

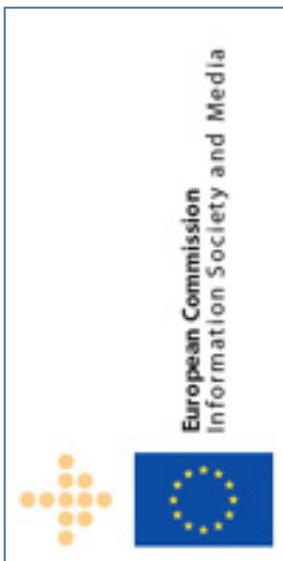


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The goal of BlueBRIDGE, *Building Research environments for fostering Innovation, Decision making, Governance and Education to support Blue growth*, is to support capacity building in interdisciplinary research communities actively involved in increasing the scientific knowledge of the marine environment, its living resources, and its economy with the aim of providing a better ground for informed advice to competent authorities and to enlarge the spectrum of growth opportunities as addressed by the Blue Growth societal challenge.

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# GLOSSARY

ABBREVIATION	DEFINITION
BlueBRIDGE	Building Research environments for fostering Innovation, Decision making, Governance and Education to support Blue growth
VRE	Virtual Research Environment

# DELIVERABLE SUMMARY

Deliverable D9.1 – “BlueBRIDGE VRE Commons Facilities” reports the release of the BlueBRIDGE facilities for Data Access, Data Discovery, Data Storage, Data Analytics and Data Publishing. Those facilities are implemented through web services, libraries, and mediators over technologies that are offered as services operated and made accessible through VREs.

The deliverable covers the first ten months of activities of the BlueBRIDGE project. The project activities cover all effort spent for implementing the facilities, integrating them in the gCube platform, packaging the software, testing the software in the testing infrastructure, validating it in the pre-production infrastructure, and releasing the software. An update to this deliverable is expected at project month M29 with Deliverable D9.2.

This deliverable is of type “Other” and consists of a set of wiki pages hosted by the BlueBRIDGE project wiki [1] plus a set of documentation pages for single facilities hosted by the gCube wiki [2]. It is available at the following WEB address:

[https://support.d4science.org/projects/bluebridge/wiki/D91\\_BlueBRIDGE\\_VRE\\_Commons\\_Facilities](https://support.d4science.org/projects/bluebridge/wiki/D91_BlueBRIDGE_VRE_Commons_Facilities)

The deliverable is divided in two main parts covering facilities in two areas.

The first one follows the structure of Work Package 9: T9.1, T9.2 and T9.3. Specifically, it includes dedicated parts documenting the software implementing the facilities for Accessing, Discovering and Storing Data (T9.1), for Analysing Data (T9.2) and for Publishing Data (T9.3).

All of the above mentioned facilities are offered through Virtual Research Environments (VREs) operated by the Infrastructure to satisfy the community needs.

The second area comprises facilities for operating, managing and using, VREs. Specifically, it includes dedicated parts documenting the software implementing the facilities for defining, creating and deploying VREs (VRE Management facilities) and the software implementing a set of applications allowing to use the VRE through a thin client (VRE Enabling facilities).

## PART 1 “FACILITIES FOR DATA ACCESS, DATA DISCOVERY, DATA STORAGE, DATA ANALYTICS AND DATA PUBLISHING” INCLUDES THE FOLLOWING:

- **Storage Manager Service:** a service providing functions for standards-based and structured access and storage of files of arbitrary size.
- **Home Library Service:** a service providing functions for managing and persisting end-users’ files in the infrastructure, supporting file and folders sharing.
- **Social Networking Data Access, Discovery, Storage Facility:** a set of services providing functions for accessing, storing, indexing, and retrieving Social Networking Data (User Posts, Comments, Likes and Notifications) available in the Infrastructure.
- **Statistical Manager Service:** a service aiming to provide users and other infrastructure services with algorithms to perform Data Mining operations. The list of the available algorithms released (divided in thematic classes, e.g. Bayesian Methods, Climate, Geo Processing etc.) counts 82 different algorithms at M10.

- **Statistical Manager Algorithms Importer Service:** a service providing a tool to enable end-users' defined algorithms in the Infrastructure supporting R scripts integration.
- **GIS Interface Publisher service:** a service offering to the other services a common standard interface for publishing geospatial data and metadata in the infrastructure.

PART 2 "FACILITIES FOR VRE MANAGEMENT AND USAGE" INCLUDES THE FOLLOWING:

- **VRE Management facilities:** a set of services and applications providing functions for defining, creating, and deploying VREs. These services support VRE Designers and Managers through graphical user interfaces to instruct the infrastructure about the expected features of the desired VRE as well as allowing to easily update the VRE once defined and operational.
- **VRE Enabling Portlets:** a set of interaction-oriented services and a front-end applications providing functions to manage VRE Users and to support them to collaborate, cooperate, and exchange content/information by using social media-like tools.

The *Social Networking Data Discovery Service* and the *Statistical Manager Algorithms Importer Service* are completely new services entirely designed and developed in the context of BlueBRIDGE. The rest of the Facilities and Portlets listed above are components that pre-exist BlueBRIDGE. In the context of BlueBRIDGE those components have been re-designed to adapt to the evolving technologies and to deliver: (i) personalized, interactive and collaborative content, (ii) distributed, loosely coupled, multi-platform architectures supporting huge volumes of data as well as (iii) scaling out rather than scaling up. Moreover, all the components have been revised to conform to the new gCube Authorization Framework, described in the deliverable D10.1 BlueBRIDGE Resources Federation Facilities.

The deliverable provides, for each facility, a description, the documentation for developers and system administrators, how-to guides and usage instructions for different use cases and links to open source code and binaries.

The intended readers of this deliverable are (a) the community in the large willing to be informed on the solutions BlueBRIDGE offers for Accessing, Discovering, Storing, Analysing Data and Publishing Data as well as for Virtual Research Environment management, and (b) the gCube developers community to know how to integrate, use and build on top of the facilities described by the document.

## REFERENCES

- [1] BlueBRIDGE project wiki - <https://support.d4science.org/projects/bluebridge/wiki>
- [2] gCube wiki - [https://wiki.gcube-system.org/gcube/About\\_gCube](https://wiki.gcube-system.org/gcube/About_gCube)