



# *Strategies and alliances into action to improve national collaboration*

G. Filippucci\*, **E. Bernardini\*\***, S. Mangiaracina\*\*\*, F. Brunetti§, E. De Carolis§§, P. Domina§§§, M. Fasano+, E. Fuschini++, M. Grazioli+++ , R. Magno^, S. Olimpieri^^, P. Salamone\*\*\*, S. Stabene^^^

\*"G. Ciamician" Chemistry Dept. Library, University of Bologna \*\* Central Library, Pharmacy, University of Milan \*\*\*Bologna Research Area Library, CNR §Arcetri Astrophysical Observatory Library, INAF §§Economics Library, "La Sapienza" University of Rome §§§City Library, Cologno Monzese +Materials and Production Engineering Dept. Library, "Federico II" University of Naples ++Environmental Sciences Library, University of Bologna +++ "Cognetti de Martiis" Economics Dept. Library, University of Turin ^Institute of Materials for Electronics and Magnetism (IMEM) Library, CNR ^^Science and Technology Library, University of Modena and ReggioEmilia ^^Ospedale Maggiore Foundation Library, IRCCS, Milan



## ***NILDE : software & network for ILL***

### **2001 : Nilde 1.0**

- **7<sup>th</sup> ILDS Conference Liubljana and 1<sup>st</sup> Italian workshop “Internet DD and inter-library cooperation”, Rome**

