★ OhioLINK's ★

25th

ANNIVERSARY

1992–2017

A Concise History

by Halle Mares

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Gwen Evans, OhioLINK Executive Director

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OhioLINK: Composed of 120 members, including college and university libraries and the State Library of Ohio, the Ohio Library and Information Network (OhioLINK) delivers a rich array of resources to the students, faculty and researchers of member institutions, plus substantial savings to the state of Ohio. Support from member institutions and the Department of Higher Education have created a collection of shared print and digital materials that rivals the research collections available at the top university libraries in the United States and internationally.

Ohio Technology Consortium: Governed by the Chancellor of the Department of Higher Education, OH-TECH serves as the technology and information division of the Ohio Department of Higher Education. The consortium comprises a suite of widely respected member organizations unsurpassed in any other state: OSC, OARnet, and OhioLINK.

An Unwavering Vision

OhioLINK's vision has never changed. Since its inception 25 years ago, OhioLINK's enduring mission is to provide Ohio students, faculty and citizens with the best academic library content to ensure they have the tools they need to achieve their goals and aspirations. And to hold true to that vision, our history is one of innovation, adaptation and efficient problem solving in order to meet the challenges of a changing world.

OhioLINK and its 120 members are unique in their commitment to an all-encompassing content model, allowing students, faculty and researchers at 92 institutions—major research universities, four-year independent colleges, community and technical colleges, and special focus libraries— access to an extensive shared pool of curricular and research materials far more extensive than any individual institution could afford to purchase on its own.

This is a longstanding ethos in Ohio, a tradition upheld by robust member and state government support. While many other library consortia share print materials and acquire shared digital content, there are few that have as much content, as many members, and as many different types of members who share access to OhioLINK's extensive digital library of e-books, e-journals, databases and audiovisual materials.

OhioLINK also has a longstanding relationship with Ohio K–12 organizations—such as INFOhio— and public libraries like the Ohio Public Library Information Network (OPLIN) for funding a common set of resources for all citizens via the Libraries Connect Ohio partnership. A peer-to-peer lending relationship with the SearchOhio public library consortium also expands access to academic content beyond the confines of OhioLINK proper.

OhioLINK has consistently adapted to meet the changing needs for content and services delivery in higher education, including:

- A shared print network

- A growing locally downloaded and managed digital library of more than $300 million worth of e-books and e-journals

- An infrastructure and expertise support for affordable learning and open educational resources initiatives.

We also want to recognize the people behind the scenes who researched, wrote and edited this work. Our heartfelt thanks are extended to Halle Mares, who spent numerous hours collecting facts, interviewing people and compiling it all into the authoritative work that follows. Halle was especially well-suited for the daunting task, as she works as a program assistant for University Archives at the Ohio State University and has an academic background in English language/ literature and history.

We also wish to extend our gratitude to those who served as primary sources, providing a wealth of historical background. These include: Tom Sanville, a former director of OhioLINK; Anita Cook, our then-coordinator of OhioLINK catalogs who recently celebrated her 25th anniversary with OhioLINK; Scott Seaman, dean of Ohio University Libraries; Sue Polanka, an associate university librarian for Public Services at Wright State University; Phyllis O'Connor, former assistant dean of University Libraries at the University of Akron; Jane Wildermuth, head of Digital Initiatives & Repository Services at Wright State University; Mary Beth Zachary, former head of Access Services University Libraries at Bowling Green State University; and Greg Byerly, a retired Kent State University professor and former pro-tem director of Library Systems at OhioLINK.

As we celebrate 25 years of delivering an abundance of top-quality content to Ohio's research community, we invite you to learn about OhioLINK's history, from its beginning as an idea for a space-saving book depository to its present-day status as a thriving academic library consortium.

Gwen Evans, MLIS, MA
Executive Director

OhioLINK Timeline

1986

Ohio Board of Regents form Library Study Committee to address the problems of library space (Hawks, 62 News Clippings Binder 1991–1993).

1988

Three committees formed concerned with views of users, librarians and system managers to decide requirements, turning into five sub committees (Hawks, 62 News Clippings Binder 1991–1993).

1990

Innovative Interfaces selected for Integrated Library System software and Central Catalog (Hawks, 62 News Clippings Binder 1991–1993).

1992

University of Cincinnati becomes first institution to go live on Innovative, followed by Miami University (Information Today, Dunn, News Clippings Binder 1991–1993).

Central Catalog goes live in November.

Tom Sanville hired as executive director.

1994

Final Phase II participants go live by end of year (BGSU Libraries, 1991–1993 News Clippings Binder). OhioLINK members increase to 18.

Online borrowing becomes available (Update, August 1995).

1995

Journal articles delivered online to 13 campuses—users can print the full text from Periodical Abstracts and ABI/Inform to a local printer (Update, March 1996).

Private colleges are added to OhioLINK (Update, March 1997).

1996

In February, WWW site debuted, replacing dumb terminals in libraries (Update, March 1996).

1998

Electronic Journal Center implements searching across titles from multiple publishers in a single search (Update, March 1998).

1999

Remote access to resources via the internet made possible by OhioLINK authentication system (Update, September 1998).

The Digital Media Collection (DMC) debuts in spring featuring art images (Update, March 1999).

EJC wins national innovation award from the council of state governments, holds over 1 million articles, making it the largest locally stored electronic journal collection in the country (Update, September 1999).

2000

OhioLINK wins Academic Excellence and Cost Management Award from the American Council on Education (Snapshot, 2000).

2002

Electronic Theses and Dissertations is launched, a statewide repository for open access dissertations and theses from Ohio graduate programs.

OLinks, a link resolver, debuts allowing users to go seamlessly between citations and full-text articles (Update, April 2002).

Statewide collaborative online chat service Know-it-Now begins (Update, April 2002).

2003

Libraries Connect Ohio partnership founded. OhioLINK, INFOhio (the K–12 library consortium) and OPLIN (the public library consortium) license a suite of databases and other resources for statewide use with contributions from the partners and federal LSTA funding.

2004

Cuyahoga Public Library and Westerville Public Library added as pilot for expansion of lending to public libraries (Press Clippings 2003–2005, Library Journal, September 15, 2004).

