



A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Glenn Technical Library

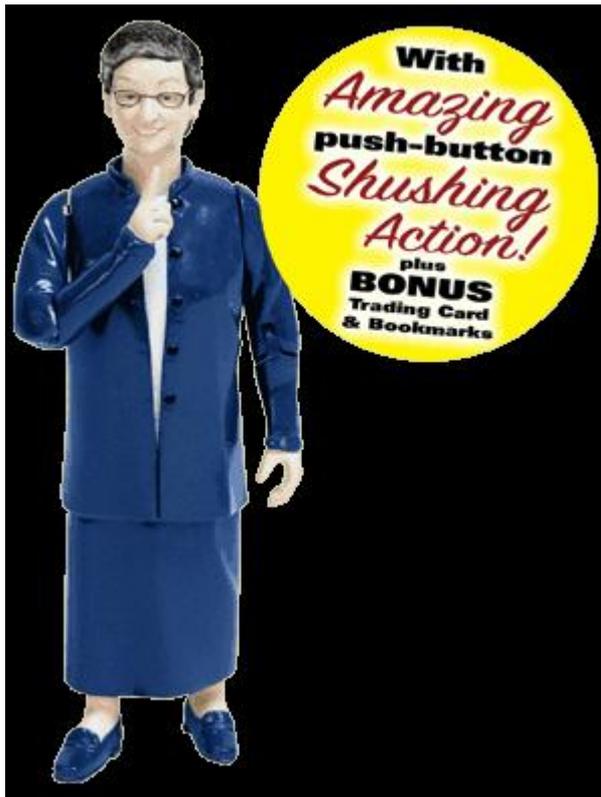
A 21st Century Library

Paige Lucas-Stannard
DLT Forum
January 6, 2006



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY



Q: What is the first thing you think of when you think of a library?

A: The librarian hushing everyone.

17-year-old from the United States,

Source: Perceptions of Libraries and Information Resources, OCLC, 2005



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Overview

- **Yesterday**
 - **Lewis Library History**
 - **Traditional Library Roles**
- **Today: *A 21st Century Library***
 - **New Roles**
 - **Changes in Traditional Roles**
 - **New Challenges**
- **Tomorrow**
 - **New Opportunities**



