

Digitalisation paths: a case study of Eastern European initiatives in e-research

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Topics

1. Introduction

- **disparity** of the digitalisation strategy implementation in Europe
- main aspects of White Paper ‘**Bologna Digital 2020**’

2. E-research

- **e-research skills** as digital skills
- analysis of **SSH research initiatives** within EHEA

3. DIGITS survey

- Context: **digitalisation in Eastern European HEIs**
- Survey **design**
- Survey **results**

4. Digital Humanities in Romania

- Main **initiatives**
- **CODHUS**: the DH centre at WUT

5. Discussion and conclusions

Introduction

Digitalisation: What? How? Why?

- Digital technologies has been changing the landscape of higher education across Europe – implementation is still in progress
- Digitalisation refers to both processes and products:
 - key element: **information** (transmission, preservation and exchange) [1]
 - key strategy: **eLearning** [2]
 - main objective: **new learning ecologies** [3]

[1] Pfeffer, T. (2003). "Virtualization of Research Universities: Raising the Right Questions to Address Key Functions of the Institution", *Research and Occasional Papers Series*, CSHE 6.03, Berkeley: University of California at Berkeley.

[2] Heidkamp, Birte; Kergel, David. (2018) "From E-Learning to eBologna in an Augmented Reality". In: Kergel, David, Heidkamp, Birte, Telléus, Kjærdsdam, Patrik, Rachwal, Tadeusz, & Nowakowski, Samuel (Eds.). *The Digital Turn in Higher Education International Perspectives on Learning and Teaching in a Changing World*, Wiesbaden: Springer, pp. 34-45.

[3] Galvis, A. H. (2018). "Supporting decision-making processes on blended learning in higher education: literature and good practices review". *International Journal of Educational Technology in Higher Education*, 15:25 <https://doi.org/10.1186/s41239-018-0106-1>



White Paper «Bologna Digital 2020» [4]

- 1) More Proactive Preparation, Admission and Transition;
- 2) Skills for the Digital Age;
- 3) New Mobility Patterns: Virtual Exchange and Blended Mobility;
- 4) Recognition of (Prior) Learning;
- 5) Quality Assurance;
- 6) Strategies for teaching and learning.

[4] Rampelt, Florian; Orr, Dominic; Knoth, Alexander. (2019). *Bologna Digital 2020. White Paper on Digitalisation in the European Higher Education Area*, Berlin: Hochschulforum Digitalisierung, available online at https://hochschulforumdigitalisierung.de/sites/default/files/dateien/2019-05_White_Paper_Bologna_Digital_2020_final.pdf [28.10.2019].

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Digitalisation in Eastern European HEIs

Numerous studies related to education [5] and business [6][7] indicate:

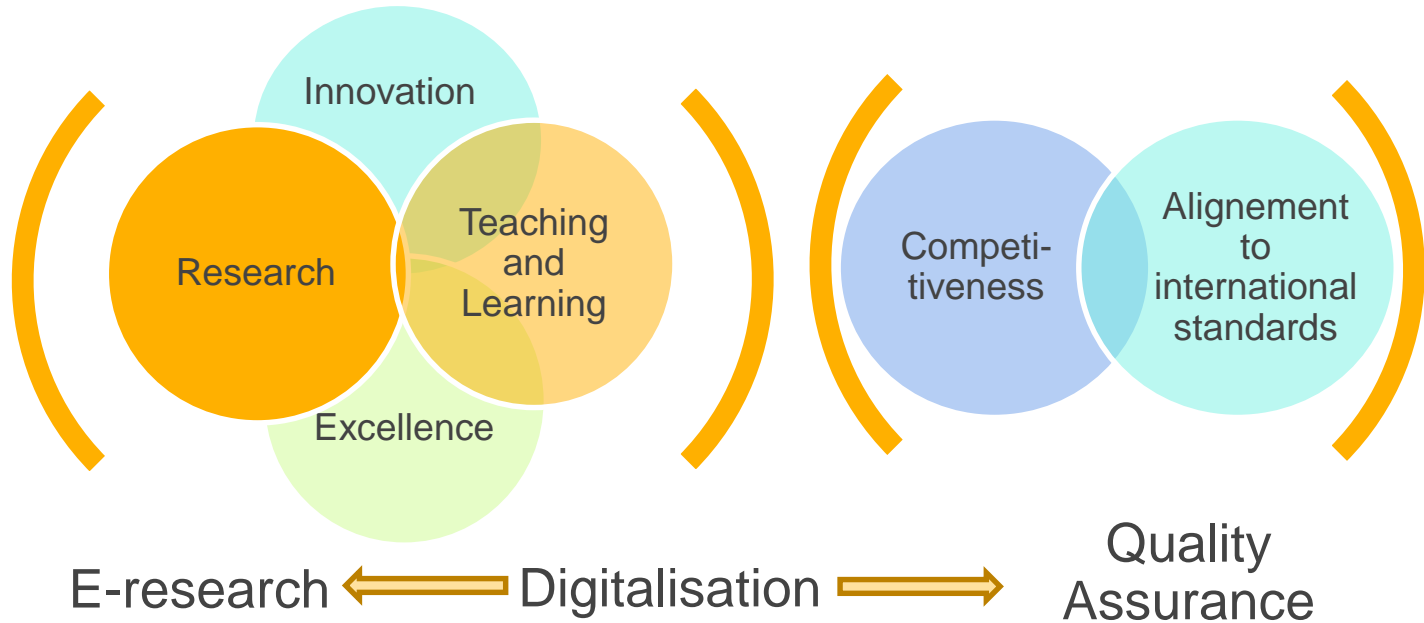
- ➔ **significant differences in the effect that the advanced technologies are having in different countries** [8]
- ➔ **no country from the region is situated among the top players in emerging digital technologies** [9]
- ➔ **group of countries that struggles the most to “break with the old system”** [10]