**2003 Bologna  
2004 Pisa  
2006 Napoli  
2008 Bolzano**



**Italian workshops  
From Nilde 1.0 to Nilde 4.0**

- **2007 10<sup>o</sup> ILDS Conference Singapore**

### **2009 : Nilde 4.0 alpha test**

- **11<sup>th</sup> ILDS Conference Hannover**



## ***The Italian “scenario”***

### **“The way we were”**

**Lack of national policies and quality standards delay in the setting up of a common national ILL**

**Small sharing service experiences organized geographically or thematically**

**Most of the libraries joining to the NILDE network were linked to scientific and biomedical research institutes**



## ***The Italian “scenario”***

### **“The state of the art”**

**NILDE provides effective responses to daily needs of users**

**Italian Universities**

**Scientific Research Centers**

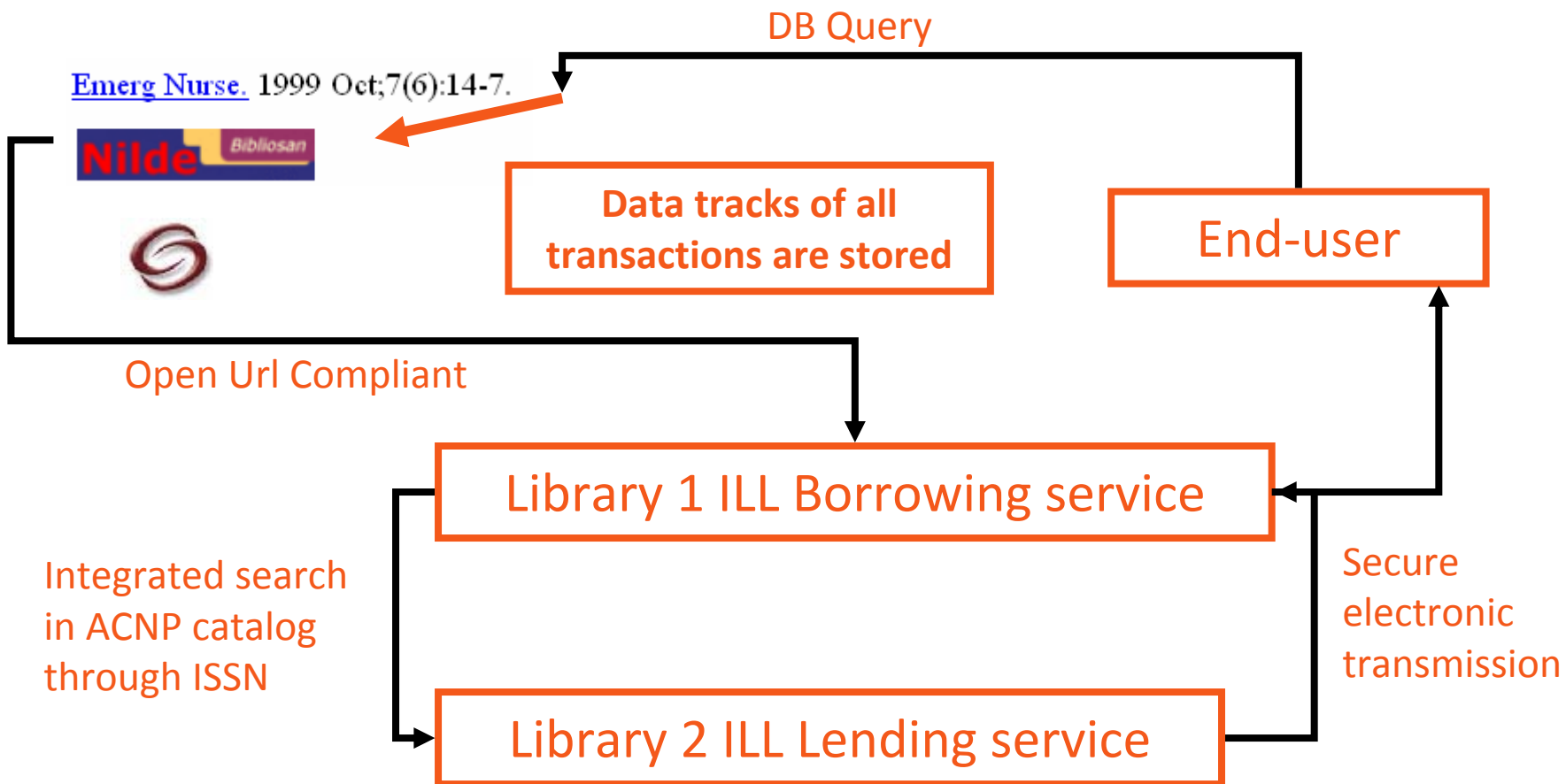
**Health Care Centers**

**Public Libraries**

**Since 2006: increasing in adhesion requests the network has been changing more and more heterogeneously**



# Software for libraries and end-users





## ***Few rules for best practice and high quality***

**A community heading towards user satisfaction**

**Reciprocally supply documents**

**Facilitate access to holdings**

**Supply documents as soon as possible**

**Supply documents at no charge but in case of strong imbalance between libraries**

**Equally distribute requests among all libraries**



# *NILDE organization chart and goals*

## **A tool for the network**

Problem solving  
Monitoring  
Promotion & marketing



## **R&D**

System management  
Help-desk and technical support  
Software development



Sharing Human Resources  
and Processes



**“One library one vote”**

Librarians community choose CBN members

[ask-cbn@area.bo.cnr.it](mailto:ask-cbn@area.bo.cnr.it)

[nilde-forni@area.bo.cnr.it](mailto:nilde-forni@area.bo.cnr.it)