OhioLINK supports open access by funding portion of fee for faculty and researchers publishing in the journal PLoS (Press Clippings 2003–2005, Hotline, June 7, 2004).

2005

OhioLINK institutes a membership fee for the first time to help manage cuts in the budget (Update, April 2005).

Database with test prep materials available to all citizens through a pilot project with State Library of Ohio, INFOhio and OPLIN (Press Clippings 2003–2005, Library Hotline, July 18 2005).

2006

Quick Search @ OhioLINK allows a single search across the Central Catalog, the EJC, and multiple databases (Update, April 2006).

2007

Creation of the Electronic Book Center (EBC), containing e-books from multiple publishers (Update, Fall 2007).

Digital Resource Commons (DRC) debuts allowing institutions to upload their own digitized special collections images and media into a searchable central repository (Update, Fall 2007).

2009

EJC crashes, leaving articles unavailable from days to months (Media Clips 2006–2009, Library Journal March 15, 2009). OhioLINK implements dual access at EJC and publisher sites in response.

First hosted institutional repositories (the individual DRC program) come online. Wright State was the first repository to go live, featuring the Wright Brothers collections of photographs and documents.

2010

Sanville resigns to join Lyrasis, John Magill becomes executive director.

DRC wins American Library Association's (ALA) Award for Cutting Edge Technology Services (Snapshot (online), 2010).

EJC contains 25 percent of world's scientific content (Snapshot (online), 2010) after the purchase of the Elsevier backfiles.

2011

OhioLINK wins national $750,000 EDUCAUSE grant for Scaffold to the Stars, a peer-evaluated Open Educational Resources database to help instructors redesign courses with open materials.

OhioLINK prominently mentioned as a successful shared service in the state government's Mid-Biennium Review (ohiolink.edu/kcap).

Chancellor's office creates the higher education technology consortium OH-TECH, OhioLINK included (ohiolink.edu/consortia).

OhioLINK's OHDEP catalog goes live.

2012

John Magill steps down, Gwen Evans becomes executive director (LAC 201209 Summary).

OhioLINK wins a national NEH Digital Humanities grant for the Scholar's Dashboard.

2013

OhioLINK ends its individual institutional repository hosting program at the recommendation of the deans and directors. At its peak, there were 27 instances of DSpace centrally hosted by OhioLINK.

OhioLINK changes fiscal agent from Wright State to Ohio State to fully merge with the OH-TECH consortium.

2014

OhioLINK manages the implementation of EBSCO's EDS Discovery Service—creating a single Google-like search over multiple resources—for 60-plus OhioLINK institutions (2013–2014 annual report, ohiolink.edu/oh-tech.org/discoverydiaries).

The Memorandum of Understanding between institutions and OhioLINK is completely updated for the first time in over 20 years.

For the first time in a decade, OhioLINK receives a substantial capital funding increase of 33 percent for e-journals in the EJC (2013–2014 annual report).

Demand driven acquisitions consortial e-book pilot with YBP and selected publishers begins.

OhioLINK begins cataloging e-books centrally, bearing the workload previously done by volunteer catalogers.

2016

EJC redesigned and migrated to new platform, including full-text search of over 20 million articles (annual report, 2015–2016, ohiolink.edu/ejcupgrade).
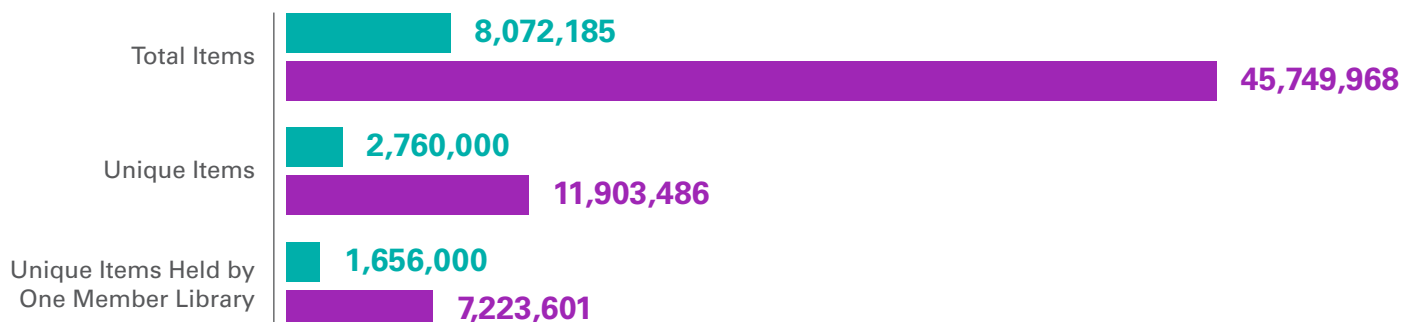
OhioLINK commits to digital preservation of locally held materials, begins implementation of Rosetta software.

LSTA grant for data analysis of unique materials in the Southeast regional book depository awarded to OhioLINK and Ohio University.

2017

OhioLINK begins major support of Affordable Learning textbook initiatives in the state, joining the Open Textbook Network, building a centralized website for OER resources, and acquiring the OER Commons as a hosting portal for OER resources to support a $1.3 million grant to institutions for OER (ohiolink.edu/takestep).

OhioLINK Central Catalog

■ 1994
■ 2017

	1994	2017
Total Items	8,072,185	45,749,968
Unique Items	2,760,000	11,903,486
Unique Items Held by One Member Library	1,656,000	7,223,601

OhioLINK on the Front Lines of Collaboration

"One of the most gratifying things for me about the last few years has been the acceleration and growth of OhioLINK under Gwen Evans' leadership. Having invested more than 20 years in the success of OhioLINK beginning when it was nothing more than a great idea, it has proven its value to the State of Ohio and its academic institutions as one of the best examples of shared services."

— Carol Pitts Diedrichs, Professor and Director Emeritus, The Ohio State University

Private Colleges (1997)

Former Executive Director Tom Sanville put it best when he said, "The Ohio Board of Regents' mission is higher education in the state—not just public higher education." Since 1995, OhioLINK has been adding private institutions as an effort to do just that. Private colleges have been great contributors to OhioLINK, providing access to additional physical content and contributing to a larger collection of digital content. The collaborative relationship between public and private benefits everyone. OhioLINK is one of the largest academic higher education library consortia in North America.

