No. 20, ref. D7.5, Half-year progress report

BERNSTEIN ▪ THE MEMORY OF PAPERS

ECP 2005 CULT 038097/Bernstein

BERNSTEIN

Deliverable no. 20, ref. D7.5
Half-year progress report

01 March 2008 – 31 August 2008

Deliverable number/name	*D7.5*
Dissemination level	*Public*
Delivery date	*19 September 2008*
Status	*Final*
Author(s)	*The Bernstein Consortium*

*e*Content*plus*

---

[1] OJ L 79, 24.3.2005, p. 1.

1   Table of Contents

2   Summary

Following a period of analysing, finding out about the user requirements, and harmonizing the databases and software tools, the project entered the concluding stage with the first integration results and modules ready for testing and evaluation. The concerned outputs are the Bernstein workspace, which is connected to the online databases and includes already the statistics module, the second version of the paper bibliography, a thesaurus of terms related to watermark research in six languages, the test version of the dissemination kit, and the GIS system.

1. The Bernstein workspace with online access to the databases was established and the mock-ups were replaced with a working version. A statistics module was integrated into the workspace, allowing a quantitative and in-depth investigation of the vast amount of data. The tests of the workspace proved that the chosen architecture works well and the response times are appropriate. The bibliography module is ready and only needs to be interlinked with the other datasets. Geographical maps and expertise are still under development.

2. The information stored in the databases was harmonised and standardised. The second version of the watermark description standard presented as Deliverable no. 18 was revised, extended, and is now published as a six-language thesaurus (English, French, German, Italian, Russian, and Spanish) on the project development website. It includes a classification scheme for the hierarchically organised watermark types and a nomenclature assigning a unique name to every type. The databases were updated according to the thesaurus which was necessary for their integration into the Bernstein workspace. The workspace uses the thesaurus for multi-lingual searches. The standardisation of the hierarchy of watermark motifs has been done for the first two levels. Two more levels are required for the 'Browse Motif' option and will be accomplished soon.

3. Statistics is one of the two ways to investigate and analyse the vast amount of data accessible by the Bernstein workspace. The functionality of the statistical component was specified (see blueprint) and a powerful and flexible set of statistics functions were implemented and integrated into the workspace. The numerical values of the basic statistics parameters (e.g. mean value and standard deviation) are displayed together with a visual representation as bar, pie or bubble diagram depending on the data. Users can analyse single parameters (e.g.: number of watermarks per year) or combine two different parameters (e.g.: watermarks per year and country).

4. Cartography is the second way to explore the conglomerate of data. A software-architecture to support the Bernstein GIS and its integration with the workspace has been conceived and the industry standard software ArcGIS was installed on an internet server for demonstrating the online capability. The Bernstein databases need to be upgraded with additional fields for the geo-referenced data in order to allow the full functionality of the GIS system.

5. The dissemination kit is a ready-to-use software package that gives people the means to set up their own paper studies services. It is implemented as a downloadable pack that contains data, software, and documentation sufficient to set up new paper study resources. A version of the dissemination kit is available for testing and evaluation.

No. 20, ref. D7.5, Half-year progress report

BERNSTEIN THE MEMORY OF PAPERS

6. An indicator for the impact of the project are co-operations with new initiatives, projects, and contacts (see 4.1 Overview of awareness and dissemination activities).

The following products are available online and ready for use and testing:
- Workspace including statistics: http://bernstein.iicm.tugraz.at:8080/BernsteinPortal/
- Bibliography: http://dnb.cheshire3.org/dnb/index.html
- Bernstein-Thesaurus: http://www.bernstein.oeaw.ac.at/twiki/pub/Main/DocumentsArchive/Thesaurus_v3.pdf
- Bernstein atlas for paper history (GIS): http://bernstein.viskom.oeaw.ac.at/BAPH/default.aspx

3   Status

The focus of the activities during the entire reporting period is documented by four technical deliverables within this project period: statistical functionalities, workspace v.2, textual watermark description standard, and numerical paper description standards.

The coverage and functionality of the **statistics** component was specified in a blueprint and most parts of it were implemented in the workspace. The statistics functionality can be accessed through the *Simple Search* and *Specific Search* options on the workspace. The user gets a statistics summary for his/her selection containing the quantity, total number, percentage, and – depending on the parameters minimum, maximum, mean value, standard deviation – a diagram. The choice section allows the user to get more detailed statistics on results. It consists of radio buttons for the selection of single and paired criteria in order to get detailed statistics containing e.g. values of mean, range, standard deviation, skewness and kurtosis of the selected data. An *Export* option allows the user to save the numerical data for further usages.

