ECP 2005 CULT 038097/Bernstein

BERNSTEIN

Progress Report
Deliverable no. 31, ref. D7.7

01 September 2008 – 28 February 2009

Deliverable number	*D7.7*
Dissemination level	*Public*
Delivery date	*28 Feb. 2009 – Postponed 26 March 2009*
Status	*Final*
Author(s)	*The Bernstein Consortium*

*e*Content*plus*

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

BERNSTEIN THE MEMORY OF PAPER

1 Table of Contents

2   Summary

The report period, i.e. the last half-year of the project, was the most active one. All the products developed so far were integrated into the workspace ("Bernstein portal"), finalized, and published in eight deliverables (deliverables nos. 22-29). The most important result is the Bernstein portal with the integrated catalogue, atlas, bibliography, tools, and dissemination kit.

1. The workspace ("Bernstein portal") was redesigned and got a new appearance. The atlas was integrated into the workspace, allowing the visualization of the spatial distribution of paper use. The bibliography module was transferred to the Bernstein server, embedded into the workspace, and updated. Statistics, geographical maps and expertise were completed. The workspace was transferred to its final location at a server of the Austrian Academy of Sciences.
    The workspace is now accessable through http://www.memoryofpaper.eu.

2. The harmonization between the databases resulted in a standardized list of watermark terms ("Vocabulary for Watermark Description") as well as a Bernstein systematics with three hierarchy levels. Both are now available in six languages (English, French, German, Italian, Russian, and Spanish) on the Twiki website. The workspace uses these watermark terms for multi-lingual searches.

3. The geo-referencing of the four Bernstein databases (POL, WZMA, WILC, NIKI), four major paper and watermarks repertories (see p. 5-6), and four contextual datasets (bibliography, incunabula catalogues, alltogether 250,000 records) was completed. The Bernstein databases were upgraded with additional fields for the geo-referenced data so that the Bernstein atlas has now become a powerful and versatile geographical information system for the study of paper and watermarks history.

4. The dissemination kit ("Bernstein Paper Studies Kit") is a collection of ready-to-use tools and data that gives people the means to set up their own digital services for paper and watermark studies, such as a Bernstein compliant watermark database and application software. In addition, the integrated workspace offers a few more downloadable or online tools for measuring and processing paper images.

5. The series of exhibitions entitled *Bull's Head and Mermaid* was continued with an exhibition at the Castello Sforzesco in Milan (Italy). Further exhibitions in Italy, Germany and the Netherlands are being planned. The catalogue of the exhibitions was expanded and developed into a self-contained 128-pages-compendium about history of paper and watermarks from the Middle Ages until the Modern Period.

The following products are available online and ready for use:
*   Bernstein Portal: www.memoryofpaper.eu (integrated workspace with atlas, bibliography, statistics, tools, and dissemination kit)
*   Bernstein Systematics
*   Watermark Terms v7: Vocabulary for Watermark Description

3 Status

The major workload in the last period fell on workpackage no 1 and the developers of the integrated workspace. All the components developed separately needed to be integrated, new features to be programmed, a new webdesign to be implemented, and the whole software to be transferred onto a new server.

The user-interface was updated to six languages (English, French, German, Italian, Spanish and Russian). All texts were converted to UTF-8 encoding. All parts of the workspace are available in these six languages now.

A multilingual online help-facility based on an editable database with user management was prepared in these six languages, too. An additional taskbar at the top of the workspace is provided to identified users[1]. When the user clicks on 'Helpcenter' a new window appears, where they can add, delete, or edit topics in the selected category or create additional main topics. Many of the necessary help-texts are still missing though. These texts will be provided step by step in all six languages.

A new portal design was created by a team from FH JOANNEUM Graz (Austria) – University of Applied Sciences's study program 'Information Design'. The Bernstein partners agreed on a minimum display resolution of 1024×768 pixels. The design was implemented in the workspace. The web usability was tested by a broader range of users and was improved following the new design. Support for following web browsers was achieved with the launch of the final portal design (Internet Explorer $\geq$ Version 6.0, Mozilla Firefox $\geq$ Version 2.0, Opera $\geq$ Version 9.5, Safari $\geq$ Version 3.1).