Pickup Anywhere Debuts (2002)

Distance students, students who take classes on weekends, and other non-traditional students are becoming a larger proportion of the student body. The debut of the "pickup anywhere" feature was an early recognition that OhioLINK should respond to changing user needs. Gone are the days when a student must pick up a book from his or her own institution. Rather, they can have books delivered to any member institution for pickup, increasing the convenience of OhioLINK shared collections. OhioLINK's commitment to serving users is always at the forefront of all decisions.

Affordable Learning Textbook Initiatives (2017)

As the cost of an undergraduate degree rises, OhioLINK and its member libraries have stepped in to assist. OhioLINK is organizing the collective expertise of its members and offering platforms for discovery and creation of Open Educational Resources and shared licensed resources as alternatives to high-priced textbooks. OhioLINK has joined the Open Textbook Network, is sponsoring workshops for advocacy and awareness of textbook alternatives, training librarians and others to become statewide leaders, and supporting the $1.3 million grant from the Ohio Department of Higher Education for 17 institutions to adopt and create textbook alternatives in 20 high-enrollment courses.

A Closer Look at the History of OhioLINK

Founding and Early Years

Why start a statewide library consortium?

In the mid-1980s, there was no more space for additional books at public universities in Ohio. To solve this problem, the Ohio Board of Regents (now the Department of Higher Education) formed a Library Study Committee (LSC), which focused not only on space issues, but also on collaboratively managing these materials in an age of new technology. Forward-thinking legislators considered the long-term implications, leading to 25 years of supporting an extremely successful shared services model for the state.

"If you don't treat information as a 21st century utility, you will never get ahead or stay ahead," said former OhioLINK Executive Director Tom Sanville.[1]

OhioLINK has always kept an eye to the future and continually considered how new technological improvements can be adapted to meet the core goals of the consortium.

The LSC established three important pillars: a statewide book depository system with high-density storage; a statewide central catalog system; and a steering committee.[2]

Determining the physical storage and catalog models were the first and foremost goals of the new consortium. The physical storage model was easier because there were already different models implemented elsewhere. The Harvard model was chosen for its simplicity, and thus regional storage facilities were created at Ohio University, Miami University, Ohio State University, Northeast Ohio Medical University (NEOMED), and Bowling Green State University. The steering committee then turned to the technological issues involved in creating a central catalog.

The committee's first task was to find a vendor to create the software and architecture needed for a statewide catalog consisting of multiple universities. The LSC had found no suitable comparison during its site visits to various institutions when examining physical storage models.[3] OhioLINK became the test case for library consortia when it envisioned a catalog where stand-alone, local systems were combined to function under a central site. The steering committee put out a request for proposal to vendors for the new system in 1989 and decided on Innovative Interfaces Inc. in 1990.

Online Borrowing by Patron Type

Legend: Undergraduate, Graduate, Faculty & Staff, Public Library, Other
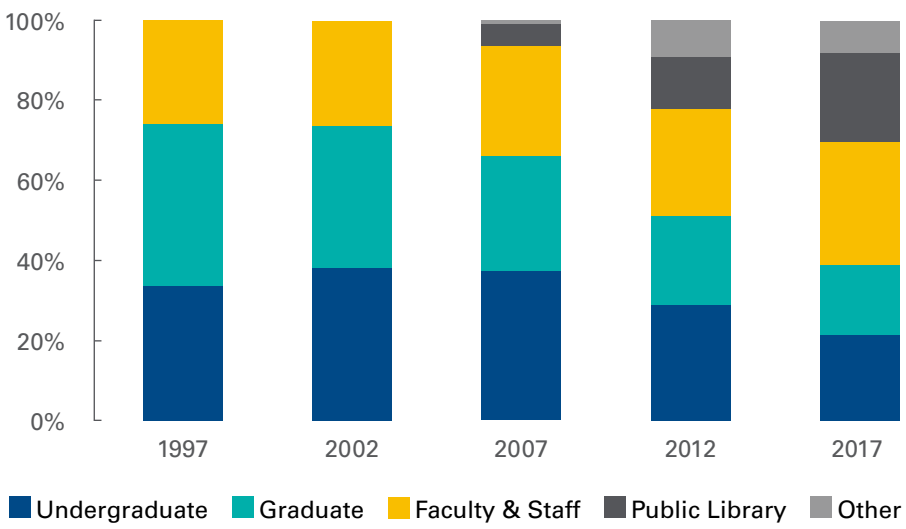
Creating the Central Catalog was not an easy or cheap feat. Between the 18 original members of OhioLINK, there were nine different catalog systems that merged into one. Besides the general infrastructure needed for the catalog, there was the task of integrating records into the Central Catalog. Additionally, several hundred thousand cards from card catalogs had to be made digital.[4] The total cost of this project was $20 million and was subsidized by the Ohio Board of Regents.[5] The enterprise-level technology underpinning the Central Catalog became the main mode of access to a shared collection much larger than was previously available to members and delivered faster than traditional interlibrary loan. One of the signature innovations was patron-initiated requesting—unlike the traditional interlibrary loan, which had to be mediated by library staff, end users could find a book, click the request button, and the initial steps of filling the request were automated. At the time, this was cutting-edge technology and OhioLINK was in the forefront of library innovation.

The initial formation of OhioLINK was largely overseen by Greg Byerly, former director of Library Systems at OhioLINK. Byerly attributes the success to, "the people—both the quantity and the quality of the people and the institutions that let them do it."[6] After the depositories were ready and the Central Catalog created from the various institutional sources, the new Governing Board took over operation under Interim Executive Director Len Stimutis and later Sanville. The founding working committees were disbanded, and OhioLINK began as a permanent centrally staffed organization.[7]

THESE PHOTOS SHOW THE PHYSICAL MEDIA SHARED VIA THE CENTRAL CATALOG WHEN IT FIRST CAME ABOUT AT THE UNIVERSITY OF CINCINNATI.