A 21st CENTURY LIBRARY

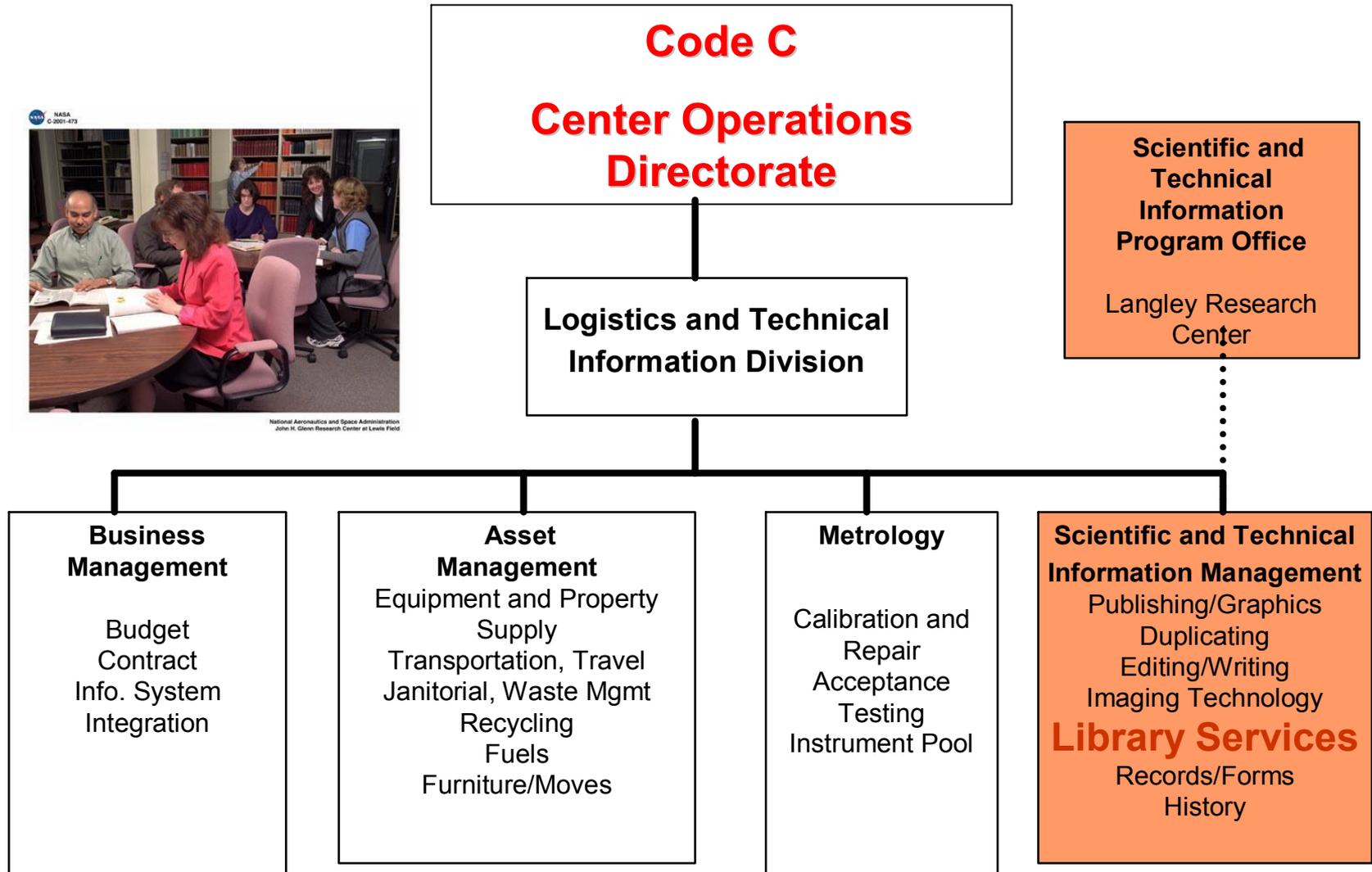
@ GLENN TECHNICAL LIBRARY

Introduction

NASA
© 2001-473



National Aeronautics and Space Administration
John H. Glenn Research Center at Lewis Field



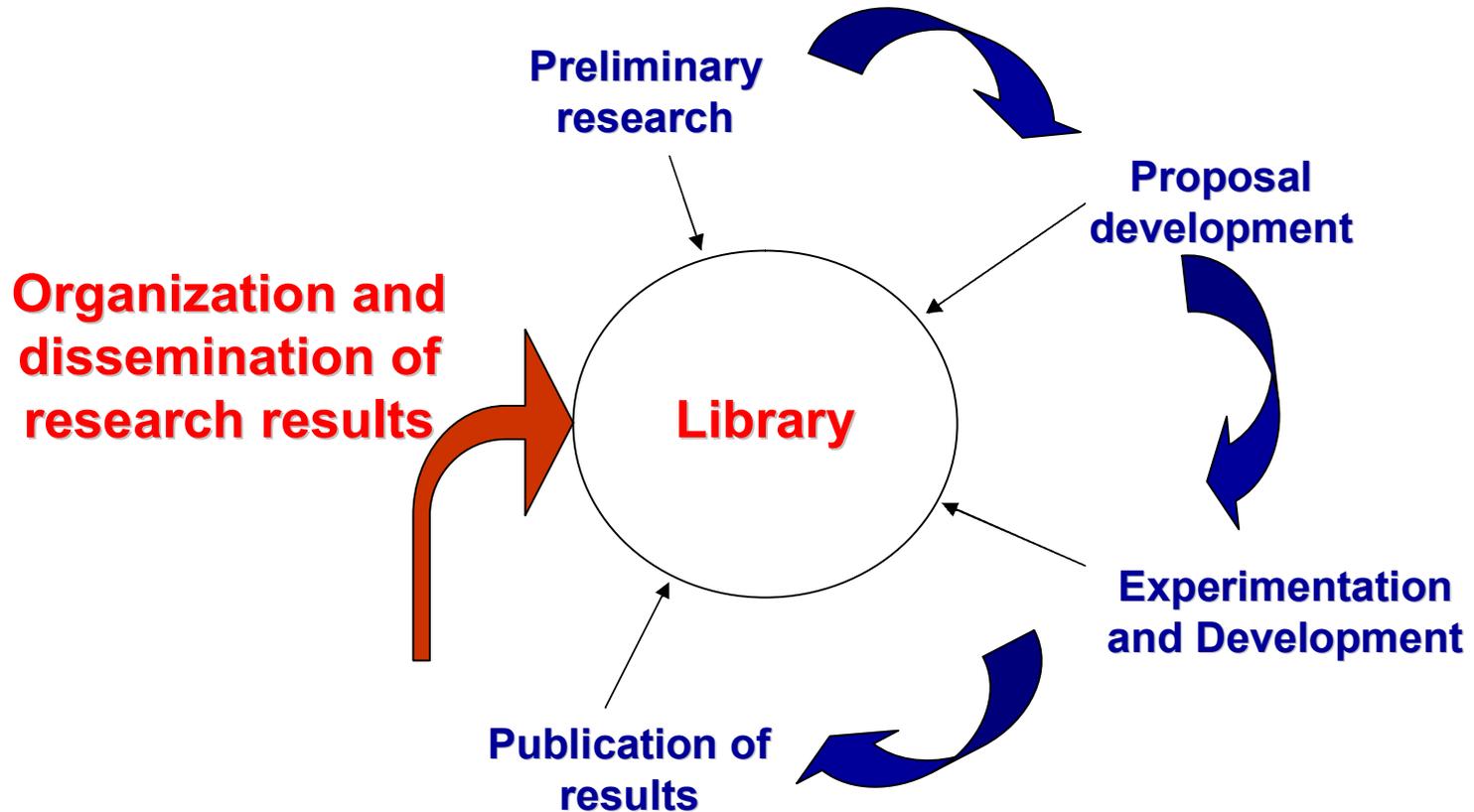


A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Information in the Research Cycle

