Nuclear Knowledge Management at ED, BARC

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Management Issues

• Safety/Security
• Intranet for BARC
• Divisional Intranet
Why Divisional Intranet? 
Our Motto...

To put scientific research, engineering analysis, design documentation, operational data, maintenance records, regulatory reviews and other documents and data of various Instruments/Systems designed and developed for Reactors, RF Electronics, Health Monitoring etc.

Some basics...

What is knowledge? Knowledge is the fact or condition of knowing something with familiarity gained through experience or association. Or The ideas or understandings which an entity possesses that are used to take effective action to achieve the entity's goal(s). This knowledge is specific to the entity which created it.

Knowledge may be recorded in an individual brain or stored in organizational processes, products, facilities, systems and documents.
**Why is knowledge valuable?**

- Gives cutting edge competitive advantage over others
- It has to be protected, cultivated and shared among colleagues
- Organizational Knowledge + Individual’s skill, competencies, thoughts, innovations and ideas => Future progress, Prosperous

**What is knowledge management?**

Systematic process of finding, selecting, organizing, distilling and presenting information in a way that improves an employee's comprehension in a specific area of interest
Why knowledge management?

- Helps in problem solving, dynamic learning, strategic planning and decision making.
- It also protects intellectual assets from decay, adds to firm intelligence and provides increased flexibility.

Technologies Often Included in Knowledge Management

- Intranets
- Document Management Systems
- Information Retrieval Engines
- Relational and Object Databases
- Electronic Publishing Systems
- Groupware and Workflow Systems
- Push Technologies and Agents
- Help-Desk Applications
- Brainstorming Applications
- Data Warehousing and Data Mining Tools
Technologies Often Included in Knowledge Management

- Recruiting and Training
- Human relations and Leadership
- Management and supervision processes that define culture and reward systems.

Remember!!!

- Mine your data
- Look at your data and information in different ways
- Make an inventory of your intellectual capital
Present Network Setup

- Ethernet Connectivity over CAT5 cable with TCP/IP Protocol
- Physically Separated Internet and Intranet for security reasons
- VSAT connection to ERNET (basically used for email transactions)
- Two other link for Internet through VSNL which is gateway to Internet for INDIA (commonly used for browsing purposes)

Salient Features (BARC-BTS)...

- Accessible throughout the campus
- Gives facility for
  - Email Access
  - Divisional Pages
  - Telephone Directory
  - Email Directory
  - Employee Information
  - Broadcasts and Notices
  - Services, Antivirus Server
  - Help desk
  - Static Info. like Shuttle Time table, Calendar etc.
Some Screen shots: BTS Main Page

Some Screen shots: Emails...
Some Screen shots: Divisional Pages

Divisional Home Pages
- Computer Devices
- Career for Design and Manufacture
- E.C. & T.H. Home Page
- Barc Sources: Developmental Design
- Product Sales

Some Screen shots: Telephone Dir.
Some Screen shots: Email Dir.

Some Screen shots: Employee Info.
Some Screen shots: Employee Info.

Some Screen shots: Broadcasts...
Some Screen shots: Services...

Some Screen shots: Help Desk...
Salient Features (ED IntraNet)...

Accessible within the Division in all rooms
Gives facility for
✓ Divisional Email Access
✓ ED Sectional Pages
✓ ED Telephone Directory
✓ ED Employee Information
✓ Forms, Useful Documents
✓ Downloads, Tutorials
✓ Chatting, Searching
✓ Static Info.[Shuttle Schedule, Calendar etc.]

Also Gives facility for
✓ Contingency Advance Information
✓ Employee Details
✓ Leave Information
✓ MOU/Work Order Management
Some Screen shots: EDIntraNet

Some Screen shots: Office Applications
Some Screen shots: Office Applications

WELCOME TO THE BARC EMPLOYEE DETAIL SEARCH FORM

Some Screen shots: Office Applications

BUS / SHUTTLE TIME TABLE
Some Screen shots: Office Applications

![Image](image1.png)

![Image](image2.png)
Some Screen shots: Office Applications

Some Screen shots: Mails
Some Screen shots: Search

ED INTRANET

Some Screen shots: Sectional Details

ED INTRANET

We are working in the fields of AEC design, Radiation monitoring, Ultrasound/Health Physics/Reactor/Accelerator/ Bio medical Instrumentation, etc. Today Electronics Department has always been the leader in those fields by bringing out a number of firsts, especially in the area of scientific infrastructure. Over the years the Department has blossomed into a multi-product and multi-disciplinary organization providing key technology inputs, system integration and system solutions.
Some Screen shots: Chatting

Future Plan: Engineering Knowledgebase...

- Search and information retrieval mechanism for:
  - Components (specifications/key parameters along with their classification and manufacturer’s data, availability, location, persons using the component)
  - Instrument (designed by ED) (type, id code, circuit diagrams, specifications and other details)
  - Test and Measuring Equipments
  - Software (drivers for card, revision/version id etc.)
  - Surplus equipment or items for spare and their condition
  - Nature of failures and rectifications, difficulties encountered in hardware/software design for the instruments and how they were overcome
Features: Engineering Knowledgebase...

1. **Information** regarding Components like ICs should be available along with *specifications/key parameters* along with their *classification and manufacturer’s data*. It should be possible to search with the manufacturer’s codes as well. Component types, specifications etc. should be part of the database.

2. The information regarding *availability, location, persons using the component* etc. should be available from the database. Also, purchase information regarding the item has to be available with possible *link to the purchase division database* at a later stage.

Features: Engineering Knowledgebase...

3. Regarding the instruments (instruments, modules, standardized analog and digital cards), the *different instruments developed in ECIL, BARC* etc. should be part of the database along with details like type, *id code, circuit diagrams, specifications and other details* (to be identified). Also different hardware standards used to specify components should form part of the database or *links to be provided for such sites* as a part of the description.

4. For instruments which has *software components* as well, the information regarding *revision/version id* etc. should form part of the database with links to software related documents.
5. Catalogues/specifications provided by different manufacturers can form part of the database. Alternatively, the database can provide links to such sites. *The system may maintain a catalog of all relevant web-site addresses.*

6. Information regarding different *Test and measuring equipment*, their availability (for use as well as for purchase by others) and support information for maintenance management.

7. *Surplus equipment or items for spare and their condition* may be put on the web, for the benefit of various users.

8. Information regarding the *nature of failures and rectifications* as a part of the knowledge base will be a valuable aid to maintenance staff. Also *difficulties encountered in hardware/software design* for the instruments and how they were overcome can form part of the database for future reference.
Our Goal...

Building an institutional wise knowledge base for optimized use of components and instruments in addition to providing valuable assistance to design and maintenance people in their jobs.

Thank you...