Since watermarks databases were not conceived for statistical purposes, a huge amount of data (more than 92.000 records for Piccard Online [POL] alone) was reworked to create a new database able to be interfaced with statistics and GIS (POLfS = **Piccard Online for Statistics**). 'Reworking' means: correction of wrong dates or places of paper use; standardisation of data written in different ways in the existing fields; extraction and reorganization in different fields of heterogeneous data which in POL are mixed in the same field ('Bemerkungen'); creation of typological classes at different levels; expliciting of implicit information a.s.o. Therefore most fields of POL were modified and several new fields were added. The new database is structured as follows:

 1   *Fields already existing in POL, whose information has just been standardized.*
 2   *Fields already existing in POL, whose information has been enriched and improved, thanks to data coming from POL or from other sources.*
 3   *New fields, whose information comes from the two* Bemerkungen-*fields of POL.*
 4   *New fields, whose information derives from other sources.*
 5   *New fields which create new categories using the initial data, permitting the selection (or the elimination) of homogeneous groups.*

The 'paths' used for searching watermarks in the databases are not useful for paper historians, because the result of a query is always a mixture of heterogeneous papers (i.e. sheets of paper which do not come from the same region or paper mill, or which were not transported on the same trade roads and were not available on the same market). The only way to avoid this drawback is to create manually several homogeneous groups based on the close morphological similarity of the watermarks concerned. This works fine, but it is a very long and expensive job when applied to over 25.000 'bull's heads' available in POL. First of all it is necessary to identify all reproductions of the same watermark (this happens frequently with 'bull's head' motif), the next step is to group all watermarks according to their degree of similarity. Since the comparisons can be made only by superposing the image of each watermark to many other watermarks, this may take a long time. More than 5.000 'bull's head' watermarks have been compared, identified and classified so far.

Cartography is a second way in Bernstein to study and investigate the huge amount of data in the databases. A software architecture to support a **Geographical Information System** (GIS) for the integrated workspace was conceived. A GIS server running the ArcGIS software for demonstrating the online capability was installed. New geographical references were added to

the existing set and identified for the following sets of data: Likhachev's watermarks album, 'Piccard Online' repositories, Briquet *Les filigranes* repositories, ISTC printing places, 'Plague in medieval Europe' database. All the georeferences were checked carefully using customized software for visualization and debuging.

The capacities of GIS will be largely increased if the software is supplemented by **contextual data** related to the history of paper and written culture. Plague was an endemic calamity which heavily perturbed all activities in European countries, especially the production of paper and books. The creation of a database including a complete geo-chronological list of plague epidemics (1348-1600) was achieved and the geographical references were introduced in the GIS.

The **workspace** was revised and a new version was made available for tests and evaluation (http://bernstein.iicm.tugraz.at:8080/BernsteinPortal/start.disp). The mock-ups were replaced by the functional software. The workspace communicates with the databases via SRU (Search/Retrieval via URL) which is a standard XML-focused search protocol for Internet search queries, utilizing CQL (Contextual Query Language), a standard syntax for representing queries. After a search query, the responses from all SRU gateways are combined at the workspace and the correct combined result set is generated and displayed.

A set of standardized terms (thesaurus, textual watermark description standard) is indispensable for the harmonisation of the terminology within one database, for the harmonisation and search between different databases, and for the multilinguality. The databases Piccard-Online (POL), WILC, and WZMA were processed and all differences in the terminology were resolved. The result of this work is a six language **thesaurus** in all the major languages of watermark research (English, French, German, Italian, Russian, and Spanish). The Bernstein thesaurus v.3 presently contains 750 entries and is used by the workspace for the multilingual searches within the databases. It provides also the basis for the development of a common classification scheme. The existing motif groups of the relevant databases should be harmonised into a Bernstein classification scheme. The classification scheme is not only an important part of multilingual access, but even necessary for other applications in Bernstein, e.g. for the so called *Dissemination Kit*. A first version of this classification scheme describes 12 main motifs on a first level and further motifs on a second level.