## *Heading towards improvement...*

**Increasing libraries' adhesion**

**Obtaining end-users faithfulness**

**Rising standards quality**

**Aiming at software development**

**Finding stakeholders and enter into an alliance with them**



**NILDE** Network Inter-Library Document Exchange

## ***The scored goals***

## ***Focusing on main issues to improve quality standards***

**Best Practices vs Worst Practices**

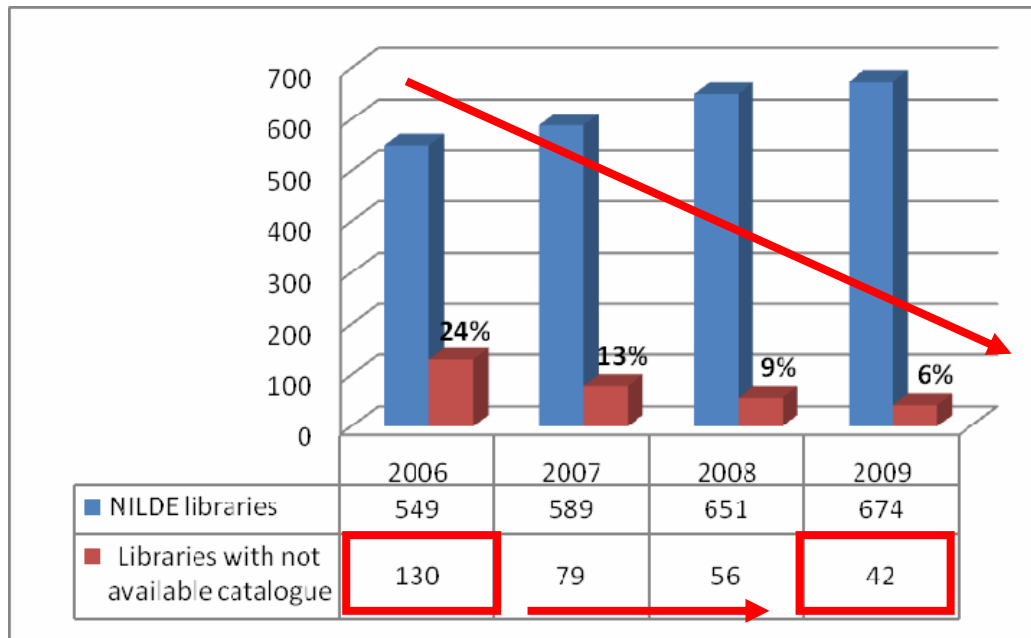
**Training courses**

**Technical workshops**

**Dissemination and promotion of Open Access journals and their presence in the national catalogs**

# *The importance of sharing resources*

- Ghost libraries are mainly borrowing, they must reduce imbalance
- Ghost libraries had been invited to respect rules and share their holdings
- Ghost libraries are disappearing





# *Analysis of a complex system*

## ***Data analysis as a tool for improve standards***

**Do libraries work virtuously?**

**Do libraries fulfill rule standards?**

**Is there any imbalance between lending and borrowing?**

**Could be better to borrow or to subscribe to frequent request journals?**

**Are there any suggestions to consortia acquisitions we can extrapolate from transactions data?**

## *Focusing on ILL data exchange*

To reduce imbalance in a peer to peer network CBN analysed the following indicators

- reciprocity factor (RF)
- turn around time (TT)
- fill rate or success rate (SR)

To understand which titles libraries need, CBN identified

- how many journals involved in ILL transactions
- the high-used journals
- “the core journals”

# *ILL Data analysis and factor analysis*

## Elements of flexibility among libraries

- Collections and users
- Differences in size
- Floating in adhesion to the network year by year

**suggest a careful approach in evaluating performances of the network**

**It's been necessary to group libraries into homogeneous clusters through factor analysis**

## ***Nilde indicators: Reciprocity Factor***

We define “Reciprocity Factor” (RF)

$$RF = L/B$$

Where L/B is the ratio between the number of documents supplied to the network (L = Lending) and those requested (B = Borrowing) by the same library

The reciprocity factor RF allows an evaluation of the balance reached from any library, clusters of libraries or selected groups in terms of requested and supplied documents

1.  $1 \leq RF$  documents supplied overcome requests
2.  $0,6 \geq RF \leq 1$  completely or relatively balanced efficiency
3.  $0,6 \geq RF \leq 0,4$  heterogeneous amount of libraries fluctuating between efficiency and debt
4.  $0,4 \geq RF$  chronic imbalanced situation

**Libraries having L=0 or B=0 have been excluded**

## ***Nilde indicators: Success Rate***

**We define “Success Rate” (SR) or “Fill Rate”**

**SR= Filled lending/total lending requests (%)**

**Where SR is ratio (expressed in percentage) between the number of documents supplied to the network (Filled Lending) and total lending requested received (all requests even not fulfilled) by the same library**