Functionality for region search was implemented in the category *Advanced Search*: when a user selects *Place of Use* he/she can click on *Region* and then choose country, region, middle region, or small region followed by a click on *Accept*. This initiates a search for the selected region alone or in combination with other search criteria. The regions are specified according to the NUTS[2] 2003 standard therefore NUTS0–NUTS3 codes are used for searching them. NUTS was created by the European Office for Statistics (Eurostat) as a single three-level hierarchical classification of spatial units used for statistical production across the European Union. Since NUTS is a hierarchical classification, it subdivides every member state into a number of NUTS 1 regions, each of them in turn subdivided into a number of NUTS 2 regions etc.

A *Browse Motif* functionality was added besides *Simple Search* and *Advanced Search* as a third possibility for retrieving data. The user gets an overview of the main watermark motifs and subsequently of all sub-motifs (637) on two lower hierarchical levels. For the realisation of this feature, a 'Bernstein motif systematics' specified on three levels and available in six languages was agreed upon. This hierarchy and additional keywords for each entry are used for searching motifs in the selected watermark databases in the appropriate language. The navigation in the hierarchy happens by browsing icons or standardized terms (in the six languages mentioned above).

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[1] via http://www.memoryofpaper.eu:8080/BernsteinPortal/login.disp

[2] (Nomenclature of Units for Territorial Statistics)

The search interfaces were enhanced by bookmark and export actions. The user can now bookmark items in the result list for later usage and/or export the text results (current view, all results, or all bookmarks) as well as the statistics as a CSV-file in UTF-8 encoding. For performance reasons, the export is limited to 5,000 records at once.

The statistics view was improved. For some combinations (e.g. Motif & Depository), a 'bubble chart'-diagram is generated. A new function 'Fit into area' allowing the user to see the diagram as a whole (without scrolling) was provided. The user can generate a text table by use of the 'Show List' button for all statistical combinations.

Geographical data is now available in the databases, too, and it can be put to work for showing the places of use on a map. Every search generates a unique file containing the geographical data of the results. This file is in the relatively new data interchange format JSON (JavaScript Object Notation) described in RFC 4627[1] and contains the data in a simple and human readable form. The geographical file is provided to the mapping service by embedding its location in the link on which the user clicks to display the map. The mapping service of Bernstein is based on the ArcGIS 9.3 products Desktop, Server and JavaScript API.

The bibliography was integrated into the workspace with search, browse, search classification, and browse classification functionalities. The dissemination kit as well as tools for measurements, image enhancement and expertise are downloadable in the sections 'Expertise' and 'Kit'.

The dissemination kit (Bernstein paper studies kit) is a free-for-non-commercial-use, powerful software package which can be downloaded through the integrated workspace. It enables the user to build his/her own database complemented with tools for measuring, classifying, and comparing of watermarks. It uses a default database structure defining all fields required for integration into the Bernstein portal. The users can add additional fields according to their own needs as well as extend the default three-level watermark systematics of Bernstein.

Two of the most discussed and controversial topics among the partners were the harmonization and standardization of the nomenclature as well as the classification of watermarks. Therefore, we consider it a special milestone that a list of watermark terms ("Vocabulary for Watermark Descriptions") and a watermark systematics ("Bernstein Systematics") with three hierarchy levels all in six languages were accepted and implemented into the workspace. The Italian, Russian, and Spanish versions were provided by external partners.

The printed repertories continue to play an important role for the identification of watermarks. One of the goals of *Bernstein* was to make the printed repertories available online, too. This would be more powerful, flexible, and advantageous than just adding the respective entry numbers in the printed repertories to the digital watermark databases. With the integration of the printed repertories *Bernstein* would make all essential sources for watermark identification available online.

The two most important printed catalogues are still the seventeen *Findbücher* of Gerhard Piccard and Charles-Moïse Briquet's *Les Filigranes*. The second one is yet available online

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[1] see http://tools.ietf.org/rfc/rfc4627.txt

under: http://www.ksbm.oeaw.ac.at/_scripts/php/briquet.php. A link from the portal to this online catalogue is the only reference from Bernstein until the full integration of this collection is not accomplished. A watermark can be found by its reference number or by selection of the concerned motif. The texts as well as the images of the seventeen *Findbücher* of Gerhard Piccard are available in digital form, too. They will be made accessible online in the course of the year 2009. For this to happen the lists of metadata (Excel sheets) have to be proof-read first, and all the extracted watermark images have to be checked.