Technological Development and the Explosion of Resources:

The 1990s

In the mid-to-late 1990s, OhioLINK became immersed in the exponential growth of technology and developed key tools and databases that remain fundamental to a high-quality end-user experience. The consortium staff and member staff spent much time acquiring, maintaining and developing electronic resources of all kinds. Perhaps one of the greatest shifts during this period was the integration of the Central Catalog and databases into the World Wide Web. In February 1996, web services began with a website about general OhioLINK information as well as links to the Central Catalog and databases.[8] The World Wide Web provided ease of access for users with links to electronic resources at their fingertips. Before this, the catalog and any of the numerous databases were not available to remote users on an "everywhere, anywhere" basis—access to digital resources still depended on access to the physical library. Integration into the web made library resources available to those with an internet connection.

Two projects in particular highlight the technical accomplishments made during this period: the Electronic Journal Center (EJC) and the Digital Media Center (DMC). The creation and expansion of e-journals within OhioLINK provide a great example of the innovative work accomplished. OhioLINK became the first consortium in the United States to subscribe to the complete collection of full-text journals of the Academic Press.[9]

To provide access to all of these newly available journals, OhioLINK set up a system whereby the user could find citations and locally print full-text articles. The system started to incorporate new journal as they became available, adding over 50 journals in addition to the 175 from the Academic Press by the end of 1996.[10] OhioLINK's use of cutting-edge technologies to improve access for members delivered faster and more convenient access to more new research than nearly any other major library or library consortium at the time.

The culmination was the debut of the EJC in 1998. The beauty of the EJC, then and now, is its single search box for multiple journals from different publishers. This capability to search at one time across multiple titles from multiple publishers predated library "discovery layers" and Google Scholar by a decade. This type of searching cuts time for finding resources and aids exploratory discovery of multi-disciplinary material from related fields. Months after it debuted, over 90 percent of the journals were used.[11] Without a central organization like OhioLINK, which pooled the purchasing power of members and provided a central state subsidy and infrastructure, member institutions would not be able to afford access to all of the content used, making it an essential resource for higher education in Ohio.

The DMC was another cutting-edge project OhioLINK took on to provide the best service to its members. The DMC was OhioLINK's first

THESE PHOTOS SHOW PATRONS USING THE CENTRAL CATALOG AT OHIO STATE AFTER PCIRC (PATRON-INITIATED CIRCULATION) WENT LIVE IN 1996.

database featuring images instead of text. While the DMC officially debuted in the spring of 1999, the planning started with the creation of an Image Strategy Task Force formed in March 1995.[12] The task force's main goal was to determine requirements needed for a database management system.[13] The requirements included infrastructure and technical issues, but also those of access and preservation. The task force considered the standards for scanning images with preservation quality, where to acquire appropriate equipment, how to obtain source materials, and what types of materials would become part of the media center. They consulted several preservation documents, but largely worked on their own to create standards for a new kind of digital image system.

The pilot debut of the DMC took place in 1999 with a collection of arts and architecture photographs. Images added to the DMC were initially only from member collections, but later expanded to public access material.[14] One such example of this innovative presentation of public access material

was the introduction of the Landsat 7 satellite images from the Ohio region. Satellite images had been used by the government, but through OhioLINK, Ohio became the first state to make them easily accessible to the public.[15] The United States Geological Survey hoped other states would follow OhioLINK's lead and make these images available.[16] The images provided research material for scientists to study the changes of the land and natural resources, but also for students to learn important scientific concepts.[17]

Another important advance in the DMC was the introduction of audio and video to the system. The early 2000s brought over 600 instructional physics videos, which provided remote help for students in the form of demonstrations that could be viewed any time.[18] These constant additions and innovations illustrate OhioLINK's ability to transform with the times. As users came to expect more information on a 24/7 basis, OhioLINK rose to the challenge of offering more material and presenting it in new formats and new information

OhioLINK Print Borrowing

Online borrowing becomes available
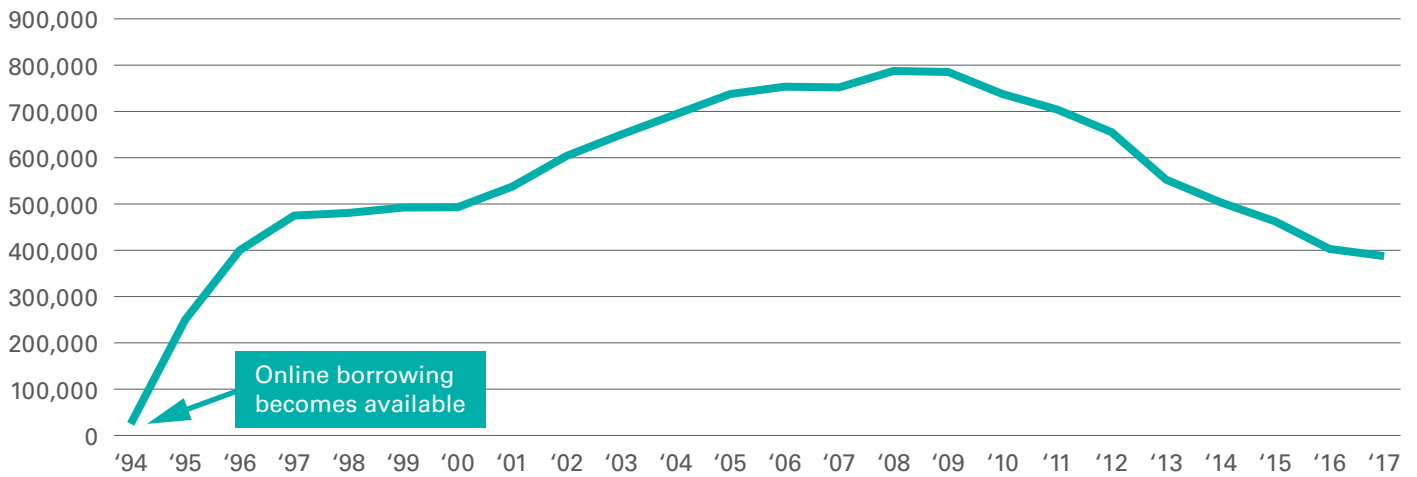
channels. The DMC was later migrated into a new and improved system, the Digital Resource Commons (DRC), in the mid-2000s, demonstrating OhioLINK's commitment to the evolution of its resources to meet end-user needs.