**High success rate means efficiency and reliability**

## ***Nilde indicators: Turn around Time***

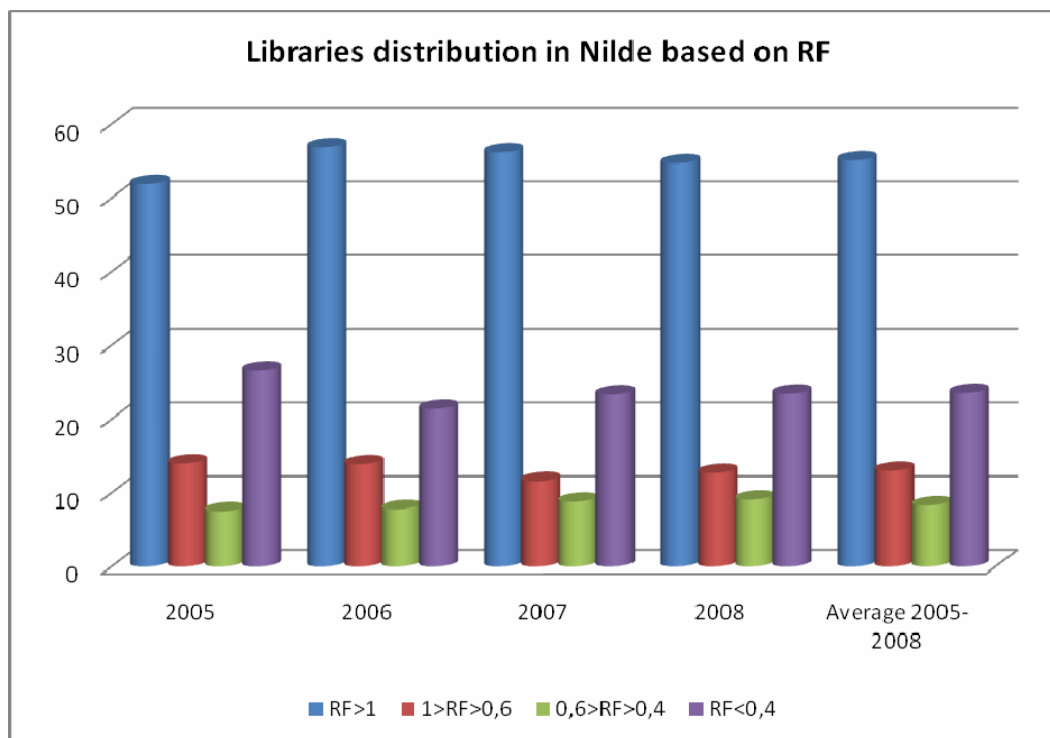
**We define Turn around Time (TT)**

$$\text{TT} = \frac{\sum_{1-n} (\text{delivery date} - \text{request date})}{n \text{ (total requests)}}$$

**Where TT is total time (in average) between the reception of a lending request and its delivery, expressed in days, by the same library**

**A short TT means efficiency and high user satisfaction**

## *RF and SR*

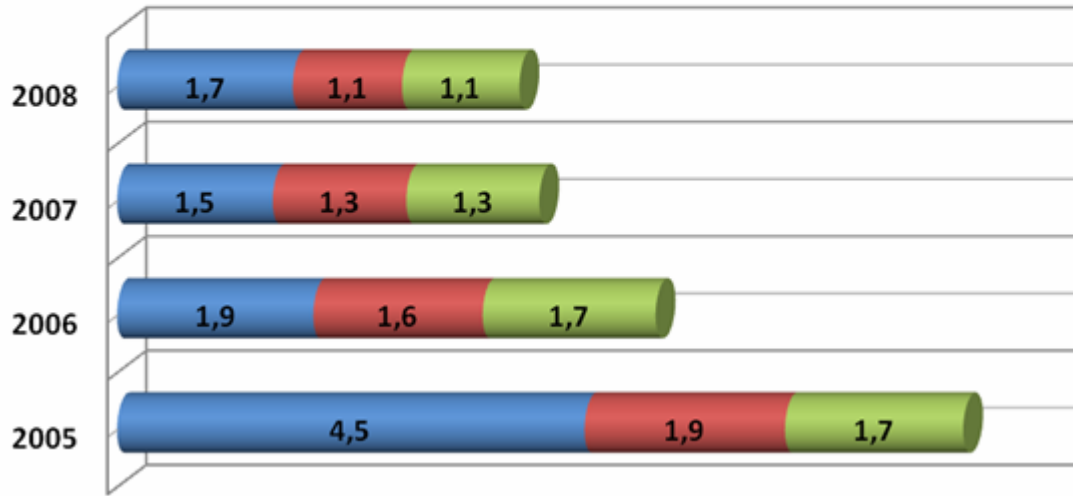


**Libraries**  
**398 (2005)**  
**448 (2006)**  
**491 (2007)**  
**541 (2008)**

**During the four-year period, 2005-2008, distribution of the libraries on RF basis is constant**  
**Success rate SR is constant too ( $\approx 82\%$ )**