Introduction





A 21ST CENTURY LIBRARY
@ GLENN TECHNICAL LIBRARY

Glenn Technical Library

Yesterday

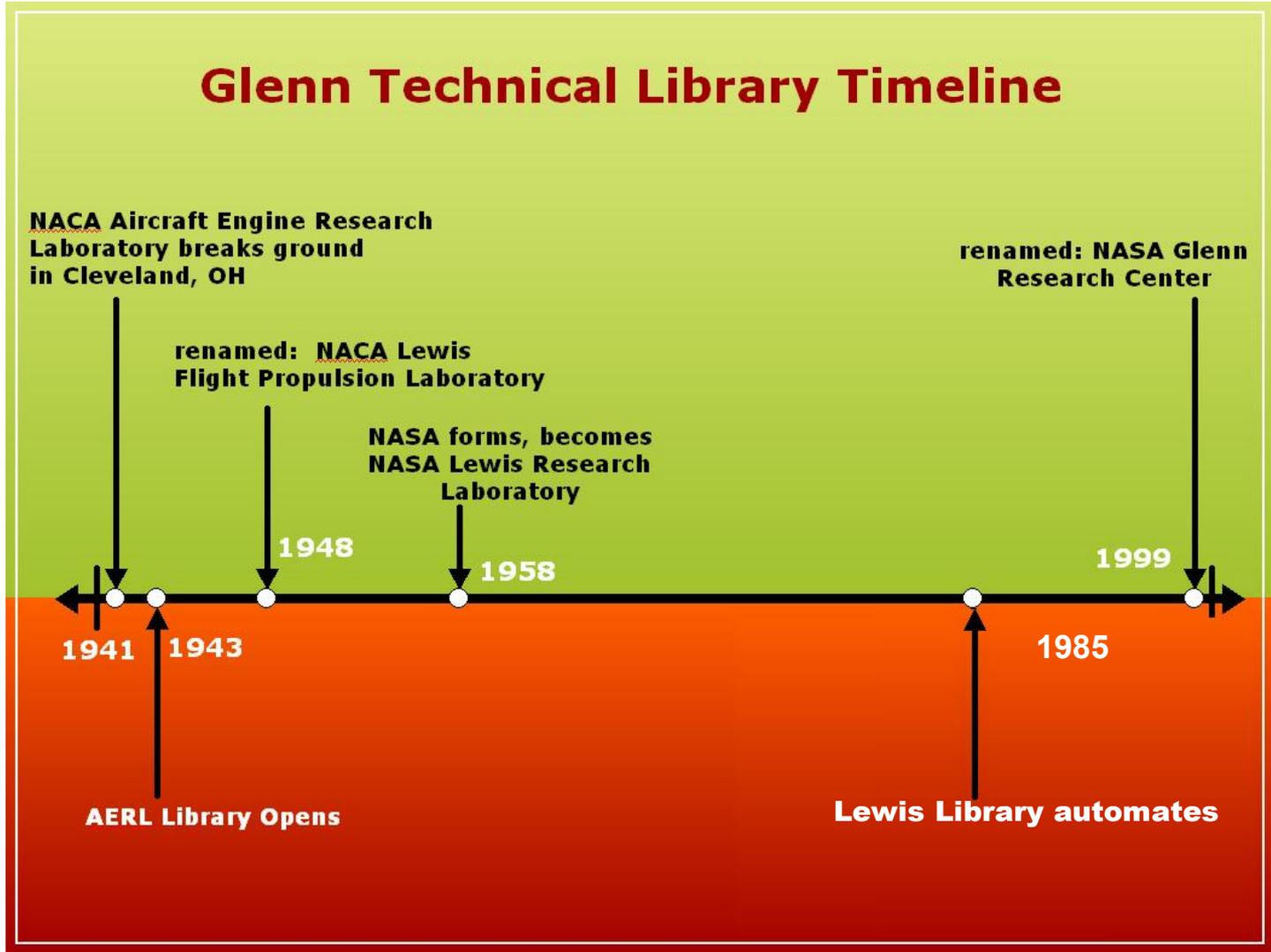


A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Yesterday

Glenn Technical Library Timeline





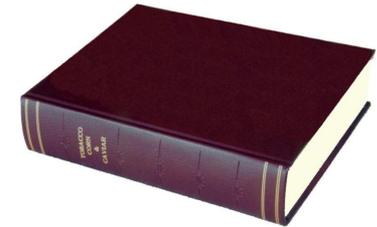
A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Information Landscape of 20th Century: **Sources of Information**