- [5] Conrads, J.; Rasmussen, M.; Winters, N.; Geniet, A.; Langer, L. (2017). "Digital Education Policies in Europe and Beyond: Key Design Principles for More Effective Policies". In: Redecker, C., P. Kamyplis, M. Bacigalupo, Y. Punie (Ed.), EUR 29000 EN, Publications Office of the European Union, Luxembourg, 2017, doi:10.2760/462941, JRC109311, available online at https://publications.jrc.ec.europa.eu/repository/bitstream/JRC109311/jrc109311_digedupol_2017-12_final.pdf [9.11.2019]
- [6] SEEDIG 2018 Survey. *Digitalisation and digital policies in SEE*, available online at http://seedig.net/wp-content/uploads/2018/05/SEEDIG_2018_survey.pdf [9.11.2019].
- [7] Razvadauskas, Fransua Vytautas. (2017). "Why City Insights Matter for Business Strategy: Digitalisation in Eastern European Cities", *Euromonitor International*, 06/29/2017, available online at <https://blog.euromonitor.com/city-insights-business-strategy-digitalisation-eastern-europe/> [9.11.2019].
- [8] Guri-Rosenblit, Sarah. (2009). *Digital Technologies in Higher Education: Sweeping Expectations and Actual Effects*, New York: Nova Science Publishers, Inc.
- [9] OECD (2019). *Measuring the Digital Transformation: A Roadmap for the Future*, Paris: OECD Publishing, available online at <https://doi.org/10.1787/9789264311992-en> [9.11.2019].
- [10] Hörner, Wolfgang. (2014). "Introduction". In: Kozma, Tamás, Rébay, Magdolna, Óhidy, Andrea, & Szolár, Éva (Eds.). *The Bologna Process in Central and Eastern Europe*, Wiesbaden: Springer VS, pp. 7-12.



E-research

Integration of research in the Bologna process





The **full potential of digitalisation** has not been reached on systemic level. This is partly due to digitalisation being viewed as an additional challenge, rather than a **means to meet existing challenges for higher education.** [11]

[11] Orr, D.; van der Hijden, P.; Rampelt, F.; Röwert, R.; Suter, R. (2018). *Position Paper "Bologna Digital"*, available online at <https://hochschulforumdigitalisierung.de/en/bologna-digital-0> [28.10.2019].

Possible defining parameters (1)

- *E-research automatically triggers the use of the latest technologies, tools and methods*

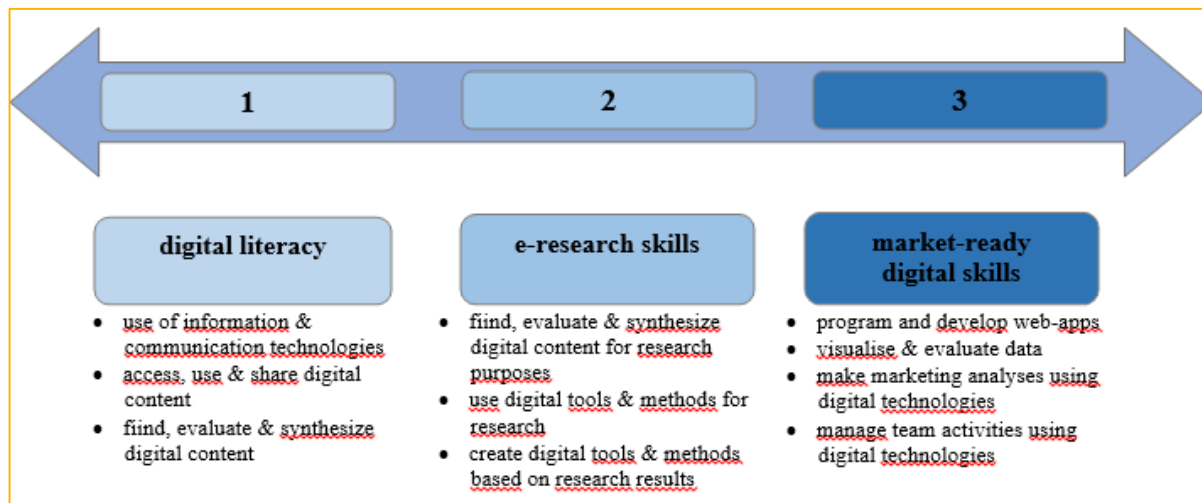
...e-research as research in which either **digital methods and tools** prevail (i.e. the use of digital methods for the collection, analysis and evaluation of data), or the end-result of the research process is a **digital product** (e.g. digital methodology, digital tool)

Possible defining parameters (2)

- E-research agents (researchers, HEI teachers) act as multipliers of digital competences

...if more and more scholars were undertaking research that incorporates digital methods, they would likely be exposed to **training in new skills**, to start re-thinking their approach towards their disciplines, and import innovative methods and technologies in their **everyday teaching activities**. Thus, **students would have instant access** to the latest developments and digital competence building strategies.

