reports

Project Scope: External Information

- Cytec Published Patents
- Cytec Published Journal Articles
- Prior Art / Literature Searches
- Competitor Patents
- Journals
- Books
- Technical Standards
- Market Research
- Websites

Project Design

- Develop Policies and Procedures which include:
 - Processes for documenting, archiving, and retrieval of all in-scope documents
 - Roles and responsibilities for all designed processes
- Determine appropriate external resources based on Business Unit feedback and budget
- Develop a Virtual Library that serves the global CPS R&D community

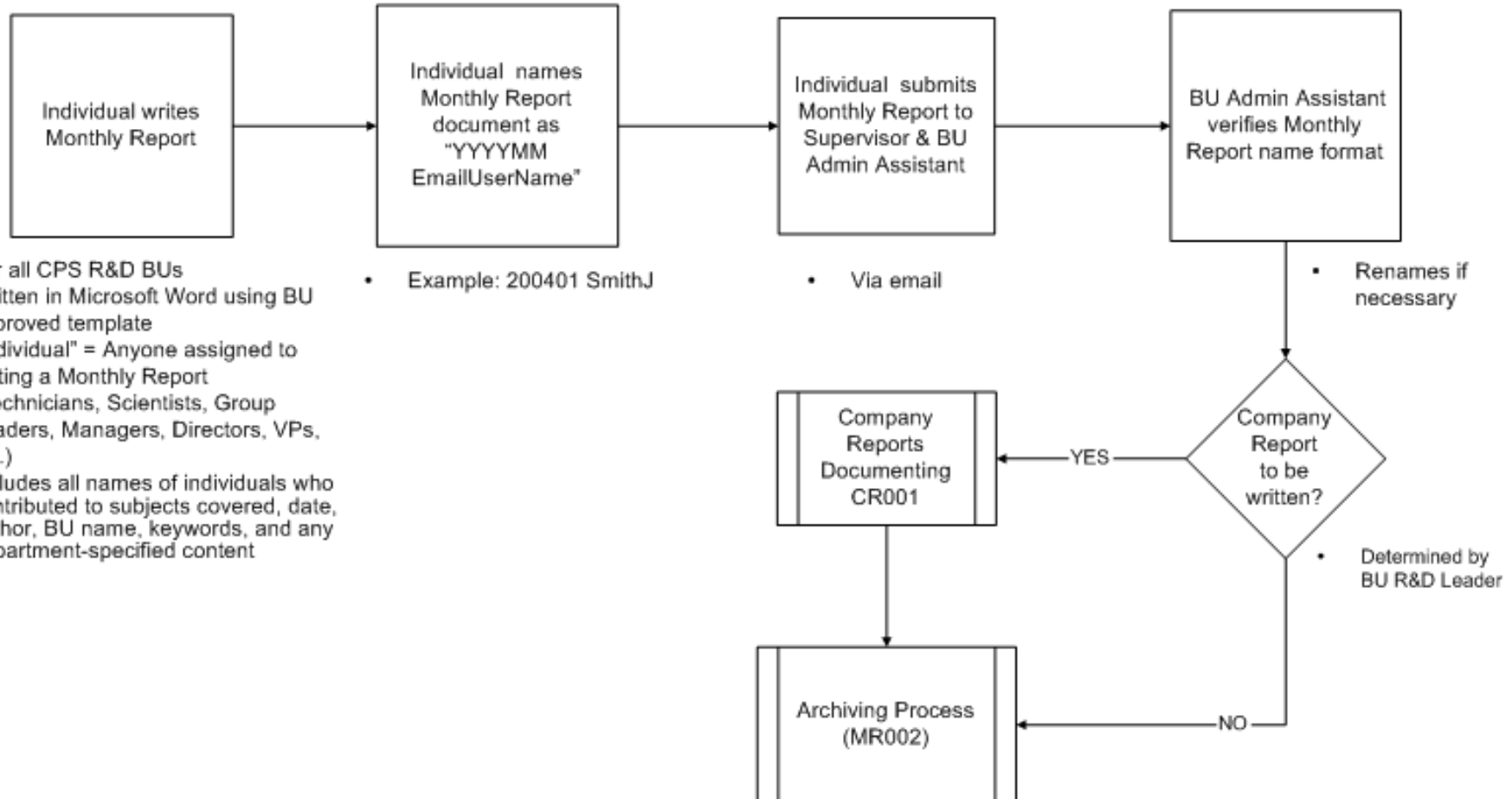
People lead...Processes guide...Tools enable