Yesterday

- **Journals**
- **Books**
- **News**
- **Documents**
- **CD-ROM**
- **Microform**





A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Information Landscape of 20th Century

Access points

- **Library catalog (card or electronic)**
- **Paper indexes**
- **Location = Library**



Cardcatalog

Yesterday



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Traditional Library Roles

- **Services centered around using the catalog and indexes to deliver *raw information***
 - Reference
 - Circulation
 - InterLibrary Loan
 - Document Delivery
- **Additional Services:**
 - Translation
 - Bibliographies
 - Citation verification
 - Table of Content (TOC) alerting

Yesterday



A 21ST CENTURY LIBRARY
@ GLENN TECHNICAL LIBRARY

Glenn Technical Library

Today



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Information Landscape of the 21st Century **Change: Sources of information**

Today

- **News/Electronic News**
- **Print Journals/Electronic Journals**
- **Books/Electronic Books**
- **Documents/Electronic Documents**



A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Information Landscape of the 21st Century Change: **Access points**

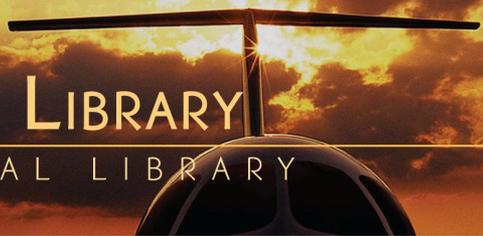
Today

- **Methods for discovering information increased exponentially**
 - Internet Search Engines
 - Internet Portals
 - Internet Directories
 - Online Catalogs
 - News Sources (RSS feeds)
 - Blogs
 - Databases
 - Email
 - Discussion boards
 - Etc.
- **Location = *ubiquitous***



A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY



Today

Information Landscape of the 21st Century Change: **Access Locations**

- **Information is easily available to everyone**
- **Disadvantages of immediate access**
 - **Time consuming**
 - “It is estimated that the loss of productive time using search engines to conduct online research cost business \$31 billion last year.*” i.e. **only 12.6% of scientific literature is available for free online.**
 - **Lack of authority**
 - **Information noise**
 - **Good information still cost \$**
 - “Less than 60% of article content since 1992 is electronically available and 21% is open access (OA).”**
 - **Satisficing**
 - **The best information vs. The best I could find...**

*Source: eMarketer Daily Newsletter <http://www.emarketer.com/>

**Source:
[http://uksg.metapress.com/\(nbmsvw45nfnzrzi1khhmg3mh\)/app/home/contribution.asp?referrer=parent&backto=issue,14,21;journal,3,33;linkingpublicationresults,1:107730,1](http://uksg.metapress.com/(nbmsvw45nfnzrzi1khhmg3mh)/app/home/contribution.asp?referrer=parent&backto=issue,14,21;journal,3,33;linkingpublicationresults,1:107730,1)



A 21st CENTURY LIBRARY

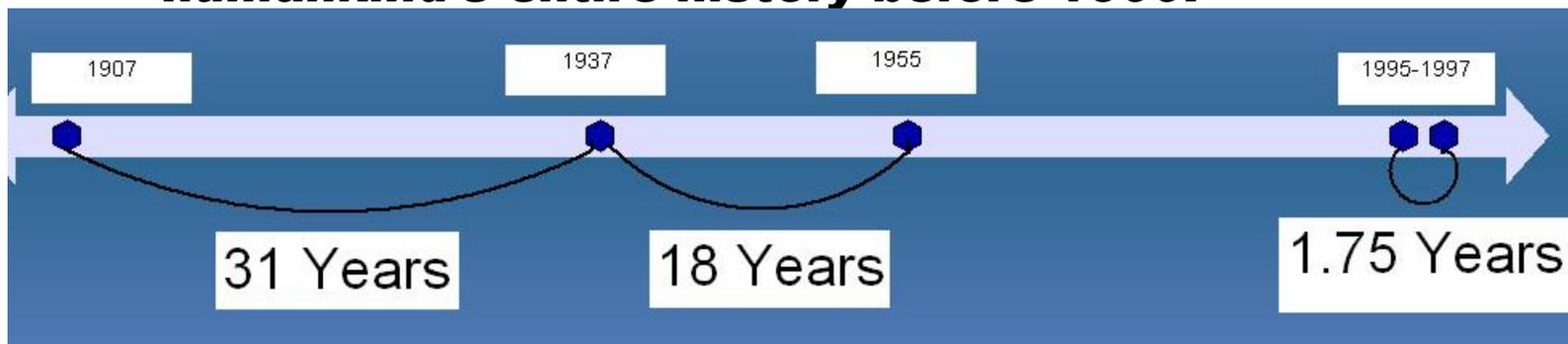
@ GLENN TECHNICAL LIBRARY

Information Landscape of the 21st Century

Change: **Volume of Information**

Today

- ***“Chemical Abstracts took 31 years (1907-1937) to reach its first one million abstracts. The second million took 18 years. The most recent million took only 1.75 years. Thus more articles on chemistry have been published between 1995 to 1997 than in humankind’s entire history before 1900.”***





