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DARIAH-EU Annual Report 2022

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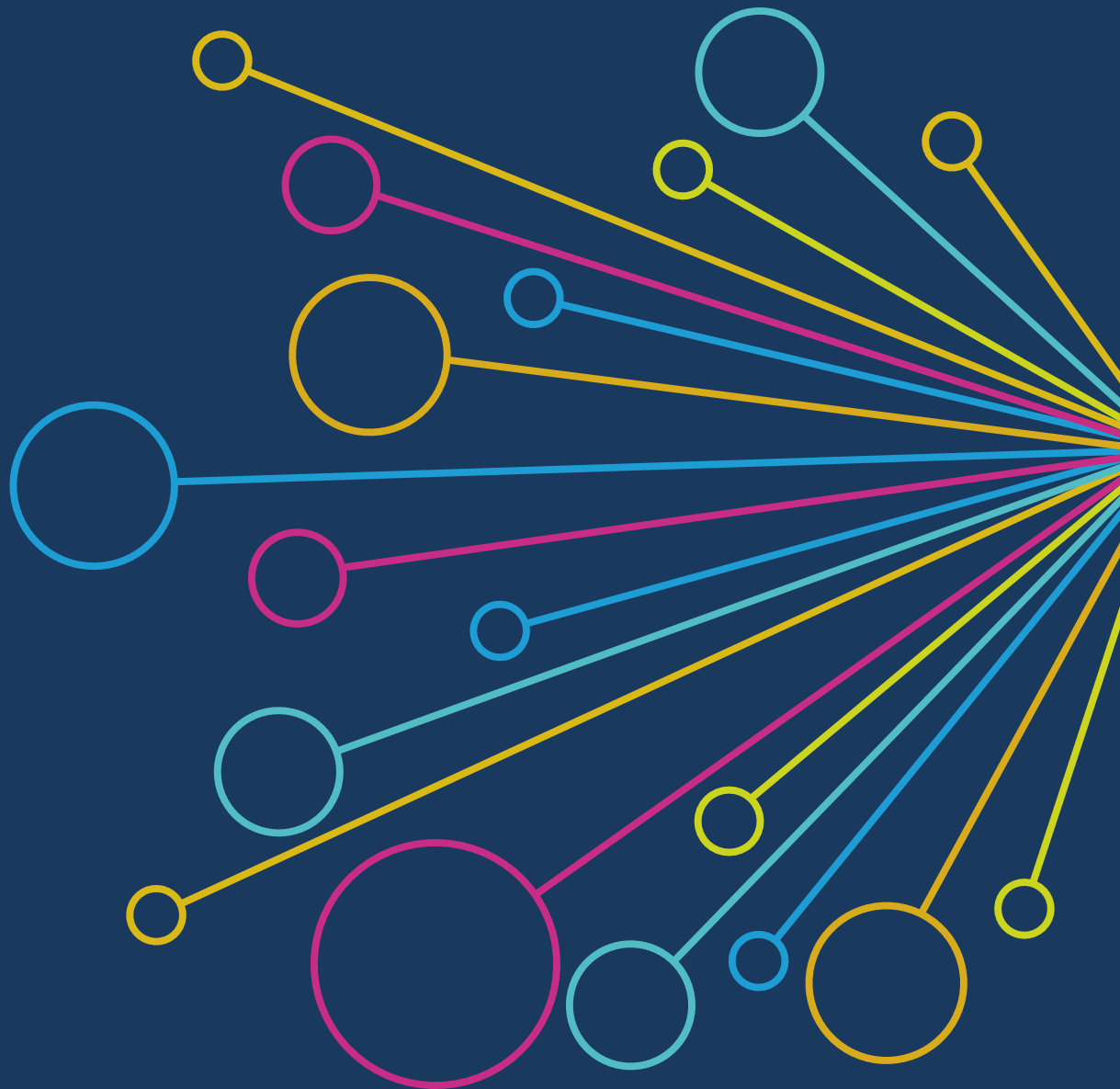
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DARIAH ERIC:

A research infrastructure
to enhance and support
digitally-enabled research
and teaching across the
Arts and Humanities.



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Foreword

When we met in Athens in June 2022 for the first face-to-face DARIAH Annual Event since the COVID-19 pandemic paralyzed the world, there was a palpable sense of excitement in the air. For most of us, this was the first work trip we took in a while. While we basked in the Greek sun, we were reminded of how lucky we are to be part of a research infrastructure with such a vibrant, passionate and creative community. Everything we do, we do for this community – our working groups, our national members and researchers all over Europe and beyond. We are inspired and challenged by our users, we listen to their needs and we plan all our activities so that we can best support them.

But we also like to expand our horizons, learn and grow beyond the ‘usual suspects’. That’s why another highlight of the year covered by this Annual Report was the DARIAH Innovation Forum in Dublin, which brought together major multinational industry players, creative and cultural SMEs, forward-thinking academic projects and recognized artistic and cultural facilitators to help us explore the question of how Arts and Humanities contribute to innovation, and how we – Arts and Humanities researchers – can better harness the potential of our own analytic and creative skills in our engagement with non-academic stakeholders.

All in all, 2022 was a good year for DARIAH: a year of consolidation, transition and growth. Sally Chambers joined the Board of Directors, bringing her international expertise at the intersection of digital cultural heritage and digital humanities. We created, for the first time, the position of Chief Technology Officer and hired Matej Ďurčo in this role to steer our increasingly ambitious plans around consolidating the DARIAH service offerings and streamlining the national reporting process for our members.

The year in review also reminded us of how endings are also new beginnings. The SSHOC project delivered an impressive collection of 33 key exploitable results (KERs), while DARIAH, together with CESSDA and CLARIN, committed to maintaining the SSH Open Marketplace as a flagship service within the European Open Science Cloud (EOSC). DARIAH leads the Editorial Team, liaising with the service providers and the end-users, guaranteeing the technical operation of the platform, the effectiveness of the curation process and the successful implementation of the editorial policy.

Building on our experience within SSHOC, DARIAH took a leadership role in the EOSC Future project regarding the engagement of scientific communities with EOSC via the onboarding and integration of their Services

and Data Source Portfolios. DARIAH was also elected to lead the SSHOC Cluster at this crucial, transitional period, after the end of the SSHOC project. We have all the reason to be proud of our achievements and the recognition we’ve received.

At the end of the year, we said goodbye to Jennifer Edmond, who served on the Board of Directors for 6 years, helping us make DARIAH stronger, more efficient and recognised as a leader on the European Open Science policy landscape. While we were sad to see Jennifer go, we were very lucky that the General Assembly appointed a worthy successor, Agiatis Benardou, to join the Board of Directors.

While new arrivals and departures change the make-up of certain DARIAH bodies, one thing remains constant: our resolve to provide state-of-the-art services for our researchers. We do this because we believe in the importance of the Arts and Humanities in the rapidly changing world around us, and because we actually believe in Europe – no matter how hard that sometimes is. We believe in the idea of Europe, and the idea that technology can empower us to create, connect and share knowledge about culture and society. And we are as ready as ever to take on new challenges and opportunities.



Toma Tasovac

Toma Tasovac

President of the Board of Directors



Chris De Loof

Chris De Loof

Chair of the General Assembly

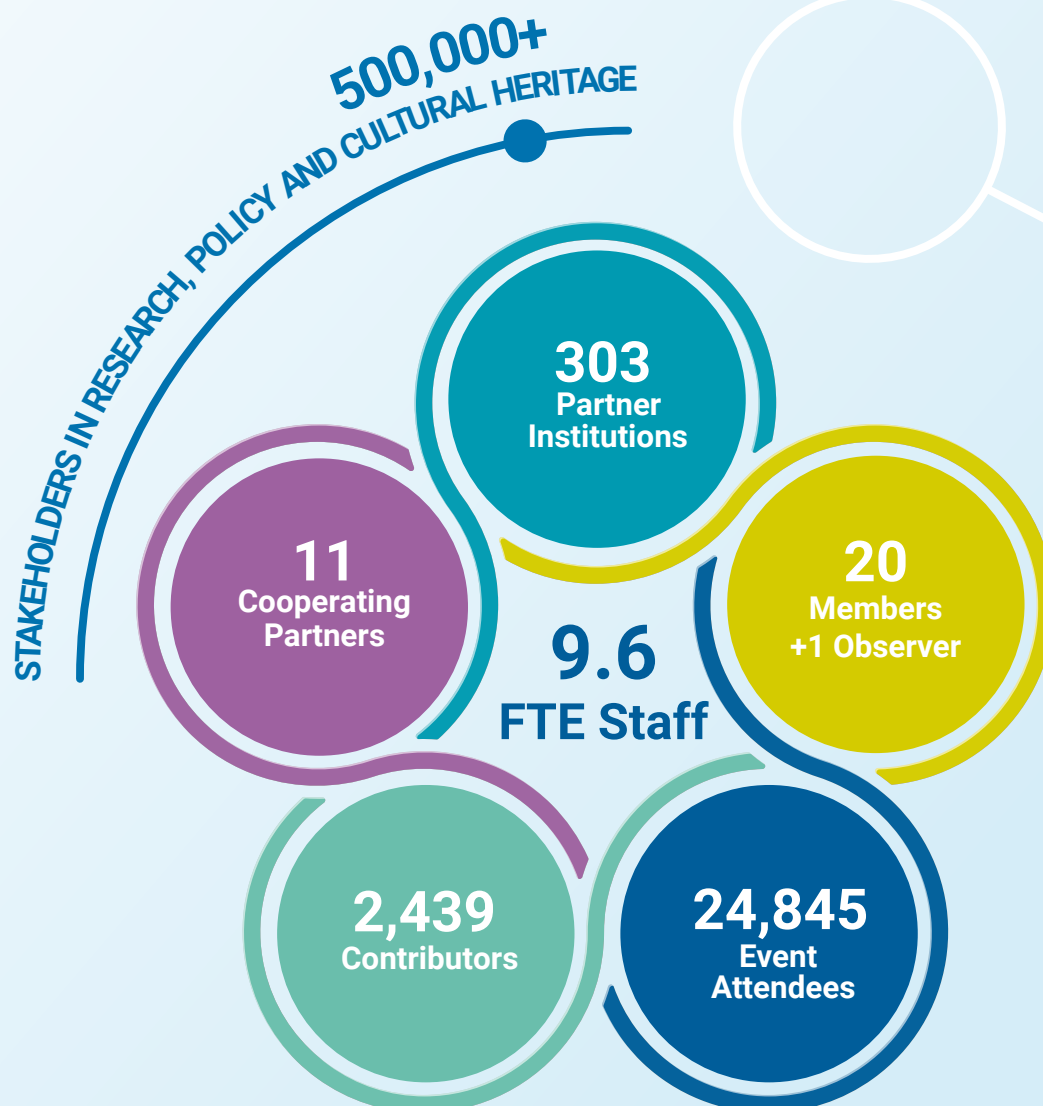
DARIAH in a Nutshell

The Digital Research Infrastructure for the Arts and Humanities (DARIAH) was established in 2006 to enhance and support digitally-enabled research and teaching across the arts and humanities. In 2014 the European Commission awarded DARIAH the status of a European Research Infrastructure Consortium (ERIC). Two years later, DARIAH was awarded Landmark Status in the 2016 ESFRI Roadmap as a Research Infrastructure that reached its implementation phase and was considered a pan-European hub of scientific excellence.

Today, DARIAH develops, maintains and operates an infrastructure with 20 Member countries, 1 Observer and several Cooperating Partners across 6 non-member countries in Europe and the US. By working with communities of practice, DARIAH brings together individual state-of-the-art digital arts and humanities activities and scales their results to a European level, enabling the transition to Open Science, and beyond to Open Innovation. It preserves, provides access to,

and disseminates research that stems from these collaborations and ensures that best practices, methodological and technical standards are followed.

We work across a wide range of arts and humanities research areas and with a diverse range of stakeholders, including academia, GLAM, libraries, technology and education.



Activity Highlights

A new Working Group for DARIAH: D4COLLECT

Combining Language Learning with Crowdsourcing Techniques (D4COLLECT) is both the name and the purpose of this new DARIAH Working Group, chaired by Verena Lyding and Lionel Nicolas (Institute for Applied Linguistics at Eurac Research). This Working Group was formed to explore research and innovation trends in the use of crowdsourcing techniques in the domain of language learning, while at the same time opening paths to crowdsource NLP datasets from language learning activities.



February



March

Sally Chambers joins the Board of Directors

Having occupied different key positions within DARIAH in the past giving her a deep, internal knowledge of the infrastructure, Sally Chambers joined the DARIAH ERIC Board of Directors on the 1st of March. Chambers, Digital Humanities Research Coordinator at Ghent University and Project Coordinator at Royal Library of Belgium, has a strong international profile at the intersection of digital cultural heritage and digital humanities, with over 15 years of professional experience in the UK, the Netherlands, Germany and Belgium.

Success story following the end of the SSHOC project

In April 2022 the Social Sciences and Humanities Open Cloud (SSHOC) project successfully ended. Its principal achievement was the delivery of the Social Sciences and Humanities Open Marketplace, one of the 33 Key Exploitable Project Results and an access point to EOSC for SSH tools, services and workflows. Following the end of the project, the establishment of the SSH Open Cluster represents a unique sustainability success story ensuring ongoing collaboration between different SSH community stakeholders beyond the end of the project.



April



May

Launch of DARIAH's first Gender Equality Plan

An important milestone of the year was the publication of the first version of the DARIAH Gender Equality Plan. As part of its Strategic Action Plan, DARIAH is aiming not only to advance gender equality, but also to define a wider set of principles including aspects of dignity, respect, inclusion and access within the infrastructure. The plan is published on the DARIAH website.

Launch of the DARIAH Theme Call 2022

Over the summer, DARIAH launched its 6th Theme Funding Call on the topic of Workflows. With an overall budget of €47.506, the 5 winning projects will explore the challenges of designing, implementing, documenting and sharing digitally-enabled workflows in the context of arts and humanities research from a technical, methodological, infrastructural and conceptual point of view. The results are expected to be presented at the DARIAH Annual Event 2024.

Second DARIAH Innovation Forum

Five years after the 1st DARIAH Innovation Forum that took place in 2017 in Aarhus, Denmark, DARIAH organised its 2nd Innovation Forum in Dublin, Ireland. This event, promoting arts and humanities to industry players, featured a set of panel presentations with high-level speakers from different domains, e.g. the major multinational industry company Ernst & Young, the creative and cultural SME Noho, the forward-thinking academic project Cassandra, and different recognized arts and culture incubators and facilitators such as IMEC and i2CAT. Major event highlight was the keynote speech by Michela Magas, designer, entrepreneur and innovation specialist. The event also featured an open case competition, the Innovation Challenge.

June

First hybrid Annual Event in Athens

The 1st hybrid DARIAH Annual Event took place in Athens, Greece after 2 years of pandemic and full online events. More than 350 registered participants from 41 countries, both in person and online, presented their research, explored new ideas and discussed future challenges on this year's topic: Storytelling.

August

DARIAH becomes founding member of CoARA

The Coalition for Advancing Research Assessment (CoARA) brings together more than 350 research infrastructure and policy organisations from over 40 countries who join forces to recognise and reward a much wider diversity of research practices and outputs. Over 2022, DARIAH contributed to the preparatory phase of CoARA by signing the Agreement on Reforming Research Assessment aiming at optimising the mechanisms for evaluating arts and humanities scholars across Europe and beyond.

November

December

Three new Cooperating Partners

Since the redesign of DARIAH's Cooperating Partnership strategy in 2020, DARIAH set the aim to significantly expand its network of DARIAH Cooperating Partners and strengthen more efficiently these partnerships by defining specific goals and tasks. In 2022, DARIAH proudly welcomed three new major institutional European and American Cooperating Partners: The Centre for Digital Humanities and Arts of the University of Iceland, the Institute of Literature, Folklore and Art of the University of Latvia and the Center for Research Data and Digital Scholarship of the University of Boulder Colorado, USA.

1. Nurturing and Expanding DARIAH's Network

a. DARIAH at the national level

The richness and dynamism of the DARIAH consortium lies first and foremost in the diversity and plurality of its member countries. It is they who every day through their actions, projects and influence make DARIAH a key infrastructure in the field of the arts and humanities. National Members meet and work through the National Coordinators Committee (NCC) that gathers regularly either virtually or face to face to reflect on and coordinate the actions of its members.

In 2022, the NCC worked extensively on integrating DARIAH National Resources into the SSH Open Marketplace. These efforts culminated in the publication of a guidelines document for adding DARIAH National Resources to the SSH Open Marketplace. In their monthly meetings, the NCC exchanged on regular business updates or had thematic exchanges focused

on a single subject, such as the SSH Open Marketplace, the STRAPL 3, or the new Unified National Report. The National Coordinators had also the opportunity to meet in person again, for the first time since the beginning of the COVID-19 pandemic, at the Annual Event in Athens and then at the Innovation Forum in Dublin. At this later meeting, there was a fruitful exchange between National Coordinators and National Representatives, joining perspectives from the scientific community and the ministries.

Though at different stages in the construction of their national consortia, Slovenia and Italy made particularly impressive progress in 2022. Their stories are featured below. We are also proud to feature the accomplishments of all of our members, which you can find on the map in the next two pages.

Focus on Slovenia

Dr. Jakob Lenardič is a researcher at the Institute for Contemporary History, the coordinating institution for DARIAH-SI. He is interested in formal linguistics, and particularly in how to combine digital methods with linguistic research. Before becoming National Coordinator for Slovenia, he also served as deputy National Coordinator for Darja Fišer, who has gone on to accept the Directorship of CLARIN ERIC.