## Nilde TT (turn around time) performance: all, worst100 & best100

■ worst100 ■ all ■ best100



*TT trend*

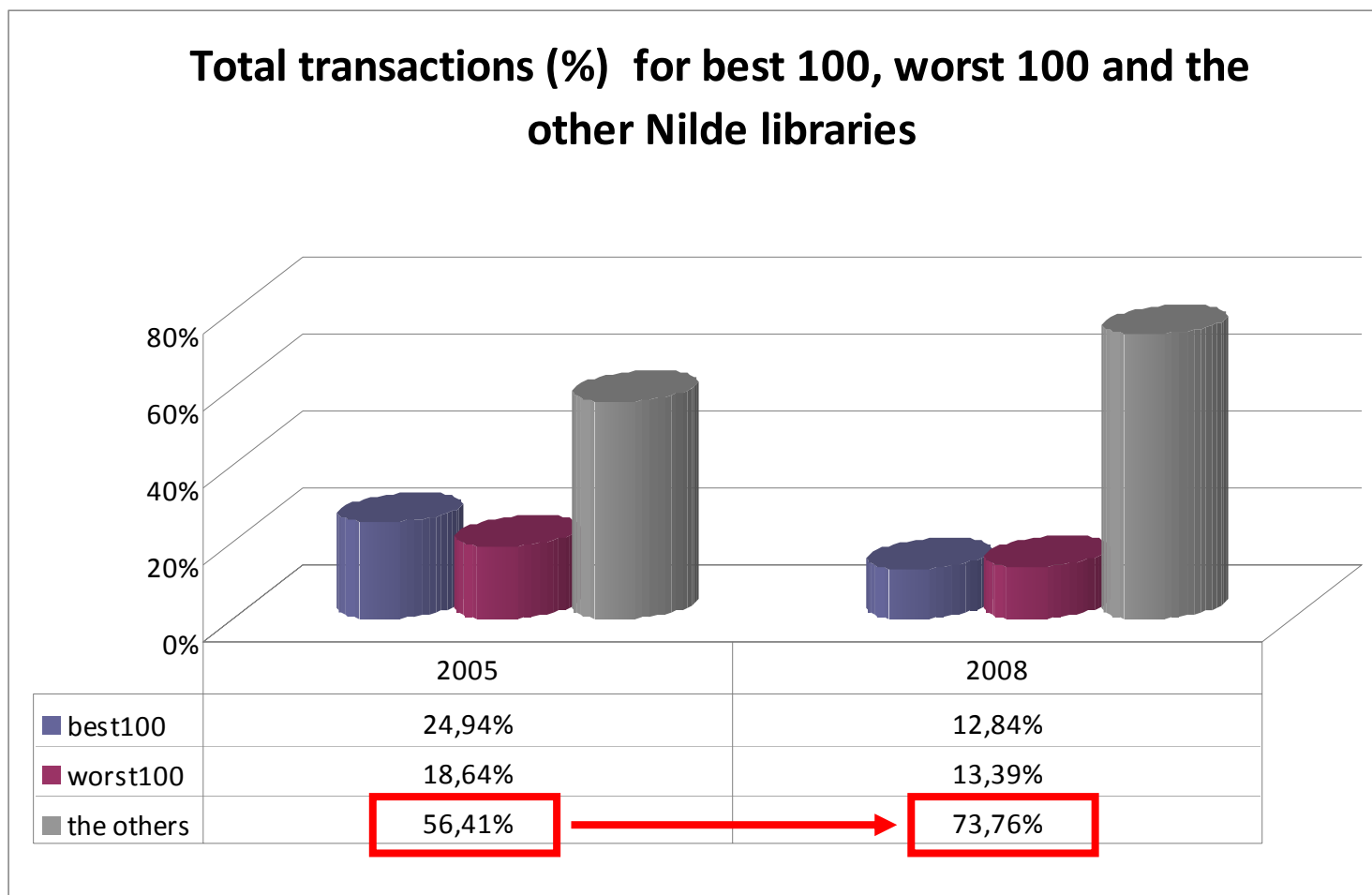
Timeliness	% documents delivered			
	2005	2006	2007	2008
1 day	43,20%	51,04%	60,53%	<b>67,93%</b>
1-2 days	35,50%	30,81%	24,26%	21,43%
2-3 days	8,08%	9,06%	9,48%	6,76%
≤3 days	86,78%	90,91%	94,27%	<b>96,12%</b>