Project Design: Requirements

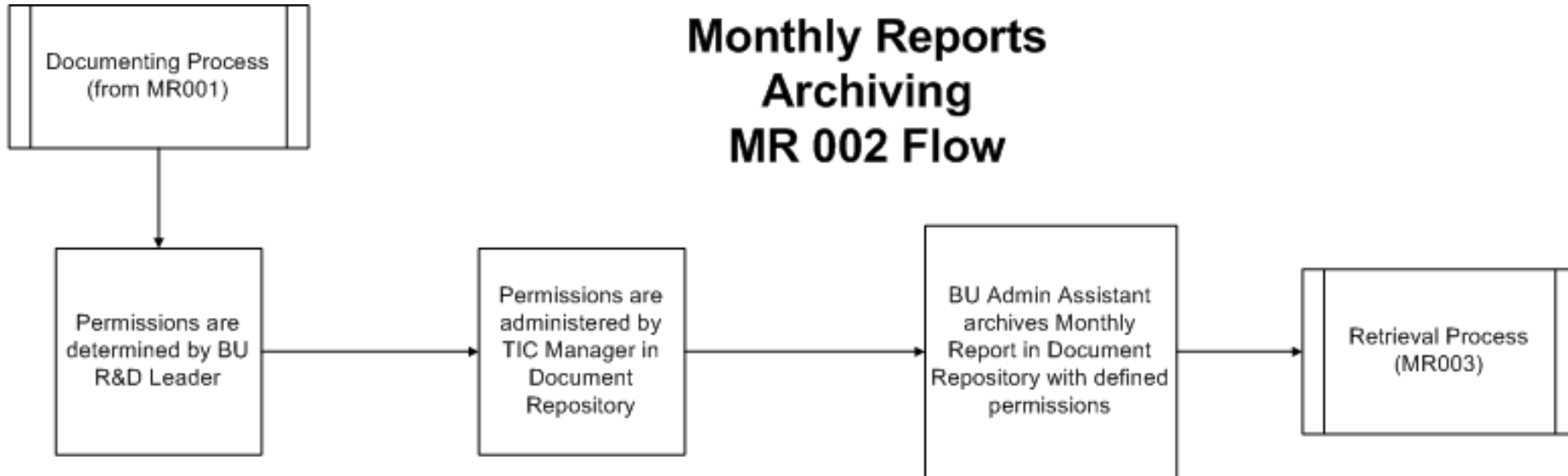
- **Single portal** for internal and external information
- Utilize **existing tools** and **infrastructure** available within Cytec IT
- **Globally accessible** and **secure**
- Leverage **electronic** capabilities
- **User friendly** with minimal training
- Use **“As Is”** processes if possible
- **Standardize** systems, processes, and tools
- **Minimize** administration
- Aligned with Cytec **Record Retention** policy