E-research skills as digital skills





**Strategies for effective digitalisation
through e-research:
two target groups**

Group 1 & Group 2:

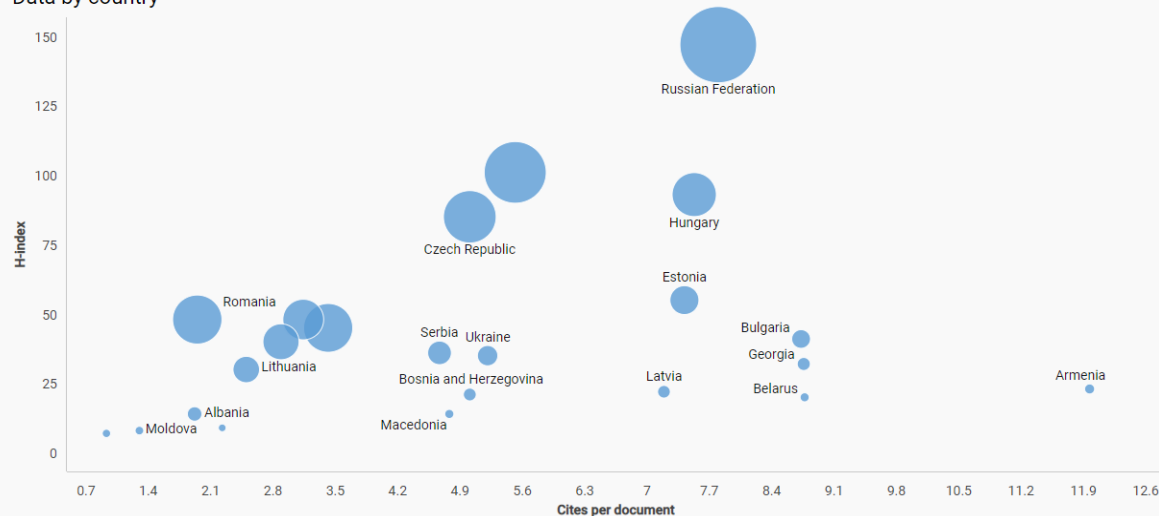
Eastern European HEIs & Humanities departments

Citation metrics

Eastern Europe

H index 224	Documents 84905	Citations 418409	Citations per document 4.93
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Data by country



Citation metrics for Arts & Humanities by country groups, adapted from SCImago(2019)

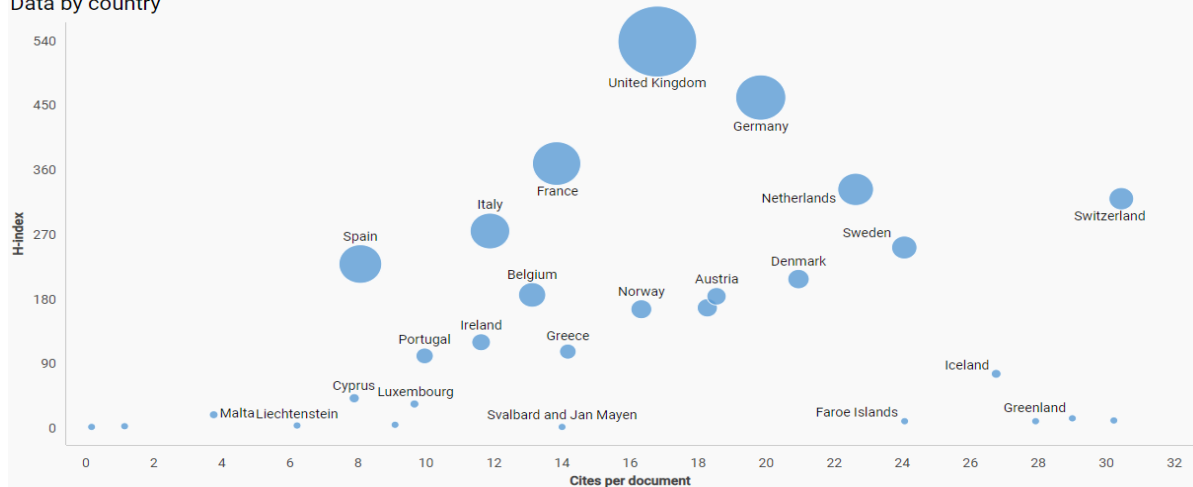
Eastern European HEIs & Humanities departments

Citation metrics

Western Europe

H index 760	Documents 519502	Citations 7196564	Citations per document 13.85
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Data by country



Citation metrics for Arts & Humanities by country groups, adapted from SCImago (2019)

Group 1 & Group 2:

Research project grants

Country affiliation of SSH partners - top 20 countries															
Country	DE	BE	IT	UK	ES	FR	NL	AT	Other	EL	PL	SE	DK	NO	PT
Partners	101	93	86	87	59	59	57	41	39	34	26	24	24	20	19
Share	11%	10%	9%	9%	6%	6%	6%	4%	4%	4%	3%	3%	3%	2%	2%
Country	HU	CH	FI	CZ	RO										
Partners	17	16	15	14	13										
Share	2%	2%	2%	1%	1%										

Research project partners
in Social Sciences and
Humanities^[12]

“In terms of countries represented, the SSH partners come predominantly from the following **seven EU Member States**: Germany (11%), Belgium (10%), United Kingdom (9%), Italy (9%), Spain (6%), as well as France and the Netherlands (both with 6%). Combined, these top seven countries account for **57% of the SSH partners**”

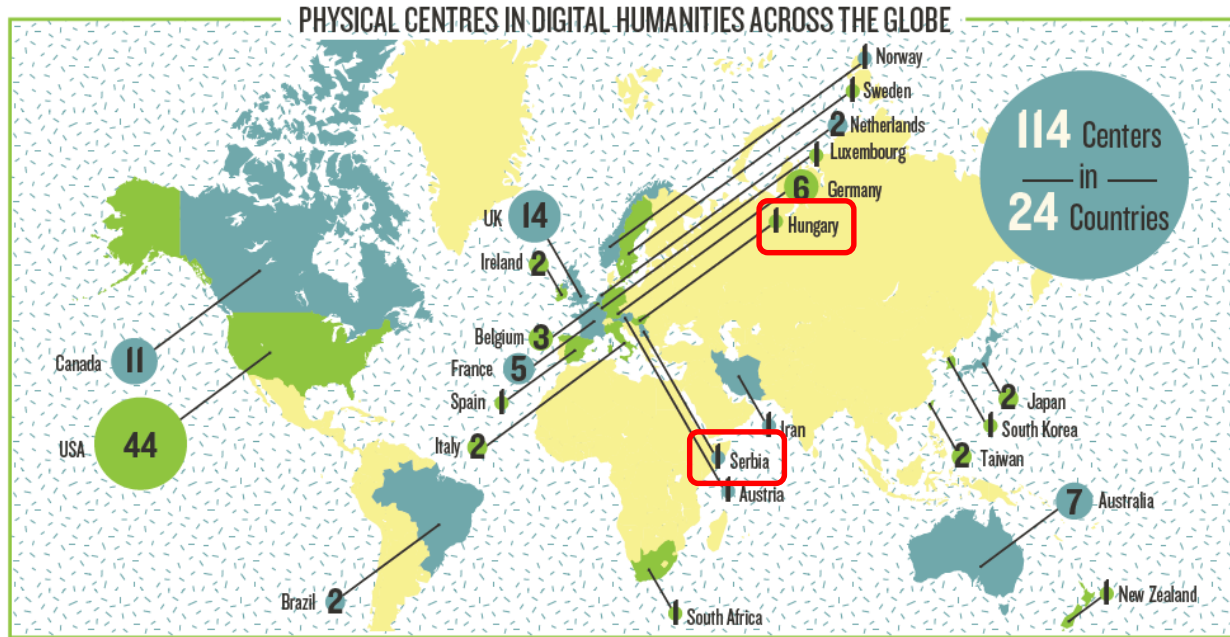


DH initiatives in EE

Context and survey

DH

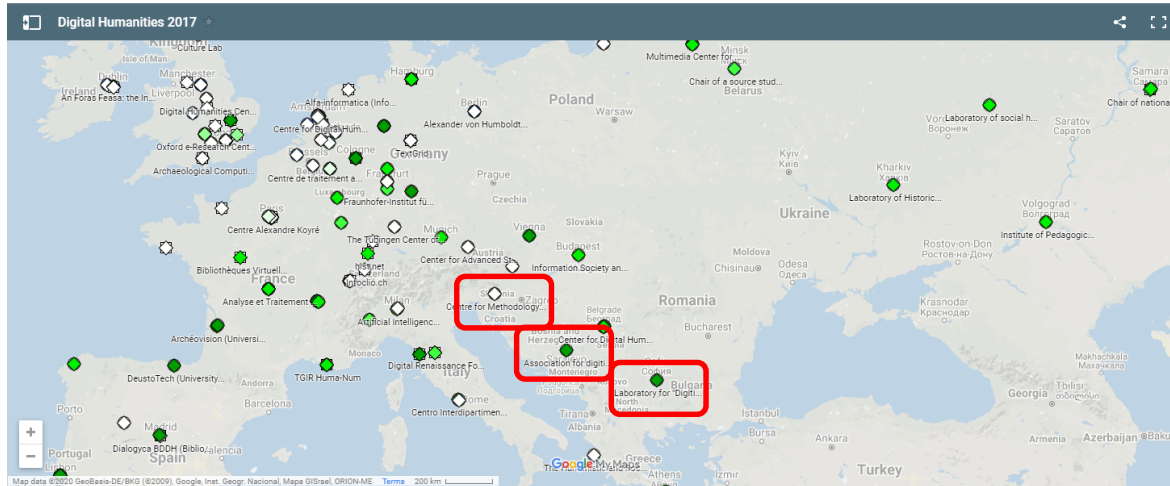
Evolution -Infographics



UCL Centre for Digital Humanities, 2011

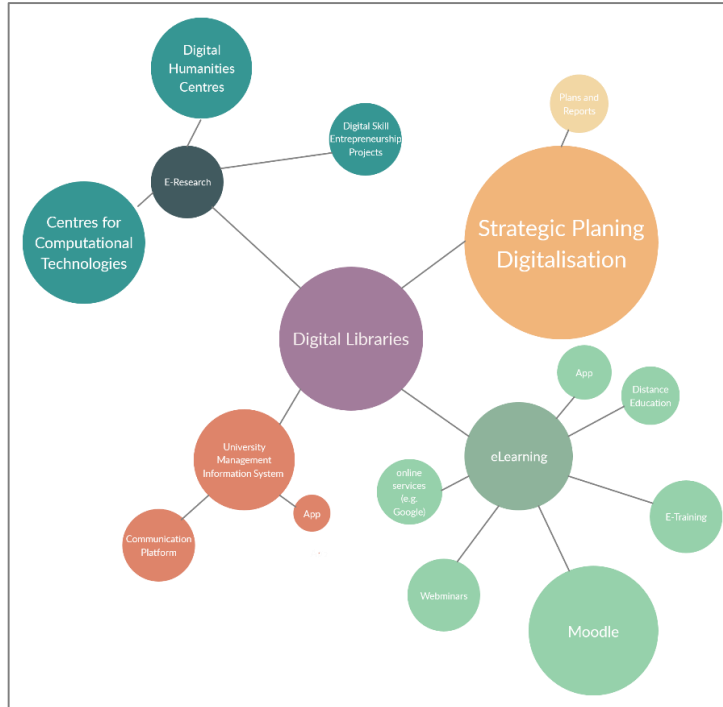
DH

Evolution -Infographics



Tomsk State
University, 2017

Context – our analysis



Information collected for following national contexts(2019):