**Users main expectation is to get documents as soon as possible**



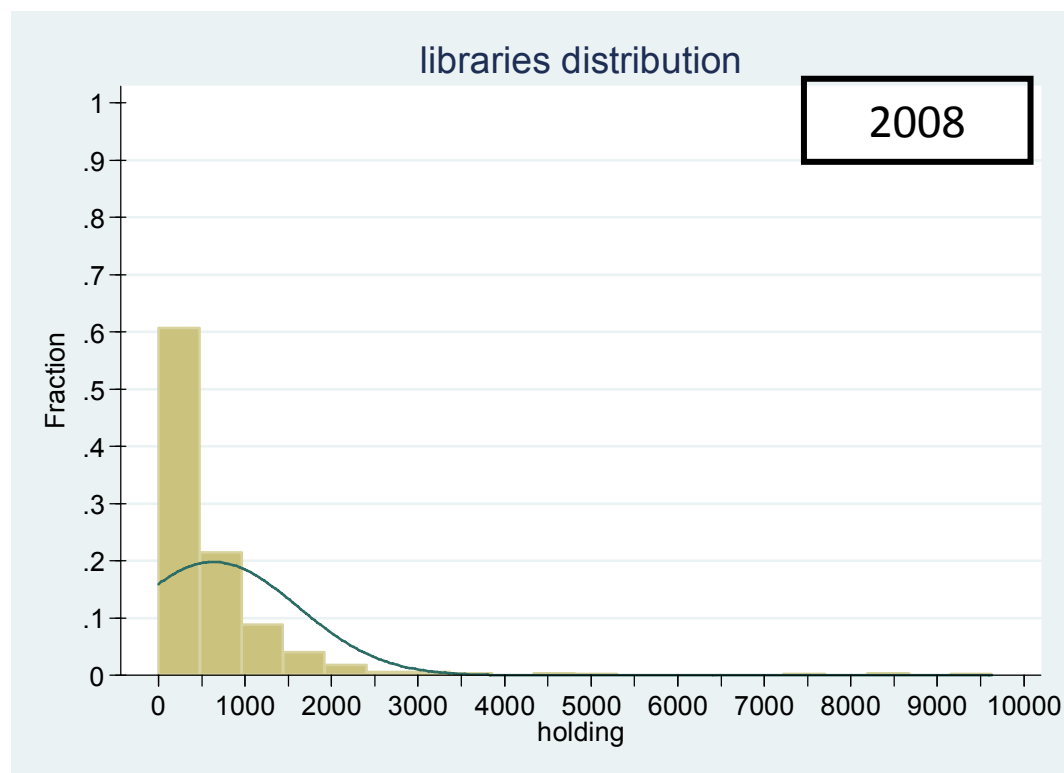
## *Distribution of ILL transactions*

**Total transactions (%) for best 100, worst 100 and the other Nilde libraries**





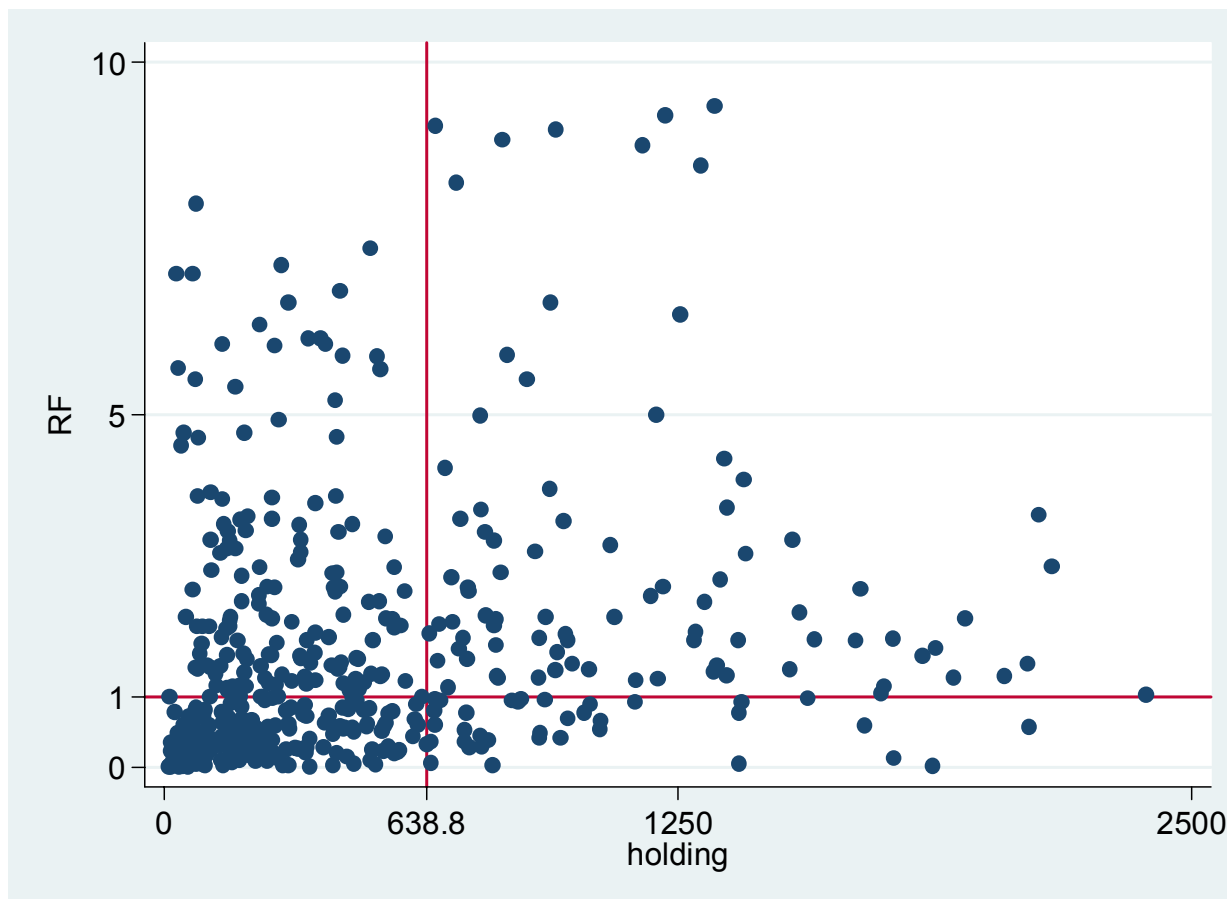
# *Nilde libraries distribution on the basis of their holdings*



**Small-medium libraries hold 60% of all journals**



# Dispersion on the basis of RF and Holdings variables\*



\*For a better representation of the dispersion of the analyzed sample, data relating the highly severe *outliers* are omitted

