The DARIAH ERIC: Redefining Research Infrastructure for the Arts and Humanities in the Digital Age

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As it begins its second decade of development, the Digital Research Infrastructure for the Arts and Humanities (DARIAH) continues to forge an innovative approach to improving support for and the vibrancy of humanities research in Europe.

When we think of infrastructure, we often fall back on canonical images of things like roads, bridges and buildings. In many disciplines, these still resonate with the needs of the researcher community, where a supercollider or a research vessel may indeed be at the core of what is required to advance our state of knowledge.

The arts and humanities are different. As a collection of approaches to knowledge, the methods deployed stem from a shared respect for complex source material emerging not from the experimental design of the scientist, but from the experiences, cultures and creative impulses of human beings. Providing an enhanced, shared, baseline access to key methods, sources, tools and services is therefore a great challenge indeed.

The Digital Research Infrastructure for the Arts and Humanities (DARIAH) was first conceptualised in late 2005 as a response to how this very different set of requirements was being addressed in the fast-moving environment of digitally-enhanced research. The infrastructure was later officially founded as a European Research Infrastructure Consortium (or ERIC) based in France, but with 17 national members contributing funds and in-kind contributions from their local digital humanities research communities. The knowledge base of the resulting network is further enhanced by contributions from funded research projects in which DARIAH is a partner, as well as the contributions of working groups, assembled by network members on a voluntary basis to address key gaps in infrastructural provision or key emerging challenges for the research communities.

This rich tapestry of contributions creates a form of infrastructure based on knowledge production and exchange, rather than on concrete shared facilities or datasets. As such, the challenge for DARIAH as it enters its second decade of development is to capitalise on the human infrastructure it has built to create a fully aligned system of coordinated contribution and access provision to the good practices emerging from the network [1]. In order to do this, we are focussing for the next three years on four key areas of development that will enhance our ability to deliver low-friction, high value interactions for our partners.

The first area of focus is to improve our external communications. Ensuring that our basic information is available in an easily legible form for all current and potential new members of our network is a sine qua non for ensuring that the infrastructure can function. This programme of activities will cover the gamut of communications instruments, from a newly redesigned website to the appointment of specific individual ambassadors to reach key target regions and communities; from a more strategic approach to attending events to a mapping of key organisation-to-organisation relationships within our community and beyond. We will also clarify what we are able to offer as services to our community, from support for grant capture to hosting of orphan research projects. By focussing on our core messages in this way, we hope also to be able to communicate and build consensus around an even clearer message of what DARIAH is and does, and how it operates as an infrastructure in conditions that require a very different approach.

The second plank in DARIAH's development plan is to push forward its vision for a virtual marketplace, making visible and accessible the many tools, services, datasets and expertise bases that our network has opened up for use by others. This may sound like an easy task to achieve, but the prerequisite understanding of what these assets would be valued for and by whom is actually quite challenging to develop. Ensuring that we provide an optimised platform for targeted and serendipitous discovery of resources, as well as their easy reuse, will be a major achievement of DARIAH by 2020.

Our third area of focus is on teaching and learning. Too much focus in the digital humanities is on either training via formal degree programmes or through individual learning via generic platforms like Code Academy or Software Carpentry. The research infrastructure provides a unique environment and set of opportunities for different kinds of learning, aligned to support the individual and institutional modes, but also to provide unique opportunities for experiences of professional acculturation in applied contexts [2]. Already in this area we have active services under the banners of dariahTeach, a Moodle-based, ECTS-linked set of modules, and through our infrastructure cluster project PARTHENOS, which involves the CLARIN ERIC and projects such as IPERION, CHARISMA, ARIADNE, EHRI and CENDARI as well, and where the modules are more targeted at self-learners and as "train-the-trainers" resources. We will now build on these platforms and momentum.

Finally, we view the development of our foresight and policy leadership capacity as a key asset, not only for our current cohort of active digital humanists, but also for the "long tail" of the research communities. These researchers, who may not realise how important the digital is becoming for

how they conduct and communicate their research, are a key community for our future growth, and ensuring that we represent their needs at a high level is of central importance to us as we consolidate our position. Our work to date in this area has been linked to initiatives such as DARIAH's contributions to the European Commission's Open Science Policy Platform, and also through our championing of a "Data Reuse Charter" between researchers and cultural heritage institutions, able to promote data sharing and fluidity [3].

On the basis of these interventions, DARIAH is poised to move into its second decade with a reputation as a leader for the arts and humanities, as well as an innovator in research infrastructure.

Link:
[L1] www.dariah.eu

References:
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DIGILAB: A New Infrastructure for Heritage Science

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The European Research Infrastructure for Heritage Science, E-RIHS [ˈīris], is working to launch DIGILAB: the new data and service infrastructure for the heritage science research community. First services are expected to be online in 2018.

The European Strategic Roadmap for Research Infrastructures (ESFRI Roadmap [L2]), initiated in 2016, is one of the six new projects of the European Research Infrastructure for Heritage Science (E-RIHS)[1]. E-RIHS supports research on heritage interpretation, preservation, documentation and management. Both cultural and natural heritage are addressed: collections, buildings, archaeological sites, digital and intangible heritage. E-RIHS is a distributed research infrastructure: it includes facilities from many countries, organised in national networks and coordinated by national hubs. The E-RIHS Headquarters – to be seated in Florence, Italy – will provide the unique access point to all E-RIHS services.

E-RIHS will provide state-of-the-art tools and services to support cross-disciplinary research communities of users through its four access platforms (Figure 1):
• MOLAB: offers access to advanced mobile analytical instrumentation for diagnostics of heritage objects, archaeological sites and historical monuments. The MObile LABoratories will allow its users to carry out complex multi-technique diagnostic projects, allowing effective in situ investigation.
• FIXLAB: provides access to large-scale and specific facilities with unique expertise in heritage science, for cutting-edge scientific investigation on samples or whole objects, revealing micro-structures and chemical composition, giving essential and invaluable insights into historical technologies, materials and species, their context, chronologies, alteration and degradation phenomena.
• ARCHLAB: enables physical access to archives and collections of prestigious European museums, galleries, research institutions and universities containing non-digital samples and specimens and organised scientific information.
• DIGILAB: facilitates virtual access to tools and data hubs for heritage research – including measurement results, analytical data and documentation – from large academic as well as research and heritage institutions.

E-RIHS will help the preservation of the world's heritage by enabling cutting-edge research in heritage science, liaising with governments and heritage institutions to promote its continual development and, finally, raising public awareness about cultural and natural heritage and its historic, social and economic significance.

In February 2017, E-RIHS started its preparatory phase supported by the EU project E-RIHS PP (H2020-INFRADEV-02-2016). Representatives of 16 countries (15 from the EU plus Israel) are working together to prepare E-RIHS to be launched as a standalone research infrastructure consortium in 2021.

The DIGILAB platform will provide remote services to the heritage science research community but will also be relevant to and accessible by professionals, practitioners and heritage managers. DIGILAB will enable access to research information as well as to general documentation of analyses, conservation, restoration and any other kind of relevant information about heritage research and background references, such as controlled vocabularies, authority lists and virtual reference collections.

The DIGILAB design takes into account and complies with the EU poli-