The explosion of electronic resources did not stop requests for printed material; rather it advanced the way they were requested. The rise of online borrowing began in January 1994 allowing users to request physical materials online through the catalog.[19] Patron-initiated online borrowing changed the foundation of library requesting and was a major step in user accessibility and speed of delivery.

Once the material was requested, OhioLINK was able to fulfill almost all requests within 48 to 72 hours.[20] The major difference between OhioLINK and the general Interlibrary Loan (ILL) program was the time it took to request and have material delivered. OhioLINK was committed to a shorter, improved timeline. A request that had routinely

taken weeks or months to receive now took only days. Users, especially undergraduates, could now use this material for classes or projects when it was still relevant. Besides faster delivery, the new system gave access to everyone, not just faculty and select graduate students, unlike the previous ILL program.[21] While this small detail can easily be overlooked, this was an enormous shift toward equality of access: A high-ranking professor at a large institution and a first-year undergraduate at a small school could receive the same material in the same amount of time.[22]

The explosion of technology OhioLINK adopted should not obscure the skillful negotiations and business models developed by OhioLINK Executive Director Tom Sanville. OhioLINK is renowned in the library world for its foundational deals for electronic content that continue to deliver more shared access for more institutions for better prices than can be achieved elsewhere. The 1990s saw OhioLINK leap ahead of its time with cutting-edge databases and unparalleled user access.

# Hard Times, Tough Choices:

Early 2000s

The first years of the millenium represented significant challenges. While there were still advancements and improvements, progress was slowed by large budget cuts throughout these years. The budget had continued to grow to support new projects in the 1990s, but in fiscal year 2001 the budget peaked at $7.6 million and then flat-lined, resulting in a subsequent period of deep cuts.[23] In response, the consortium showed great adaptability, efficiency and strength.

OhioLINK sought a greater understanding of user needs to efficiently serve members. A 2001 student and faculty survey identified the need for better website navigation, as well as multi-database search improvements and enhanced remote authentication services.[24] Further funds were judiciously directed to user service improvements like the "pickup anywhere" option for physical book deliveries, allowing non-traditional or distance learners to pick up their materials from any member library.[25] The need for this tool reflects changing patterns of enrollment and the rise of distance learning as well as the continued relevance of print.

In the electronic world, OhioLINK shortened the gap between users and information by creating resources such as chat reference and "OLinks."[26] OLinks, a link resolver created by OhioLINK developers, helped bridge the gap between article citations and full-text downloading. Clicking on the "OLink" button provided access from one database's citation to related full-text articles available in other databases and resources such as the Electronic Journal Center (EJC). Similarly, centralized chat reference collaboratively staffed by member librarians provided a useful tool for users to gain research assistance from librarians and was a valued part of OhioLINK for more than five years. As usage of chat reference declined, centralized chat reference was discontinued in 2007. This illustrates the lifecycle of certain resources, especially those involving "current" technology can become outdated quickly. OhioLINK's goal is to meet the current needs of the user: Once a resource has low use or no longer works the way it is needed, it is changed or discontinued.

Number of ETDs in ETD Center
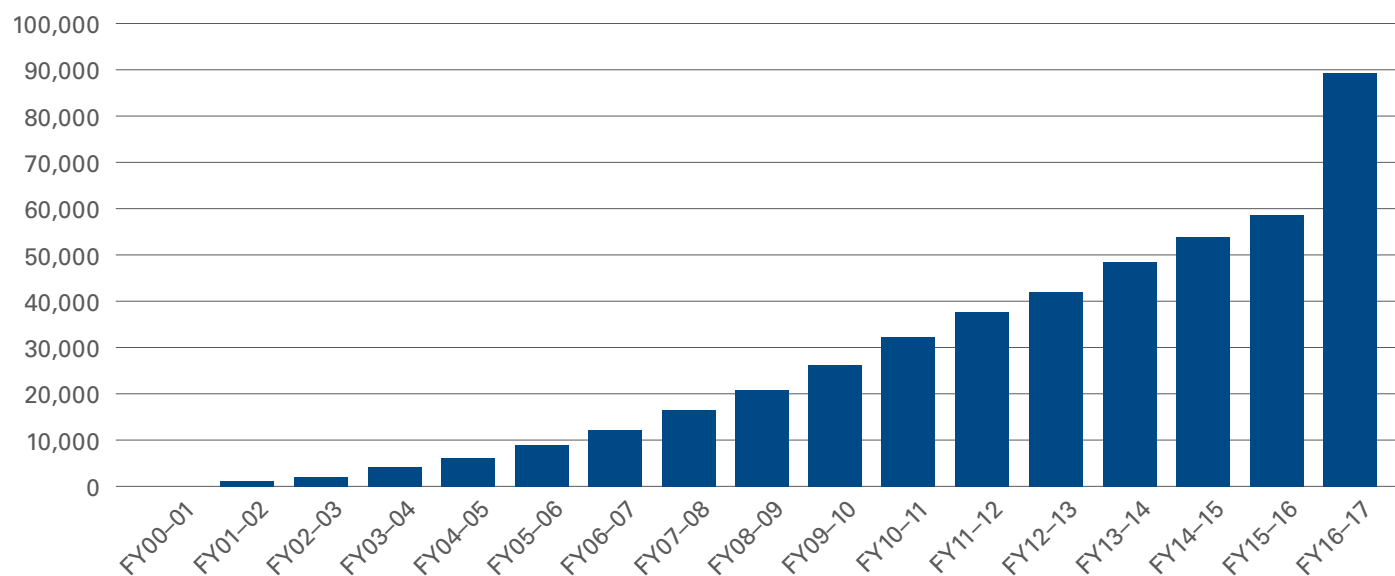
OhioLINK not only addressed user experience, but also looked at cost-effective models that would allow better services at lower costs in both money and staff time. The Electronic Theses and Dissertation Center (ETD Center) was implemented during this period. Pilot institutions Miami University, the University of Cincinnati, Case Western Reserve University and Ohio State University began planning in 1999 for a shared central statewide repository for electronic theses and dissertations. In an early commitment to open access, the ETD Center was envisioned as a database of Ohio graduate research that would be available to anyone.[27] The development of the ETD Center fit the model of centrally managed and supported technology implementations that were designed with the active input of member library staff. As Seeman et al wrote, "libraries enjoy a strong and established relationship with OhioLINK that make them pivotal partners in the ETD implementation."[28] The ETD Center debuted with the four pilot participants and now houses graduate research of 32 institutions. As of July 2017, it contains over 89,000 open access Ohio ETDs, which have been downloaded 47 million times all over the world, giving global visibility to Ohio's research and graduate programs.