The recording of paper structure including chain, laid lines, and watermark imprints is a challenging task due to several reasons. Many recording techniques like rubbing, beta radiography, electron radiography, digital backlight subtraction methods, etc. are in common use each providing images of different quality. A variety of recording techniques are represented in the Bernstein databases. This makes the use of digital image processing methods for automatically extracting paper features, comparing images, and performing measurements and identifications difficult. Bernstein offers a few downloadable programs to this effect. Among them are the Paper Analysis Tool (PAT) for detecting chain and laid lines in a digital image of paper. The number and average distance of chain and laid lines are calculated by PAT. The Automatic Watermark Detection Tool (AWDT) detects watermarks in X-ray and backlight images. The Quality Enhancement Tool removes noise from X-ray and backlight images in such a way that paper features become better visible.

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)	1.50	5.60	4.00	4.20	1.00	6.00	3.00	25.30
LABW	1.00	7.00	-	-	-	2.00	-	10.00
TUG	15.50	2.50	0.25	1.25	-	1.00	-	20.50
LAMOP	-	10.00	1.00	8.00	-	0.10	-	19.10
DNB	3.00	-	-	-	-	-	-	3.00
NIKI	2.70	-	0.90	0.20	3.40	1.50	0.10	8.80
DUT								
KB	1.00	1.50	-	-	-	0.50	-	3.00
LU	2.00	-	-	4.00	-	-	-	6.00
TOTAL	26.70	26.60	6.15	17.65	4.40	11.10	3.10	95.70

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:
M1.4 / m28 – The integrated workspace is ready for transfer from its development server (TUG) to its home server (OEAW (VISKOM)).

Deliverables:
D1.4 / m29 – Integrated workspace

Description of work carried out and achievements

T1.2: Workspace architecture & implementation:
- Implementation of the new web design;
- Implementation of a help center as database (add, delete and edit topics);
- Creating new systematics ("Bernstein Systematik") for watermarks;
- Creating icons for "Browse motif" function in the Bernstein portal;
- Transfer of the workspace to the Bernstein server www.memoryofpaper.eu;
- Preparation of icons for the Bernstein classification scheme (selection of corresponding icons ("Vorschaltkarten") in Piccard-Online; editing of icons);
- Checking and modifying paper structure and watermark images (both formats *.tiff and *.png of each image);
- Gateways for POL and NIKI;
- Bridge for WILC;

T1.3: Upgrading of databases & tools:
- Integration of the bibliographic database into the Bernstein Portal;
- Continuously upgrading of all databases;
- Development of a new presentation of the WILC website using the XML-data; guidance and testing during the development phase;

Deviation from work plan & remedial action

None

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Work package description

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:
No milestones during this evaluation period.

Deliverables:
D2.5 / m29 – Multi-lingual support
D2.6 / m29 – Geographical & chronological metadata
D2.7 / m29 – Repertories concordances

Description of work carried out and achievements

T2.1: Standards for paper description
T2.1a: Textual watermark description standard:
- Creating new systematics for watermarks ("Bernstein Systematik")
    o Preparation of the classification hierarchy of the three databases (WILC, Piccard Online, WZMA);
    o Elaboration of a new Bernstein classification scheme; Definition of 12 main motif groups which are formulated in three sub-levels;
    o Preparation of a sixlingual version of the classification scheme.
- Matching terminology of the classification scheme and Watermark terms; harmonization and transfer of missing terms into Watermark terms;
- Elaboration of supplements in Italian watermark terms;
- Enhancement of watermark terms with 110 new relevant terms;
- Enlargement and preparation of a new version of Watermark terms;
- Insert proposed changes in terminology in WILC and take care of further consequences of these changes;

T2.2: Multi-lingual access:
- Translation systematics;
- Preparation of "Watermark Terms" and the classification scheme for using by Bernstein portal for the multi-lingual search and Browse motif function;
- Bernstein Portal (TUG).