A study on **numerical paper description** standards was made and as far as possible integrated into the Bernstein workspace. Numerical paper description parameters should help to identify papers without watermarks or with not accurately assignable watermark motifs. Numerical parameters in the databases such as height and width of watermark, or chain line distance were integrated as search criteria into the Bernstein portal. Our existing image analysis software which calculates numeric paper parameters was adapted for tests within the Bernstein project and will be accessible online or free for download. No single software tool exists which could handle all types of recordings within the Bernstein databases. It is recommended to record the full area of paper and not only the area around the watermarks in order to support future developments of virtual mould reconstructions and data mining in paper and watermarks databases.

The data in our databases are predominantly images. Therefore **image processing** tools for improving them, extracting information, searching for similarities, comparing and measuring the images are of significant importance and they help to accomplish routine tasks. Several programs developed by Delft University of Technology were adapted for the use in the frame

of the Bernstein project. Software that detects watermarks and the chain lines in grey scale images automatically, as well as software that finds identical watermarks in the printed Piccard collection and Piccard online database were tested and are ready for integration into the Bernstein workspace.

High quality recordings of watermarks or paper structure can be acquired by radiological methods like beta radiography or electron radiography. These methods are expensive, require special equipment, and are therefore the main obstacle for many scientists to record their own watermark images. Digital photography offers a cheap and efficient way for recording watermarks, but some tricks are needed in order to achieve good results. The main idea is to take two pictures, one with and the other without backlight and subtract the one from the other. The further development and improvement of this method is very important for the dissemination of Bernstein, for the generation of new digital data, and for establishing new databases.

A graphical user interface to subtract the paper structure from paper databases automatically was developed. The databases have to store a reflected and a transmitted image for each piece of paper for this approach to work.

The **component model**, an alternative way for watermark classification, was implemented for a subset of motifs, tested and evaluated. The result of the evaluation is that the component model is a reasonable way to describe watermarks, but it needs still a lot of work to describe all components and furthermore, it would need a lot of resources to add the component descriptions to the existing databases. The decision at the annual meeting in Stuttgart (Germany) in July 2008 was to stop further work on the component model within Bernstein and to shift the work to future projects.

BERNSTEIN ⬛ THE MEMORY OF PAPERS

3.1   Resources employed

Resources employed for the reporting period (person-months)								
Beneficiary short name	**WP 01**	**WP 02**	**WP 03**	**WP 04**	**WP 05**	**WP 06**	**WP 07**	**TOTAL**
COO (OEAW)	1.90	9.40	3.10	3.20	0.30	4.90	5.75	**28.55**
LABW	4.50	6.50	-	-	-	2.00	-	**13.00**
TUG	17.00	-	-	3.50	-		-	**20.50**
LAMOP	0.60	20.00	2.10	20.00	-	0.20	-	**42.90**
DNB	1.00	-	-	3.00	-		-	**4.00**
NIKI	7.22	0.21	1.25	0.18	0.41	2.72	-	**11.99**
DUT	2.00	-	12.00	-	-	1.00	-	**15.00**
KB	3.00	0.80	-	0.25	-	1.00	-	**5.05**
LU	0.50	-	-	2.50	-		-	**3.00**
TOTAL	**37.72**	**36.91**	**18.45**	**32.63**	**0.71**	**11.82**	**5.75**	**143.99**

3.2   Work Package Overview

Work package description

Work package number :	01	Start date:	Sept. 2006	End date:	Feb. 2009
Work package title:	Integrated workspace				

Objectives for the period

O1.1 Integrate resources
O1.2 Connect components
O1.3 Interpret content
O1.4 Emerging knowledge
O1.5 Assist users

Milestones:
M1.3 / m23 – Pre-qualification version of the integrated workspace is available.

Deliverables:
D1.3 / m23 – Workspace demonstration version 2

Description of work carried out and achievements

T1.1: Integration models:
- *Statistical functionality* – Conceiving the elements of the statistical functionality of the integrated workspace; preparing the blueprint; feed-back on the end product (Blueprint: http://www.bernstein.oeaw.ac.at/twiki/pub/Main/SystemsIntegration/bernstein_statistics_blueprint.pdf), implementation and integration into the workspace.