The Digital Resource Commons (DRC) was another resource that came out of attempts to provide better access in a more cost-efficient way. The project was funded by a grant from the Ohio Board of Regents (now the Ohio Department of Higher Education) as part of a larger project with the Ohio Digital Commons for Education (ODCE) to develop innovative tools for education in Ohio.[29] The DRC greatly expanded the capabilities of the Digital Media Center, using DSpace open source repository software. The new system allowed members to create electronic repositories for their material, which all members could use—and since many digital collections were open access, the entire world could see the digital collections of member libraries.[30] OhioLINK installed and customized DSpace for each participant and

Average Content Available Before OhioLINK Negotiations
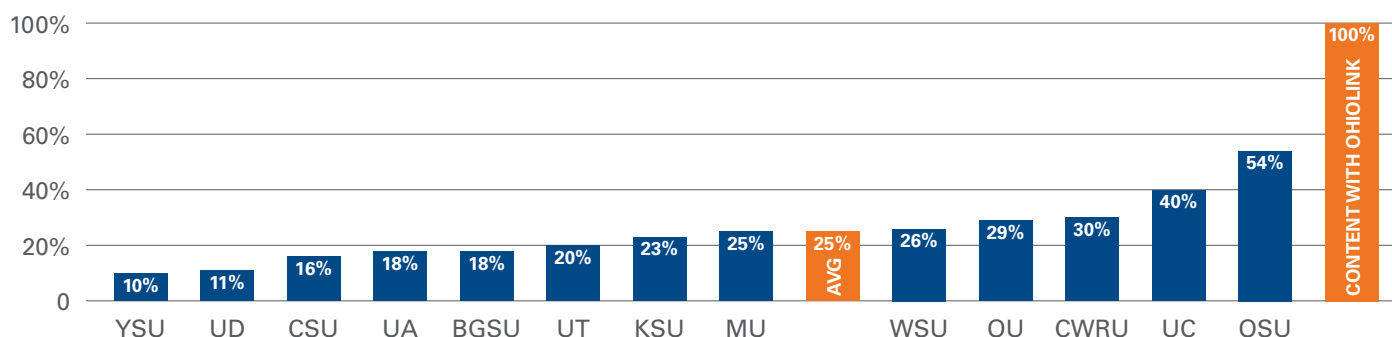
PRE-EJC ACCESS TO CONTENT: PERCENT OF TITLES HELD IN PRINT AT EACH PUBLIC UNIVERSITY FOR 26 PUBLISHERS IN THE EJC.

provided storage space for the digital collections. The benefits of this system were local and central. Locally, the institutions had a place for their electronic material to go and an incentive to continually add to it. Centrally, the consortium had a substantial amount of new content available to users.

The consortium was no stranger to the need to cut content at certain times during this period. Flat budgets coupled with constantly rising costs of electronic content, which accounts for most of the pooled OhioLINK member funding, will always require content cuts. In 2001, 2003 and 2005, significant journal content was cut because funding, both central and from institutions, did not keep pace with inflationary content increases from publishers and database providers. In 2003, member libraries picked up about $800,000 in database costs due to deficits in the OhioLINK central budget.[31] In 2003, the OhioLINK operating budget was slightly above $7 million—which was after an 8 percent budget cut. In 2018–19, the operating budget is slightly over $6 million. While OhioLINK has become more efficient in provision of some services, over 70 percent of its budget has always gone to content and the courier service that provides print delivery. Therefore, it is individual library budgets that have absorbed content costs—or cut content—that OhioLINK central can no longer fund. Over time, member libraries have gone to great lengths to keep the consortium's collections and content deals together, as well as to consistently affirm the value of staying together as a group. At many points in OhioLINK's history, negotiations for databases and material were so tightly negotiated that losing any member meant the dissolution of the consortium's highly advantageous content deals.[32] Cuts to content important to a particular member institution could result in the institution withdrawing from the consortium, degrading OhioLINK's negotiating power and leading to a domino effect of more withdrawals. Assessing which content cuts would have the least impact was managed by the Cooperative Information Resource Management (CIRM) committee, which to this day examines use across the consortium, cost per use, and alignment with curricula and research agendas at member institutions.

Turning Points:

Late 2000s to Early 2010s

As the first decade of the millennium came to an end, OhioLINK faced different challenges and changed its direction of additions and improvements. On one hand, the Electronic Book Center (EBC) debuted in 2007 and was squarely in the tradition of earlier OhioLINK projects. It worked much like the Electronic Journal Center (EJC), as e-books from different publishers were locally loaded on an OhioLINK database and users could search over different books from different publishers in one search box.[33] The EBC was never meant to be a replacement for physical books, but rather a supplement with reference material to give users a different kind of access—full-text searching and 24/7 access unbound from the physical library.[34] However, three major unexpected changes at OhioLINK shaped this period: the retirement of Executive Director Tom Sanville, the EJC crash, and a 13-percent budget decrease during the national recession.

In 2010, after 18 years as director, Sanville stepped down. Sanville's enduring legacy was twofold: under his direction, OhioLINK invested in building technological and innovative resources that set the template for OhioLINK's commitment to user needs and, just as importantly, a constant review of those needs and adaptation. As he wrote in 2007, "in order to respond to the changed world and to succeed long-term, the OhioLINK community must critically consider strategic and fundamental changes. If need be, elements of OhioLINK and Ohio academic libraries must be reinvented."[35] Additionally, Sanville set the foundation for a wide variety of electronic content under a strict budget through masterful negotiation of what is referred to in library circles as the "big deal."