Could you introduce us to the role and the work of your consortium?

DARIAH-SI is led by the Institute of Contemporary History and includes the Slovenian Academy of Arts. The Institute for Contemporary History is the major digital humanities institution in Slovenia. Its work goes beyond just digital history, with a strong infrastructural component (data hosting, servers, processing) that enjoys a healthy uptake by the Slovenian SSH community at large.

DARIAH-SI's main activities are to help federate and connect the DH community in Slovenia, breaking the disciplinary silos. Our participation in DARIAH confirms that we are part of an international movement, and gives a reason to get together, exchange, collaborate, and contribute data, in a way that doesn't infringe upon national funding competition. Our activities focus on organising scientific events, as well as training events that promote more advanced methodologies and tools. The core of our research infrastructural component is to ensure that services are developed and archived properly, safely, and for the long term. In sum, we are there to promote digital methods in the community, help accompany our communities in their digital research, and especially promote this amongst young scholars.

What would you consider the 2022 highlights of DARIAH-SI?

In 2022, we began the Digital Humanities Research Programme, the first funded research programme exclusively dedicated to DH in Slovenia. The main goal of this programme in its initial stage was to lift up Slovenian digitisation efforts with an augmented digitisation workflow, as well as achieve improvements in language processing, information extraction, and data analysis. Currently, there are ten researchers working on this programme, spread across the ICH and the Faculty of Arts, including colleagues with interdisciplinary skill sets, from computer sciences to humanities.

In addition to the start of this research programme, DARIAH-SI also hosted the 2022 Slovenian Language Technologies and Digital Humanities Conference in September at Ljubljana. With over 80 attendees, it was one of the most well-attended editions of the conference in its twenty-year history, reaching beyond the usual community of language technologists and NLP researchers to a more DH-focused community. We are particularly proud of the student session, which was fully run and organised by students and awarded a prize for the best paper.

DARIAH-SI also published training materials of parliamentary data, making use of the ParlaMint corpora, dedicated to training those who do not have programming experience but still want to do text mining. It is now available online and translated into English, with a focus on English-language data so that it is fully accessible to all interested scholars.



Dr. Jakob Lenardič

Focus on Italy

Dr. Emiliano Degl'Innocenti is a researcher at the Consiglio Nazionale delle Ricerche (CNR), based at the Istituto Opera del Vocabolario Italiano (OVI) in Florence, and the National Coordinator for DARIAH-IT. Trained as a philosopher, his research interests include the history of medieval thought with a focus on scientific mnemotechniques, putting him at the nexus of the history of literature, rhetoric, and science – and thus in a good position to appreciate research infrastructures. He first joined DARIAH as the communications officer for DARIAH-IT, then became National Coordinator of Italy and, over the last five years, has helped to develop a national strategy meant to transform and guide the Italian node of DARIAH from a strong network of researchers into a fully-fledged research infrastructure, providing services and tools for the Italian research community.

Emiliano is accompanied by Leonardo Canova, Francesco Coradeschi, Carmen Di Meo, Alessia Spadi, Federica Spinelli, and Maurizio Sanesi working at the DARIAH-IT Coordination office.

Could you introduce us to the role and the work of your consortium?

DARIAH-IT consists of twenty-five partners including several CNR research centres active both on technological and humanistic research topics, universities such as Bari, Piemonte Orientale, Pisa, Roma (Sapienza), Siena, Bologna and Florence, as well as private and public research centres, such as the Museo Galileo in Florence. DARIAH-IT is currently in the process of developing six data centres across Italy (in Naples, Catania, Lecce, Rome, Florence and Pisa). These data centres will form the centre of an ambitious research infrastructure that will build a real ICT component in the Italian SSH research landscape.

Emiliano Degl'Innocenti, DARIAH-IT National Coordinator is also the Principal Investigator for the Humanities and Heritage Italian Open Science Cloud (H2IOSC) project,

whose aim is to establish a federated infrastructure with the national nodes of CLARIN, E-RIHS, and OPERAS, thus ensuring more comprehensive coverage for the Italian research community.

What would you consider the 2022 highlights of DARIAH-IT?

The biggest highlight of 2022 is the continuing work on the development of the six data centres across Italy, including the inauguration of the first, and largest, in Lecce – which serves from an architectural and technological point of view as the model for the other five. These data centres are being built both in the southern (Lecce, Catania, Napoli) and in the central regions of the country (Florence, Pisa, and Rome), and will be fully operational by the end of 2023.

Could you tell us more about the DARIAH-IT Data Centers?

The DARIAH-IT Data Centres are developed as part of this big scale, long-term project, funded by the Italian Ministry of University and Research. This is the beginning of a complex infrastructure component for DARIAH-IT, creating an optimal situation for the entire Italian SSH community to have a digital ecosystem with datasets, tools, services, rather than the current, more fragmented situation.

These data centres will provide both basic services, such as data storage, hosting, virtual machines, and virtual desktop environments with support for specific tools and software that our researchers need and more advanced scientific oriented services – developed by the researchers of the DARIAH network or acquired otherwise. While certain data centres will focus on specific activities, such as work with NLP, 3D simulation or big data analysis, researchers will be able to access these services through a single entry point, thus unifying and federating the community. Having multiple data centres will also ensure redundancy to account for any potential service failures.

The DARIAH-IT Coordination Office



Map of the upcoming DARIAH-IT Data Centres



2022 Highlights from our Member Countries

Italy

- In 2022, the DARIAH-IT project («DARIAH-IT – Developing nAtional and Regional Infrastructural nodes of dAriaH in ITaly», PIR01_00022) established the building blocks (Hardware and Software) for the new national ICT infrastructure, adding 6 Data Centres across Italy.
- On November 1, 2022, the project H2IOSC (Humanities and Heritage Italian Open Science Cloud) kicked off, financed with the National Recovery and Resilience Plan and led by the Italian National Research Council (CNR). The DARIAH-IT infrastructure is being empowered and federated together with the other Italian research infrastructures of E-RIHS, CLARIN, and OPERAS under this project.

Netherlands

Two more event highlights coming from our partners in the Netherlands in in November 2022:

- the ODISSEI Conference for Social Science in the Netherlands and the CLARIAH Annual Symposium which was co-organized with the Dutch Digital Heritage Network (NDE) bridging heritage and academic institutions to showcase work on digital humanities and AI.

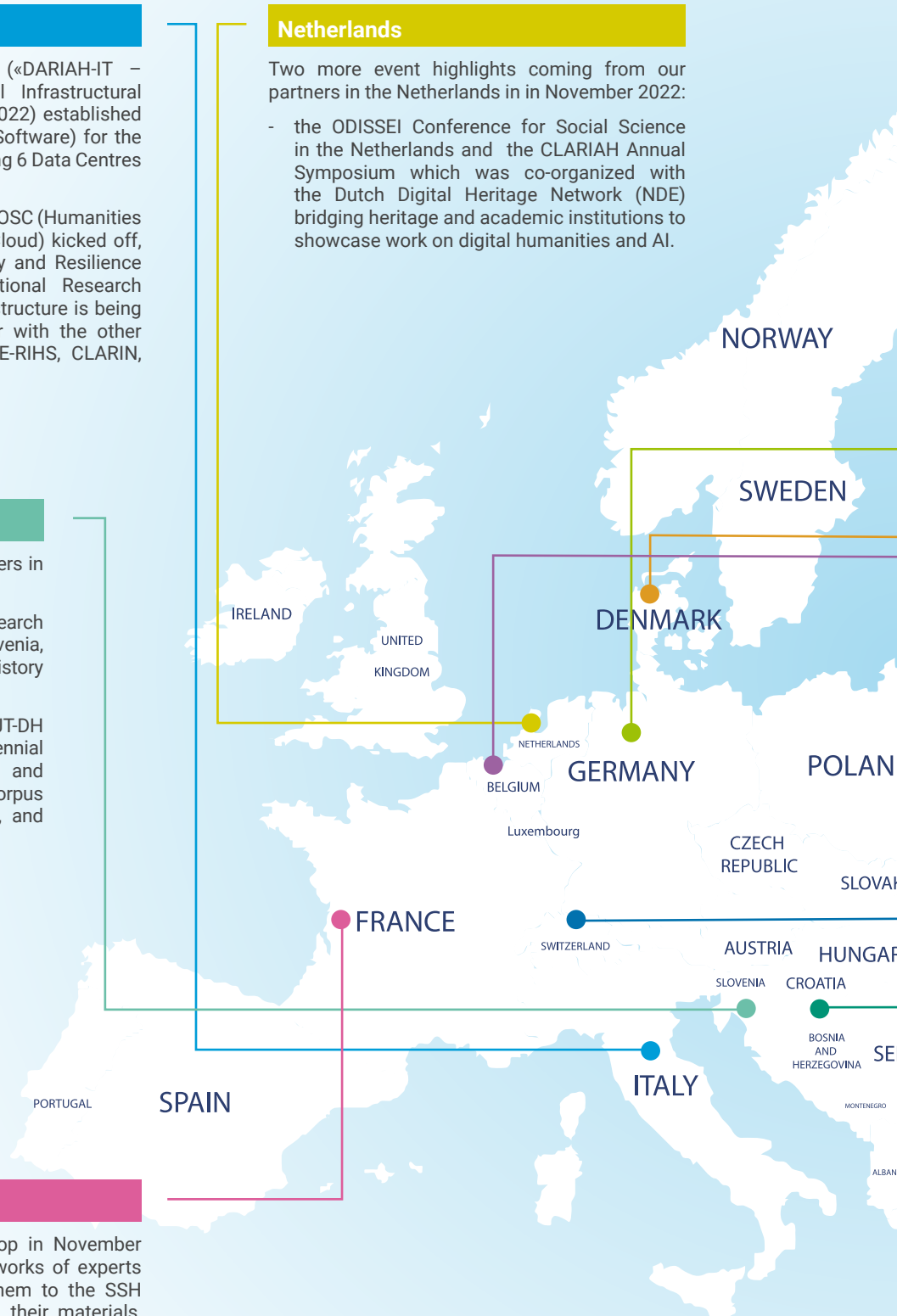
Slovenia

Two more highlights coming from our partners in Slovenia for 2022 are:

- The launch of the first basic research programme for Digital Humanities in Slovenia, hosted by the Institute of Contemporary History (the coordinating partner of DARIAH-SI).
- The organisation of the 2022 edition of JT-DH by DARIAH-SI in September, the main biennial conference for language technologies and digital humanities for South Slavic corpus linguistics, natural language processing, and digital humanities.

France

Huma-Num hosted a two-day workshop in November with its consortia and disciplinary networks of experts funded by Huma-Num, to introduce them to the SSH Open Marketplace and help them add their materials, and especially workflows, to the Marketplace. After two days of work, 56 entries were created or enriched, with increasingly more entries in the weeks following.



Denmark

Our partners in Denmark have highlighted some infrastructure developments for 2022:

- The launch of a Danish Foundation Models (DFM) project for training foundational Danish language model.
- UCloud (Danish Research Cloud for Interactive High Performance Computing) added specialised hardware (GPUs) and software (VM images with CUDA and Jupyter) for applications of Artificial Intelligence in order to enable researchers to use (inference) and develop (training) AI models and applications without the need to maintain a server or cluster.

Germany

2022 was a busy year for our German partners. Here are some of the year's highlights for DARIAH-DE/CLARIAH-DE:

- In November, Germany organised a half-day face to face workshop on 'Promote your services! Promote NFDI offerings in the SSH Open Marketplace internationally' inviting presentations from all SSH infrastructures, CESSFA, OPERAS, CLARIN and DARIAH.
- New services were added to the DARIAH-DE portfolio: Jupyter Notebook, DARIAH-DE Helpdesk, and an event-management tool Indico.
- The consortia NFDI4Memory (The Consortium for the Historically Oriented Humanities), NFDI4Objects (Research Data Infrastructure for the Material Remains of Human History) and Base4NFDI (Basic services for NFDI) will be included in the federal and state funding of NFDI for the years 2023-2027.

Belgium

In 2022, our Belgian partners established the Flemish Research Data Network (FRDN), a network of 36 Flemish research performing organisations who work together on Open and FAIR data. FRDN is an important initiative as it develops the preconditions necessary to motivate and enable researchers from Flemish research performing organisations to exchange and reuse (FAIR) research (meta)data.

Switzerland (Observer country)

Two more highlights coming from our partners in Slovenia for 2022 are:

- The launch of the first basic research programme for Digital Humanities in Slovenia, hosted by the Institute of Contemporary History (the coordinating partner of DARIAH-SI) and led by Darja Fišer.
- The organisation of the 2022 edition of JT-DH by DARIAH-SI in September, the main biennial conference for language technologies and digital humanities for South Slavic corpus linguistics, natural language processing, and digital humanities.

Croatia

Over 2022, Croatia organised a number of international conferences and DARIAH events for the Croatian research community and beyond. Some of these events were:

- The International Conference on Digital Art History – Methods, Practices, Epistemologies IV which was organised in October in Zagreb.
- The 2nd international DARIAH-HR Conference Digital Humanities and Heritage, Rijeka, organised in October.
- The DARIAH picnic, a full-day team-building and brainstorming event organised in June. Topic of this year's event was benefits and services that DARIAH-EU can offer to its community and what Croatian institutions can offer to the European community.

2022 Highlights from our Member Countries

Czech Republic

Some of the core achievements for LINDAT/CLARIAH-CZ in 2022 were:

- The development of a metadata (super)catalogue that integrates metadata for resources hosted by partners, such as the partner libraries and other memory institutions.
- Surpassing 24 million page views in a year of its Internet Language Reference Book which is hosted at the Czech Language Institute of the Czech Academy of Sciences and Faculty of Informatics of Masaryk University.
- Developing a new user interface in connection to the new Czech-Ukrainian system called Charles Translator to serve the Ukrainian refugees.

Luxembourg

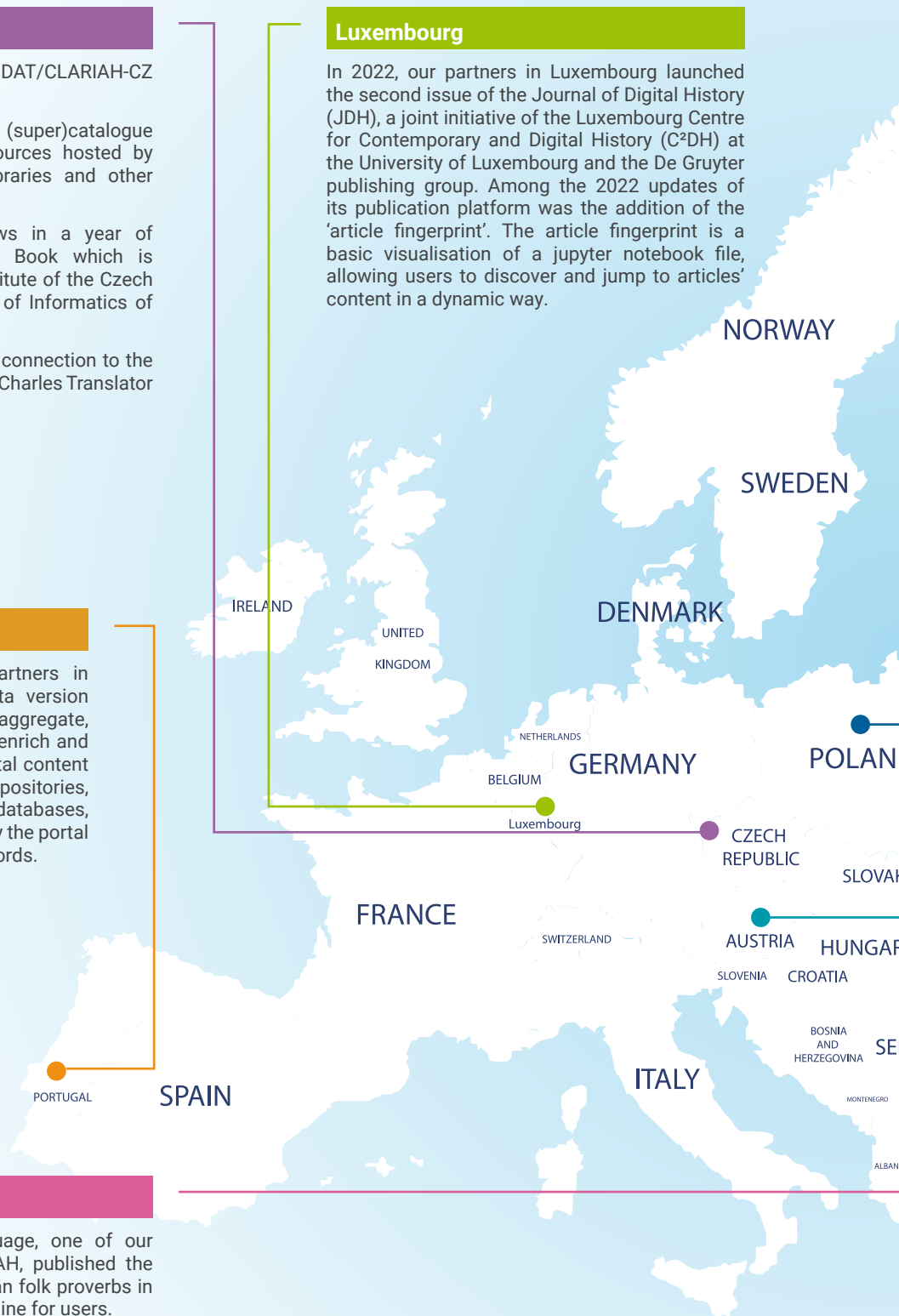
In 2022, our partners in Luxembourg launched the second issue of the Journal of Digital History (JDH), a joint initiative of the Luxembourg Centre for Contemporary and Digital History (C²DH) at the University of Luxembourg and the De Gruyter publishing group. Among the 2022 updates of its publication platform was the addition of the 'article fingerprint'. The article fingerprint is a basic visualisation of a jupyter notebook file, allowing users to discover and jump to articles' content in a dynamic way.

