Research communities, public sector organisations, and private companies - globally and in all sectors - are facing a flood of data unlike anything up to this point. And the data will keep flowing at an ever-increasing rate.

This “Big Data” explosion creates new possibilities to share knowledge and carry out research. Through analysis of these massive data sets, we can begin to see macro-trends in all aspects of life, which can translate to the informed development of beneficial public policy. However, these new possibilities have not yet been fully exploited because almost all the datasets, models, papers, and statistics produced are usually available exclusively within the community that has generated them. The reason for this way of working is evident: exposing data products to other domains or actors (such as public and private organisations) requires additional effort and investments that don’t always bring an immediate return of investment for the community itself.

This limited short-term vision and modus operandi is quite common among research infrastructures, as they are usually focused on a specific research domain; unfortunately, the current availability of e-Infrastructures and collaborative tools (including social networks) has not yet significantly broken this silos approach.

The recent [1] Communication from the Commission to the European Parliament, the Council, and the European Economic and Social Committee of the regions on the European Cloud Initiative - Building a competitive data and knowledge economy in Europe - calls for the establishment of a European Open Science Cloud that “makes it possible to move, share and re-use data seamlessly across global markets and borders, and among institutions and research disciplines”.

BlueBRIDGE - the Research and Innovation Action funded by the European Commission Horizon 2020 Framework Programme (Grant Agreement number 675680) - moves in this direction. Recognizing that, today, important societal challenges raise questions that are not confined to a specific sector but span across science and society, BlueBRIDGE provides answers and concrete tools to tackle the issue of the silos approach. The on-demand BlueBRIDGE Virtual Research Environments (VREs) [2] provide researchers belonging to different domains (such as earth science, marine sector and biology), policy makers, educators, and private companies with an efficient virtual environment where they can collaborate, share, and re-use the research outputs produced by the different actors, creating a bridge facilitating the cross-fertilization of results among different disciplines.

VREs also provide these actors with innovative facilities for mining, analysing, and processing massive amount of data. Among the main beneficiaries of these features are small enterprises.

As key players of the new emerging data-driven economy, through BlueBRIDGE they can access these resources at a reasonable cost and build their innovative products and services on them, accelerating their go-to market. Again, this is perfectly in line with what was envisaged in the EC April Communication, which highlights that “scientific data producers and users must be able to re-use data and to use advanced analytics techniques, such as text and data mining, in an environment that is at least as dependable as their own facilities.”

Over 60 private companies belonging to the fisheries, aquaculture, and environment sectors already confirmed that the BlueBRIDGE services are appealing services that they can adopt in the future (See the [3] BlueBRIDGE Survey results).

BlueBRIDGE also answers the following question: [4] How to better interconnect the new and existing data infrastructures across Europe?

Building on the [5] D4Science infrastructure, BlueBRIDGE provides a framework in which infrastructure resources (e.g. data and services) made available by different data
infrastructures can be dynamically packaged to serve the needs associated with particular scientific or societal questions. All of this is completely transparent for the user. At the end of July 2016, the D4Science infrastructure was revamped. All the new capabilities have been designed to enhance the user experience and the capabilities to share data and to use and re-use them. An easy-to-use capability to publish data, models, and methods in a Product Catalogue is also now available. More information on the new version of the infrastructure and the gateway to access the supported VREs is available [6] here.

BlueBRIDGE currently supports activities related to the H2020 Blue Growth Societal Challenge. However, by design, other domains could easily reuse and adopt its data, tools, and facilities by accelerating Open Science and Open Innovation and establishing an European Open Science Cloud able to “enable trusted access to services, systems, and the re-use of shared scientific data across disciplinary, social, and geographical borders,” as stated in the [7] Commission High Level Expert Group’s report on the European Open Science Cloud in June 2016.

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