## ***Titles analysis***

**Is it better to subscribe to a journal rather than using ILL?**

**We found the answer through the statistical analysis of document transactions**

### **Methodology**

**Unsuccessful transactions excluded**

**All delivery requests counted, even parts of books**

**Refinement and deduplication of the list**



## *Documents supplied*

<b>Year</b>	<b>Borrowing libraries</b>	<b>Articles supplied</b>	<b>N. borrowed article/library</b>
2005	511	75.652	148,0
2006	552	87.846	159,1
2007	595	99.083	166,5
2008	651	106.908	164,2

## *Libraries ask for up-to-date documents*

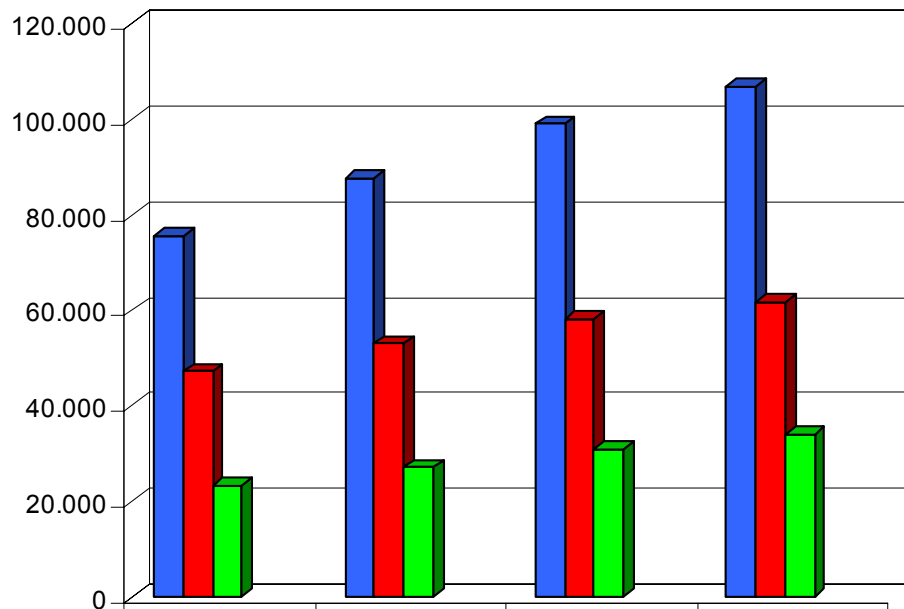
**Biomedical and science libraries borrow up-to-date publications**