T2.3: Metadata for integration:
- Georeferences: (1) georeferencing new databases: NIKI; (2) improvement of existing datasets: quantitative data for WIES; (3) general improvements: removing geo-bugs; adding id-numbers for items belonging to the same geographical entity; adding

information on items belonging to multiple locations and locations with uncertain location; establishing rules for the normalized names field;
- Optimization of watermarks databases for statistical purposes (cf. WP4 – T4-2);
- Identification of twin watermarks;
- Recording the month in a date field;
- Representation of laid lines on the card;
- Number of "sewing points" visible on the watermark;
- Presence of "sewing points" on chain lines;
- Position of the watermark on the chain lines;
- Distace between chain lines, number of chain lines, space occupied by a certain number of chain lines;
- Replicas;
- The POL's data have been partially harmonized in order to be assembled in a unique complete database of watermarks for statistical purpose (**DHP** = Database for History of Paper), including Briquet, WILC, WZMA, and other databases or repertories printed and/or available on the Web (for other databases see below, WP4 – T4-1 and T4-2, d).
- Classification of POL "bull's head" (work in progress);

T2.3a: Geographical & chronological metadata
- Supporting generation and integration of metadata.

T2.3b: Repertories concordances
- Briquet is now available online (http://www.ksbm.oeaw.ac.at/_scripts/php/briquet.php).

Deviation from work plan & remedial action

T2.2: Help texts, bibliography, and cartography are not yet available in all six languages. This task will be completed within 2009 step by step.

Work package description

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:
No milestones during this evaluation period.

Deliverables:
D3.1 / m29 – On-line measurement tools
D3.2 / m29 – Tools & databases integrated AIE

Description of work carried out and achievements

T3.1: Features enhancement:
 • Watermark imaging by backlight subtraction: Software able to extract the paper structure by subtracting a transmitted image to a reflected image.

T3.2: Features measurement:
 • Sieve feature measurements in binary images;
 • AD751: Online version of the laid lines measurement software;
 • Sieve feature measurement and segmentation in grayscale images: Software that measures laid lines density and chain lines distance in X-ray and backlight images of pieces of paper.

T3.3: Authentication & identification module:
 • Paper identification: Software that finds those watermarks in the printed Piccard collection that are not within the Piccard Online Database.
 • Software that automatically detects watermarks in X-ray and backlight images,
 • Software to discover identical pieces of paper based on laid and chain lines information;
 • zio: online prototype for watermark comparison and dating.

T3.4: Tools-databases integration:
 • Bernstein Portal;
 • Checking and modifying paper structure and watermark images (both formats *.tiff and *.png of each image);
 • Preparing list with GIS data.

Deviation from work plan & remedial action

None

Work package description

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:
No milestones during this evaluation period.

Deliverables:
D4.5 / m29 – Historical paper cartography tool

Description of work carried out and achievements

T4.1: Paper-incunabula integration:
- (also T4.2) Authors in incunabula: More than 3,500 authors are represented in about 28000 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.
- (also T4.2) Recording of other watermarks albums: A new database was created after Witteck, Inventaires des manuscrits sur papier de la Bibliothèque royale de Belgique (5 vol., 2430 watermarks). The databases previously created (Heitz, Filigranes des incunables strasbourgeois; Mazzoldi, Filigrane di cartiere bresciane (1036 watermarks, achieved) has been harmonized with typological classification of Bernstein.
- Linking ISTC-WILC (KB)

T4.2: Numerical & graphical statistics:
- Contextual research for paper quality measurements.
- Supporting generation of statistical data.
- Implementation of bubble charts;
- Export functionality.

T4.3: Historical cartography of paper:
- Historical cartography of paper: adaptation of tables in WILC to provide cartographical research;
- Inserting the geographical DALEK data in the WILC database and further adaptation of WILC for these.

Deviation from work plan & remedial action

None

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Work package description

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 / m28 – Periodical monitoring
M5.2 / m28 – Periodical evaluation-feed-back cycles

Deliverables:
D5.3 (included in D7.8) / m28 – Assessment & evaluation report #3
D5.4 (included in D7.8) / m28 – Project impact report

Description of work carried out and achievements

T5.1: Monitoring:
- Test and bug reporting of Bernstein Portal;
- Evaluation and monitoring;

T5.2: Validation:

T5.3: Evaluation:
- Preparation of evaluation reports and financial reports.