Design: Documenting Process

Monthly Reports Documenting MR 001 Flow



Design: Archiving Process

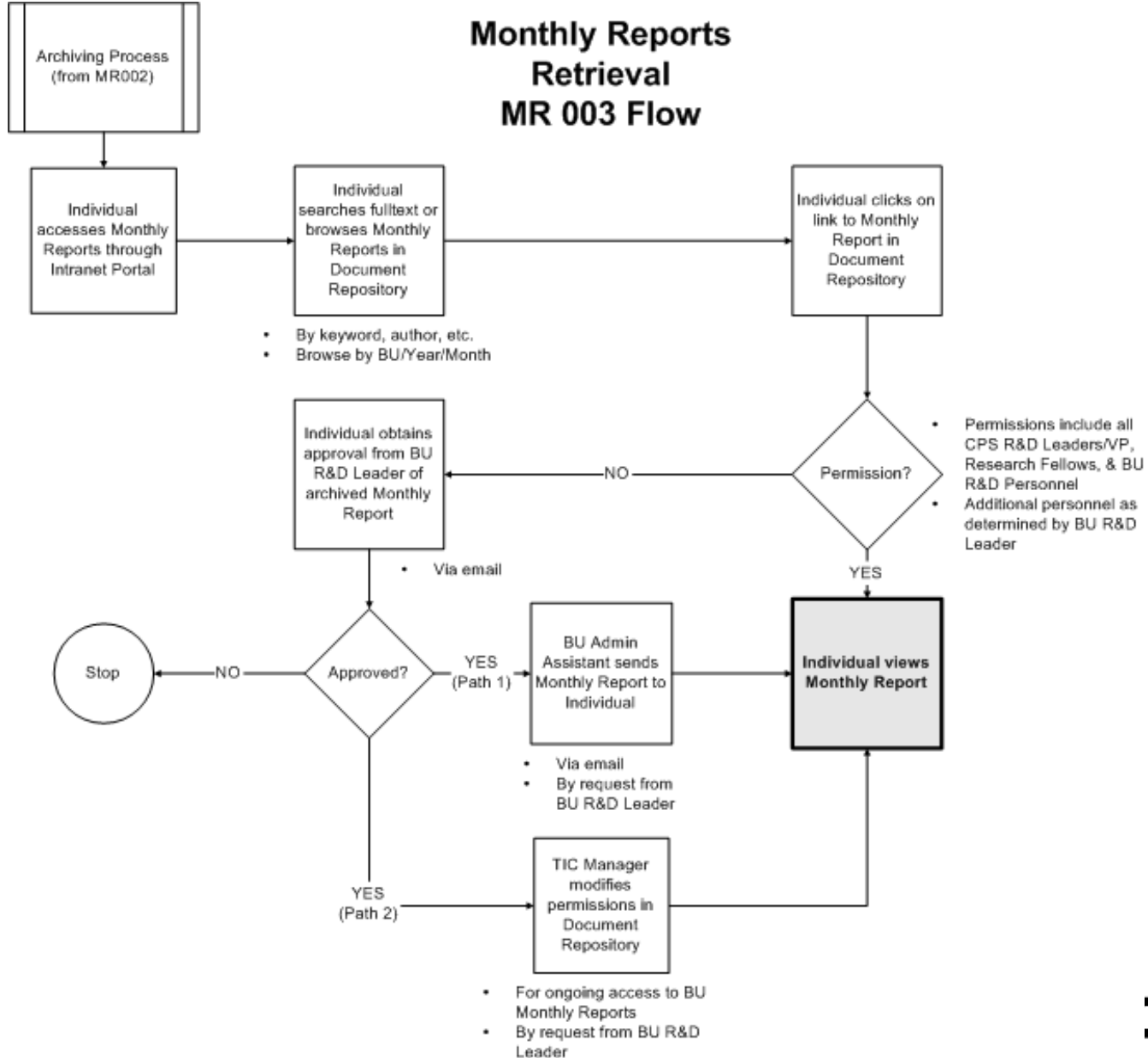


- Permissions include all CPS R&D Leaders/VP, Research Fellows, & BU R&D Personnel of issuing Monthly Report
- Additional personnel as determined by BU R&D Leader

- TIC Manager owns & administers permissions & folders in Document Repository
- Monthly Reports folder located in CPS R&D BU folder

- Folders organized by Year & Month
- Monthly Reports archived in original format
- No documents can be modified once archived

Design: Retrieval Process



Implementation

Phase 1	Phase 2	Phase 3
<ul style="list-style-type: none">- Monthly Reports- Patent Applications & Grants- TIC External Documents- Stamford Notebooks- Company Reports	<ul style="list-style-type: none">- Analytical Work- Technical Presentations- NPI Project Documents- R&D Project Documents- Technical Communication Releases	<ul style="list-style-type: none">- Technical Service Reports- Trip Reports- NDAs- Release for M/S- External Correspondence

*Get the **Right Information** to the **Right People** at the **Right Time!***

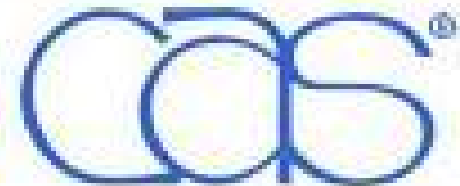
Implementation: Internal Information

- KM Team Members and R&D Leaders responsible for implementation within their Business Units
- DocuShare utilized as central repository
- Folder hierarchy designed and owned by TIC
- Permissions administered and owned by TIC

Implementation: Internal Information

- Business Unit documents archived by designated content managers (Monthly Reports, Presentations, Project Documents)
- Centralized documents archived by TIC (Cytec Publications and Patents, Research Reports, Notebooks)
- Internal information available from Intranet Portal along with external information

Implementation: External Information



CYTEC

KM in CPS R&D: September 2005

- Standardized documenting, archiving, and retrieval processes institutionalized across global CPS R&D
- Centralized repository for technical documents
- Easy, user-friendly retrieval of internal and external information from Intranet Portal
- No change in budget from 2003-2005

KM in CPS R&D: September 2005

- Engineered Materials division utilizes CPS Knowledge Management methodologies for internal information
- Engineered Materials and Building Blocks divisions utilize Intranet Portal for external information
- Collaboration with Surface Specialties division for external information
- TIC is a hub for cross-functional R&D activity (poster sessions and seminars)

CPS Scientific Community



TIC Poster Sessions and Seminars



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Testimonials

- *...a simple user-friendly resource for easy and convenient access to a variety of useful information.* – Coatings
- *...provides our site with essential technical and marketing information not easily available to us in the past.*
– Phosphines
- *...a well organized, excellent tool.* – Polymer Additives
- *...has effectively increased the quantity and quality of my ideas.* – Water Treatment Chemicals
- *...has changed what was once an information hunt to a knowledge flow.* – Mining Chemicals

Testimonials

The Technical Information Center has taken the cookies out of our web browsers and put them back in our stomachs where they belong!