A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

- **Services center around providing *value-added information* rather than providing raw information.**
 - **Value-added information is information that has been *processed* in some way to make it more *actionable* for the user.**

Today



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **The Library adds value to the information:**
 - **Interface development**
 - **Information finding tools**
 - **Information analysis tools**
 - **Information filtering**
 - **Information aggregating**
 - **Training**



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **Services center around providing *value-added information***
 - **Interface development**



Improved search functionality

Improved website organization and labeling



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **Services center around providing *value-added information***
 - **Information finding tools**

Quick search tools

Alert services

News aggregation





New Roles for the 21st Century Library

Today

- **Services center around providing *value-added information***

- **Information analysis tools**

Analyze Results:

 ANALYZE

View rankings and histograms of the authors, journals, etc. for this set of records.
(Up to 2,000 records at a time.)

Analyze search results to find trends and research partnership opportunities



A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Today

ISI Web of KnowledgeSM Web of Science

321 records. TS=(microgravity and skelet*)

Select field to rank by:	Analyze:	Set display options:	Sort by:
<ul style="list-style-type: none"> Author Country/Territory Document Type <li style="background-color: #e0e0e0;">Institution Name 	<input type="radio"/> First 500 records <input checked="" type="radio"/> All (up to 2000 records)	Show the top <input type="text" value="10"/> results. Minimum record count (threshold): <input type="text" value="2"/>	<input checked="" type="radio"/> Record count <input type="radio"/> Selected field

Rank results by the selected field.

Use the checkboxes below to view the records.
Note: The number of records displayed may be greater than the listed Record Count if the original set contained more records than the number of records analyzed.

<input type="checkbox"/>	Field: Institution Name	Record Count	% of 321	Bar Chart	<input type="button" value="SAVE ANALYSIS DATA TO FILE"/>
<input type="checkbox"/>	NASA	35	10.9 %	<div style="width: 10.9%; height: 10px; background-color: #000080;"></div>	<input type="button" value="SAVE ANALYSIS DATA TO FILE"/>
<input type="checkbox"/>	Univ Texas	17	5.3 %	<div style="width: 5.3%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Univ Calif Los Angeles	14	4.4 %	<div style="width: 4.4%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Med Coll Wisconsin	13	4.0 %	<div style="width: 4.0%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Karolinska Inst	11	3.4 %	<div style="width: 3.4%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Univ Calif Irvine	11	3.4 %	<div style="width: 3.4%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Marquette Univ	9	2.8 %	<div style="width: 2.8%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Texas A&M Univ	9	2.8 %	<div style="width: 2.8%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Ball State Univ	8	2.5 %	<div style="width: 2.5%; height: 10px; background-color: #000080;"></div>	
<input type="checkbox"/>	Univ Missouri	8	2.5 %	<div style="width: 2.5%; height: 10px; background-color: #000080;"></div>	



A 21ST CENTURY LIBRARY

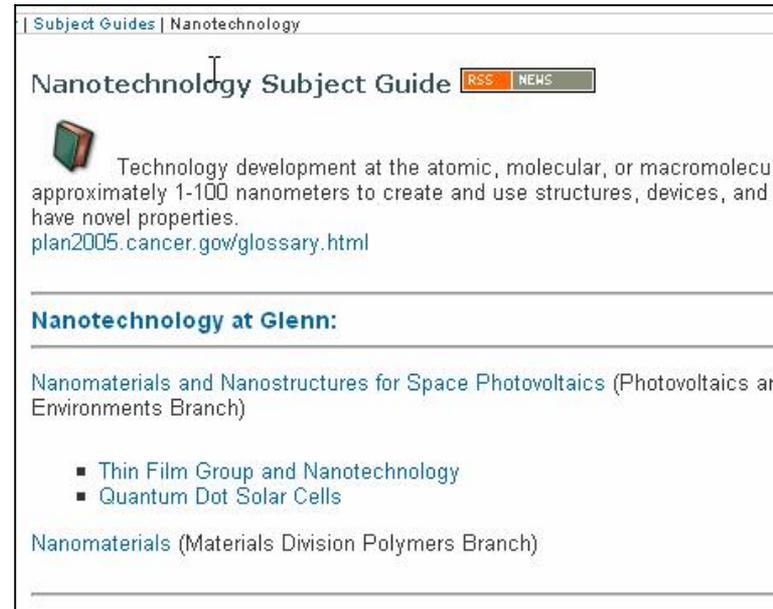
@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **Services center around providing *value-added information***
 - **Information filtering**