Deviation from work plan & remedial action

None

Work package description

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 / m30 – Design of periodical reports and dissemination materials.
M6.3 / m30 – Exhibition on paper studies and project's achievements.

Deliverables:
D6.1 / m1-30 – Project web site
D6.5 / m29 – Digital paper studies kit
D6.6 / m30 – Project presentation (final version)
D6.7 / m30 – Exhibition

Description of work carried out and achievements

T6.2: Awareness, dissemination & exploitation:
- Exhibition planning;
- Preparation of second German version of catalogue "Ochsenkopf und Meerjungfrau"; editorial work on manuscript and bibliography;
- Preparation of first English version of catalogue "Bull's head and mermaid"; editorial work on manuscript and bibliography;
- Conferences
- Bernstein Symposium (February 2009, Vienna)

T6.3: Sustainability:
- Maintenance of Bernstein-L (mailing list);
- Ensuring unlimited existence of the Bernstein discussion list, also after the project's running time.

Deviation from work plan & remedial action

None

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Work package description

Work package number :	07	Start date:		End date:	
Work package title:					

Objectives for the period

O7.1 Keep the project on track

Milestones:
M7.1 / m30 – General meetings at the project's start and end of each project's year.
M7.2 / m30 – Yearly and final reports of activity.

Deliverables:
D7.7 / m30 – Half-year progress report
D7.8 / m30 (includes D5.3, D5.4) / m30 – Final project report

Description of work carried out and achievements

T7.1: EU coordination:
- Preparing and sending deliverables and reports.

T7.2: Administrative affairs:
- Project-internal management; project-EU management, collaboration activities ;

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

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3.3 Deliverables Status

Deliverable Title
Deliverables List

Deliverable No[1]	Deliverable title	Delivery due date[2]	Actual date of delivery[3]
No. 22, D2.5	Multi lingual support	29	January 2009
No. 23, D1.4	Integrated workspace	29	January 2009
No. 24, D3.1	Online measurement tool	29	February 2009
No. 25, D3.2	Tools and databases integrated AIE	29	February 2009
No. 26, D2.7	Repertories concordances	29	January 2009
No. 27, D2.6	Geographical and chronological metadata	29	January 2009
No. 28, D4.5	Historical paper cartography tool	29	February 2009
No. 29, D6.5	Digital paper studies kit	29	January 2009
No. 30, D6.6	Project presentation final version	30	March 2009
No. 31, D7.7	Half-year progress report	30	March 2009
No. 32, D7.8	Final project report	30	March 2009
No. 33, D6.7	Exhibition	30	February 2009

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[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.

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%	100%	100%
Description standards	33%	50%	66%	75%	100%	100%
Multi-lingual support	33%	33%	66%	75%	100%	90%
Paper expertise	33%	20%	66%	50%	100%	100%
Statistics	33%	20%	66%	90%	100%	100%
Cartography	33%	20%	66%	50%	100%	100%
Bibliography	50%	50%	100%	90%	100%	100%
Dissemination kit	-	-	-		100%	100%
Work progress notices	33%	33%	66%	66%	100%	100%
Software and documentation	33%	33%	66%	66%	100%	100%
Annual reports	33%	33%	66%	66%	100%	100%
Website hits (server load increase)	w	463%	33%	148%	50%	60%
Citations and user-feed-back (c)	c	10	15	12	20	15
Participation in workshops (persons)	20 pers.	22	20	45	30	30
Exhibition visitors (persons)	-	8,000	-	5,000	-	7,500
New networked collections (n)	-	1	-	2	-	2
Reuse of outputs (r)	r	2	-	3	-	3

4 Awareness and Dissemination

4.1 Overview of awareness and dissemination activities

Project Bernstein furthered watermark and paper research immensely. Art historians in particular became aware of the fact that paper and watermark analyses can reveal important informations about a piece of art, its artist, and their relations.

As mentioned in former reports, dissemination and sustainability were taken very seriously by the Bernstein consortium. At the final meeting in Vienna (Feb. 17th, 2009), all Bernstein partners decided to continue to persue Bernstein's goals beyond the project's end. The achieved project's results could only survive if new databases will be integrated into Bernstein's portal and thus increase the available data volume. A few institutions are already prepared to add their watermark and paper data to Bernstein's pool in the nearest future.