– Analytical



October 2004 Newsletter

Adobe Acrobat - [200410 Courier.pdf]

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CYTEC
Courier

October 2004 • Volume 12, No. 10

Cytec to Acquire Surface Specialties Business of UCB

A monthly publication for the employees of Cytec Industries Inc.

what's inside

- 4** *Creds of Excellence honors individuals*
- 5** *Web portal is popular with R&D community*
- 6** *Celebrations are highlights of summer*


This month, Cytec announced that it has signed a definitive agreement to purchase the Surface Specialties business of UCB Group, a leading Belgium-based biopharmaceutical and specialty chemicals company, for cash and stock valued at €1.5 billion (\$1.8 billion @ 1.20 U.S. dollar per Euro).

The acquisition, approved by the boards of directors of both companies, is subject to customary closing conditions, including the approval of regulatory authorities, and is expected to close by December 31, 2004.

The cost of the acquisition will be paid €1,275 million in cash and 5,772,857 shares of Cytec common stock, valued at €225 million. It is anticipated that the cash portion of the transaction will be financed with a new credit facility, a bridge loan, which the company intends to refinance with long-term debt, and existing cash.

Upon closing, UCB will own approximately 12 percent of the outstanding shares of Cytec. UCB and Cytec have also agreed to enter into a stockholder agreement, which will provide for UCB to reduce its stake within five years and contains other customary terms and provisions.

The addition of the \$1.2 billion global Surface Specialties business will create a combined Cytec entity of approximately \$2.7 billion, based on 2003 revenues. The



Web Portal Offers Convenient Access to Technical Info


Since its launch, Specialty Chemicals' "Cybrary" Web portal has seen its popularity grow steadily within the research and development community.

This "virtual library" site currently receives 8,500 visits per month, according to David Breiner, Manager of Cytec's Technical Information Center (TIC) in Stamford, Connecticut. The TIC partners with Specialty Chemicals R&D to search, archive, and disseminate internal data and documents, as well as externally published information (such as scientific journals, patents, and technical publications), and provides a center for learning, idea exchange, and innovation.

Cybrary, David said, is the cornerstone of the TIC's effort to move to a system of electronic access for all of its services. "We're trying to give people a convenient one-stop shop for the information they need, when they need it," he said.

Utilizing Cytec's Document Management System DocuShare, Cybrary allows "content managers" from all of the Specialty Chemicals business units to put important documents into the system, making them easily accessible to all who need them.

To visit Cybrary, go to <http://cybrary.st-cytec.com>.