Portugal

A major 2022 highlight for our partners in Portugal was the launch of the beta version of the ROSSIO portal, a tool to aggregate, organise, interconnect, contextualise, enrich and disseminate a unique universe of digital content on SSAH from research activities, repositories, archives, libraries, art collections and databases, from Portuguese institutions. Presently the portal aggregates more than 6.5 millions records.

Serbia

The Institute for the Serbian Language, one of our DARIAH partner institutions in DARIAH, published the digital edition of Vuk Karadžić's Serbian folk proverbs in 2022, which is now fully accessible online for users.



Austria

- A national project funding call was launched in 2022 by CLARIAH-AT on "Interoperability and reusability of DH data and tools", supported by the Austrian Federal Ministry of Education, Science and Research.
- DiTAH and CLARIAH-AT launched a series of teaching, training and knowledge transfer events over the year. This series of events will continue into 2023 as well while the teaching materials and post-production videos will be made available in DARIAH-Campus.

Poland

The work on the Dariah.lab project continued in 2022, with two main areas of project activities:

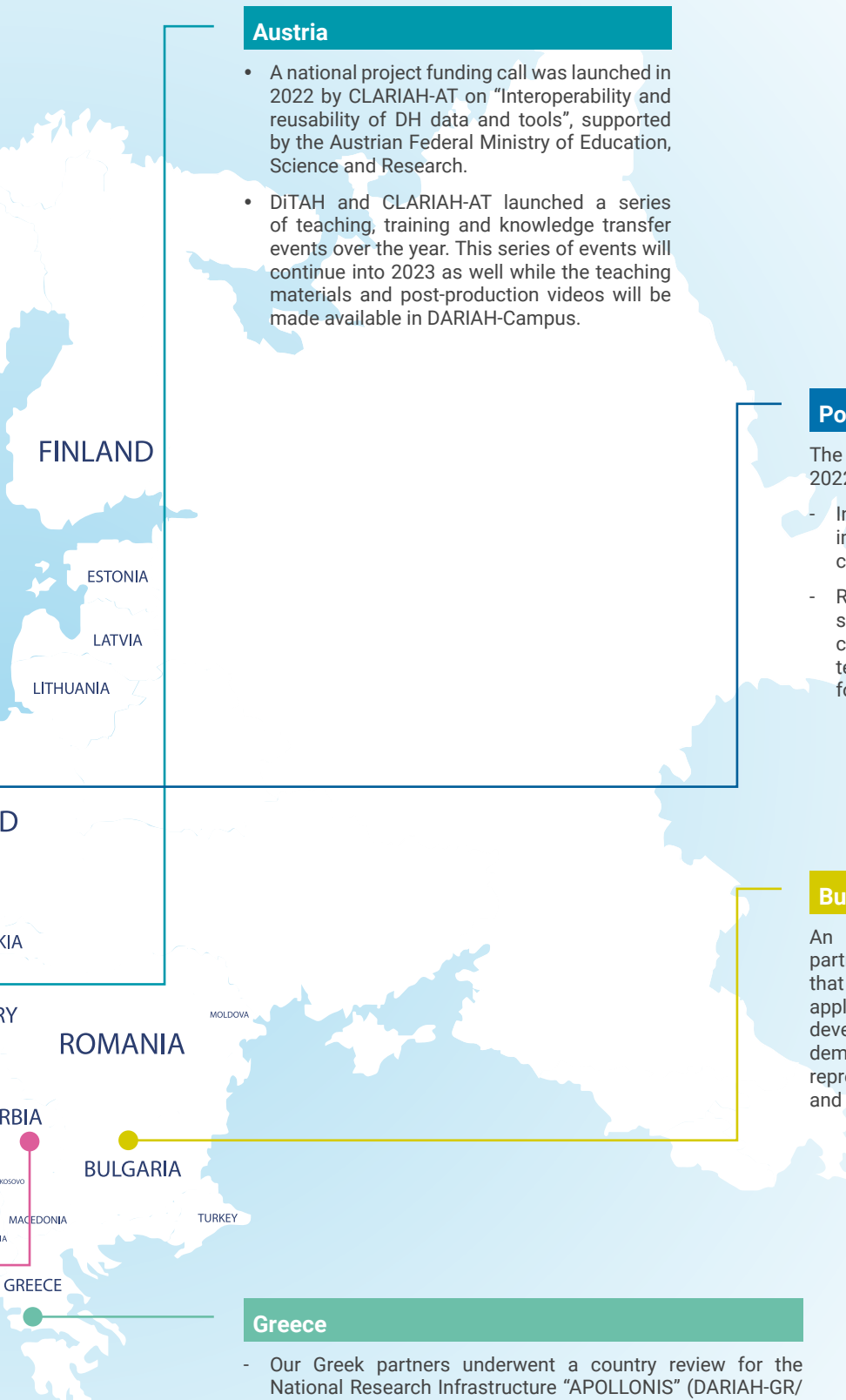
- Infrastructure implementation – the prototypes implemented for a number of infrastructure components, testing and documentation.
- Resource integration – several use case scenarios defined for the infrastructure, concept of the resource catalogue, as well as technical and procedural recommendations formulated.

Bulgaria

An event-highlight of 2022 for our Bulgarian partners was the CLaDA-BG Doors Open Day that took place in November 2022. In this event, applications, collections, datasets and services developed by the partners were presented and demonstrated to a wide audience including representatives of the academia, the IT sector and the policy-makers.

Greece

- Our Greek partners underwent a country review for the National Research Infrastructure "APOLLONIS" (DARIAH-GR/ΔΥΑΣ and CLARIN:EL) by the Horizon Europe Policy Support Facility (PSF) and the Greek General Secretariat for Research and Innovation (GSRI) and received very positive evaluation.
- In May, Greece hosted the first post-pandemic hybrid DARIAH Annual Event 2022 on the topic of Storytelling. With a record high number of registrations, this event was a lively meeting and point of exchange for the DARIAH community.



b. DARIAH's Cooperating Partnerships Continue to Prosper Under New Strategic Framework

In 2020, DARIAH ERIC underwent a review and redesign of our Cooperating Partnership strategy, with the aim to better engage these institutions in our network and support their integration into the DARIAH community. While 2021 saw the implementation of this new strategy at a wide scale, in 2022 we began to see the fruits born of this reform with multiple events organised by existing Cooperating Partners as well as the continued addition of new Cooperating Partners in Europe and beyond.

In 2022, the DARIAH General Assembly accepted the applications of three new Cooperating Partners, the Centre for Digital Humanities at the University of Iceland, the Institute of Literature, Folklore and Art of the University of Latvia, and the Center for Research Data and Digital Scholarship at the University of Colorado, Boulder (USA). The two former are the first Cooperating Partners in Iceland and Latvia accordingly while the latter is our second Cooperating Partner beyond Europe, alongside Princeton University.

Beyond welcoming new partnerships, DARIAH continued to follow up with existing partners and integrate them further into the DARIAH community. Most importantly, DARIAH participated in several events organised by our Cooperating Partners, with three DARIAH Day events and two ministry meetings held within the year, to help towards obtaining National Membership for these potential Member countries. More specifically, in September, Director Sally Chambers and Officer for National Coordination Edward Gray travelled to Madrid for a series of internal workshops and meetings for the nascent CLARIAH-ES consortium as well as UNED's DARIAH Day. These meetings set the foundations for

what should blossom into Spanish Membership in DARIAH and CLARIN. In November, Edward Gray and Open Science Officer Erzsébet Toth-Czifra travelled to Budapest for ELTE University's DARIAH Days & DH_Budapest_2022 event. This was a large-scale event welcoming presentations on Digital Humanities by researchers based in Hungary and beyond, with interspersed presentations and discussions on DARIAH-EU and the research infrastructures landscape. The event also included a separate meeting with the ministry which explored the possibilities and practicalities of Hungary joining DARIAH as a full member. Finally, at the end of November, Edward Gray participated in Aalto University's DARIAH Day, focusing on Semantic Web technologies. This seminar was Aalto's part of the DARIAH-FI Roadshow, where each partner institution in the DARIAH-FI consortium hosts a study day related to their given work package to present results and familiarise the local community with what DARIAH-FI and DARIAH-EU have to offer. The following day, a meeting was held to discuss the strategy for preparing Finland's Membership application to DARIAH.

These meetings helped in introducing DARIAH more widely in the respective national research communities while communicating the benefits of joining and participating in the infrastructure as a member country, an institution or as individual researchers. They also served in showing the commitment that DARIAH-EU has to facilitating National Membership and setting up national infrastructures, which we hope to see prosper in each of these countries in the coming years.

Digital Humanities and Heritage Conference 2022, Rijeka, Croatia



c. Projects

The year 2022 marked the end of large-scale projects, such as the Social Sciences and Humanities Open Science Cloud (SSHOC) project, but has also seen the sustainability plans for significant to the community project outputs, the ongoing work and development in other projects and DARIAH responding to various calls for the newly launched Horizon Europe funding programme for research and innovation. Among these applications were two successful bids for DARIAH, the projects OPERAS-PLUS, launched already in 2022, and PALOMERA, which will kick start in early 2023. Meanwhile, DARIAH is continuing the work on EOSC Future (read more on page 14), CLS INFRA and TRIPLE, highlights of which are briefly presented below.

Computational Literary Studies Infrastructure – CLS INFRA (March 2021 – February 2025)

The CLS INFRA project aims to build a shared resource of high-quality data, tools and knowledge to aid new approaches to studying literature in the digital age, using artificial intelligence and other computational methods. In the second year of the project, DARIAH continued its work related to the transnational access programme offering the possibility to 14 scholars from literary studies or with an interest in Computational Literary Studies methods to conduct a funded research fellowship in one of the project partner institutions around Europe. Also, in the context of the project, a summer school was organised on 7-9 June in Prague, on the topic of data and annotation. It was attended by 40 interdisciplinary and international researchers in hybrid format. Following the Summer School, training materials were made available on DARIAH-Campus.

Transforming Research through Innovative Practices for Linked Interdisciplinary Exploration – TRIPLE (October 2019 – March 2023)

The TRIPLE project started in 2019 with the aim of building a multilingual discovery service, known as GoTRIPLE, which covers 11 languages and 27 disciplines from the arts and humanities. A big milestone was reached in 2022 with the release of the final version of

the GoTRIPLE platform allowing users to find relevant publications, projects and data, but also opening up the possibility to collaborations through discovering peers with common interests registered on the platform. Dissemination and outreach has been at the centre of DARIAH's focus throughout the project and in 2022 a series of tutorials describing innovative features of the GoTRIPLE platform was filmed and disseminated on Twitter as a measure to engage a large audience. The project dedicated resources to support the uptake of Open Science practices within SSH research and launched a training series specifically designed to upskill researchers in FAIR and Open Science. Webinars ranging from the importance of user-centred design for Open Science to an introduction to multilingual vocabularies in the SSH have seen a satisfactory turnout. The content of these webinars has been captured and is available on DARIAH-Campus.

OPERAS-PLUS (September 2022 – August 2025)

The project OPERAS-PLUS kicked off in 2022 and aims to support the further development of the research infrastructure OPERAS (Open Scholarly Communication in the European Research Area for Social Sciences and Humanities) in its preparatory phase and on its way towards becoming an ERIC. DARIAH is continuing its long-term collaboration with OPERAS, following also its participation in the previous OPERAS-P project, and is one of the 13 consortium partners involved in this project, which is led by the Max Weber Foundation. DARIAH will mainly contribute to the ongoing work on the evaluation framework for innovative outputs, by addressing their perceived prestige and the current evaluation mechanisms in academia. The project gives a precious opportunity for DARIAH to continue the ongoing work on strengthening evaluation frameworks for born-digital research outputs in the Social Sciences and Humanities and reduce the tension between formal assessment criteria and the richness of digital scholarship. The project started in September 2022 and will run for 36 months overall.



d. DARIAH and the EOSC

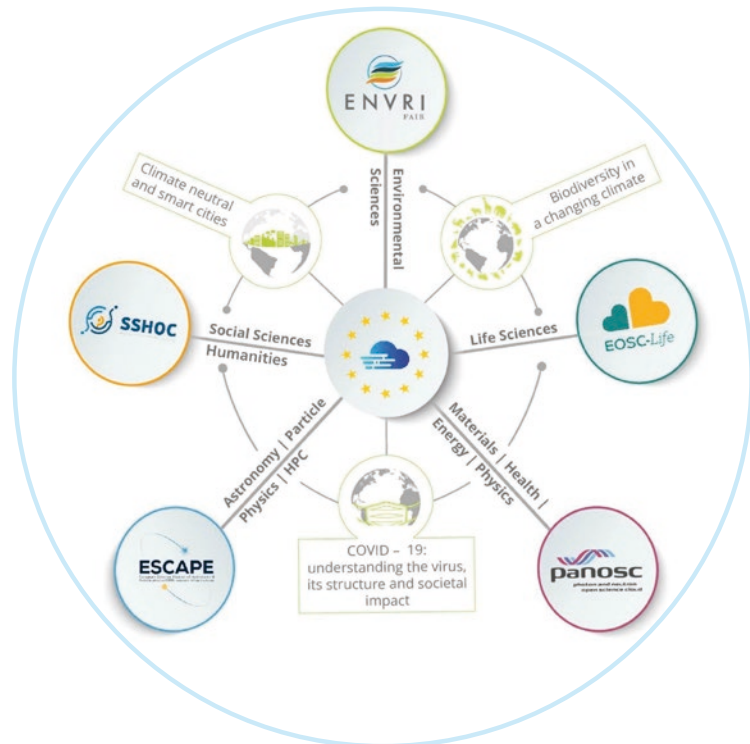
Contributions to EOSC governance and shaping the social life of EOSC

In 2022, DARIAH continued to actively contribute to the European Open Science Cloud (EOSC). DARIAH is not only a member of the EOSC Association from its inception, but also DARIAH employees and affiliates are actively contributing to some of the EOSC Task Forces, adding domain-specific knowledge to the work of these expert advisory boards. In particular, Arnaud Roi contributed to the Financial Sustainability Task Force Progress report [“Towards Sustainable Funding Models for the European Open Science Cloud”](#) published in November, Erzsébet Tóth-Czifra, together with the other Task Force members, shaped the EOSC strategy related to research careers, recognition and credit, while Vicky Garnett, as member of the Upskilling countries to engage in EOSC, contributed to fostering the development of Open Science skills initiatives in Member States, including aligning such initiatives with EOSC.

Bringing arts and humanities data and services to the EOSC

Beyond the EU-funded projects supporting the building of the EOSC, DARIAH is also contributing to the EOSC data and service offer. In 2022, DARIAH-Campus and the SSH Open Marketplace were onboarded to the EOSC catalogue. DARIAH-Campus also became what is called a data source in the EOSC context, which means that individual records from Campus are harvested by and findable in the EOSC catalogue. In addition, an [EOSC in practice story](#) about the SSH Open Marketplace was also developed to explain the role of this service in the EOSC context.

In parallel, building on the outcomes of the OpenAIRE Advance project, in 2022, DARIAH and OpenAIRE signed a Memorandum of Understanding that solidifies and paves the way of future collaboration between the two organisations as well as guarantees the sustainability of the flagship output of this project, the [OpenAIRE-DARIAH Research Community Gateway](#). Since the bigger discovery framework around the gateway, the OpenAIRE Research Graph, is also used as resource catalogue in the EOSC, this continued collaboration ensures that DARIAH data resources can be well represented in the EOSC. In 2022, two new thematic repositories from national DARIAH nodes have joined the OpenAIRE-DARIAH Research Community Gateway: [ARCHE](#), a Resource Centre for Humanities Related Research in Austria from CLARIAH-AT and the [DARIAH-DE Repository](#), which aggregates various services and applications from the DARIAH-DE research data federation architecture. The OpenAIRE-DARIAH Research Community Gateway has the potential to serve as a dedicated discovery hub to DARIAH-affiliated research outputs of different kinds by bringing them together from dispersed locations



throughout the DARIAH community, and making them searchable along different facets such as projects, content types or access conditions.

DARIAH and EOSC-Future

EOSC-Future is one of the current funded projects by the European Commission implementing the EOSC. Bringing together research infrastructures and e-infrastructures, its goal is to stabilise the EOSC Core (i.e. the services needed to operate the EOSC), and to bring the research communities to the EOSC, as both providers and users. In this project, DARIAH leads a task in the Work Package (WP) Integration of Community Services and Products into EOSC. In 2022, DARIAH Director Sally Chambers took over the lead of this task and introduced a Service Integration Roadmap to monitor and support research clusters' and science projects' integration with the EOSC core service offer developed in parallel in other WPs.

Together with DARIAH Partner Institutions, OEAW and GWDG, DARIAH makes a significant contribution to the EOSC federation, producing support documentation, acting as a broker between e-infrastructures and research service providers or building on the results of the cluster projects, such as SSHOC. In addition, DARIAH contributes to the training activities of EOSC-Future, which are intended to support a range of communities in using data, services, and software provided through EOSC. This includes the consolidation of training materials coming from research communities, including DARIAH-Campus.

