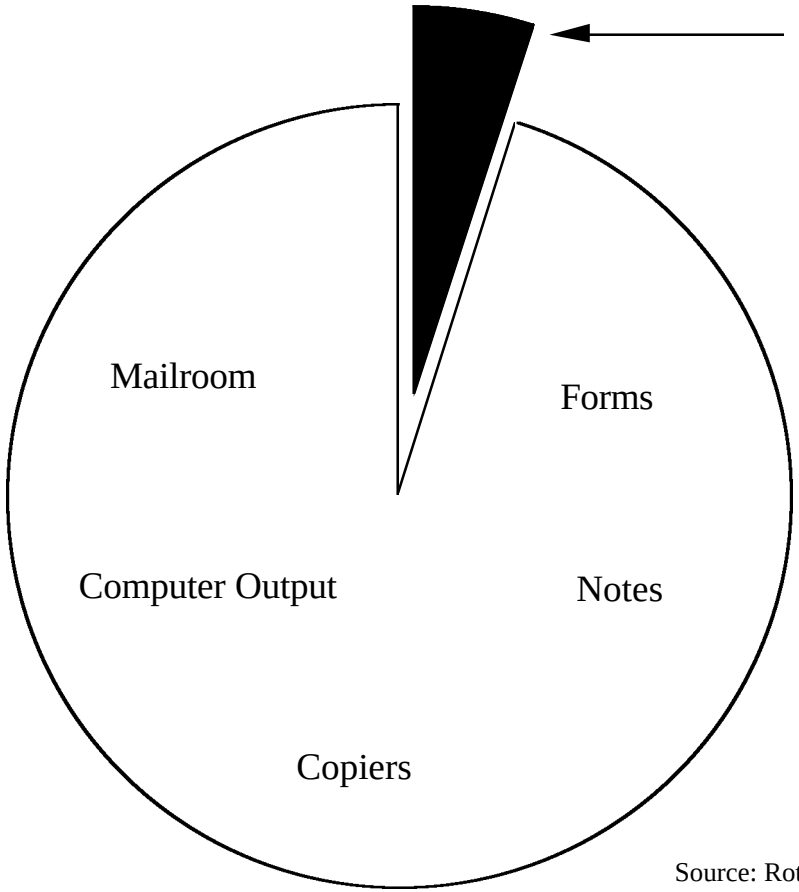
“A necessary evil which constantly adds to
which exceeds all other
frequently providing the

- Knowledge base of the company
- Mostly available on non-digital (i.e. mechanic) supports such as hard copy drawings
- Critical to company's competitive position and image



5% Digital Information

- data entry
- optical character recognition
- text
- graphics
- CAD
- electronic data interchange

Source: Rothchild Consultants

- Engineering drawings
- Parts lists
- Technical / product documentation
- Configuration data
- Maintenance manuals
- Work instructions
- Product data
- …

- Keep the data internally consistent
- Keep the data consistent with the changing reality
- Make the correct data available to end users (human or automated equipment) in a timely fashion
- Preserve the data
- Recover the data associated with a given product

Engineering Data Management

Revision control…
Data creation / revision
Archival…
Distribution…
Access control…

- Maintenance of a system level model accross all data sets, consistent with the reality
- Includes task tracking, project management, task accounting
- DoD standards 480 to 483
- Company specific

Engineering Data Management

Revision control…
Data creation / revision
Archival…
Distribution…
Access control…

- Engineering change orders
- Authorization by signatures
- Revision cycle
- Computer supported in most organizations
- Industry / company specific

- Drawings
  - on the board
  - computer-aided design
- Technical documents
  - word processing
  - technical publishing workstation

- Master
  - Hard copy paper
  - Silver film
- Microfilm as archival media for document
  - Aperture card
  - Microfiche
- Magnetic tape as archival media for computerized data
- Vault
- Off-site backup

Engineering Data Management

Engineering data…
Engineering data management…

Configuration control…
Revision control…
Data creation / revision
Archival…
Distribution…

- Diazo microform technology
- Satellite file approach, to improve quality of service
- Systematic distribution upon change, based on distribution lists
- On-line information system

Engineering Data Management

- Large volume of data
- Large amounts of duplication which leads to inconsistency
- Long turn around for revision
- Excessive cycle time for acquiring drawings
- Correct version unavailable to end-users (work delay)
- Incorrect revision available to end users (scrappage)
- Poor quality of drawing reproduction
- Lack of security
- Labor intensive database maintenance
- Problem getting worse