- Bulgaria
- Hungary
- Republic of Moldova
- Republic of North Macedonia
- Romania
- Serbia
- Ukraine

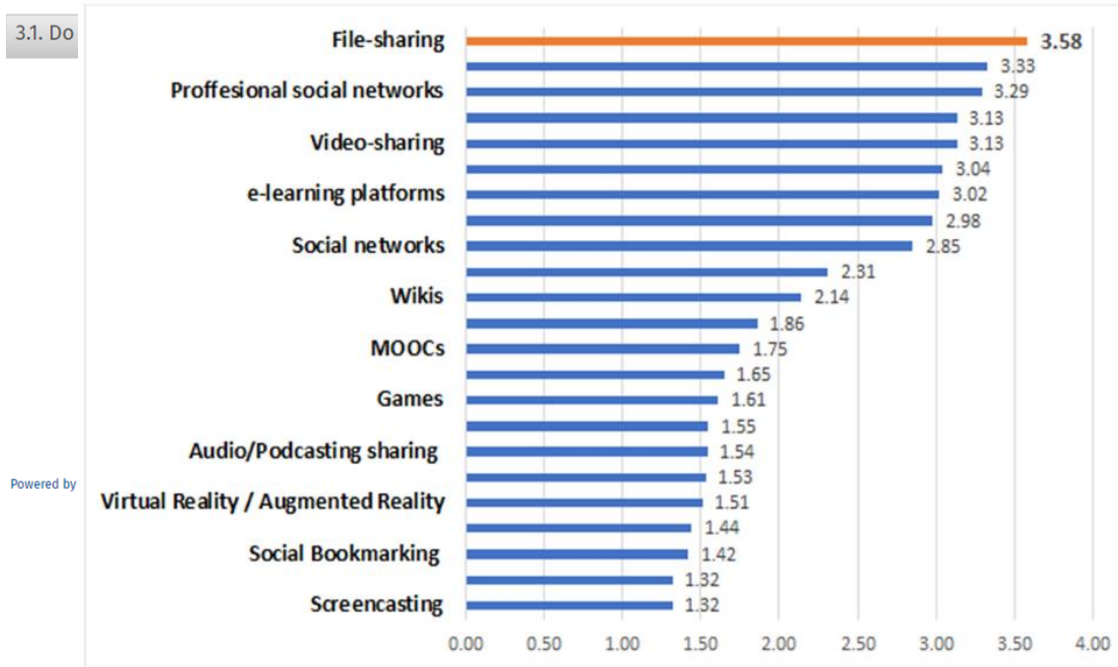
DIGITS (Digital Humanities Survey)

Design

- personal information
university, age group, position at the university, inclusion into the Humanities department, field of expertise, country, existence of a DH centre at their university
- digitalisation strategies at the respondents' HEI
use of digital platform or tools, need for a higher degree of digitalisation, training in digital skills
- digital practices in their activities
in teaching, research or evaluation of students
- perception of DH
the respondents' own definitions of the DH field, opinion on the compatibility with their area of Humanities research, opportunities to improve their expertise in the area of their specialization through DH, the topics where they feel they need more information from the domain of DH, first beneficiaries of DH initiatives at their university and the impact the existence of DH competences at their university can have institutionally