From SSHOC project to the SSH Open Cluster

2022 marked the end of the Social Sciences and Humanities Open Cloud project and as a result, the creation of the Social Sciences and Humanities Open Cluster. The SSH Open Cluster was founded by five European Research Infrastructures Consortia signing a Memorandum of Understanding (MoU) to ensure that the SSH community has a common voice in the EOSC, to support collaboration and act as an institutional umbrella for shared initiatives and services.

New members are welcome to join the SSH Open Cluster to collaboratively shape the Social Sciences and Humanities (SSH) branch of the EOSC. The collaboration with the other SSH Research Infrastructures and the sustainability of the SSH Open Cluster are of major importance to DARIAH. As a result, DARIAH Director Toma Tasovac was elected Chair of the SSH Open Cluster at the end of 2022 to represent the Cluster toward external parties on behalf of the Governing Board and coordinate the Cluster's communication with bodies such as the European Commission, ESFRI, ERIC Forum, or EOSC Association.

SSHOC project results

After 40 months, the SSHOC project successfully ended in April 2022. To summarise the activities carried out during this project, an exploitation plan identified 33 Key Exploitable Results that are presented in the SSHOC Legacy Booklet.

The final conference of the project, *Advancing SSH Research with SSHOCingly good and sustainable resources*, held in Brussels in April 2022 was an opportunity to showcase these results, bring the community together and officially launch the Cluster. A SSHOC'n Tell challenge was organised online during the conference to try out the SSHOC tools and services, leading to awards for the best user stories created

by participants. Amelia Sanz, María Robles, Adrián Menéndez de la Cuesta from Complutense University of Madrid won the challenge with their user story *Localizing tools*. They examined the UX of the SSH Open Marketplace as well as how it could become more usable for Spanish speaking users.

The SSH Open Marketplace life after the SSHOC project!

One of the main results of the SSHOC project is the SSH Open Marketplace discovery portal. Developed as a collaborative and shared service, this is also how it will be sustained after the end of the project. CLARIN, CESSDA and DARIAH signed a service agreement – under the Cluster umbrella – to fund and maintain this shared service for a first period of 20 months (until the end of 2023). ACDH-CH (CLARIAH-AT partner institution) and PSNC (DARIAH-PL partner institution) are ensuring the service provision. The Editorial Board, assuring the day-to-day maintenance of the Marketplace, was set up in April 2022 with 8 members appointed and paid by the 3 ERICs, and 9 volunteers who joined the Board during the Summer after a call was launched to complete the moderators team.

Since its final release in December 2021, more than 150 users registered to the SSH Open Marketplace to create ~200 items and/or enrich ~1000 items. Curation efforts are also driven by the Editorial Board who is, for example, curating the controlled vocabularies and correcting the broken URLs within the catalogue. Community engagement was also at the heart of the activities in 2022. Following recommendations from the DARIAH Guidelines and Standards Working Group, hands-on workshops to create workflows in the SSH Open Marketplace were organised. In particular a 1,5 day in-person event was held in Paris in November, with the French coordinating institution Huma-Num and its thematic consortia, during which 55 Marketplace resources were created or enriched.



Impact Case Study

A DARIAH Impact Case Study:

Integrating digital literacy skills at the Faculty of Arts and Philosophy, Ghent University

What did we do?

The Ghent Centre for Digital Humanities, the National Coordinating Institute for DARIAH in Belgium, led an educational innovation project to structurally embed digital literacy skills at the Faculty of Arts and Philosophy at Ghent University. This involved developing and fostering the uptake of a faculty-wide collaborative framework for digital competencies based on the Scholarly Domain Model, inspired by the Scholarly Primitives concept and making use of the Taxonomy of Digital Research Activities, TaDiRAH.

Why did we do it?

Digital literacy skills are essential for all humanities students, researchers and teaching staff, and not only those that consider themselves as 'digital humanists'. We wanted to structurally encourage the uptake of digital humanities methods and tools across the teaching and research activities at the Faculty of Arts and Philosophy at Ghent University and beyond. This approach also helped us to raise the visibility of tools and services developed in the context of DARIAH in Belgium.

Who did we do it for?

The digital literacy competency framework is intended for all teaching staff, students and researchers at Ghent University's Faculty of Arts and Philosophy. The aim of the framework is to develop a coherent digital learning path for both undergraduate and postgraduate programmes at the Faculty and inspire uptake from other universities within the DARIAH network.

Overview

The aim of the digital literacy skills programme at Ghent University's Faculty of Arts and Philosophy is to create and foster the use of a shared faculty-wide framework of digital competences. Three thematic clusters of blended-learning modules on *Information Management*, *Digital Text Analysis* and *Spatial Humanities* were developed. These discipline-independent modules were made accessible by Ghent University's online learning platform and were intended to cater for different levels of expertise. The modules have been designed to be used for independent study, or integrated into existing courses and can be customised or extended by the lecturers, according to their expertise or needs.

The framework has identified **15 transdisciplinary competences** in total, divided into basic and advanced competences. **Basic competences** are identified as being able to apply digital methods, tools and strategies during the research process. While **advanced competences**

are the ability to *independently compare, select, use responsibility, and critically evaluate appropriate digital methods, tools and strategies*.

Five phases have been identified across the framework, each with a number of specific competences: **1) Explore:** exploring networks of research objects (literature and/or sources) to build the research corpus with, including the specific competencies of discovery and source criticism. **2) Aggregate;** collecting, organising, and rearranging the research objects (literature and/or sources) that make up the research corpus with capture, collect and modelling as specific competences; **3) Augment:** editing, enriching, and supplementing the research objects (literature and/or sources) that make up the research corpus with specific competences in data clean-up and enrich; **4) Interpretative Modelling:** the interpretation process during which a researcher conceptualises, restructures and contextualises the elements of the research corpus which develops the competences of automate, analyse



Three clusters of blended-learning modules on the themes of Information Management, Digital Text Analysis and Spatial Humanities

and visualise and **5) Externalise**: sharing research data, infrastructure, or results with other researchers or with a wider audience including the specific competences: *store, spread and collaborate*. There is also a meta phase, which encourages **reflection** on the role of Digital Humanities research within the socio-cultural context it is conducted.

PROGRAM COMPETENCE	Be able to apply digital methods, tools and strategies during the research process.	Independently compare, select, use responsibly, and critically evaluate appropriate digital methods, tools, and strategies.
FINAL COMPETENCES	BASIC COMPETENCES	ADVANCED COMPETENCES
Phase 1: EXPLORE <i>Exploring networks of research objects (literature and/or sources) to build the research corpus with</i>		
11 DISCOVER	Use digital search environments and search strategies to identify research objects.	With an understanding of the principles and algorithms of digital search environments and their impact on search results, choose an appropriate search strategy, use it responsibly, and critically evaluate it.
12 SOURCE CRITICISM	Have an understanding of the ways in which the digital turn affects the nature, origin, distribution, (re)use, manipulation and retrievability of digitized or born-digital resources.	Independently apply the principles of digital source criticism to self-found research objects.

A snapshot from the Ghent University Digital Literacy Competencies Framework

Description of the Impact

Preparations for the development of the competency framework started in the academic year 2019-2020. The launch of Ghent University's new online learning platform in the academic year 2020-2021 was an opportunity to further boost the engagement with the platform. Additionally, practical tips on how to integrate digital literacy into the curriculum in the form of **webinars** (in Dutch) and **presentations** were provided to further engage the community.

This work was complemented by a second **educational innovation project** to develop a modular web publication platform for virtual exhibitions on **Omeka S**. A blended learning module combining workshops, a video tutorial, best practices and a **SWOT-analysis** was integrated into the Digital Humanities learning path within *Information Management* thematic cluster.

Now in its third academic year, so far **13** members of staff (researchers, teaching staff and course developers) across **8 departments** (GhentCDH; Faculty Library of Arts and Philosophy; History; Literary Studies; Language and Translation Technology (LT³); Linguistics; Archaeology and the Department of Research) have contributed to the **Digital Humanities: Learning Pathways** programme. This has led to the development of three thematic clusters: Information Management (**57** topics); Digital Text Analysis (**82** topics) and *Spatial Humanities* (**57** topics) covering in total **196 topics**.

"Digital Humanities: Learning Pathways offers a perfect platform for exchanging and spreading digital knowledge and skills. Based on the ideal of cooperation, the Ghent University's Faculty of Arts and Philosophy invites all of its colleagues including students, teaching staff, researchers

and course developers employees to make a contribution. The power of the platform is that contributions are open to all!" Davy Verbeke, Ghent Centre for Digital Humanities, Ghent University

A particularly successful collaboration has been with the Master's programme in Art History under the supervision of Prof. Dr. Marjan Sterckx, leading to the development of a **digital exhibition** using Omeka S, to complement a physical exhibition on **'CRIME SCENES. Interwar interiors through the lens of forensic photography'**.

*"The Omeka S platform provided a user-friendly platform for creating an online collection of digitised photographs of crime scenes from Belgian judicial files from the 1920s-1930s. With the support of the GhentCDH, we were able to create our **Crime Scenes** online exhibition with **Omeka S** whilst developing a range of digital competencies along the way."* Prof. dr. Marjan Sterckx, Department of Theatre and Performing Arts, Ghent University

Evidence of the Impact

- [1] Verbeke, D. (2020) **Leerlijn digitale geletterdheid: 15 transdisciplinaire digitale competenties**/Digital Literacy Learning Pathway: 15 transdisciplinary digital competences.
- [2] Verbeke, D. (2021) **'Digitale Geletterdheid in het curriculum integreren? Van theorie naar praktijk'**/Integrating Digital Literacy in the Curriculum? From theory to practice'. Webinar.
- [3] Verbeke, D. (2021) **'Een showcase van de faculteitsbrede Ufora-cursus Digital Humanities'**/A showcase of the Faculty-wide Ufora course. **Library Lunches with a Taste of DH**.
- [4] Verbeke, D. (2021) **So you want to teach with Omeka S? SWOT-analyse voor lesgevers** (Dutch)/SWOT Analysis for Teaching Staff using Omeka S.
- [5] Foket, L., et al. (2022). **Using IIF to teach Digital Humanities: practice-oriented approach to digital literacy skills**. *IIF Conference 2022*.
- [6] GhentCDH (2022). **Digital Literary Skills poster at the Faculty Research Day 2022**.
- [7] **Crime Scenes: fostering digital literacy of the Ghent University Faculty of Arts and Humanities students**.
- [8] Sterckx, M. (2021) **Professor Sterckx over interbelluminterieurs: "We zijn ongenode gasten. Wat je ziet is het interieur zoals het was"**/Professor Sterckx talking about interbellum interiors: "We are uninvited guests. What you see is the interior as it was". Radio Programme (Dutch).
- [9] **'CRIME SCENES. Interwar interiors through the lens of forensic photography'** An Online Exhibition powered by Omeka S.
- [10] Sterckx, M. (2022). **The interior as a witness: interwar interiors in Flanders captured by forensic files**. *JOURNAL OF INTERIOR DESIGN*, 47(4), 11–29.

2. Activities and results

a. Working Groups

The DARIAH Working Groups are a good reflection of the diverse and rich landscape of the interdisciplinary research carried on in the arts and humanities, and in particular within the DARIAH infrastructure.

In 2022, DARIAH counted 18 active Working Groups, including two new Working Groups that joined the community over the year, the Combining Language Learning with Crowdsourcing Techniques (D4COLLECT) Working Group and the Multilingual DH Working Group.

D4COLLECT is chaired by Verena Lyding and Lionel Nicolas (Institute for Applied Linguistics at Eurac Research) and will explore the use of crowdsourcing techniques in the domain of language learning, while opening paths to crowdsource Natural Language Processing (NLP) datasets from language learning activities. The Multilingual DH Working Group joined later in the year and aims at enhancing digitally-enabled research in under-resourced languages and dialects. In the focus box on the next page, we feature an interview with the two chairs of this Working Group, Alíz Horváth (Eötvös Loránd University, Hungary) and Maroussia Bednarkiewicz (University of Tübingen, Germany).

Next to the activities developed in the context of the Working Funding Call that was running throughout 2022, outcomes of which will be presented during the DARIAH Annual Event 2023 in Budapest, the DARIAH Working Groups have worked on various activities as part of their regular tasks. In particular, 2022 has seen an increase in the development of materials and **training** for the Digital Arts and Humanities community. The ELDAH Working Group, for example, worked on creating a guide for the pseudonymisation and anonymisation of sensitive data.

2022 was also the year when many face-to-face activities started taking place again, with the COVID-19 pandemic slowly phasing out. This is reflected in the number of **workshops** and **presentations** that were held in 2022. These workshops varied, from conference presentations (like the one by the UGiDiSH Working Group at the Geoparks Conference in Verbania in September 2022) to smaller workshops dedicated to a specific research them (like the one organised by the Digital Numismatic Working Group and the Nomisma community in Oxford in March 2022).

Being able to meet in person also resulted in a higher number of **collaborations** of the Working Groups with external partners, such as with national infrastructures (e.g. Rossio Infrastructure, in Portugal), international infrastructures (e.g. CESSDA ERIC) or networks such as OPEN Aire and the Impresso Project. An increase in the number of **publications** was also noted in 2022, in the form of blog posts, DH-specific journals or reports uploaded on the Open Access platform Zenodo. The DARIAH Working Groups also met more frequently, with a total of 41 **internal meetings** throughout the year, online or face-to-face. Finally, the provision of **software and tools** as part of the Working Groups outcomes slightly diminished from 2021, probably in relation to the different focus of the current Working Group Funding Call.

The figure below illustrates the DARIAH Working Group Outcomes in 2022.

Working Groups Activities: 2022 at a glance



Focus on the new Multilingual DH Working Group



2022 saw the start of a new Working Group: the Multilingual DH, chaired by Alíz Horváth (Assistant Professor at Eötvös Loránd University) and Maroussia Bednarkiewicz (Post Doctoral researcher at the University of Tübingen). In its first months of activity, the Working Group already counts 18 members from across DARIAH member countries, as well as from the United States, Canada and Israel.



As we enquire about the motivations behind the creation of this Working Group, Alíz answers:

“Despite increasing collaboration among scholars across the globe, the technologies and tools available to digital humanists are overwhelmingly designed for those working in very few dominant languages. Languages beyond the Anglophone realm and particularly dialects and non-Latin scripts are severely under-represented in DH.

We aim to support and initiate pan-European and interdisciplinary research and collaborations, as well as the open sharing of relevant data and tools; we also consider it our goal to support and participate in training multilingual infrastructures.

DARIAH’s pool of experts, networks, and expertise offers the kind of support that digital humanists need in order to assess and access the fast evolving methods, skills, and tools that are being developed in Computer Science.”



Maroussia Bednarkiewicz

Talking about the contribution of such an approach to the DARIAH ERIC’s goals, Maroussia adds:

“We will advance DARIAH’s mission to empower research communities with digital methods to create, connect and share knowledge about culture and society by focusing on the issue of multilingualism.

Multilingualism is at the core of Europe, and yet multilingual DH remains under-represented because of the challenges it represents with the kind of interdisciplinary expertise it requires and the diversification it creates. By enhancing multilingual DH using DARIAH’s vast knowledge and experts network, we will bring essential research domains into DARIAH’s spectrum.

Our Working Group with its multilingual materials will be in a perfect position to support DARIAH’s marketplace and training pillars. Besides, we aim to support DARIAH’s transdisciplinary and transnational organisational research structures, thanks to the Working Group’s inclusive and equitable research policies regarding under-resourced languages. We will thus contribute our expertise in languages and DH and benefit from the DARIAH infrastructure to build sustainable, qualitative and ethical multilingual DH research”.

Impact Case Study

A DARIAH Impact Case Study:

UDigiSH – Digital Practices for the Study of Urban Heritage is cooperating with artists and NGOs to crowdsource local knowledge on built heritage at risk

What did we do?

With strong support from its members, UDigiSH developed data-enabled workflows and digital tools for information collection, access and visualisation on the study of neglected examples of heritage and sites in historic cities. This was achieved through the engagement of local communities and stakeholders by means of participatory events and workshops.

Why did we do it?

Through our mission-oriented activities and innovative software, key stakeholders and local social groups can now better understand how built heritage contributes to the development of resilient cities. Our activities reached new audiences promoting the value of re-using and safeguarding neglected urban spaces and heritage buildings in second- and third-tier European historic cities.

Who did we do it for?

The beneficiaries included built heritage researchers and CH organisations, local authorities, neighbourhood associations and stakeholders, as well as university students.

Overview of the UDigiSH Working Group

UDigiSH started as an international cooperation that dates back to 2019(1), including University of Illinois at Urbana-Champaign, Instituto Andaluz del Patrimonio Histórico, (Spain), National Lab of Civil Engineering (Portugal), ICOMOS Cyprus, Europa Nostra Cyprus and Israeli Architects Association. The members involved had the common goal of developing a digital method that would: a) enable key actors to exchange views through innovative digital interfaces and share knowledge about challenges that neglected heritage examples in their neighbourhood are facing; and b) allow systematic collection, analysis and linking of descriptive information about this heritage.