The project's travelling exhibition entitled *Bull's Head and Mermaid – The History of Paper and Watermarks from the Middle Ages to the Modern Period* is still the most effective dissemination activity of Bernstein. The hitherto last exhibition took place at the Archivio Storico Civico e Biblioteca Trivulziana in the Castello Sforzesco of Milan. This exhibition series will continue with the next one at the National Library in Torino (Italy) in April. Exhibitions in The Hague (Netherlands, 2009), Bergisch Gladbach (Germany, 2009), and Ljubljana (Slovenia), to mention just a few, are the further already planned ones.

The exhibition catalogue was extended twice and is now a comprehensive volume about paper history and watermarks standing on its own merit. The catalogue grew nearly twice to a size of 128 pages now and is published as two separate volumes in German (2nd edition) and English.

The Bernstein project's website (www.bernstein.oeaw.ac.at) and the twiki-based platform for collaboration, knowledge exchange, and document management (www.bernstein.oeaw.ac.at/twiki) are regularly updated and inform the users about the work progress. Both will continue to operate beyond the project's end. The Bernstein mailing list (BERNSTEIN-L@NIC.SURFNET.NL) will be maintained and serve furthermore as effective information exchange channel about the project's and related topics.

Several co-operations with other projects or preparations of project proposals are under way:
- 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 ICT-PSP as a follow-up project to Bernstein with new partners from Denmark (Statens Museum for Kunst, Copenhagen), Spain (Laboratorio de Restauración of the Universitat de València), Italy (Istituto Centrale per il Restauro e la Conservazione del Patrimonio Archivistico e Librario in Rome), and more.

4.2 Events and meetings

List of Events & Meetings		
Name	**Location**	**Date**
EXHIBITIONS:		
Una firma nell'acqua – La memoria della carta e delle filigranes dal Medioevo all' età moderna	Archivio Storico Civico e Biblioteca Trivulziana, Milan, Italy	Oct. 28th-Dec. 31st, 2008
LECTURES / PRESENTATIONS / PUBLIC MEETINGS:		
Lecture by Georg Dietz: *Aktuelle Entwicklungen des Bernstein Portals* at the 17. Jahrestagung des Deutschen Arbeitskreises für Papiergeschichte	Gernsbach, Germany	Sept. 4th-9th, 2008
Lecture by Georg Dietz: *Zu den aktuellen Entwicklungen auf dem Gebiet der Wasserzeichenforschung (Bernstein Projekt)* at the 17. Jahrestagung des Deutschen Arbeitskreises für Papiergeschichte	Gernsbach, Germany	Sept. 5th, 2008
Lecture by Peter Rückert: *Papier und Wasserzeichen. Datenbanken für die Zeichnungsgeschichte der Renaissance* at Convegno internationale: „Le tecniche del disegno rinascimentale: dai materiali allo stile"	Florence, Italy	Sept. 22nd, 2008
Presentation by Marieke van Delft: *The Bernstein project* at 19th Annual Conference of the British Association of Paper Historians	The Hague, Netherlands	Sept. 24th-26th, 2008
Lecture by Emanuel Wenger: *Bernstein – eine Internetplattform für Papierexpertise* at Tagung „Zur Praxis der Bearbeitung von mittelalterlichen Handschriften"	Berlin, Germany	Oct. 17th, 2008
Lecture by Peter Rückert: *Dezentrale Sammlungen und zentrale Datenbanken – zum dig-talen Umgang mit Wasserzeichen* at Tagung „Zur Praxis der Bearbeitung von mittelalterlichen Handschriften"	Berlin, Germany	Oct. 15th-17th, 2008
Presentation of the exhibition: *Una firma nell' aqua. La memoria della carta e delle filigrane dal medioevo all´età moderne* by Peter Rückert	Archivio Storico Civico, Biblioteca Trivulziana, Milan, Italy	Oct. 27th-29th, 2009
Lecture by Emanuel Wenger: *Bernstein – The Memory of Paper*	ÖAW, Vienna	Feb. 18th, 2009
Lecture by Peter Rückert: *Working with Watermarks – The public view on Bernstein*	ÖAW, Vienna	Feb. 18th, 2009
Lecture by Frieder Schmidt: *The Power of Watermark Analysis*	ÖAW, Vienna	Feb. 18th, 2009
Lecture by Marieke van Delft: *Inwards and outwards – The Bernstein Connection*	ÖAW, Vienna	Feb. 18th, 2009