E-Journal Usage
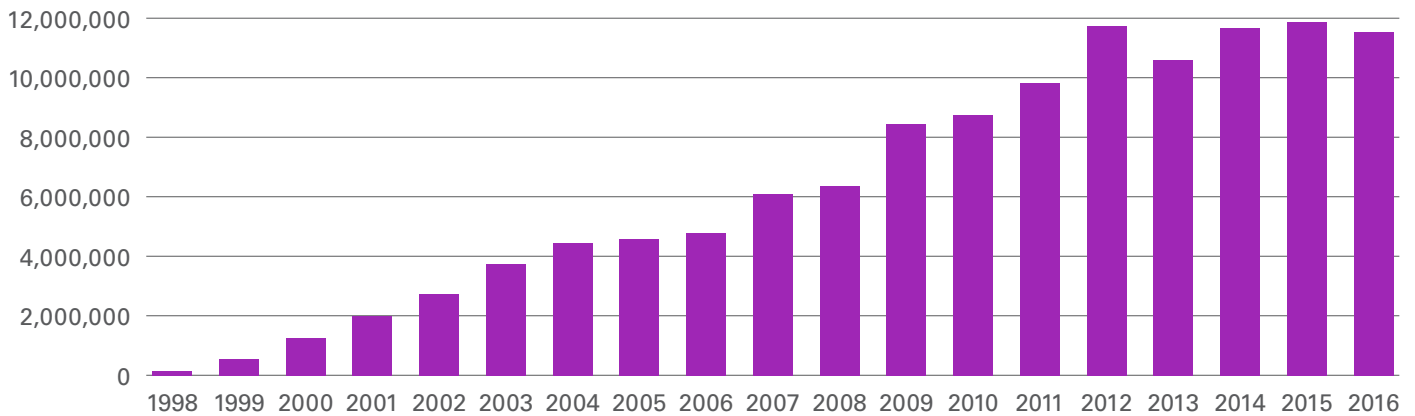
After Sanville's departure, John Magill, previously Chief Strategic Officer in the office of Policy Research and Strategic Planning for the Ohio Department of Development, was named interim executive director and then executive director from 2010 to 2012. Under his tenure, OhioLINK was awarded a $750,000 grant from the national organization EDUCAUSE for the development of open educational resources, making OhioLINK an early leader in developing "no cost to students" textbooks and course materials for the consortium.

During this period, a series of directives from the Chancellor's office merged OhioLINK with other Board of Regents technology units (OARnet, the Ohio Supercomputer Center and eStudent Services) to establish OH-TECH.[36] OhioLINK's technology staff was absorbed into a shared infrastructure, along with other services such as a business office, in a shared service model. OhioLINK transferred from its current fiscal agent, Wright State University, to Ohio State University to align with OH-TECH. In October 2013, Gwen Evans, previously library faculty at member institution Bowling Green State University, was named executive director. The strains of many forms of transition, consolidation, and budget stresses led to the need to address solidarity and trust among the membership, as well as the maintenance and sustainability of technological infrastructure and business processes.

Perhaps the largest shift in how OhioLINK technically managed content came after the crash of the EJC in 2009. The crash left access to some journal content down for days and other content for months, making the consortium acutely aware

of how reliant researchers were on the EJC and how heavily it was used. This was one of the major factors that contributed to a look at the stability and security of the electronic resource technical infrastructure. It also led to the model of "dual access" for journal content, meaning that ongoing subscriptions now became available both at the publishers' sites and in the EJC. OhioLINK relied on the technical expertise of OARnet to move electronic resources to a different infrastructure, which would help with the ongoing support and enhancement of the systems.[37] The magnitude of the disruption and risk to content meant the consortium started to assess the scalability and sustainability of its current technology portfolio and how to improve its services. The fragility of the aging technical infrastructure was again illustrated by the necessity to take the Electronic Theses and Dissertation Center (ETD) completely offline in January 2014. While the OH-TECH developers were able to get the submission and review administrative back end up relatively quickly, it took another six months to completely rebuild the ETD Center on modern database infrastructure. Although programs continued to expand, the larger focus was on taking the resources that existed and improving them. Innovation was taking place, but in a different way.

As an example, OhioLINK was initially going to build its own version of a "discovery layer"—a search application that would search across all resources: books and other material in the Central Catalog, the EJC, the EBC, and databases, in a single search box. Forward-thinkers at OhioLINK in 2008 had dreamt up a discovery layer through a task force, but no vendor had the technology

OhioLINK CONTENT NEGOTIATION PAYS OFF

OhioLINK INCREASES	**3.2%**
NATIONAL INCREASES	**3.9%**
INDIVIDUAL **INSTITUTIONAL** INCREASES	**5.5%**

These numbers are the average rate of increase for journals for the past year.

to create this revolutionary change.[38] However, the project was seriously delayed and ultimately abandoned as unsustainable at the enterprise-level scale at which it would need to operate. Fortunately, this time delay gave the software market time to evolve, and commercial products became available. OhioLINK then issued an RFP for a discovery layer and licensed EBSCO's services at affordable terms for all member institutions.[39] In similar fashion, the extremely ambitious institutional repository hosting program started in the late 2000s was discontinued after it became clear that expanding the program to all institutions was untenable. At its peak of 30 individually customized DSpace installations, OhioLINK and its members determined the program was not scalable and the existing collections were migrated to institutionally managed and funded repositories.[40]

In terms of content, in 2009 the central operating budget was reduced by 13 percent as a response to the Great Recession.[41] The reduced budget once again impelled the consortium to take stock of its portfolio of content, usage across the consortium, and the collective needs for curricula and research support.

During this time, OhioLINK also weathered the two-year period with no state capital budget (2011–12), which directly affected the central OhioLINK subsidy for e-journal content. The OhioLINK Library Advisory Council Coordinating Committee (LACCC) succeeded in requesting $9 million in emergency funding from then-Chancellor Jim Petro to maintain the journal subscriptions—a recognition from the Board of Regents (now the Ohio Department of Higher Education) of how valuable OhioLINK

content was to member institutions and higher education in Ohio. With user needs a top priority for OhioLINK, the CIRM committee conducted a survey of electronic resources and developed a list of core resources to be periodically reviewed.[42] As a result, the consortium can respond quickly to emergency budget reductions. OhioLINK members also revised the internal allocation of how e-journal content was funded—the first major overhaul of the funding formula since OhioLINK started purchasing shared digital content. OhioLINK also purchased the Elsevier digital journal backfile during this time, which increased access to older content and created opportunities for large scale de-duplication of print journal runs in the regional storage depositories.