Description of the Impact

NGOs adopting built heritage management tool for the co-creation of design scenarios

UDigiSH developed a DARIAH mobile app published under the name **DARIAH app**, a digital research tool designed for community building through participatory design and co-creation methodologies. This app was embraced by local actors in Palermo, Italy, such as Cre. zi Plus, and was used to study, discuss and analyse Spazio Incolto- Pad. 7 Cantieri Culturali Alla Zisa (2-3). Our citizen-volunteered geolocation software was used by the following organisations and groups: Legambiente Sicilia; French Institute; Goethe Institute; Arci Tavola Tonda. It enabled consultation about the creation of a legible, inclusive, accessible, resilient and enjoyable

heritage site in Cantieri Culturali Alla Zisa (4). The tool then attracted the interest of other European initiatives, like the one about the industrial heritage of Dornbirn, Austria (5), as well as of international networks like the Geoparque Oeste and the Geopark network (6).

Artists, academia and museums seek deeper visitor engagement with and new interpretations of information about spatial conditions of heritage through innovative interfaces

The use and potential of UDigiSH visualisation workflow in archaeological and cultural heritage applications for the immersion of the public in the history of cultural places and landscapes, as well as for educational purposes, was demonstrated in several occasions by:

- BEAMY.space art network and The Architects' order of Palermo, as well as by internationally acclaimed artists, such as Erwin Wurm and Eva Schlegel (7), for the creation of AR-enabled art exhibitions. This activity was widely publicised by the news (8).
- Universities, specifically for the assessment of student work and public exhibition: Using the uploading and placement features of the Wikar AR app, 30 students and faculty were able to develop and deploy large scale immersive augmented reality works in Graz, Munich, Vienna, and Heft/Hüttenberg, where they remained accessible to the public for months. During this year, the Wikar app had more than 5.5k downloads and tens of thousands of app sessions.



University students using WG digital platform in patio houses, Cordoba, Spain (2022).

WG's AR tool used by local stakeholders at Cantieri Culturali Alla Zisa, Italy (2021).

Further to this, research that formed the main enquiry that led to the creation of the DARIAH Working Group UDigiSH was selected as one of the two **best projects in the Open Call of Public Play Space Initiatives**. The **State of the Art Catalogue** collected and analysed 30 best-practice case studies, offering an international panorama of the emerging methodologies and strategies for the public space co-design through digital technologies (9). Our work was also appreciated by the URBiNAT network, which led to new applications of our Working Group workflow in the URBiNAT network's activities (10-11).

Crowdsourcing knowledge about vernacular architecture and heritage that is threatened

UDigiSH developed an online browser-based ethnographic survey tool (<https://dariahcloud.web.illinois.edu/cordoba/map/>) for engaging new audiences in dialogue about heritage. This online database, that is available to the community for study of historic cities, enables non-experts as well as scholars to collect ethnographic data from the field. A GIS-enabled ethnographic survey tool developed by the Working Group for the implementation of citizen science methods in the study of historic cities was used by 30 students of the Universities of Seville and Córdoba to collect multimedia documentations of patio housing heritage and local knowledge of their inhabitants.

In our attempt to expand the audience of our research, we developed **Cordoba Court**, a playful interface and an experimental social game that aims to reach individuals internationally to engage them in raising awareness about patio housing and its cultural heritage in a virtual space, mirroring community greening and habitation practices. The experiment had 1112 visits during the Fall and Winter 2022 (12).

Evidence of the Impact

[1] WG was invited to participate in the **Urban Transitions Pathways Symposium 2019** on the future of Living Labs which was organised by JPI Urban Europe at Maastricht 21-22 October 2019.

[2] Use of WG software in Palermo (2021), <https://udigish.hypotheses.org/176>

[3] Municipality of Palermo (2021), <https://www.comune.palermo.it/accade-a-palermo-dettaglio.php?id=201>

[4] WG tools and results were selected to feature in the Programme of the CAAD Futures 2021 Conference, USA, organised by the University of Southern California.

[5] WG invited by the ERASMUS+ The ViRAL Project (2018-1-AT01-KA204-039209) at the Conference *Virtual Reality Archive Learning: Telling history in virtual spaces*, 6 October 2021, Dornbirn, Austria.

[6] WG tools were discussed at the 16th European Geoparks Conference, 28th-30th September 2022, Verbania, Italy. <https://www.egn2022conference.eu/>

[7] Kunstraum Dornbirn (2021), <https://www.kunstraumdornbirn.at/en/exhibition/kunst-raum-stadt-eva-schlegel>

[8] Examples of use of WG software by artists publicized in the news: <https://youtu.be/HKiTFpJBKwQ> and <https://theeuropavilion.eu/>;

[9] International recognition of WG (2021), <https://udigish.hypotheses.org/174>

[10] WG tools and results disseminated at the *Cross-border Collaboration in Support of Healthy Corridors and Climate Change Adaptation, Joint on-line Expert and Dialogue Meeting*, organised by the URBiNAT network, 30 September 2021. <https://urbinat.eu/>

[11] WG invited in the Copenhagen URBiNAT Workshop a hybrid workshop with URBiNAT's Observers on the theme "Digital enablers, NBS and co-creation", May 9, 2022. <https://urbinat.eu/articles/digital-enablers-digital-enablers-for-citizen-engagement-and-co-creation-of-nbs-key-takeaways-for-policy-makers-and-city-administrations/>

[12] User analytics of the Cordoba Court experimental social game (2023): https://dariahcloud.web.illinois.edu/cordoba/court_report/

b. Education and Training

2022 Updates from DARIAH-Campus: New Courses and New Collaborations

DARIAH-Campus is the central resource within DARIAH for free and open training resources in a broad range of topics related to Digital Humanities. It serves two functions: it is a discovery framework for training resources that exist within the DARIAH eco-system, and; it is a hosting platform for training resources created by DARIAH-affiliated individuals, institutions and projects.

In 2022, the DARIAH-Campus site welcomed 3,921 users. Compared with 2021, there were more new visitors proportionate to returning visitors to DARIAH-Campus, suggesting that the publicity and promotion efforts discussed below are having an impact. Of further interest is the manner in which people are coming to the DARIAH-Campus site. In 2022, more users accessed the pages via a direct link, compared with organic searches.

Following the updates to the content management system in 2021, it was felt that the DARIAH-Campus website needed additional promotion to re-introduce its benefits to its users. Therefore, in 2022 two videos were produced to promote DARIAH-Campus more widely. The first focussed on the needs of potential users of DARIAH-Campus: while the second one addressed the needs of training content providers. These videos were largely produced through interviews and testimonials from DARIAH-Campus users, both training providers and students, as well as key members of the DARIAH-Campus editorial team. The finished videos were published on YouTube, and embedded on to the Home Page of DARIAH-Campus. They were also distributed through the Training Tuesday Twitter campaign (see below), and promoted in the DARIAH Newsletter.

In 2022, a total of 58 new resources were published to DARIAH-Campus. Contributions to DARIAH-Campus came from ongoing projects such as TRIPLE (Transforming Research through Innovative Practices for Linked Interdisciplinary Exploration). The last few resources from the GoTRIPLE platform were added to DARIAH-Campus, creating a total of 11 training resources focussing on open science issues within the Humanities and Social Sciences.

DARIAH-Campus also added to its collection of sources by including some key new projects. The CLS-Infra project (Computational Literary Studies Infrastructure) held its first training school in Prague, Czechia, in June 2022, and the outputs from that training school were captured and published on DARIAH-Campus. This is the first of three training schools to be held over the duration

of the project, the outputs of which will all be published to DARIAH-Campus, along with any additional training resources the project puts out.

In November, the first of a large collection of resources from the EHRI (European Holocaust Research Infrastructure) were published to DARIAH-Campus. The collection features a range of different practical blog-posts for specific tools or methods and more discursive resources on issues relating to Holocaust Studies. This is a major contribution to DARIAH-Campus, and highlights how DARIAH continues to work closely with other research infrastructures around Europe.

A further major contribution came from the ELEXIS project, with a large-scale curriculum focussing on Lexicography published to DARIAH-Campus.

Finally, the team from the ACDH-CH (Austrian Centre for Digital Humanities and Cultural Heritage) began publishing resources from their in-house HowTo platform on DARIAH-Campus. To facilitate this, Elisabeth Koenigshofer from ACDH-CH joined the DARIAH-Campus Editorial Team to both ensure the smooth transition of the HowTo materials, but also support any other resources from Austrian partners. While acting as both a pilot initiative, as well as the vanguard in national editorial team members, it is hoped that this will expand to incorporate more Editorial Team members to handle local resources as Campus continues to grow.

Training Tuesday Campaign

In 2022, the Training Tuesday campaign continued on Twitter to highlight the training materials on DARIAH-Campus. The campaign ran from February to December, with a break over the Summer period. Over the course of the year, 30 different resources were highlighted, usually from the pool of new resources that were published to DARIAH-Campus in 2022. In total, the tweets received over 20,500 views, with over 500 'likes' and 75 'retweets', and resulted in 120 'click throughs' to the resources. The resources from Training Tuesday are also highlighted in the monthly DARIAH Newsletter, showcasing the resources that were featured in that month's Training Tuesday campaign, thus adding a further means of promotion for both DARIAH-Campus and the individual training resources.

Friday Frontiers

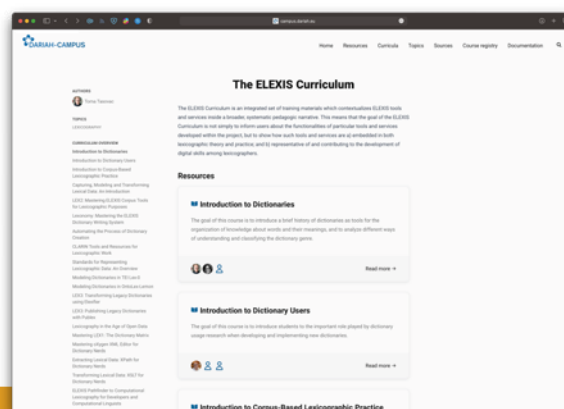
2022 had another run of Friday Frontiers webinars from leading Digital Humanities practitioners: three webinars in the Spring series, and three in the Autumn/Winter

series. The webinars were opened to the public for the Autumn/Winter series, after previously being available only to those in DARIAH member countries. Opening up the webinars to the public followed DARIAH's strategy of providing more open resources for training events and materials beyond the DARIAH community.

The topics covered in the 2022 Friday Frontiers webinars were once again varied, demonstrating the broad scope within DARIAH. In March 2022, Marilena Daquino (University of Bologna) gave an overview of the Polifonia Project, which addresses issues around the preservation, management, study, and interaction with musical heritage. In April, DARIAH's Open Science Officer Erzsébet Tóth-Czifra, and Officer for Service Development and Integration Laure Barbot delivered a guide to EOSC for Humanities scholars, highlighting how EOSC can support open science throughout the scholarly process. In May, issues around archiving artefacts from activism were discussed when Clare Lanigan from the Digital Repository of Ireland presented on the 'Archiving the Eighth' project, cataloguing digital acts of activism from both sides of the debate during the Referendum on the Eighth Amendment to the Irish Constitution. The Autumn/Winter series opened in October with a very thought-provoking presentation from Sally Wyatt (Maastricht University), looking at the lack of citation of women across the sciences, and how citation practices can be improved to address these inequalities. In

November, Dario Rhodigiero (University of Groningen) gave a presentation demonstrating his works to visualise data in public spaces, and in December Agiatis Benardou presented the first phase of the 'Block 15' project, a project hosted by the Athens University of Economics and Business and co-funded by the German Federal Foreign Office and the Hellenic Ministry of Culture and Sports, focusing on the infamous Block 15 of the Haidari Concentration Camp in Western Athens, the largest and most notorious German concentration camp in wartime Greece.

Overall in 2022, the Friday Frontiers webinars attracted an audience of nearly 200 people during the live events, with additional people viewing the recordings when they were later published on DARIAH-Campus.



The ELEXIS Curriculum

The European Lexicographic Infrastructure (ELEXIS), a four-year-long project funded by Horizon Europe, chose DARIAH-Campus as the platform for hosting its learning resources. The ELEXIS Curriculum was published in 2022 as an integrated set of training materials which contextualises ELEXIS tools and services inside a broader, systematic pedagogic narrative.

This ambitious curriculum comprises 19 individual courses that not only explain the functionalities of the particular tools and services developed within the ELEXIS project, but also show how such tools and services are embedded in both lexicographic theory and practice.

The topics and modalities of the training materials to be developed by ELEXIS were chosen after a series of internal conversations and interviews with lexicographers across Europe. The ELEXIS Skillset Report, which

analysed the interviews, highlighted various challenges that lexicographers were facing when developing digital skills. Lexicography, according to the respondents, was not taught in most universities in a coherent or systemic manner, whereas the knowledge gained in unconnected workshops outside the university was considered partial and segmented. Furthermore, when lexicography is taught as a university subject, it is often perceived as being too theoretical and removed from contemporary trends and best practices. Another problem that was identified was the potential mismatch in skills: when students have a background in linguistics, they don't necessarily have the required technical skills, and vice versa.

The ELEXIS Curriculum on DARIAH-Campus addressed these challenges by offering a coherent set of courses that build upon each other, starting with basic introductions to dictionaries, dictionary users and corpus-based

lexicographic practice, and covering fundamentals of data modelling and text processing, before moving to elucidate the fundamentals of lexicographic practice, the importance of standards and intellectual property rights, and the use of particular tools, developed within the project.

"The ELEXIS Curriculum is a new model of how training and education activities in funded projects can be channelled towards having a positive and lasting impact on various communities of practice," said DARIAH Director Toma Tasovac. "Documenting individual tools is not enough. Showing how tools – and infrastructures – fit into broader methodological landscapes should become the new standard. DARIAH can have an important role in sustaining this type of educational outcomes, and we hope that the ELEXIS Curriculum will be the first of many to come."

c. Investing on Open Science

2022's Policy Spotlight: Streamlining Research Assessment to Research Realities in the Arts and Humanities

Bringing arts and humanities perspectives to the ongoing research assessment reform has been increasingly a priority for DARIAH since 2021. Following a year of preparatory work, in 2022 DARIAH made targeted actions to strengthen the evaluation culture of born-digital scholarship coming from the arts and humanities domain.

Involvement on the Policy Level: Becoming a Founding Member of CoARA

On the policy level, in 2022, DARIAH contributed to the Agreement on Reforming Research Assessment. This led the organisation to become a founding member of the resulting body, the Coalition for Advancing Research Assessment (CoARA), in November 2022. The coalition brings together more than 350 research, infrastructure and policy organisations from over 40 countries who join forces to implement the very timely reform of research assessment across Europe.

"A research infrastructure is not a research-performing organisation, but the success of a research infrastructure depends in part on the buy-in from the research-performing individuals and organisations," said Dr. Toma Tasovac, President of the DARIAH Board of Directors. "That's why solidifying evaluation frameworks around diverse born-digital scholarly outputs is of great strategic importance for DARIAH. To put it bluntly: you can't build and maintain a digital research infrastructure in the long term unless your contributors get academic credit for the infrastructural work they do. CoARA is potentially a game-changer in this respect, and we're very happy to be part of it."

Involvement on the Advocacy Level: DARIAH Open Blog Campaign on Research Assessment

To bring the reform closer to researchers' desks and to strengthen the critical discourse around it (with)in the arts and humanities domain, in 2022 we launched an expert opinion series on DARIAH Open. In Reflections on research assessment, leading experts of the field such as Samuel Moore, Emanuel Kulczycki or Ioana Galleron shared their views and ideas around the ongoing reform. Their contributions included answers to questions like: weather social sciences and humanities scholarship are well served by the current and nascent academic reward mechanisms, where our options and power lie to change this for the better, how multilingualism should and could be better integrated to the reform, what are the infrastructural prerequisites and many more.

Capacity Building Through a Horizon Project: Leading an Assessment-Related Task Force in OPERAS-Plus

Finally, through successful application and participation in the OPERAS-Plus project, which started in September 2022, DARIAH invested in building capacity to deliver guidelines and strengthen the evaluation culture for born-digital research outputs in the social sciences and humanities. Leading the task force Evaluation frameworks for innovative research outputs gave DARIAH a precious opportunity to work with innovative publishing outlets and scholars creating, curating, reusing and eventually reviewing these born-digital content types such as research tools, digital editions, data publications, training materials, exhibitions, interactive visualisations etc.

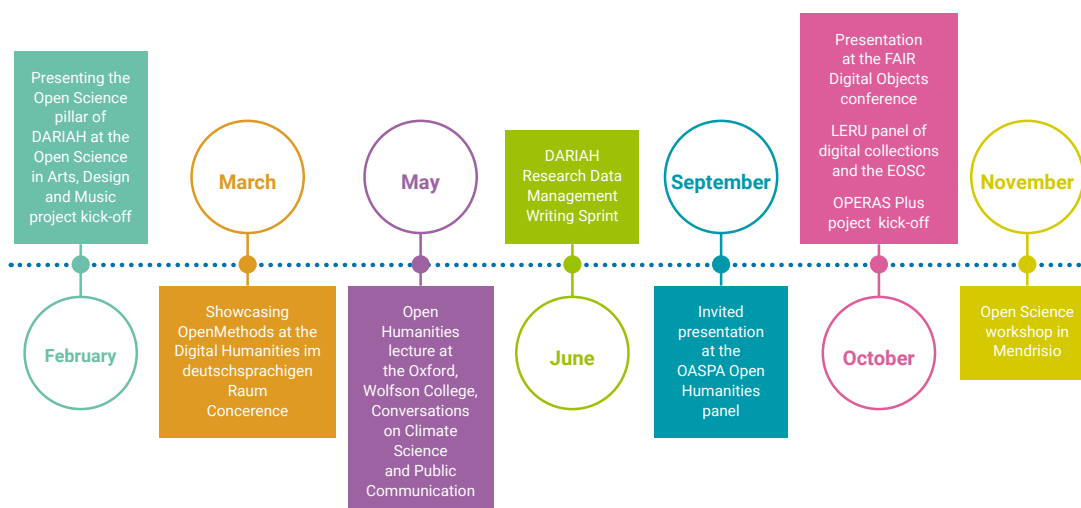
Mitigating the funding and policy gap for Open Access books

In 2022, we welcomed the winner of the first round of the Open Access Book Bursary at the DARIAH Annual Event in Athens. The winning candidate, Ulrike Henny-Krahmer, Junior Professor for Digital Humanities,



Open Science workshop for the OS-ADM project participants in Mendrisio on 04.11. 2022

DARIAH Open Science pillar event highlights 2022



Institute for German Studies, University of Rostock presented her work *Genre Analysis and Corpus Design: 19th Century Spanish American Novels (1830-1910)*. Her work touched upon how making all layers of the complex research (text, corpus, metadata and text encodings, analysis data, visualisations) openly available and reusable helped her construct a strong scholarly argument as well as a landmark on her intellectual journey.