T1.2: Workspace architecture & implementation:
- Evaluation of the mockups of the Bernstein workspace and new design and implementation of the workspace.
- Work on component model:
    o Describing watermarks of selected motifs in component model prototype.
    o Testing of component model description tool.
    o Evaluation report of component model.
- Technical adaptations of Piccard-Online for the Bernstein workspace.
- Mapping WILC to the proposed XML-data; testing and adapting the data model.
- Actual conversion of WILC-data to KB-MDO; doing research to provide access to KB-XML-MDO and connection to website.
- Adapting WILC's metadata acoording to Bernstein wishes.
- Investigate possibilities for a new presentation of the WILC website using the XML-data.

T1.3: Upgrading of databases & tools:
- Upgrading of all databases and tools for the integration.
- Preparing printed Piccard for testing the isolation tool from DUT.
- Providing Bernstein workspace with data.
- Modifying data model of Piccard-Online for integration in Bernstein-Workspace .
- Changing server and domain hosting of Piccard-Online for guaranteeing persistent identifier ID of watermarks for the workspace.
- Enhancements of the database schema for bibliographic data (XML) with a special focus on supporting multi-language user requests and access by classification.
- Bug-fixing NIKI-databases, software test and software analysis.

Deviation from work plan & remedial action

None

Work package number :	02	Start date:	Sept. 2006	End date:	Jan. 2009
Work package title:	Enhancing content usability				

Objectives for the period

O2.1 Develop standards for paper description
O2.2 Provide multi-lingual access
O2.3 Complete metadata coverage

Milestones:
M2.7 / m23 – Second version of numerical and watermark standards.
M2.8 / m23 – Second batch of geo-chronological metadata and demonstration of its use for cartography.
M2.9 / m23 – Second batch and demonstration of the concordance capability with external users.

Deliverables:
D2.3 / m24 – Textual watermark description standard
D2.4 / m24 – Numerical paper description standards

Description of work carried out and achievements

T2.1: Standards for paper description
T2.1a: Textual watermark description standard:
- Elaboration and harmonization of terminology list considering consequences for Piccard-Online, WILC, WZMA, and NIKI.
- Preparation of Deliverable no. 18: textual watermark description standard.
- Integration and harmonization of new terms into trilingual thesaurus.
- Enlargement of thesaurus (German, English, French) to a thesaurus in six languages (additional Italian, Spanish, and Russian).
- Integration of main motifs of Briquet into Thesaurus .
- Bilingual version of classification scheme (English/German).
- Change of the therminology in the databases according the thesaurus

T2.1b: Numerical paper description standards:
- Evaluation and testing of software for numerical paper description (chain line, distance, frequency of laid lines, width, height)
- Report on numerical paper description standard.
T2.2: Multi-lingual access:
- Preparation of the thesaurus in six languages (English, French, German, Italian, Russian, Spanish).

T2.3a: Geographical & chronological metadata:
- Preparing geographical, chronological metadata and images of printed repertories for integration.
- Participating meeting of LABW and LAMOP in Stuttgart on June 30th 2008; topic: Piccard-Online and the statistical purpose.

- Geographical references for GIS: New geographical references have been added and identified for the following sets of data: Likhachev's watermarks album, "Piccard Online" repositories, Briquet *Les filigranes* repositories, ISTC printing places, Plague in medieval Europe database.

T2.3b: Repertories concordances:
- Preparing geographical, chronological metadata and images of printed repertories for integration.
- developing, evaluation and modification of a tool for isolating watermarks for distinguishing watermarks and eliminating similar once for avoiding redundant watermarks in databases.

Deviation from work plan & remedial action

None

BERNSTEIN THE MEMORY OF PAPERS

Work package number :	03	Start date:	Sept. 2006	End date:	Jan. 2009
Work package title:	Infrastructure for paper expertise				

Objectives for the period

O3.1 Authentication & identification
O3.2 Multi-feature expertise

Milestones:
M3.4 / m23 – Second version of the enhancement tools, integrated to the AIE environment.
M3.5 / m23 – Second version of the measurement tools, integrated to the AID environment.

Deliverables:
No deliverables during this evaluation period.

Description of work carried out and achievements

T3.1, T3.2: Features enhancement, features measurement:
- Paper and watermark research for the exhibition ‚*Fiamminghi e Olandesi a Firenze. Disegni dalle collezioni dgli Uffizi'*.
- Paper imaging and -research for existing and potential new partners (SLUB, Dresden, Kupferstich-Kabinett Dresden [both: Germany], Statens Museum/Copenhagen [Denmark]).
- Paper imaging experiments on the beamline, Grenoble, France.
- Noise reduction algorithm which enhances gray scale images and provides more detail information of the extracted watermark.
- *AD751* – Development of new versions of the AD751 software for laid lines density measurement; management of the development of an online version.
- Improvements using images from the backside of the paper and RGB images.