Resources hand selected by topic in the Subject Guides



| [Subject Guides](#) | Nanotechnology

Nanotechnology Subject Guide

[RSS](#) [NEWS](#)

 Technology development at the atomic, molecular, or macromolecular scale, typically ranging from approximately 1-100 nanometers to create and use structures, devices, and systems that have novel properties.
plan2005.cancer.gov/glossary.html

Nanotechnology at Glenn:

[Nanomaterials and Nanostructures for Space Photovoltaics](#) (Photovoltaics and Solar Energy Branch)

- [Thin Film Group and Nanotechnology](#)
- [Quantum Dot Solar Cells](#)

[Nanomaterials](#) (Materials Division Polymers Branch)



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Subject Guides

Today

Subject Guides:

- [Acoustics](#)
- [Lunar and Planetary Science](#)
- [Materials Science](#)
- [Astronomical Maps](#)
- [Microgravity](#)
- [Bioscience](#)
- [Nanotechnology](#)
- [Chemical Engineering](#)
- [NASA Sites](#)
- [Configuration Management](#)
- [Propulsion](#)
- [Electrochemistry](#)
- [Search Engines](#)
- [Space Policy and Law](#)

Quick Reference:

- [Business, Finance and Statistics](#)
- [Government Resources](#)
- [Copyright](#)
- [Geographic Resources](#)
- [Dictionaries](#)
- [Search Engines](#)
- [Encyclopedia](#)
- [Style and Writing Guides](#)
- [Geographic Resources](#)
- [Technology Transfer](#)
- [Thesauri](#)



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **Services center around providing *value-added information***

– **Information aggregating**

News from NASA and industry leaders, updated daily, and available right on the Library website.

The screenshot shows the Glenn Technical Library website interface. At the top, there is a blue header with the text "GLENN TECHNICAL LIBRARY". Below the header, there is a navigation bar with links: "You are here: Library Home | Digital | News | Science and Technology News | Space News". A search bar is located on the left side, with the text "search our site:" and a "Go" button. Below the search bar, there is a "Digital Library" section with links to "Electronic Journals and Books", "Databases", "Reference Services", "InterLibrary Loan", "Documents/Standards and Specifications", "Subject Guides", "Science and Technology News", "NASA News", and "Request Forms". To the right of the search bar, there is a "Science and Technology News" section with a loading message: "Please be patient, this page may take a few moments to load...". Below this, there is a "SPACE.com" logo and a "SPACE" logo. The news section contains several articles, including "Way-Out Weather: Cold Fronts in Space", "New Animation: Hubble Spots Cosmic Traffic Jam", "The Surprising End to a Supernova", and "Europeans Unlikely to Back Russia's Manned Space Vehicle".



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

News Sources

Today

Industry:

- [AeroSpace and Defense News](#)

Institute *of* **Physics**



REDORBIT
formerly RedNova.com



NASA:

- [GRC in the News](#)
- [NASA Breaking News](#)
- [NASA Earth Observatory News](#)
- [NASA Return to Flight](#)
- [NASA Science](#)
- [NASA Space Research](#)

Each Subject Guide also has its own News Feed



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

Today

- **Training**
 - **One-on-one training**
 - **Group and branch-specific training**
- **Building Partnerships**
 - **National Research Library Alliance**
 - **UniLibrary**
 - **Knowledge Management Working Group**

Consortium Product	Glenn Consortium Cost	Cost without Consortium	Savings
Elsevier	\$155K	\$1063K	\$908K
Wiley	\$15K	\$503K	\$488K