In the meantime, the second round of the Bursary call was launched in 2022, appointing as the winner Erik Ketzan and his monograph *Thomas Pynchon and the Digital Humanities: Computational Approaches to Style*. The co-editor of the New Horizons in Contemporary Writing series, Prof. Martin Paul Eve, added: "Thomas Pynchon and the Digital Humanities is a remarkable book, both for what it does and undoes. Deploying a series of innovative digital methods to present fresh empirical evidence, Ketzan challenges and rewrites the basic critical consensus about Pynchon's style that has solidified over many years. The award of the DARIAH Open Access Book Bursary will mean that everyone will now have easy, open, free access to this important scholarship". His book adds another innovative, solid contribution to Digital Humanities in the series of Open Access books funded by DARIAH.

Apart from the financial investment in the bursary, in 2022, DARIAH took up a broader commitment to foster the long-overdue inclusion of books in the current European Open Access policy and funding landscapes by joining a consortium led by OAPEN and OPERAS and successfully applying to the Horizon Europe call: Reforming and enhancing the European R&I System. The resulting two-year project, PALOMERA, will start in January 2023 with the aim to reduce the implementation gap between Open Access policies and academic book publishing. Through this project, DARIAH's work will concentrate on the data collection (national, institutional policies, protocols and expert interviews) and data analysis phases of the project, anchoring the work

in the research realities both on the level of research institutions and individuals with a strong focus on the Arts and Humanities domain.

Serving the "A" in DARIAH: Collaboration with the Open Science in Arts, Design and Music SNSF project

Apart from the two new Horizon projects, 2022 also gave DARIAH a precious opportunity to strengthen its Open Science advocacy and training activities within the arts domain. In May 2022, DARIAH was invited to become an external partner in the Open Science for Arts, Design and Music (OS-ADM) project financed by the Swiss National Science Foundation. The two years project is led by SUPSI (University of Applied Sciences and Arts of Southern Switzerland) and includes partners from 6 art schools across Switzerland, each delivering case studies from their ongoing or past research projects ranging from art history to fashion design. The case studies explore possibilities for opening up both the final outputs of projects reported in the case studies and also the research or creation processes themselves. The challenges associated with making them as open as possible are manifold including third-party rights management and other copyright related issues, data publications, documentation and citation practices, citizen engagement and co-creation or finding innovative Open Access publication venues. DARIAH's role was to provide Open Science training and co-create the Open Science guidelines output of the project addressing the open research challenges coming from the case studies, and address them in a way that can serve other research communities in the domain.

Open Science on the road

In 2022, we also had the chance to share open humanities perspectives on a variety of scholarly and policy events. Over the year, we co-organised, presented or participated in 18 workshops, conferences, project kick-off meetings and online events. Find a selection of these in the graph on the top of the page.

Impact Case Study

A DARIAH Impact Case Study:

The Knowledge Complexity Project

What did we do?

The Knowledge Complexity (or KPLEX) Project was funded by the European Commission under Horizon 2020 to bring a humanities dimension to the activities of the much larger, industry focussed Big Data Public/Private Partnership. Its success was inherently linked with how it drew on DARIAH networks and knowledge.

Why did we do it?

KPLEX produced high-caliber research outputs, as well as reaching a number of key non-academic audiences, including policymakers, industry and the general public, through its applied approach and focus on how the digital humanities might reach out to address new audiences and societal challenges.

Who did we do it for?

The audiences of the KPLEX results included digital humanities and science and technology studies research communities, as well as industry, policy and the wider public.

Rationale for and Overview of the Activity

The origins of the KPLEX project can be dated to the larger perspective that DARIAH integration provided to an earlier project, CENDARI (Collaborative European Digital Archival Research Infrastructure). CENDARI was a very different sort of project from what KPLEX would ultimately become, with a clear focus on building research infrastructure for historians. However the project raised a significant number of meta-level questions regarding the limits of data federation, and the limits of knowledge creation within the context of a federated system. Interactions within the DARIAH network and through its services were able not only to confirm the wider validity of these reflections, but also propose some innovative mechanisms by which to extend these reflections into a wider, industry-facing project.

Description of the Impact

The project was integrated into a large number of European policy initiatives, including the Big Data PPP, Big Data Value Association (BDVA) and Big Data Value Ecosystem (BDVE), as well as the Advisory Board of the HubIT project for SSH integration into ICT research. These points of integration resulted in part from the initial positioning of the project as an ICT 'sister' project, a modality of project designed by the European Commission to bring an innovative SSH research perspective to the ICT programme topic areas. Humanities-led projects in this industry-driven space are rare, and the project ultimately had unique opportunities to contribute to debates about the development of big data research and innovation (such as through the project's presentation at the Big Data Value Forum in Versailles, France, in 2017).

In spite of its limited duration (15 months) the project produced 4 major chapters or journal articles, a co-authored book, an open dataset, 3 policy reports, and 5 significant examples of public outreach. Many of these publications are seeing significant reuse, while the European Network of SSH National Contacts (Net4Society) featured the project as one of its "Integration Success Stories". Another reuse story of these publications was seen in the first workshop of the SHAPE-ID project on inter- and transdisciplinary humanities on the question of how Arts and Humanities disciplines can position themselves as leaders or equal partners in research addressing societal challenges.

Evidence of the Impact

Primary Scientific Publications

- (2022) Jennifer Edmond, Nicola Horsley, Jörg Lehmann and Mike Priddy. The Trouble With Big Data: How Datafication Displaces Cultural Practices Bloomsbury. Available at: <https://www.bloomsburycollections.com/book/the-trouble-with-big-data-how-datafication-displaces-cultural-practices/>

Usage statistics: Almost 4,000 views as of February 2023.

Reviewed in The Sociological Review as: "...a significant text for digital humanities and science, technology and society studies, or for anyone who is serious about understanding digital cultures in the post-truth era." <https://thesociologicalreview.org/reviews/the-trouble-with-big-data-by-jennifer-edmond-nicola-horsley-jorg-lehmann-and-mike-priddy/>

- (2021) Jennifer Edmond, Jörg Lehmann Digital humanities, knowledge complexity, and the five 'aporias' of digital research. *Digital Scholarship in the Humanities*, Volume 36, Issue Supplement_2, October 2021, Pages ii95–ii108, <https://doi.org/10.1093/llc/fqab031>

Usage statistics: +1500 views, in the top 25% of all research outputs scored by Altmetric.

- (2020) with Georgina Nugent-Folan "Digitising Cultural Complexity: Representing Rich Cultural Data in a Big Data Environment." In: Rice, R., Yates, S. (eds) *The Oxford Handbook of Digital Technology and Society*. Oxford: Oxford University Press.

Usage statistics: Unavailable.

- (2018) Knowledge Complexity. Open Research Data. DANS. <https://doi.org/10.17026/dans-xe6-hpm5>
- (2017) N. Horsley, "What can a knowledge complexity approach reveal about big data and archival practice?," *2017 IEEE International Conference on Big Data* (Big Data), Boston, MA, USA, 2017, pp. 2246-2250, doi: 10.1109/BigData.2017.8258176.

Usage statistics: 95 Full Text Views.

- (2017) Edmond, J., Nugent Folan, G.. Data, Metadata, Narrative. Barriers to the Reuse of Cultural Sources. In: Garoufallou, E., Virkus, S., Siatra, R., Koutsomiha, D. (eds) *Metadata and Semantic Research*. MTSR 2017. Communications in Computer and Information Science, vol 755. Springer, Cham. https://doi.org/10.1007/978-3-319-70863-8_25

Usage statistics: Accessed +1000 times.

Policy and Industry Publications

- (2017) Knowledge Complexity and the Digital Humanities: Introducing the KPLEX Project.

ERCIM (European Research Consortium for Informatics and Mathematics) News: Number 111 October 2017, pp. 20-30

<https://ercim-news.ercim.eu/en111/special/knowledge-complexity-and-the-digital-humanities-introducing-the-kplex-project>

- (2018) Jennifer Edmond, Nicola Horsley, Elisabeth Huber, Rihards Kalnins, Jörg Lehmann, Georgina Nugent Folan, Mike Priddy and Thomas Stodulka

Big Data and Complex Knowledge: Observations and Recommendations for Research from the Knowledge Complexity Project. Available at: https://kplexproject.files.wordpress.com/2018/04/trinity-big-data-report-jklr_04.pdf

- (2018) K-PLEX : a success story in SSH integration. Net4Society. https://kplexproject.files.wordpress.com/2018/06/ict_final_draft-1.pdf
- (2019) First SHAPE-ID Workshop Takes Place at Trinity College Dublin. <https://www.shapeid.eu/first-shape-id-workshop-takes-place-at-trinity-college-dublin/>

Public Outreach

- RTE Brainstorm Radio Programme, first broadcast 2nd December 2018. Available at: <https://www.rte.ie/eile/brainstorm/2018/1203/1014763-brainstorm-on-the-radio-episode-1/>
- Keynote Address, Fidelity Investments Data Meet-up. "Bias and Big Data: Watching our Mouths and Manners?" April 2018.
- RTE Brainstorm, "The Problem with Talking about Big Data." March 2018. <https://www.rte.ie/eile/brainstorm/2018/0110/932290-the-problem-with-talking-about-big-data/>
- Feature Interview, ÖRF (Austrian National Radio). January 2018.
- Feature interview, Der Standard (Viennese Daily Newspaper, circulation approx. 85,000) "Geisteswissenschaften und digitale Technologien sind kein Gegensatz." January 2018 – <https://derstandard.at/2000073402537/Geisteswissenschaften-und-digitale-Technologien-sind-kein-Gegensatz>



d. Creating Tools and Services for the Community

Roadmap Towards a Technical Infrastructure. An interview with Matej Ďurčo, DARIAH Chief Technology Officer (CTO)



Matej Ďurčo

Matej Ďurčo joined DARIAH as Chief Technology Officer (CTO) in December 2022, after having been in the DARIAH ecosystem in different roles in the past. Could you tell us about your previous engagement in the Arts and Humanities Infrastructures, and also explain what is now your role as DARIAH CTO?

I have indeed been involved in both DARIAH and CLARIN from the start! I remember my enthusiasm (and perhaps naivety) at the first CLARIN meeting, in 2009. I was a developer at that time and I got involved in the building of the central technical infrastructure of CLARIN. Then, following the growing involvement of my home institution, the Austrian Centre for Digital Humanities and Cultural Heritage (ACDH-CH) of the Austrian Academy of Sciences, in DARIAH, I started to get involved as well. I became Head of the Virtual Competency Centre (VCC) 1 and started to attend the DARIAH Annual Events, which were always fun and engaging. As ACDH-CH evolved over the years, more and more areas of common interests with both CLARIN and DARIAH emerged, reflected in a growing number of common projects. Last culmination point of this collaboration were the DARIAH Days in Vienna in July 2022, where two DARIAH directors and colleagues from the DARIAH Coordination Office visited ACDH-CH for three days of exchanges.

Finally, in November, I was appointed DARIAH CTO. In this role, I am responsible for overseeing the technical development, maintenance and sustainability of DARIAH's central services. I lead the consolidation of the DARIAH services portfolio to make sure national members assets are also included. There is also a need to clarify what DARIAH-affiliated repositories are and how they can serve the DARIAH communities. Finally, we will also dedicate special efforts to improve the information and knowledge management processes within DARIAH.

Research Infrastructures are often described as socio-technical systems, and while the networking dimension of DARIAH is well-known and established, the technical dimension may seem less mature. Do you think this is true? How would you describe the DARIAH technical infrastructure?

Different Research Infrastructures have different ambitions and their communities have different technical needs. STEM infrastructures have developed from their hardware needs for example. In this complex network it can sometimes be difficult to identify responsibilities in terms of ownership and provision of resources. Technical aspects have been increasingly strengthened over the last years and a strategy within DARIAH is emerging. Certain resources are considered central to the mission of DARIAH, so DARIAH takes ownership and caters for their sustainability. Other resources, useful for the Arts and Humanities research community, are contributed from the national members. Here, DARIAH is not responsible for running them, but supports their dissemination or acts as a broker in the community. The DARIAH technical infrastructure is not about ownership and having control over things, but about supporting and sharing resources that are developed and are provided back to the network at large.

DARIAH resources are very diverse, but services have a special place among them. A lot of preparatory work has been carried out by different DARIAH bodies these last years to establish a consolidated DARIAH service offer. How do you foresee this DARIAH service offer?

The DARIAH Strategy Plan defines which services are central to the DARIAH mission, and are accordingly taken care of by central bodies. On the other hand, DARIAH has its national members and useful contributions are also coming from there. Depending on the intended audience, DARIAH's involvement is not the same. These services remain under control of the individual partners but are promoted as part of the DARIAH offer. This offer is FOR the community. Beside that, we also need internal services to support basic organisational or communication needs. Thus taken together, four groups have been identified to structure the DARIAH service portfolio: central and community services, national services and internal services.

There are already established and mature DARIAH services such as the SSH Open Marketplace, DARIAH-Campus, #dariahTeach or the DH Course Registry. Then, there is indeed a challenge to address the diversity of the national services once they are aggregated as part of

the DARIAH service offer. We already have various ways to show the diversity: classifying them by activities, by data types they are applicable for, by disciplines. But the next step should be to provide the right incentives to further develop promising proofs of concept for example. In the long run, DARIAH can play an important role shaping such a distributed service portfolio for Arts and Humanities.

To conclude, could you tell us a bit about your plans for 2023 and which missions you want to achieve in this CTO role?

The primary focus will be on the service portfolio and service management workflow. But I consider this effort as part of a more systematic approach to other types of resources, especially datasets and software. An important goal of this approach is to improve their availability to the community and potential users, to promote their reuse. This connects to broader initiatives, such as the European Open Science Cloud in which DARIAH is involved, or to OpenAire Graph being the EOSC central catalogue and how DARIAH resources are represented there for example.

Another important area of activity relates to Cultural Heritage Objects (CHO). Given their role as primary objects of scholarly inquiry in humanities disciplines, we want to facilitate the reciprocal exchange between GLAM sector and (DH) research, improving availability and reusability of CHO for humanities research, but also feeding research output back to cultural heritage institutions. In this respect, collaborations with Europeana and especially the EU Collaborative Cloud for Cultural Heritage are of great interest.

Using the SSH Open Marketplace to Register and Curate the DARIAH Tools and Services Offer

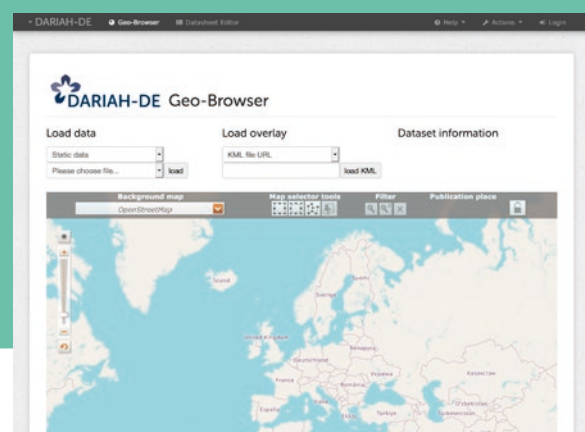
As part of the work conducted to clarify the DARIAH service offer, one of the ideas that emerged from the consultation with all DARIAH bodies is to reuse existing registries in order to ease the collection of key performance indicators and in-kind contributions from the national nodes. 2022 was a pilot year in this regard, and one of the first steps has been to clarify how to add Tools & Services as DARIAH National Resources into the SSH Open Marketplace. Under the lead of the DARIAH-DE team, guidelines have been designed and approved by the DARIAH National Coordinators Committee. [These guidelines](#) can also be used for other national infrastructure consortia to manage and represent their tools and services for the community in an open and collaborative way.

At the end of 2022, a bit more than 80 DARIAH national resources were registered in the SSH Open Marketplace, which represents, according to the first analysis of the service portfolio, half of the tools and services to be expected there in 2023.

What are DARIAH services? Focus on GeoBrowser, a DARIAH-DE Service

DARIAH-DE GeoBrowser is a tool for analysing space-time relations of data and collections of source-material. It allows a comparative visualisation of several requests and facilitates the representation of data and their visualisation in a correlation of geographic spatial relations at corresponding points of time and sequences. Thus, researchers can simultaneously establish correlations between them. This service is provided by the Göttingen State and University Library where Stefan E. Funk and Ubbo Veenster are the lead developers. During the CLARIAH-DE project the service was also integrated into the CLARIN Switchboard.