Presentation by Walter Schinnerl: *The Bernstein Portal*	ÖAW, Vienna	Feb. 18th, 2009
Presentation by V. Atanasiu: *7385 Swabian Bulls and 2 Viennese Mermaids: Interpreting the Bernstein Cartography of Papers and Watermarks*	ÖAW, Vienna	Feb. 18th, 2009
Lecture by Gerard van Thienen: *WIES – Watermarks and Incunabula printed in España*	ÖAW, Vienna	Feb. 18th, 2009
MEETINGS:		
Meeting with Magdalene Christ (Stiftung Zanders, Bergisch Gladbach)	ÖAW, Vienna	Oct. 13th, 2008
Terminology Meeting	ÖAW, Vienna	Nov. 13th, 2008
Bernstein Final Meeting	ÖAW, Vienna	Feb. 17th, 2009
Bernstein Symposium	ÖAW, Vienna	Feb. 18th, 2009
PRESS ARTICLES / SCIENTIFIC ARTICLES / PUBLICATIONS:		
Frieder Schmidt, *Das Gedächtnis der Papiere. Ein Zwischenbericht über das eContentplus Projekt Bernstein*, in: Leipziger Jahrbuch zur Buchgeschichte (in print).		2009
Europas Papierdatenbanken im Web, in: Österreich Journal		Feb. 2009
Europas Papierdatenbanken im Web, in: ÖAW – Online Preseinformationen		Feb. 2009
Europas Papierdatenbanken im Web, in: kultur online		Feb. 2009
Das Gedächtnis der Papiere im World Wide Web, in: APA		Feb. 2009
Peter Rückert, Sandra Hodeček, Georg Dietz, Emanuel Wenger, *Ochsenkopf und Meerjungfrau. Papiergeschichte und Wasserzeichen vom Mittelalter bis zur Neuzeit* (Projekt Bernstein, Begleitheft zur Ausstellung), Stuttgart/Wien 2009.		Feb. 2009
Peter Rückert, Sandra Hodeček, Georg Dietz, Emanuel Wenger, *Bull's Head and Mermaid. The History of Paper and Watermarks from the Middle Ages to the Modern Period* (The Bernstein Project, Booklet of the Exhibition), Stuttgart/Vienna 2009.		Feb. 2009
Erwin Frauenknecht, Peter Rückert, Maria Stieglecker, *Bernstein Systematik (Version 1.4).*		March 2009
Erwin Frauenknecht, Carmen Kämmerer, Peter Rückert, Maria Stieglecker, *Watermark-Terms. Vocabulary for Watermark Description (Version 7 [revised]).*		March 2009

5   Conclusions

The Bernstein Project reached a preliminary end. Its main result is the web portal providing unified access to the hitherto online watermark databases and to related contextual data like a bibliography and an incunabula catalogue as well as offering a wide rage of functionality with statistics, cartography and image processing tools. This portal is yet now the entry point to the largest information pool on paper history and watermarks existing on the internet.

An essential product of Bernstein is the so called dissemination kit ("Paper studies kit"). It makes it easy for every interested party to build up an own watermark database with integrated tools for processing of images and make it accessible through the Bernstein portal if desired. As a consequence, new watermark and/or paper collections will be digitized, put into online databases, and connected to the Bernstein portal. We expect the number of Bernstein databases to increase up to ten during 2009.

Bernstein is also a member of Europeana. The integration of Bernstein into Europeana is one of the major tasks for the future.

Bernstein will go on beyond its official end. A need for new functionalities became evident during the project's run-time which could not be implemented within the given time frame, but we compiled a wish list for the future. The majority of the Bernstein consortium members have a deep interest in paper history and research and are enthusiastically involved in the project's work. The consortium decided to continue the development of the Bernstein project. A follow-up project which would further this development tremendiously is in preparation.

Last but not least, we would like to thank the EC with the eContent*Plus* programme for providing the financial basis for the project and, especially, our program officer Mr Ray Hudson who made the project possible, handled all administrative stuff in an unbureaucratic way, and supported us in every possible way whenever we needed it.