DIGITS (Digital Humanities Survey)

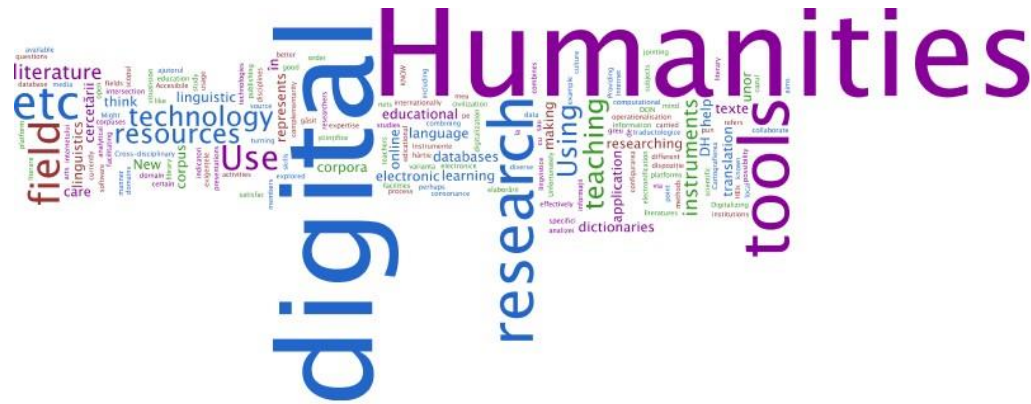
Results



[13] Grosseck, Gabriela; Malița, Laura; Bran, Ramona. (2019). "Digital University - Issues and Trends in Romanian Higher Education", BRAIN. Broad Research in Artificial Intelligence and Neuroscience, Vol. 10, Issue 10: 108-122.

A close-up, low-angle shot of a modern building's facade. The structure is composed of a series of curved, white, rib-like elements that create a dynamic, geometric pattern. The lines are sharp and angular, contrasting with the soft, bright sky in the background. The perspective is from below, looking up at the building, emphasizing its height and the curvature of its design. The overall effect is one of architectural elegance and modernity.

*I think Digital Humanities refers to the **usage of digital resources** in order to **study** certain subjects of the humanities **in a different manner**.*



DIGITS (Digital Humanities Survey)

Results: *How can DH help your institution?*

- higher enrolment rates (59,38%)
- useful to teaching staff (66,67%)
- useful to research staff (87,88%)
- better research project acquisitions rates and funding (90,62%)
- better university ranking (90,62%)
- national and international networking (93,75%)
- better dissemination impact (93,75%)



Digital Humanities

The case of Romania



Bucharest – IRH / ICUB,
INTELLIT, CoRoLa

Cluj - DigiHUBB

Iași – ELTeC, CoRoLa

Sibiu – INTELLIT, Astra Data
Mining

Timișoara - CODHUS

Centre for Corpus Related Digital Approaches to Humanities Second DH Centre in Romania First DH centre in Romania with focus on corpus methodologies

1

- support for applied humanities research

2

- practical solutions for teaching, learning, or research to groups of users as large as possible

3

- software solutions for language teaching, translation tools, digital teaching methods

4

- online resources, such as web pages, digital guides, databases, archives

5

- training in digital humanities

Web page:

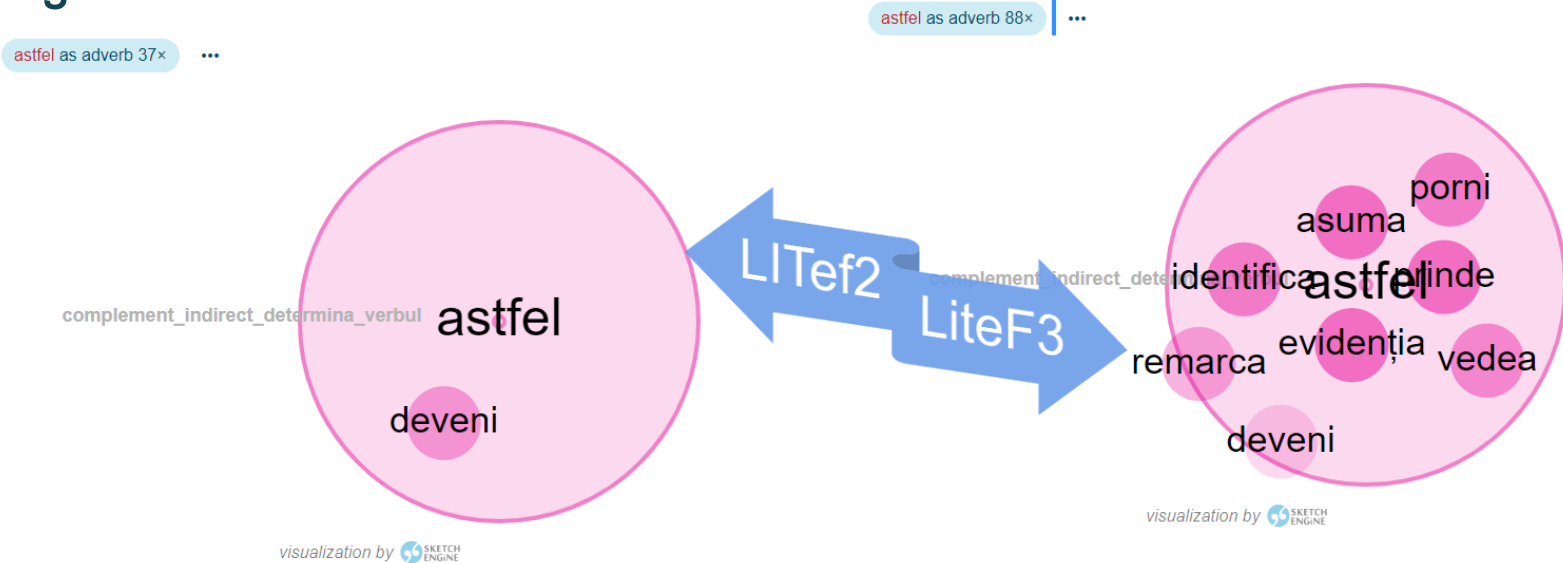


<https://codhus.projects.uvt.ro/?lang=en>

Examples of studies

Academic Writing

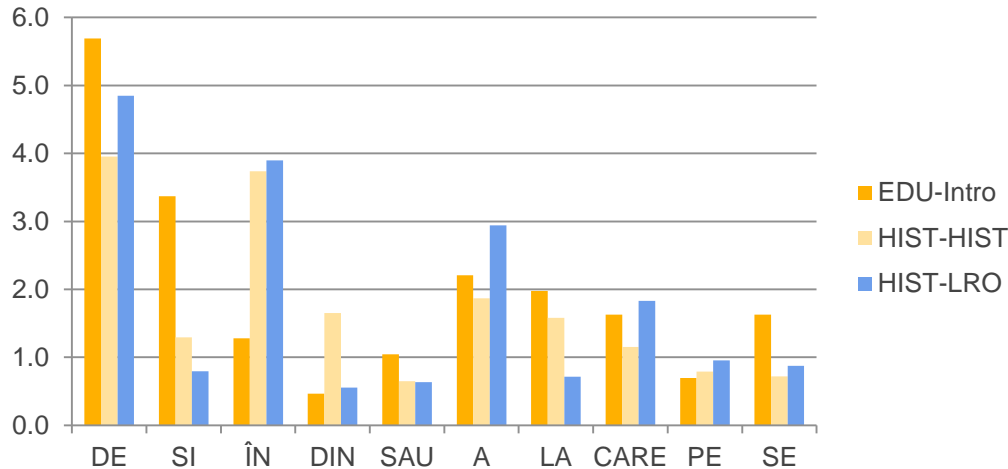
Argumentative structures



Examples of studies

Contrastive Analyses

Basic frequencies – contrastive analysis



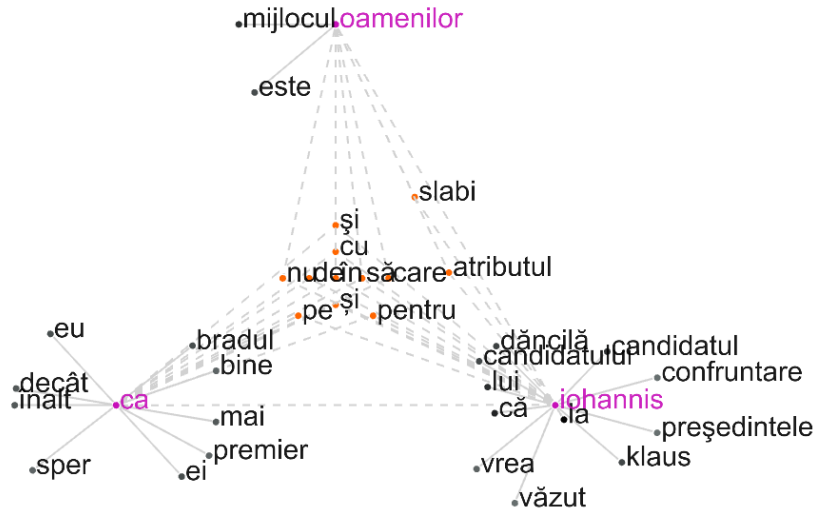
- Most are prepositions (*de* / of, *în* / in, *din* / from)
- Conjunction (*si* / and) is also top-10)
- Lowest complexity level (EDU) correlates with coordinating constructions

A close-up, low-angle shot of a modern building's facade. The structure is composed of large, white, curved panels that create a dynamic, geometric pattern. The panels are separated by dark, thin lines, and the overall shape suggests a curved, rib-like structure. The background is a bright, clear sky, and the lighting is high, creating strong contrasts and highlighting the texture of the building material.