The web-based tool [GeoBrowser](#) and its [documentation](#) is available for browsing. You can also discover it among the other DARIAH national resources in the [SSH Open Marketplace](#).



e. Connecting Communities: The DARIAH Annual Event 2022

In 2022, we had the pleasure to host the first post-pandemic hybrid DARIAH Annual Event that took place in Athens, Greece, from May 31st to June 3rd. For this event, Jennifer Edmond, Chair of the Programme Committee, chose the topic of Storytelling, highlighting the power of storytelling in the arts and humanities¹. By looking at research practices and research infrastructures through the lens of storytelling, this event aimed to build conceptual bridges between the arts, technology, humanities, and beyond.

Our local hosts for 2022 were the R.C. "Athena" and the APOLLONIS/DARIAH-GR team. With ongoing uncertainty related to the COVID-19 pandemic, DARIAH decided to organise the event in a hybrid way, enabling both remote and in-person presentations and participations, combining platforms such as Zoom and Slack. In particular, the latter led to interesting interactions and greater visibility of poster and demo contributions, a legacy we would like to keep for future events.

For many years the DARIAH Annual event has been a combination of a community meeting and a scientific conference. The conference part is increasingly growing and for 2022, we received 65 submissions on the topic of Storytelling of which 50 were accepted as papers,

panels and posters. We also had a high record of registrations with 352 persons registered, 141 of which attended the event in person while the remaining were able to join online. Organising the event in a hybrid format certainly encouraged wider participation to the event with a higher number of registrations from Europe and beyond.

The structure of the event followed a similar format to previous years, allowing for internal DARIAH meetings, open to the wider community Working Group meetings, paper sessions, panel sessions, poster and demo sessions, plenary sessions and keynotes. The two keynotes framed the event with an opening keynote by Prof. Andrew Perkis (Professor at NTNU Trondheim, head of the NTNU ARTEC) on the topic of "Interactive Digital narratives. Journey towards new storytelling framework" and a closing keynote by Louise Welsh (Professor of Creative Writing at University of Glasgow) on "Writing in the Dark; Storytelling, Memory and Gothic". The event also featured a live musical performance from Nadar Ensemble, one of the DARIAH Theme funded projects, as well as a presentation of the GoTRIPLE platform, developed as part of the TRIPLE project.

1: Edmond, Jennifer, Scharnhorst, Andrea, Morselli, Francesca, Benardou, Agiatis, Papaki, Eliza, & Ferguson, Kim B. (2022). DARIAH Annual Event 2022 – Storytelling – Book of Abstracts. DARIAH Annual Event 2022 – Storytelling. Zenodo. <https://doi.org/10.5281/zenodo.6720075>



f. Innovation Forum

Five years after the first very successful [DARIAH Innovation Forum](#), that took place in Aarhus, Denmark in November 2017, DARIAH-EU organised its second Innovation Forum in Dublin, Ireland, in November 2022, bringing together researchers and the creative industries, exploring how best to promote the arts and humanities to industry players and beyond.

During this packed 1-day event, which was organised on November 3 at the Trinity Long Room Hub, Trinity College Dublin, panel presentations, a keynote and an innovation challenge highlighted DARIAH's relations with traditional and digital industries. This event was organised back-to-back with the DARIAH General Assembly and a joint workshop with the DARIAH National Representatives and DARIAH National Coordinators on understanding how different countries monitor, advise and make decisions on national participation in the European research infrastructures landscape.

The day featured four panels with speakers from major multinational industry companies, including Ernst and Young and ReD Associates, creative and cultural SMEs such as Noho, forward-thinking academic projects such as the Cassandra Project and the Human+ Programme, and recognised arts and culture incubators and facilitators such as IMEC and i2CAT.

Highlight of the day was the keynote speech by the multitalented entrepreneur, artist, technologist and high-level innovation policy advisor Michela Magas. Drawing on her vast experience in collaborative projects on Music, Communicative Technology, Social Impact of Innovation, Environment and Sustainability, Maga's talk introduced concepts such as the JUST research principles (Judicious, Unbiased, Safe & Transparent) instead of only FAIR, how innovation should be embedded in all systems of agreements, resilience, responsibility but most importantly of beliefs and societal values and how policy on the top level is rooted in and following the community in collaborative environments.

Innovation Challenge

As part of this event, DARIAH-EU launched an Innovation Challenge that sought to explore how the arts and humanities contribute to innovation. The challenge was an open case competition that invited young researchers in the arts and humanities to submit their solutions to a culturally embedded, but also economically, environmentally and socially relevant 'wicked' problem: the regional airport.

The central question of this challenge was: How might the services and spaces of regional airports be reinvented so as to continue to serve their longstanding mission as hubs for cultural exchange, even if fewer actual flights arrive and depart from their gates? How might they draw inspiration from other kinds of transformed cultural spaces, such as libraries, museums and bookstores in order to find new pathways to economic and social vitality?

The competition ran for a month, inviting innovative ideas and non-textual artefacts to illustrate each submission. Uri Yahalom and Mai Caspi (Bezalel Academy of Arts and Design) were the winning candidates with their submission on 'NFT Factories'. DARIAH-EU granted a cash prize of €1000 to the winning finalists while the two runners up, Tamar Berger with her project on 'A-Port' and Ofir Bouba and Gil Sharabi on 'Terminal V', received a prize of €500 each.

"There are plenty of voices calling for greater input from the arts and humanities into innovation, but what isn't clear is how we transform our traditional modes of training students in these areas to hold on to the values of creativity and criticality, but also be open to applied and translational applications of their ideas" said Jennifer Edmond. "We hope our Innovation Challenge might be an inspiration to others looking to enhance the place of arts and humanities in how we approach societal challenges."



3. Doing Things Right and Doing the Right Things

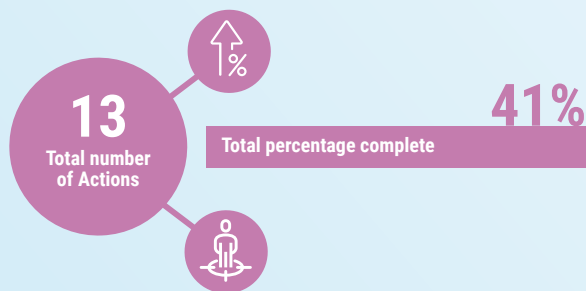
a. Measuring our Impact

Back in 2019, DARIAH has made great efforts to define indicators that truly capture and measure success based upon a solid understanding of what our strategic goals and stakeholder values are. For the last four years we have been collecting a set of quantitative and qualitative key performance indicators (KPI) that covers the areas of Effectiveness, Use and Impact, refining our methodology and data collection process year after. The goal of the exercise is both to provide an accurate picture of the performance and impact of DARIAH at a European scale in 2022 and, more importantly, lay the foundation for an analysis of their evolution over time.

We collected quantitative information throughout the central European office and national consortia to compile KPIs reflecting usage and impact. But also produced three Impact Case Studies on Integrating digital literacy skills at the Faculty of Arts and Philosophy, Ghent University (see p. 16-17), Digital Practices for the Study of Urban Heritage (see p. 20-21) and the Knowledge Complexity Project (see p. 26-27).

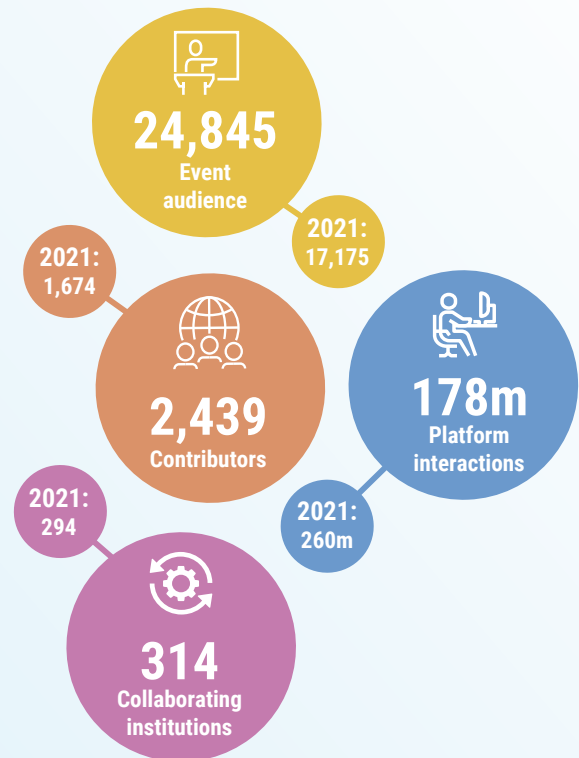
EFFECTIVENESS

In January 2022, in close cooperation with DARIAH's senior management team, we developed our third Strategic Action Plan, which was then presented to and adopted by DARIAH's General Assembly a couple of months later. This Action Plan officially started on 01.06.2022 for a total duration of 3 years, thus concluding the overarching Strategic Plan, which was designed for the period 2019-2026. On 31 December 2022, we already had completed 41% of the third Strategic Action Plan.



USER BAROMETER

In 2022, we have not welcomed any new members but we have seen a slight increase in the number of collaborating institutions, which demonstrates that national consortia evolve and grow over time. We have seen a sharp rise in the number of contributors and event audience, showing a constant growth of the DH community aware of and participating in DARIAH activities. However, there was a decline in the number of platform interactions, reflecting a change in data collection methodology but also a difficulty to track usage at national level.



IMPACT

In terms of impact, if there was a decline in the number of publications between 2020 and 2021, the funding leverage has remained high, reflecting the significant continuous investment of our member countries in Digital Humanities.



b. Harnessing our National Networks: In Kind Contributions 2021

While in transition to a new Unified National Report (UNR) system, the In-Kind Contribution tool was once more used to document national contributions. All member countries (except Malta which is currently without a National Coordinator) reported various types of in-kind contributions amounting to an equivalent of more than € 7.5 million in national investments in infrastructure for the arts and humanities. The 375 contributions are distributed differently among the members. However, we increasingly see recurring services and other contributions in the reporting which speaks to their sustainability and continuous use, representing the growing maturity of the infrastructure network.

One such example is the web archive [Arquivo.pt](#), to which DARIAH-PT/ROSSIO has contributed roughly 20 events and services from 2018 onwards. Another example is [iReteslaw](#), the online repository of texts in the field of Slavic studies, which has received continuous investments from DARIAH-PL since 2017. In total, roughly one third of all national in-kind contributions in the 2017-2021 period were recurring ones. The introduction of the UNRs for the year 2022 is intended to streamline the reporting of in-kinds, in part by making it easier for member countries to report recurring contributions.

c. Changes in the Organisation

In 2022, the most impactful and memorable changes for DARIAH as an organisation happened within the Board of Directors (BoD). Sally Chambers, former Chair of the National Coordinators Committee, who was appointed by DARIAH's General Assembly in November 2021, officially started her duties as Director on 1 March 2022. On 1 September DARIAH's leadership was officially handed over from Jennifer Edmond to Toma Tasovac, who succeeded her as President of the BoD. Jennifer completed her second term of office until 31 December and left, after 6 years of service, an enduring legacy in the history of DARIAH. Agiatis Benardou, former member of the Joint Research Committee, was appointed Director by DARIAH's General Assembly during their November meeting and started her duties on 1 January 2023.

Within the DARIAH Coordination Office, the most important change for the future of the organisation was the creation of a position of Chief Technological Officer, which has been filled as of 1 November 2022 by Matej Durco, former member of the Joint Research Committee. He will split his time between DARIAH and the Austrian Centre for Digital Humanities and Cultural Heritage, a long-standing and trusted DARIAH partner organisation. Besides, Femmy Admiraal who worked in the CIO team for the organisation of annual events and the collection of in-kind contributions was replaced by Kim Ferguson and Simon Saldner.

While there were no changes in the Scientific Board in 2022, the same was not true for the Joint Research Committee which was largely renewed. Five members stepped down: Fabio Ciotti, Dirk Wintergrün, Marianne Ping Huang, Matej Durco and Agiatis Benardou (the last two having joined the core team as CTO and Director respectively) and two new members were appointed: Tanja Wissik and Elena Gigliarelli.

In Kind Contributions 2021



4. Looking Ahead

2022 was a year of change, adaptation and renewal for DARIAH. An intimate farewell event for outgoing Director Jennifer Edmond took place at Trinity College Dublin after the Innovation Forum in November. The appointment of two new Directors, one in March and one at the year's end, the establishment of the new position of a Chief Technical Officer, alongside new members joining the Joint Research Committee and new Working Groups established, bring DARIAH on the cusp of new pursuits and openings to new communities.

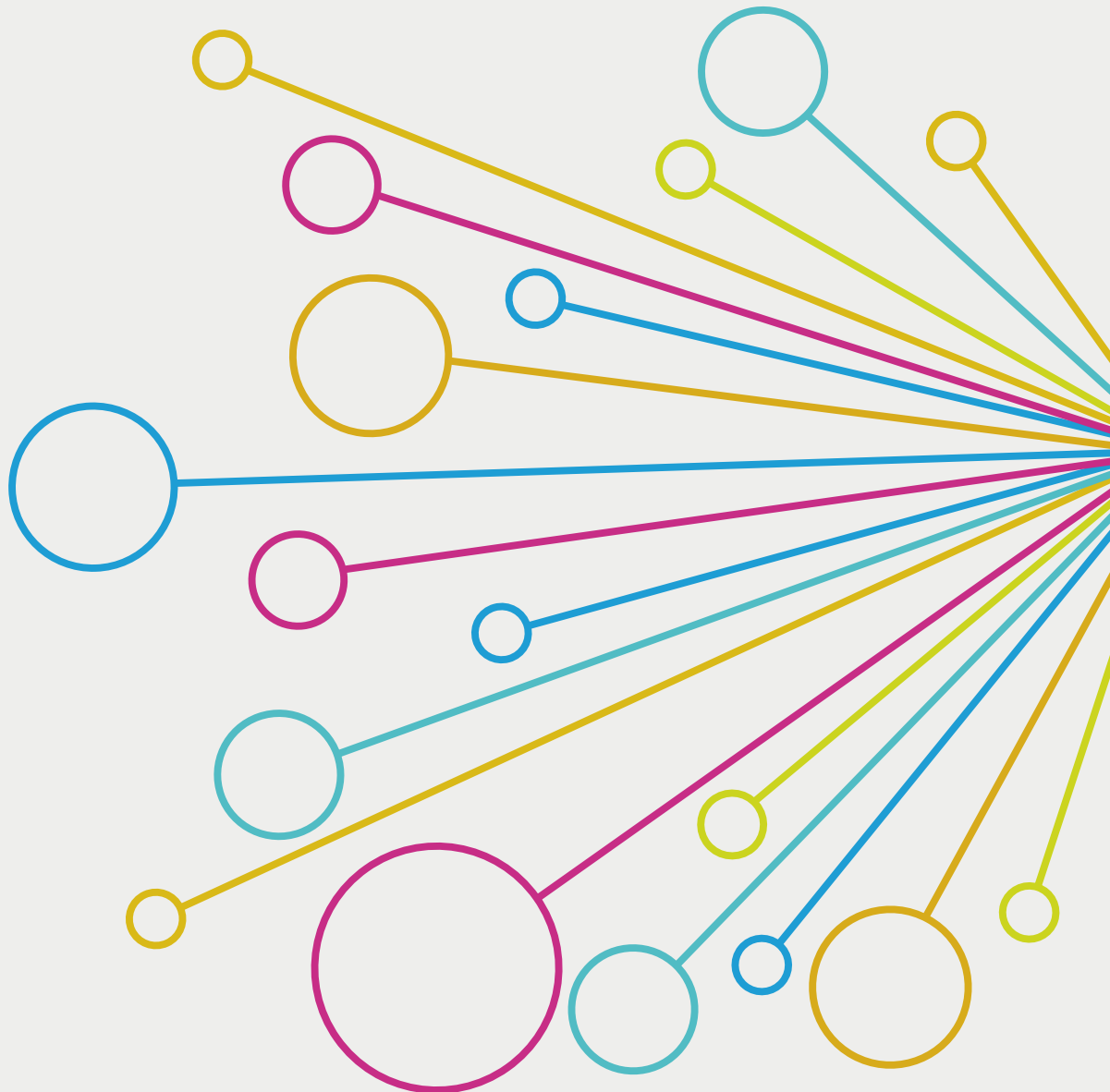
In the year ahead, we are committed to reinforcing the bonds between Working Groups, communities of practice and researchers across Europe and beyond. DARIAH will keep working towards its social sustainability by building on education and training, through the DARIAH-Campus, Friday Frontiers, publications and

events especially designed to train and familiarise researchers with the affordances of various aspects of the Digital Humanities.