A 21st CENTURY LIBRARY

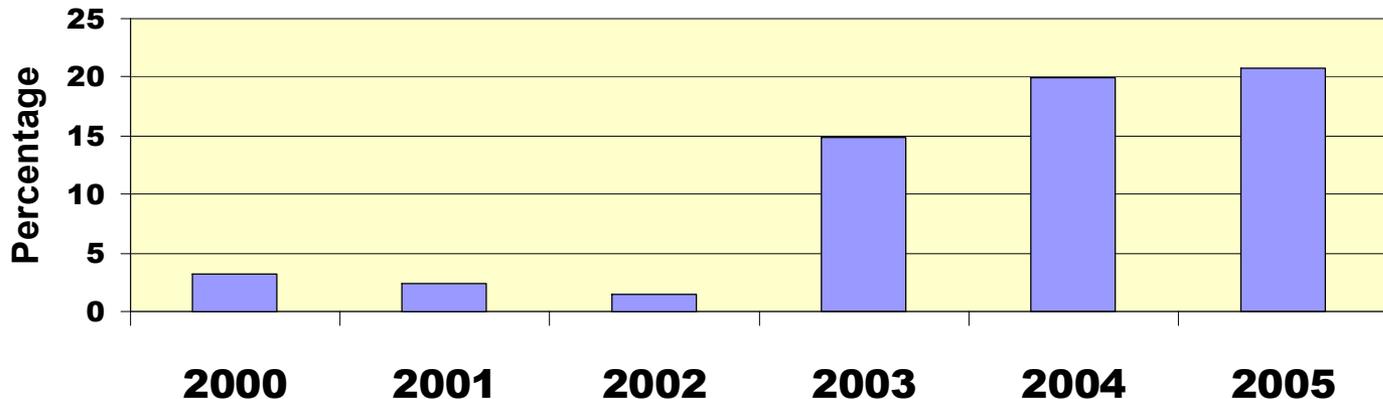
@ GLENN TECHNICAL LIBRARY

Changes in Traditional Roles

- **Reference**
 - **Traditionally:** helping users find information in the Library
 - **Today:** helping users analyze and draw conclusions from information

Today

Percentage of Reference Questions Requiring In-depth Research by a Librarian





A 21ST CENTURY LIBRARY

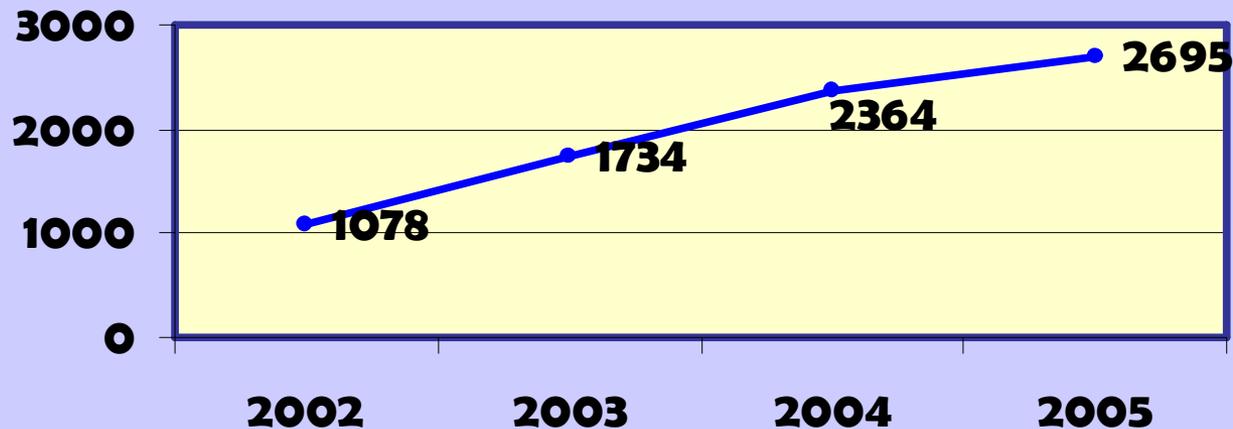
@ GLENN TECHNICAL LIBRARY

Changes in Traditional Roles

- **InterLibrary Loan and Document Delivery**
 - **Traditionally:** supplementing Glenn collections with borrowing partnerships with libraries worldwide
 - **Today:** Doubled since 2002