Lessons Learned

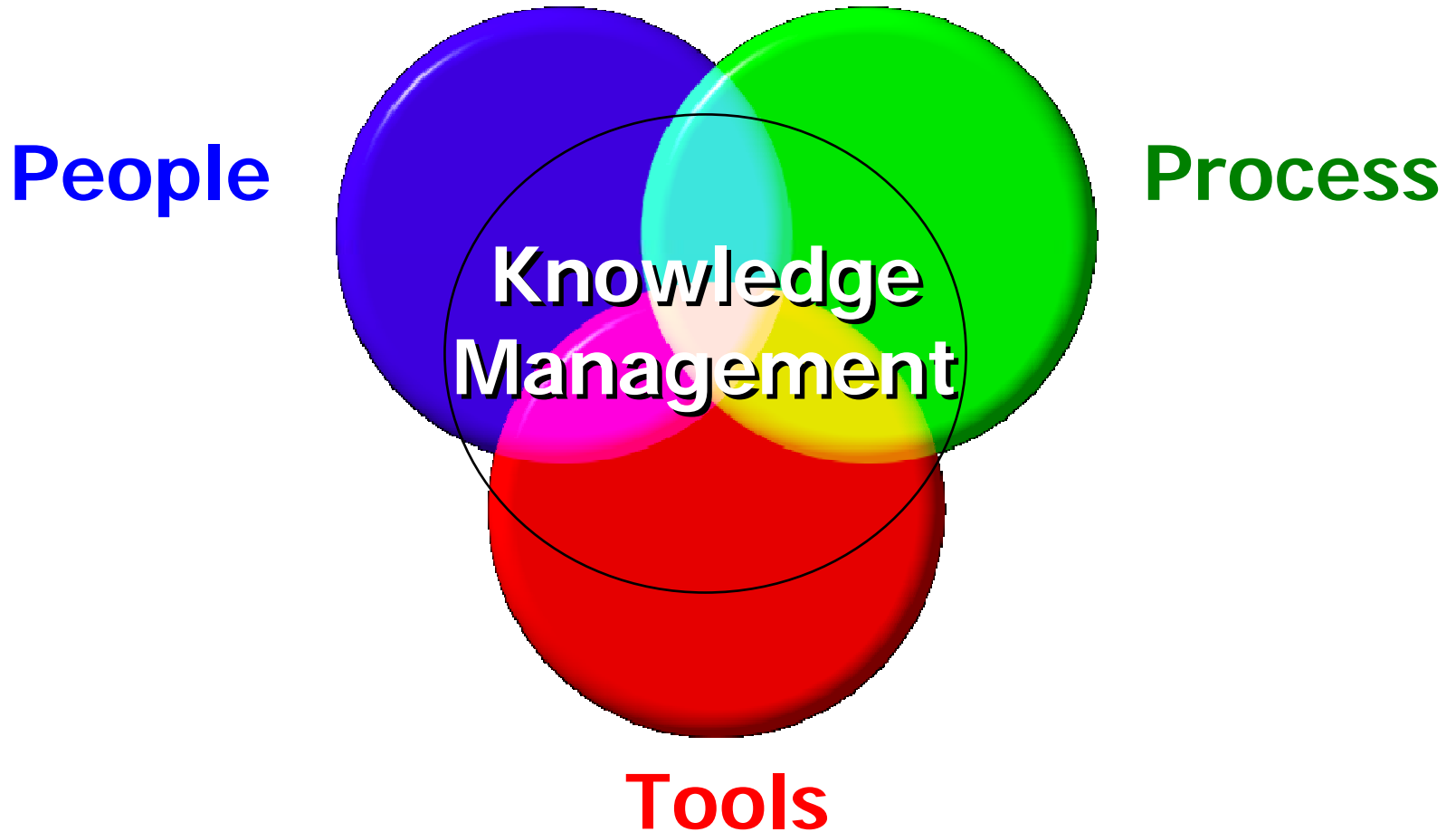
- Focus on people and processes, not tools
- Be as candid as possible
- Cultural change takes time and energy
- Start small, then expand your reach
- Continuously evaluate and improve
- Be fully supported by senior management
- If you feed them, they will come
- Have a compelling mission and a clear vision

Our Vision

Provide state-of-the-art, value-added technical information services that will enable Cytec to discover, develop, and market new products and technologies in order to sustain competitive advantage across all of its businesses.

*Get the **Right Information** to the **Right People** at the **Right Time!***

Our Vision



KM is critical to achieving our R&D goals.

The Future

Short Term:

- Acquire additional Electronic Journals
- Archive Electronic Notebook Images
- Improve processes and identify appropriate tools for New Product Development
- Design processes and identify appropriate tools for Intellectual Property Analysis

The Future

Long Term Consideration:

- Leverage KM across all CPS (manufacturing, marketing, sales, supply chain, others)
- Leverage KM across all Cytec (Document Management, Communities, Internal Expertise)
- Leverage global licenses across all Cytec for external information

Acknowledgements

- **Dr. Joseph Kozakiewicz, VP CPS R&D**
- **Knowledge Management Project Team**
Jeanne Courter (Coatings), Leonard Davis (Polymer Additives), Raymond Farinato (Water Treating), Steven Greenhouse (Analytical), Nimal Jayasuriya (Specialty Additives), James Jubinsky (Patent), John Hillhouse (Phosphines), Dana Moore (TIC), Wilfred Perez (Mining), Gary Walters (IT)
- **CPS Technology Leadership Team**
Russell Cappadona, Amy Essinfeld (Coatings), Eduardo Kamenetzky (Analytical), David Ley (Polymer Additives / Specialty Additives), Donato Nucciarone (Phosphines), Lou Rosati (Water Treating), Alan Rothenberg (Mining), Rod Ryles (IP), Claire Schultz (Patent)
- **Administrative Assistants**
Erika Edwards (Patent), Janice Graham (Phosphines), Ann Kopp (Coatings), Lucille Lester (Polymer Additives / Specialty Additives), Valerie McNeil (Analytical / Mining), Mary Miller (Patent), Inez Minor (Water Treating), Cheryle Telesco (Patent)
- **Information Technology**
Rich Hagan (Server), Peter Kefali (DocuShare), Tariq Rahman (Internet)

Answer Your Questions



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