T3.3: Authentication & identification module:
- *Sieve experiment* – Management of the experiment on modification of the sieve of a paper mould conducted in the Fabriano Paper and Watermark Museum; beginning of the evaluation of first results.

T3.4 Tools-databases integration:
- *Dating software* – Conceiving a software system for online dating of paper documents based on watermarks characteristics, quality control and management of its development.

Deviation from work plan & remedial action
None

Work package number :	04	Start date:	Sept. 2006	End date:	Jan. 2009
Work package title:	Contextual resources for paper history				

Objectives for the period

O4.1 Paper-incunabula integration
O4.2 Statistical capability
O4.3 Cartographic visualization
O4.4 Data-references interlinking

Milestones:
M4.5 / m23 – Second version of the cartography tool integrated with the statistics tool and databases.

Deliverables:
D4.4 / m17 – Statistical functionalities – POSTPONED (due April 30th, 2008 = m20)

Description of work carried out and achievements

T4.1: Paper-incunabula integration:
- In Briquet's *Les filigranes* over 700 references come from 400 printed books. Of these, 235 belong to incunabula which are now identified by ISTC number.
- *Authors in incunabula* [work in progress]: More than 3.500 authors are represented in about 28.000 editions printed in the XVth century. The most relevant biographical data concerning their works are collected in a specific database which will be linked to the main incunabula database and GIS.
- *Recording other watermarks albums:* Mazzoldi, *Filigrane di cartiere bresciane* (1.036 watermarks, achieved). This album of watermarks is very important for the history of paper, because the paper made in the region of the Lake of Garda was used in all Venitian incunabula and was exported in many European countries (Balkans, Austria, Germany, Poland ...). This database enables us to recognize the provenance of the paper used in chanceries and printing workshops and therefore to evaluate the structure of the market in the main cities of Europe.
- Linking ISTC-WILC: Checking each link between ISTC and WILC and removing; a list of false links has been sent to the British Library.

T4.2: Numerical & graphical statistics:
- Statistics (numerical and graphical), integration into Bernstein-workspace.
- Optimizing of watermark databases for statistical purposes.
- *Other databases included in GIS: a "plague" database* [achieved]: The capacities of GIS will be largely increased if the software comes with its own data, the majority of which consist of situations or events related to book history or paper history. Plague was an endemic calamity which heavily perturbed all activities in European countries, especially the production of paper and books. The creation of a database including a complete geo-chronological list of plague epidemics (1348-1600) has been achieved and the geographical references have been introduced in GIS.

T4.3: Historical cartography of paper:

- Historical cartography of paper: adding necessary tables in WILC to provide cartographical research.
- *GIS* – Conceiving the software architecture to support a Geographical Information System (GIS) for the integrated workspace; installation of the ArcGIS GIS server for demonstrating the online capability; managing the georeferecing effort; developing a software for visualization and quality insurance of the georeferencing task; quality control of georeferenced data; data gathering; documenting and packaging the data for public release; start of the evaluation process for the georeferencing results; start of scientific papers and presentation of the results.
  http://www.bernstein.oeaw.ac.at/twiki/bin/view/Main/PaperCartography.

T4.4: Bibiographical referencing of data:
- Enhancements of the xslt application for transforming data to xml format; addition of subject headings in English etc.; international access on geographical entities (countries, regions); list of locations for GIS application.
- Multilingual interface, multilingual search on data, facets, classification hierarchy (display), browse, diacritic.

Deviation from work plan & remedial action

None

Work package number :	05	Start date:	Sept. 2006	End date:	Feb. 2009
Work package title:	Assessment and evaluation				

Objectives for the period

O5.1 Monitoring
O5.2 Impact evaluation

Milestones:
M5.1 / m20 / m 23 – Periodical monitoring.
M5.2 / m20 / m23 – Periodical evaluation-feed-back cycles.

Deliverables:
D5.2 / m23 – Assessment & evaluation report #2 (included in D7.6)

Description of work carried out and achievements

T5.1: Monitoring
- Half year report monitoring cycle.