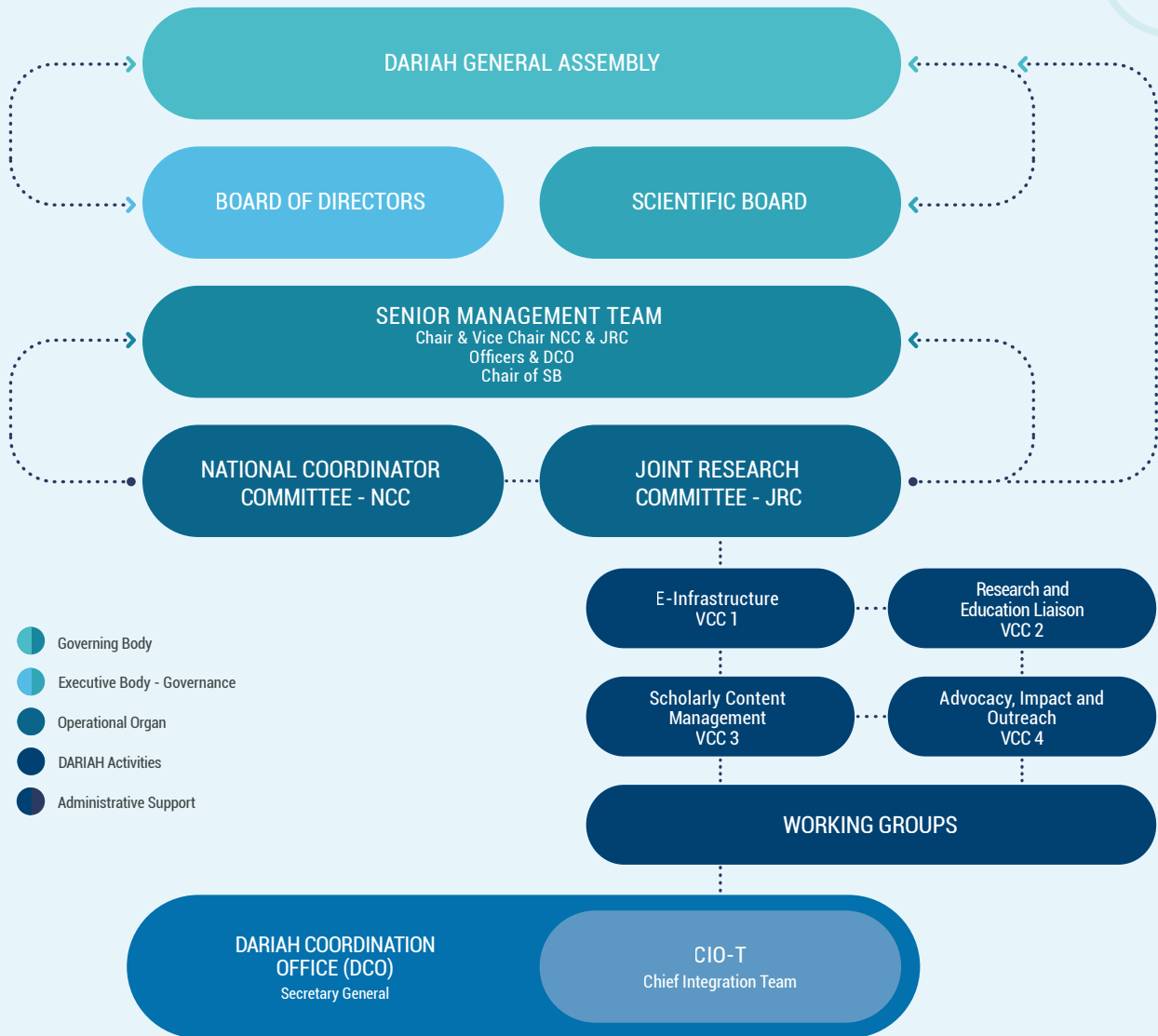
To us, the importance of interaction, osmosis and cooperation of the humanities, the arts and the social sciences is paramount. As DARIAH, we will be pursuing synergies with infrastructures such as CLARIN, OPERAS and ARIADNE, as well as collaboration with successful initiatives like the Pelagios Network. We are already working hard towards setting more goals which will make us even more outward looking, and towards reaching out even further to connect with new communities and form new inspiring partnerships.



Appendix

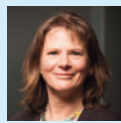


Appendix I: Administrative and Legal Details



Who's who in DARIAH

Body: Board of Directors



Jennifer Edmond

Trinity College Dublin



Toma Tasovac

Belgrade Center for Digital Humanities



Sally Chambers

Ghent University

Body: Scientific Board (as of 31st December 2022)

Panos Constantopoulos	Chair of the DARIAH Scientific Board, Athens University of Economics and Business
Payal Arora	Erasmus University Rotterdam
Marko Demantowsky	University of Vienna
Martine Denoyelle	Institut National de l'Histoire de l'Art
Milena Dobрева	GATE Institute
Chad Gaffield	University of Ottawa
Alain Heureux	Virtuology Academy
Sarah Kenderdine	École Polytechnique Fédérale de Lausanne (EPFL)
Andrew Perkis	NTNU ARTEC
Andrea Rapp	Technical University Darmstadt
Patrik Svensson	UCLA
Roxane Wyns	LIBIS

* Shaded area marks colleagues that changed positions or left DARIAH before the end of 2022

Body: Joint Research Committee

Andrea Scharnhorst	Chief Integration Officer	DARIAH/DANS
Tibor Kálmán	Heads of VCC1	GWDG
Tomasz Parkola		Poznan Supercomputing and Networking Center
Agiatis Benardou	Heads of VCC2	Digital Curation Unit, ATHENA R.C.
Tanja Wissik		ACDH-CH
Georgios Artopoulos	Heads of VCC3	STARC, Cyprus Institute
Elena Gigliarelli		CNR National Research Council Italy
Adeline Joffres	Head of VCC4	TGIR Huma-Num (CNRS)

Body: DARIAH Coordination Office		
	Arnaud Roi	Secretary General
	Laure Barbot	European Project Officer
	Matej Ďurčo	Chief Technical Officer
	Kim Ferguson	Integration Officer
	Vicky Garnett	Training and Education Officer
	Edward J. Gray	National Coordination Officer
	Anne Grésillon	Chief Organisation Officer
	Francesca Morselli	Integration Officer
	Eliza Papaki	Outreach and Communications Officer
	Marco Raciti	European Project Manager
	Simon Saldner	Integration Officer
	Andrea Scharnhorst	Chief Integration Officer
	Erzsébet Tóth-Czifra (picture)	Open Science Officer

Body: National Coordinators Committee		
Nanette Reißler-Pipka	Chair of NCC/Germany	Göttingen State and University Library
Martin Lhoták	Vice Chair of NCC/Czech Republic	Czech Academy of Sciences
Mörth Karlheinz	Austria	Austrian Centre for Digital Humanities, Austrian Academy of Sciences
Walter Scholger	Austria	Center for Information Modeling – Austrian Centre for Digital Humanities, University of Graz
Christophe Verbruggen	Belgium	Ghent Centre for Digital Humanities
Lana Paćuka	Bosnia and Herzegovina	University of Sarajevo
Dimitar Iliev	Bulgaria	Sofia University
Kiril Simov	Bulgaria	Bulgarian Academy of Sciences
Koraljka Kuzman Šlogar	Croatia	Archive, Institute of Ethnology and Folklore Research
Marinos Ioannides	Cyprus	Cyprus University of Technology
Kristoffer Laigaard Nielbo	Denmark	Aarhus University
Nicolas Larousse	France	Huma Num
Paris Potiropoulos	Greece	Academy of Athens
Orla Murphy	Ireland	University College Cork
Emiliano Degl'Innocenti	Italy	Italian Council of Research
Lorella Viola	Luxembourg	Luxembourg Centre for Contemporary and Digital History
Claudia Borg	Malta	University of Malta
Richard Zijdeman	Netherlands	International Institute of Social History (IISH)
Karolina Brylska	Poland	University of Warsaw
Amelia Aguiar Andrade	Portugal	NOVA FCSH
Snežana Petrović	Serbia	Serbian Academy for Sciences and Arts
Jakob Lenardič	Slovenia	Institute of Contemporary History
Rita Gautschy	Switzerland	Swiss National Data & Service Center for the Humanities (DaSCH)

Appendix II: Finances

A. DARIAH ERIC

a. Preliminary remark

It should be noted that, at the time of writing this annual report, the accounts of DARIAH ERIC for the year 2022 have not yet been audited. DARIAH's General Assembly traditionally reviews the auditor's report and decides on the financial statements at its November meeting, in a few months' time. It should be nonetheless mentioned that the last report of the auditor in 2021 concluded that DARIAH's financial statements "give a true and fair view of the assets and liabilities, and of the financial position of the organisation on December 31, 2021 and of the results of its operation in accordance with the accounting rules and principles applicable in France."

However, this does not preclude us from already giving an accurate situation of DARIAH's finances for the year 2022 that reflect its operations in an understandable and transparent manner for its stakeholders.

It is important to clarify that, in this first section "DARIAH ERIC", only the resources and expenses related to DARIAH's core activities – i.e., without its participation in European projects – are accounted for. Besides, due to their very nature, the in-kind contributions are not included in the calculation of resources available to run DARIAH's operations.

b. Resources and financial overview

20 member countries and 1 observer country contributed to DARIAH ERIC's budget 2022 in two different ways: through cash and in-kind contributions. In accordance with the budget voted by the General Assembly, the contributions from the member countries amounted to:

2022 total cash contribution	772,301 €
2022 total in-kind contribution	4,636,700 €

The total income 2022 is mostly composed of cash contributions from member countries and overheads of European projects that have been completed and paid in full. In 2022, this applied to the projects OPERAS-P (GA-Nr: 871069) and SSHOC (GA-Nr: 871069), completed in June 2021 and April 2022 respectively.

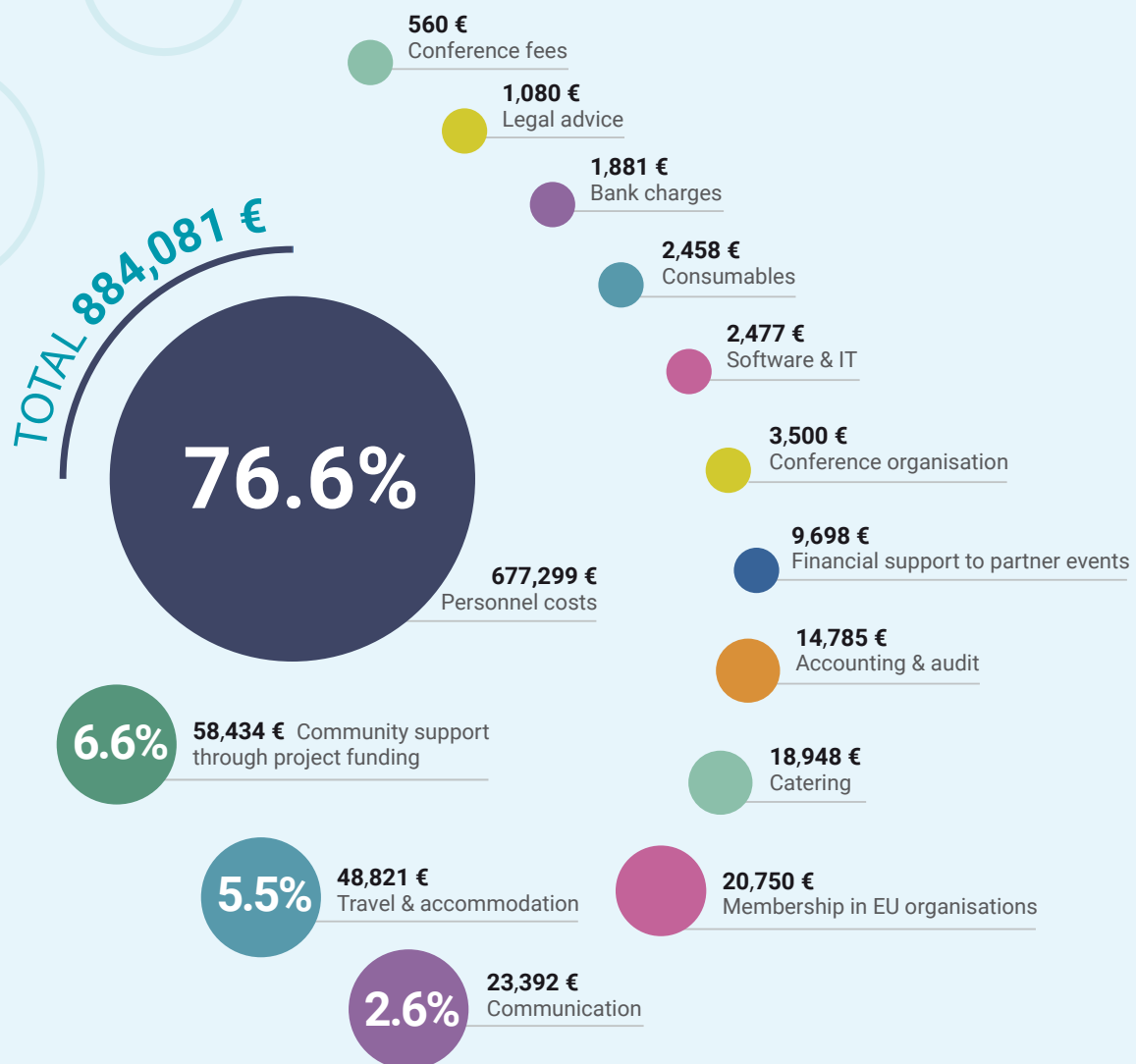
With a total income of 870.064 € and a total expense of 883.657 €, DARIAH's balance for the year 2022 is as follows:

DARIAH balance 2021	827,397 €
DARIAH income 2022	870,064 €
DARIAH expenses 2022	884,081 €
Balance 2022	-14,017 €
Total balance	813,380 €

c. Operational costs

In 2022, the operational costs are distributed as follows:

Type of costs – DARIAH only	2022
Personnel costs	677,299 €
Community support through project funding	58,434 €
Travel & accommodation	48,821 €
Communication	23,392 €
Membership in EU organisations	20,750 €
Catering	18,948 €
Accounting & audit	14,785 €
Financial support to partner events	9,698 €
Conference organisation	3,500 €
Software & IT	2,477 €
Consumables	2,458 €
Bank charges	1,881 €
Legal advice	1,080 €
Conference fees	560 €
Total	884,081 €



The largest component of DARIAH's operational costs is by far the personnel which represents 77% of the total costs. The second largest item of expenditure (7%) is the financial support to research communities which refers to tailored project funding for scholars in the arts and humanities (DARIAH Theme and Working Group project funding). The third one, with 6%, is the travel and accommodation costs. After 2021, when travel came to a complete halt due to the COVID-19 pandemic, 2022 was again very busy travel-wise, with two main highlights for DARIAH, the Annual Event in Athens and the Innovation Forum in Dublin.

In the fifth position (2%), the "membership in EU organisation" refers to fees paid to be part of the EOSC association, the OPERAS infrastructure or the European Alliance for Social Sciences and Humanities (EASSH). It may be also useful to clarify that under the heading "financial support to partner events" (1%) reference is made to DARIAH's financial contribution to the organisation of the European Summer University in Digital Humanities (Leipzig) and the Helsinki Digital Humanities Hackathon.

d. Focus on personnel costs

Although personnel costs are the largest item of expenditure, this does not reflect an excessive administration but rather a strong and diverse team that works directly to support the research communities and meet their needs in terms of communication, research policy, service development, etc. It should be noted that the above-mentioned personnel costs do not take into account the work carried out in the framework of the European projects. Below is the composition of the DARIAH central team:

Personnel Costs – administration	FTE
Directors	1,5
Secretary-General	1
Legal and administration officer	0,9
European project manager	0,9

Personnel Costs – support for the community	FTE
Communication officer	1
EU project officer (SSHOC project)/Officer for service development	1
Open Science officer	1
Working group coordinators and experts for in-kind contributions	0,8
Officer for national coordination	0,6
Training and education officer	0,6
Research software developer (SSHOC)	0,25

B. European projects

DARIAH's participation in several European projects requires a specific financial monitoring according to the rules set up by the European Commission. Consequently, the resources and expenses related to EU projects are accounted for separately for transparency purposes.

In 2022, DARIAH was involved in the following projects:

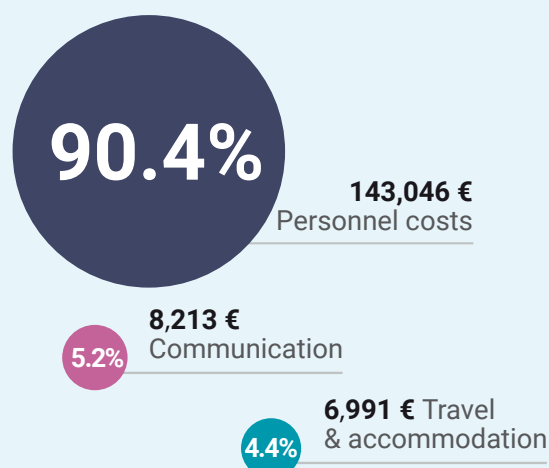
- The Social Sciences & Humanities Open Cloud (SSHOC), Grant agreement number 823782
- Transforming Research through Innovative Practices for Linked interdisciplinary Exploration (TRIPLE), Grant agreement number 863420
- The ERIC Forum Implementation project (ERIC Forum), Grant agreement number 823798

- EOSC future (EOSC Future), Project number 101017536
- Computational Literary Studies Infrastructure (CLS INFRA), Project number 101004984
- On the road to sustainability: paving the way for OPERAS as an efficient open Social Sciences and Humanities scholarly communication Research Infrastructure (OPERAS-PLUS), Project number 101079608

In 2022, the operational costs related to European projects are distributed as follows:

Breakdown by projects	Credit	Debit
SSHOC	36,377 €	36,377 €
TRIPLE	46,138 €	46,138 €
ERIC Forum	1,067 €	1,067 €
EOSC Future	58,228 €	58,228 €
CLS INFRA	14,715 €	14,715 €
OPERAS-PLUS	1,794 €	1,794 €
Total European projects	158,320 €	158,320 €

Breakdown by type of costs	2022
Personnel costs	143,046 €
Communication	8,213 €
Travel & accommodation	6,991 €
Catering	70 €
Total	158,744 €







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