OhioLINK's foundation, physical material, remains a large sector of the consortium. Although requests for physical material have declined since 2008, there are still a significant number of requests for print.[43] With over 45 million physical items, electronic replacements for every title would simply not be feasible. Yet four of the five regional depositories have neared capacity since 2009.[44] The costs of transporting material via the courier service also comprises a large portion of the operating budget and can be unpredictable due to changing fuel costs. Even if all future books purchased were digital, OhioLINK and its members would still need to maintain physical collections, whether in campus libraries or in the depositories, to ensure the maintenance of deep research collections. The physical material also remains relevant due to the slower than expected transition from paper to e-books.[45]

Upward and Onward:

2015 to Present

Recent years have been marked by the theme of improving existing resources. This direction can be explained by a commitment to "tighten the core," loosely defined as looking at the services and resources that exist and ensuring that OhioLINK staff time (both centrally and at member institutions) and budgets are aligned with strategic priorities and responsible stewardship. The core of OhioLINK is academic content—evaluation, acquisition and delivery. OhioLINK has engaged in an internal review and staffing alignment aimed at evaluating workflows for content upload and access, ensuring timely cataloging of correct and comprehensive access points at vendor sites, through discovery layers and catalogs, and in locally loaded databases. In addition, as budgets tighten and members need to make dollars stretch further, sophisticated data analyses across the membership have become more critical to evaluate shared content deals as well as identify targets for cost-effective new deals. New positions at OhioLINK have included collections and data analysts, as well as a cataloging unit that has taken over shared e-book cataloging, which used to be done on a volunteer basis at member institutions. E-book cataloging from the center has cut the time for users to find new publications in their local and the Central Catalog by months, and has resulted in a much cleaner central database with less confusing duplication.

Improving the portfolio of existing technology platforms has also been key. At the request of member institutions, retrospective batch upload was added to the Electronic Theses and Dissertation (ETD) Center, allowing dissertations and theses from the past to be uploaded in batches.[46] By making this small change, researchers have access to over 50,000 older dissertations and theses recently digitized, a number that will continue to grow. Responsible stewardship of existing content led to a complete redesign and migration of the Electronic Journal Center (EJC). In 2015, the EJC was roughly 20 million articles in a flat file. This was an inefficient information architecture that was unstable and resource-intensive for the amount of content, the value of the content (conservatively estimated at $300 million in digital assets) and the amount of use it received. The Department of Higher Education gave a special technology grant of $1 million to migrate to a modern database architecture, enabling full-text searching, faceted results, and a variety of administrative improvements for verifying metadata and content.[47] OhioLINK also is implementing true digital preservation of the material in the ETD Center and EJC by licensing the digital preservation software Rosetta and adding a digital preservation expert to the staff.

OhioLINK also received increases in its capital budget from the legislature starting in the 2014 budget cycle, the first substantial increases in over a decade. This allowed OhioLINK to subsidize more content for its members and stave off more cancellations of shared digital collections.[48] A current challenge is maintaining adequate support for services, such as courier delivery and the regional depository system, while responding to increasing demands for digital content, especially shared e-book collections. As Scott Seaman, current director of Ohio University Libraries and former chair of the Library Advisory Committee (LAC), sees it, "we have unique (print) material that we have a mission and responsibility to retain."[49] Irreplaceable material is costly to support, but OhioLINK is adapting by re-examining the fundamentals of the depository program. OhioLINK and the Southeast Depository were jointly awarded an LSTA grant to identify and manage rare items to test an innovative strategy to recoup depository space.[50 51]

Another high-profile initiative for OhioLINK in 2017 is support for Affordable Learning initiatives across the state, focusing on reducing textbook and course material costs for students. OhioLINK, with the support of ODHE and the affirmation of the OhioLINK library deans and directors, launched three linked initiatives. To support awareness and advocacy, OhioLINK and the Open Textbook Network will host regional workshops to promote Open Educational Resource (OER) adoption in classrooms and the development of campus leaders for OER support. OhioLINK will promote discovery and visibility of potential curricular resources that are low-cost or no-cost to students, developing a faculty-oriented search tool to find both OER and shared licensed resources as well as foregrounding the initiatives at individual institutions to allow sharing and promotion of various efforts around the state. Creation and collaboration are supported by an implementation of an OhioLINK branded instance of the non-profit authoring and hosting software OER Commons to index and host Ohio-created OER content on behalf of all members. OhioLINK will begin these initiatives by supporting the 17 institutions that were awarded $1.3 million from ODHE in 2017 to adopt and create OER classroom materials.

To look forward requires a look at the past. OhioLINK's developments, achievements, and—maybe even more so—failures have resulted in a user-centric system developed to provide premium resources conveniently and rapidly to as many students, faculty and researchers as possible. It began with traditional print materials in a regional system and responded to proliferating digital formats, rapid technological infrastructure updates, and changes in how students and researchers did their work. OhioLINK's commitment is, and has always been, promoting the access of information for its members and users.

1–2. THREE YEARS OF THE OHIOLINK PELOTONIA TEAM RIDING TO RAISE FUNDS FOR CANCER RESEARCH (2015,2016,2017). // 3. GWEN EVANS SPEAKS TO A PACKED ROOM OF LIBRARIANS AND OTHER CAMPUS STAFF FROM ACROSS THE STATE ABOUT AFFORDABLE LEARNING INITIATIVES AT OHIOLINK (2017). // 4. THE OHIOLINK DATABASE MANAGEMENT AND STANDARDS COMMITTEE HARD AT WORK IN THE OHIOLINK OFFICES IN 2016.

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downloaded
(all publisher sites & EJC)

3+ MILLION
e-book sections
downloaded
(all publisher sites & EBC)

11+ MILLION
Full-text downloads/
full content views in
databases

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