Deviation from work plan & remedial action

None

Work package number :	06	Start date:	Sept. 2006	End date:	Feb. 2009
Work package title:	Accessibility, dissemination and sustainability				

Objectives for the period

O6.1 Accessibility
O6.2 Dissemination
O6.3 Sustainability

Milestones:
M6.2 / m23 – Design of periodical reports and dissemination materials.

Deliverables:
No deliverables during this evaluation period.

Description of work carried out and achievements

T6.1: Accessibility:
- Testing of Component Model, Workspace, and Bernstein-Portal.
- *Web design* – Developing proposals for the integrated workspace; feed-back and management of subcontracted web design.

T6.2: Awareness, dissemination & exploitation:
- Preparation of workshops, lectures.
- Preparation of second german version of catalogue „Ochsenkopf und Meerjungfrau".
- Press release for General Meeting Stuttgart in July 2008.
- Collaboration contacts outside the project.
- Fabriano Paper and Watermarks Museum: sieve experiment.
- Creating the Zonghi online database.
- VirginiaTech University: interlinking, harmonizing and developing the Briquet printed and archive databases.
- British Library (UK) & Staatsbibliothek Berlin (Germany): adding contextual data and georeferences to ISTC; Electronic Cultural Altas Initiative: connecting the georeferences to ISTC; Electronic Cultural Atlas Initiative: connecting the Bernstein GIS with ECAI datasets).
- Dissemination-meetings and imaging: Biblioteca Marucelliana / Florence (Italy), Mella-Collection / Florence (Italy), German Historical Museum / Nürnberg (Germany), exhibition hall Turin (Italy), museums in Trento (Italy) and Bilbao (Spain).
- Florence art exhibition ‚*Fiamminghi e Olandesi a Firenze. Disegni dalle collezioni degli Uffizi'* (includes a special part about watermarks) with catalogue.
- Concept and research for exhibition and congress in Dresden (Germany) (spring 2009 – cancelled).
- Participation at the IPH-meeting in Stockholm.
- Checking existing texts for the new Bernstein Catalogue and writing new ones; translating some of the articles written in Dutch into German / English.

T6.3: Sustainability:
- New project proposals with new partners.
- First version of the dissemination kit available.

Deviation from work plan & remedial action

None

Work package number :	07	Start date:	Sept. 2006	End date:	Feb. 2009
Work package title:	Project management				

Objectives for the period

O7.1 Keep the project on track

Milestones:

Deliverables:
D7.5 / m24 – Half-year progress report
D7.6 (includes D5.2) / m24 – Second annual report

Description of work carried out and achievements

T7.1: EU coordination:
  • Preparing and sending deliverables.

T7.2: Administrative affairs:
  • Project-internal management; project-EU management, collaboration activities.
  • Project transmission to the new NIKI director.

T7.3: Financial matters:
  • Preparing the financial reports.

T7.5: Information flow:
  • Twiki, emailing list, email, phone, meetings.

T7.6: Public relation:
  • See list of events, meetings, etc.

Deviation from work plan & remedial action

None

3.3 Deliverables Status

Deliverables List			
Deliverable No[1]	**Deliverable title**	**Delivery due date[2]**	**Actual date of delivery[3]**
No. 15, D4.4	Statistical functionalities (postponed due April 30th, 2008)	17	April 2008
No. 17, D1.3	Workspace v.2	23	July 2008
No. 18, D2.3	Textual watermark description standard	24	August 2008
No. 19, D2.4	Numerical paper description standards	24	August 2008
No. 20, D7.5	Half-year progress report (postponed due Sept. 30th, 2008)	24	September 2008
No. 21, D7.6	Second annual report (postponed Due Sept. 30th, 2008)	24	September 2008

---

[1] Deliverable numbers in order of delivery dates: D1 – Dn. Deliverable numbers must indicate which workpackage they relate to, e.g. D2.1 for the first deliverable from workpackage 2).

[2] Month in which the deliverables will be available. Month 0 marking the start of the project, and all delivery dates being relative to this start date.