Political studies, Media & Linguistics



VD (SELF): co-occurrence networks



**Frequent Frequent
collocation**
first woman president
(prima femeie președinte)

**Language that appeals to
emotion**
*președinte care să-i iubească
pe români*

Religion
God (Dumnezeu)



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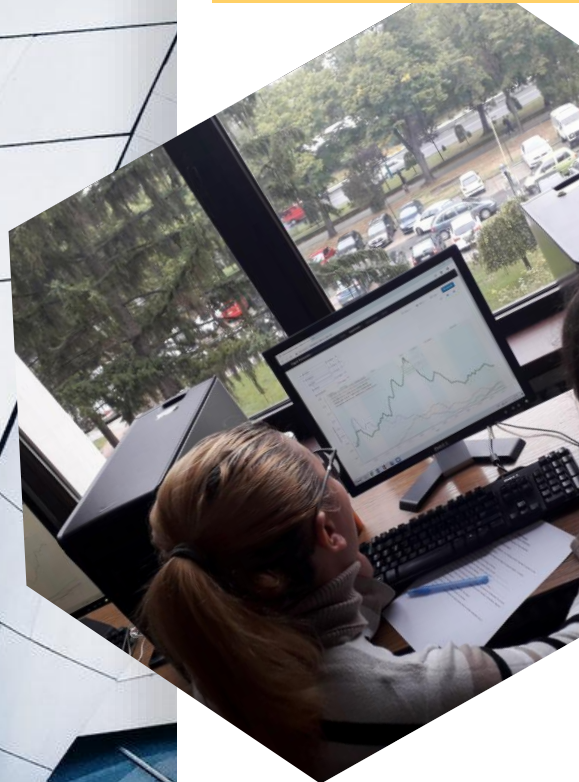
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pe români*

Religion
God (Dumnezeu)

CODHUS activities

Trainings and workshops for both university teachers and students



75
DIGITT
Digital Linguistics
Talks in Timișoara

#DIGITTworld
Digital Linguistics Workshop

moderat de echipa ROGER

26.09,
ora 11,
sala Z48

YouTube

75
de ani
Universitatea de Vest
din Timișoara

codhus

DIGITT
DIGITAL LINGUISTICS TALKS IN TIMIȘOARA

STUDIILE LINGVISTICE
ÎN ERA DIGITALĂ

CUM NE AJUTĂ INSTRUMENTELE DIGITALE
ÎN STUDIUL LINGVISTICII ȘI ÎN ANALIZA DISCURSULUI?

10. 17 decembrie, ora 14.40, sala 202
11. 18 decembrie, ora 13.00, sala 201

75
de ani
Universitatea de Vest
din Timișoara

LIT
FACULTATEA
DE LITERE, ISTORIE
ȘI TEOLOGIE



Challenges for CODHUS

- lack of expertise in the field
- reluctance towards working with new methods
- attracting new members
- lack of funding

Strategies to overcome challenges

- ✓ full institutional support
- ✓ use running project for synergies (training, events)
- ✓ department and university expertise-building workshops
- ✓ invitation to university teaching and research members for involvement in the centre studies (multi- and trans-disciplinary research case studies)
- ✓ open positions for internships



Discusson and conclusions

Impact of DH centre creation in Eastern Europe

- A DH centre can become a space of contact for both “digital natives” and “apprentice-research assistants” [14], creating a **network of decentralized learning and teaching processes** [along with research strategies] which are detached from spatial and temporal constraints [15]
- Building **expertise in digital method use in teaching and research** in the Humanities contributes massively to the **enrichment of the digital skill portfolio** of both students and teacher-researchers.
- Even though e-research is not directly related to the policies proposed by the Bologna process, it encompasses the **use of computing infrastructures** which enable the **transfer from raw information to scientific outputs**.
- Digitally enhanced environments contribute to organizing, processing and analysing data and knowledge, facilitating **higher visibility, transparency, accessibility** for students from all backgrounds, **equality** for all learners.

[14] Murphy, Emily Christina; Smith, Shannon R. (2017). “Undergraduate Students and Digital Humanities Belonging: Metaphors and Methods for Including Undergraduate Research in DH Communities”, in *Digital Humanities Quarterly*, Volume 11, Number 3, available online at <http://www.digitalhumanities.org/dhq/vol/11/3/000305/000305.html> [14.01.2020].

[15] Heidkamp, Birte; Kergel, David. (2018). “From E-Learning to eBologna in an Augmented Reality”. In: Kergel, David; Heidkamp, Birte; Telléus, Patrik Kjærdsdam; Rachwal, Tadeusz; Nowakowski, Samuel (Eds.). *The Digital Turn in Higher Education International Perspectives on Learning and Teaching in a Changing World*, Wiesbaden: Springer, pp. 34-45.

Conclusions

- Building the **e-research capacity of the Humanities departments**, especially at Eastern European HEIs, whose research impact parameters (e.g. funded project, publications) are lower than those of Western European HEIs can have a **bootstrapping effect on the Bologna-Digital strategy, at the regional level.**
- **Founding of a DH centre**, as a practical and **effective digitalisation-promoting strategy**, contributes to the rapid **improvement of digital skills and e-research expertise of all research agents** and their close academic environment (i.e. researchers, university teachers, students), thus turning into a successful **intervention to mitigate disparity between Eastern and Western HEIs.**

THANK YOU!

We are happy for any feedback!

You can find us at:

<https://codhus.projects.uvt.ro/>



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