Today

InterLibrary Loan Borrowing 2002-2005





A 21ST CENTURY LIBRARY

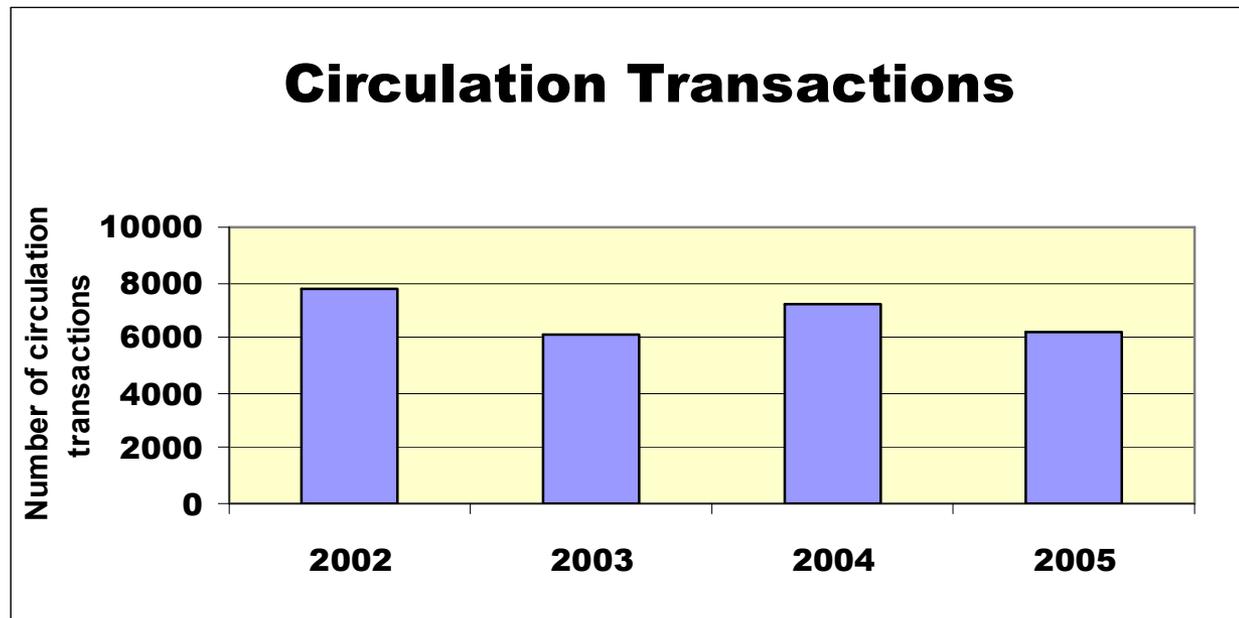
@ GLENN TECHNICAL LIBRARY

Changes in Traditional Roles

- **Circulation**

- **Traditionally:** supplementing journal literature with books that form the base of scientific knowledge.
- **Today:** purpose unchanged. New books have waiting lists of 10+

Today





A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

Changes in Traditional Roles

A word about digitization

Why can't we just scan everything??

Today

- **Journals**
 - **Electronic only an added feature when you buy print**
 - **Electronic embargoes**
- **Books**
 - **Copyright**
 - **Google Print** *“Google Book Search currently treats all books published after 1922 as protected by copyright, except for books to which no copyright was ever attached, such as books authored by the U.S. government.”*
 - **Expense**
 - **Electronic books**



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Roles for the 21st Century Library

- **Glenn Technical Library adds value:**
 - **Saves time**
 - **Authority through filtering**
 - **Insights through analysis**
 - **The BEST information at the RIGHT time that is ACTIONABLE**

Today



A 21ST CENTURY LIBRARY
@ GLENN TECHNICAL LIBRARY

Glenn Technical Library

Tomorrow



A 21ST CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

New Opportunities

Tomorrow

- **Information will continue to grow as will enabling technologies**
- **Libraries will continue to build bridges to information**
 - **Meta-Searching (Federated Searching)**
 - **Link Resolvers**
 - **ENTS (Essential Non-text Stuff)**
 - **Digitization of print collections**
 - **Social software**



A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY

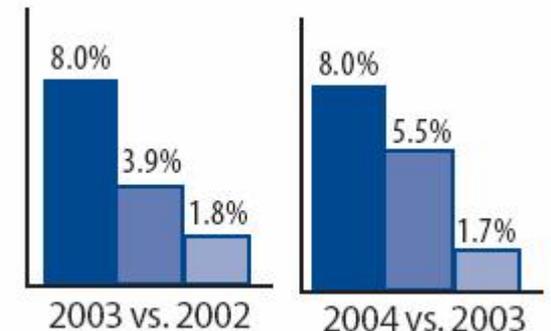
New Opportunities

Tomorrow

- **Continued building of partnerships**
 - **OhioLINK**
 - **OhioLINK is a consortia of Ohio Academic Libraries**
 - **Working on subscribing to the Electronic Journal Center**
 - **Long term plan to become members**

OhioLINK Libraries Experience Smaller Increases Than Typical Academic Research Libraries.

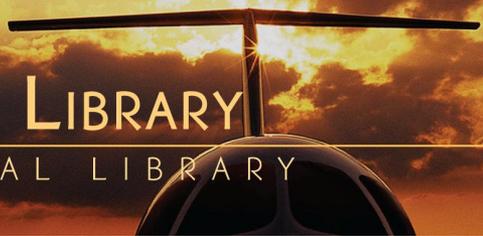
- Average Annual Journal Cost Increase for Typical Academic Research Library
- Average Annual Cost Increase for Journals Licensed through OhioLINK
- Average Annual Cost Increase for Research Databases / General & Business Journals Licensed through OhioLINK





A 21st CENTURY LIBRARY

@ GLENN TECHNICAL LIBRARY



Summary

Glenn Technical Library is *critical* to accomplishing the Glenn mission

The products and services offered by
the Library enable the Glenn
community to spend less time
finding information
and
more time *using information* to help
Glenn meet its goals.

"In the nonstop tsunami of global information, librarians provide us with floaties and teach us how to swim."

-Linton Weeks