BERNSTEIN THE MEMORY OF PAPERS

3.4   Performance Indicators

Indicators	Expected vs Actual					
	Year 1 (exp.)	Year 1 (act.)	Year 2 (exp.)	Year 2 (act.)	Year 3 (exp.)	Year 3 (act.)
Resources integration	33%	33%	66%	50%		
Description standards	33%	50%	66%	75%		
Multi-lingual support	33%	33%	66%	75%		
Paper expertise	33%	20%	66%	50%		
Statistics	33%	20%	66%	90%		
Cartography	33%	20%	66%	50%		
Bibliography	50%	50%	100%	90%		
Dissemination kit	-	-	-			
Work progress notices	33%	33%	66%	66%		
Software and documentation	33%	33%	66%	66%		
Annual reports	33%	33%	66%	66%		
Website hits (server load increase)	w	463%	33%	148%		
Citations and user-feed-back (c)	c	10	15	12		
Participation in workshops (persons)	20 pers.	22	20	45		
Exhibition visitors (persons)	-	8,000	-	5,000		
New networked collections (n)	-	1	-	2		
Reuse of outputs (r)	r	2	-	3		

BERNSTEIN ⊞ THE MEMORY OF PAPERS

4 Awareness and Dissemination

4.1 Overview of awareness and dissemination activities

Dissemination and sustainability was taken very seriously by the Bernstein consortium. The project can only be successful if in future new databases connect to Bernstein and increase the data volume. Already, the Bernstein project has become well known in the paper and watermark research community. This is proven by the fact that new project proposals in the field of watermarks research are advised to cooperate and to guarantee compatability with the Bernstein project. To cite an international case beyond European borders, this applied to the "International Paper Registry Project" (Bates College, Lewiston, Maine) which was submitted to the US funding organisation NEH (National Endowment for the Humanities) recently.

The Bernstein project was presented at several conferences, reports concerning the project have been published in speciality journals (see list of events, meetings and publications below). The most important event in this regard was the 29th Meeting of the IPH (International Paper Historians) in Stockholm, Sweden, which is the major meeting of paper experts.

The project's travelling exhibition with the title *Bull's Head and Mermaid – Paper History and Watermarks from the Middle Ages to Modern Times* was the most effective dissemination activity of Bernstein. Such exhibitions generate much more response from the media than other activities and they allow reaching a wide range of audience. The next series of exhibitions is planned to take place in Milan (Italy, October 2008), Vienna (Austria, February 2009), The Hague (Netherlands, 2009), and Ljubljana (Slovenia), to mention just a few examples.

The exhibitions will continue far beyond the end of the project. Furthermore, a accompanying catalogue was prepared for the exhibition: in German (72 pages) and in Italian (enlarged version, 96 pages). The catalogue was extended to a stand-alone textbook in German which is in print at the present time. The next step will be the preparation of an English version of the textbook, which is planned to be published in January 2009. This textbook will be the most comprehensive and up-to-date source about the history and importance of watermarks and watermark collections.

The Bernstein website (www.bernstein.oeaw.ac.at) and a wiki-based collaboration platform, knowledge and document management system (www.bernstein.oeaw.ac.at/twiki) are updated regularly and inform the users about the progress of the work.

Several co-operations with other projects or project proposals were started:

- Co-operation with the DFG-Projekt "*Aufbau eines Informationssystems für Wasserzeichen in den Handschriftenzentren Deutschlands*" (Landesarchiv Baden-Württemberg, Stuttgart, Germany),
- Co-operation with the project "*Papier – unde venis? Klassifikation von maschinengefertigtem Papier aufgrund seiner technologischen Strukturen* ". Partners

in this project are the Hochschule der Künste Bern, Berner Fachhochschule Technik und Informatik, ILFORD Imaging, and DeLaRue International.

- A new project proposal for eContentPlus as follow-up project to Bernstein with new partners from Denmark (Statens Museum for Kunst, Copenhagen), Spain (Laboratorio de Restauración of the Universitat de València), and Italy (Istituto Centrale per il Restauro e la Conservazione del Patrimonio Archivistico e Librario in Rome).