**We focused on requests of documents published from the request date back to 10 years**



**The percentage of documents (no more than 10 years old) is decreasing (from 63% to 58%), even if the numbers of total request are increasing**

## High-used titles



**High-used titles represent 10% of all titles and amount for 50% of all delivered documents published during the last decade**

■ Total article requests	75.652	87.846	99.083	106.908
■ last 10 years publication date requests	47.320	52.966	58.086	61.818
■ total requests for titles ≥ 20 requests*	23.273	27.084	30.859	33.989
% last 10 years requests vs total requests	63%	60%	59%	58%
% total requests for titles ≥ 20 (last 10 years) vs total requests	31%	31%	31%	32%

## The core list of high-used journals

Year	Total titles requested	Titles requested $\geq 20^*$	Core titles* 2005-2008	%
2005	<b>9701</b>	<b>6.308</b>	<b>371</b>	4%
2006	<b>11287</b>	<b>7.087</b>		3%
2007	<b>13299</b>	<b>8.087</b>		3%
2008	<b>14397</b>	<b>8.317</b>		3%

\*Only article published in the last 10 years

	n. of titles with requests/library average $\geq 3$	n. of titles with requests/library average $\geq 5$
2005	28	2
2006	29	2
2007	31	3
2008	40	1

## ***Core titles, publishers, and Impact Factor***

**Core titles mainly belong to small publishers**

**Requests are increasing**

**Fewer and marginal titles belong to big publishers, usually out of “big deal” contracts or consortia**

**No correlation between the Impact Factor value (2008) and the number of ILL requests**

**NILDE libraries share their resources in a virtuous way**

**There is no evidence that ILL services are a strategy to avoid subscription**

**Many libraries are responsible for highest request titles, so the average number of requests for each library is low**

## *Conclusions*

This work sets the bar for future analyses conducted on the basis of the great amount of archived data  
A future in-depth analysis about ILL titles and network performance will provide more highlights

**NILDE seems to be a virtuous system of ILL**  
**Libraries satisfy users' needs with a good cost-effectiveness rate**

**Libraries set up strategies to improve their performance**

**NILDE represents a strategic tool for decision-making**

## *Further Developments*

**With regards to shared resources, further goals will be:**

- **to map the national distribution of collections and evaluate the impact of ILL transactions among libraries of different disciplinary fields**
- **to aid in establishing journal acquisition priorities for libraries and for consortia**
- **to support choices about cancellations and weeding**
- **to set up procedures for the production of annual reports on ILL transactions as a useful tool in decision-making processes of acquisitions and weeding for all NILDE libraries and library systems managers**



# *Thank You for your attention*

## *Authors and contact information*

- G. Filippucci** “G. Ciamician” Chemistry Dept. Library, University of Bologna  
**E. Bernardini** *Central Library, Pharmacy, University of Milan*  
**S. Mangiaracina** Bologna Research Area Library, CNR  
**F. Brunetti** Arcetri Astrophysical Observatory Library, INAF  
**E. De Carolis** “Federico Caffè” Dept. Economics Library, “La Sapienza” University of Rome  
  
**P. Domina** City Library, Cologno Monzese  
**M. Fasano** Materials and Production Engineering Dept. Library, “Federico II” University of Naples  
  
**E. Fuschini** Environmental Sciences Library, University of Bologna, Ravenna Campus  
  
**M. Grazioli** “Cognetti de Martiis” Economics Dept. Library, University of Turin  
  
**R. Magno** Institute of Materials for Electronics and Magnetism (IMEM) Library, CNR  
  
**S. Olimpieri** Science and Technology Library, University of Modena and Reggio Emilia  
  
**P. Salamone** Bologna Research Area Library, CNR  
**S. Stabene** Ospedale Maggiore Foundation Library, IRCCS, Milan