4.2 Events and meetings

List of Events & Meetings		

Name	Location	Date
EXHIBITIONS:		
Florence art exhibition "*Fiamminghi e Olandesi a Firenze, disegni dalle collezioni*". Disegni dale collezioni degli Uffizi	Uffizi, Florence, Italy	June 26th –2 September 2nd, 2008
LECTURES / PRESENTATIONS / PUBLIC MEETINGS:		
Workshop *Wasserzeichenkunde. Die Filigranologie als Hilfsmittel in der Handschriftenkunde, at Sommer-Seminar der Österreichischen Akademie der Wissenschaften (August 27th-29th, 2008): _Buchkultur des Mittelalters und der frühen Neuzeit: Codicologie und Buchkunst westlicher Manuskripte*, Austrian Academy of Sciences by Martin Haltrich and Maria Stieglecker.	Austrian Academy of Sciences, Vienna, Austria	Aug. 27th, 2008
Workshop *Datieren mittels Wasserzeichen. Papiermarken als Hilfsmittel in der Handschriftenkunde*. Summerschool of the Institut für Byzanzforschung: *Griechische Paläographie, Kodikologie und Textgeschichte*, Austrian Academy of Sciences, August 24th-27th, 2008 by Martin Haltrich and Maria Stieglecker.	Austrian Academy of Sciences, Vienna, Austria	August 26th, 2008
Paper Expertise and Contextual Data Provided by the eContentPlus Project Bernstein" at the 29th IPH congress,	Stockholm, Sweden	May 28th, 2008
Geschöpft – beschrieben – abgerieben. Papier als Gegenstand historischer Forschung. Lecture by Martin Haltrich, Maria Stieglecker.	Haus-, Hof- und Staatsarchiv, Vienna, Austria	May 13th, 2008
Presentation "*Piccard-Online and Bernstein*" by LABW	Stuttgart, Germany	April 4th, 2008
Presentation of the Bernstein project to the Special Collections Department	Koninklijke Bibliotheek, The Hague, Netherlands	2008

BERNSTEIN THE MEMORY OF PAPERS

MEETINGS:		
Bernstein General meeting 2008	Landesarchiv Baden-Württemberg, Stuttgart, Germany	July 1st-2nd, 2008
Bibliographical database administrative and technical meeting	Deutsche Nationalbibliothek, Leipzig, Germany	May 15th, 2008
Dissemination meeting: Germanisches Nationalmuseum Nürnberg	Germanisches Nationalmuseum Nürnberg, Nürnberg, Germany	March 31st, 2008
Bernstein project meeting	Landesarchiv Baden-Württemberg, Stuttgart, Germany	March 17th, 2008
Dissemination meeting: Biblioteca Marucelliana	Biblioteca Marucelliana (BMF), Florence, Italy	e.g. March 12th, 2008; June 18th, 2008; June 25th-28th, 2008
Statistics meeting	Graz, Austria	February 5th, 2008
Bernstein exhibition and catalogue meeting	Stuttgart, Germany	January 24th, 2008
PRESS ARTICLES / SCIENTIFIC ARTICLES:		
Press release for the Stuttgart Meetung	Germany	2008
Gerard van Thienen, Astrid Enderman, Maria Dolores Diaz-Miranda Macias (O.S.B.), *El papel y las filigranas de los incunables impresos en España a travès de los diversos ejemplares conservados en las bibliothecas del mundo*, in: Syntagma, Revista del Instituto de historia del libro y de la lectura 2 (2008), p. 239-261.	Spain	2008
Carmen Partes, *Das Landesarchiv Baden-Württemberg als Kooperationspartner im EU-Projekt Bernstein - The Memory of Papers*, in: Der Archivar 61 (2008), p. 3.	Germany	2008
Marieke van Delft, *Watermarks in English Fifteenth-Century Printed Books*, in: The Library – The Transactions of the Bibliographical Society, Seventh Series 9.1 (March 2008), p. 122.	The Netherlands	March 2008

BERNSTEIN **[logo]** THE MEMORY OF PAPERS

5   Conclusions

Project work is progressing well and we are sure to be able to reach all project aims until the end of February 2009. The thesaurus in six languages as well as a classification scheme for the hierarchically organised watermark types (at the moment with two hierarchy levels) mark milestones in paper research.

The last half year of the project will be busy. End of January is the due date of 8 essential deliverables:

- D2.5 Multi-lingual support
- D1.4 Integrated workspace
- D3.1 Online measurement tools
- D3.2 Tools & databases integrated A&I
- D2.7 Repertories concordances
- D2.6 Geographical & chronological metadata
- D4.5 Historical paper cartography tool
- D6.5 Digital paper studies kit

A web designer was commissioned to elaborate a proposal for the design of the Bernstein workspace with all its pages. This work has been postponed so far because the contents of the pages have not yet been decided. The domains www.memoryofpaper.eu and www.memory-of-papers are reserved as domain names for the Bernstein workspace.