

## e-VRE key features

- Rich use-case and requirement collection and analysis from existing RIs and VREs
- Domain independent, 3-tier Reference Architecture for new VREs and an evolutionary target for existing VREs
- Micro-service based Technical Architecture for easy adoption of specific components
- Scalability and cross-RI interoperability by Design
- Handles multiple metadata schemas and profiles
- Trust, Security and Privacy aware
- Rich RI-Resource data model for widest adoption
- Existing VREs enhancement showcase
- Open source

## About e-VRE

e-VRE stands for **enhanced VRE** and proposes a reference architecture structured along three logical tiers:

- The Application tier: functions to manage and expand the system.
- The Interoperability tier: functions to discover and use resources, to publish functionalities and enable applications to interact with each other.
- The Resource Access tier: functions to enable e-VRE components to interact with resources.

### The origin of e-VRE

The e-VRE platform has been designed and developed by a consortium of 8 members within the Horizon 2020 research and innovation action VRE4EIC, under the leadership of ERCIM.

The VRE4EIC project is a cooperation of scientific research partners, that received research funding from the European Union's Horizon 2020 Programme under contract N° 676247.



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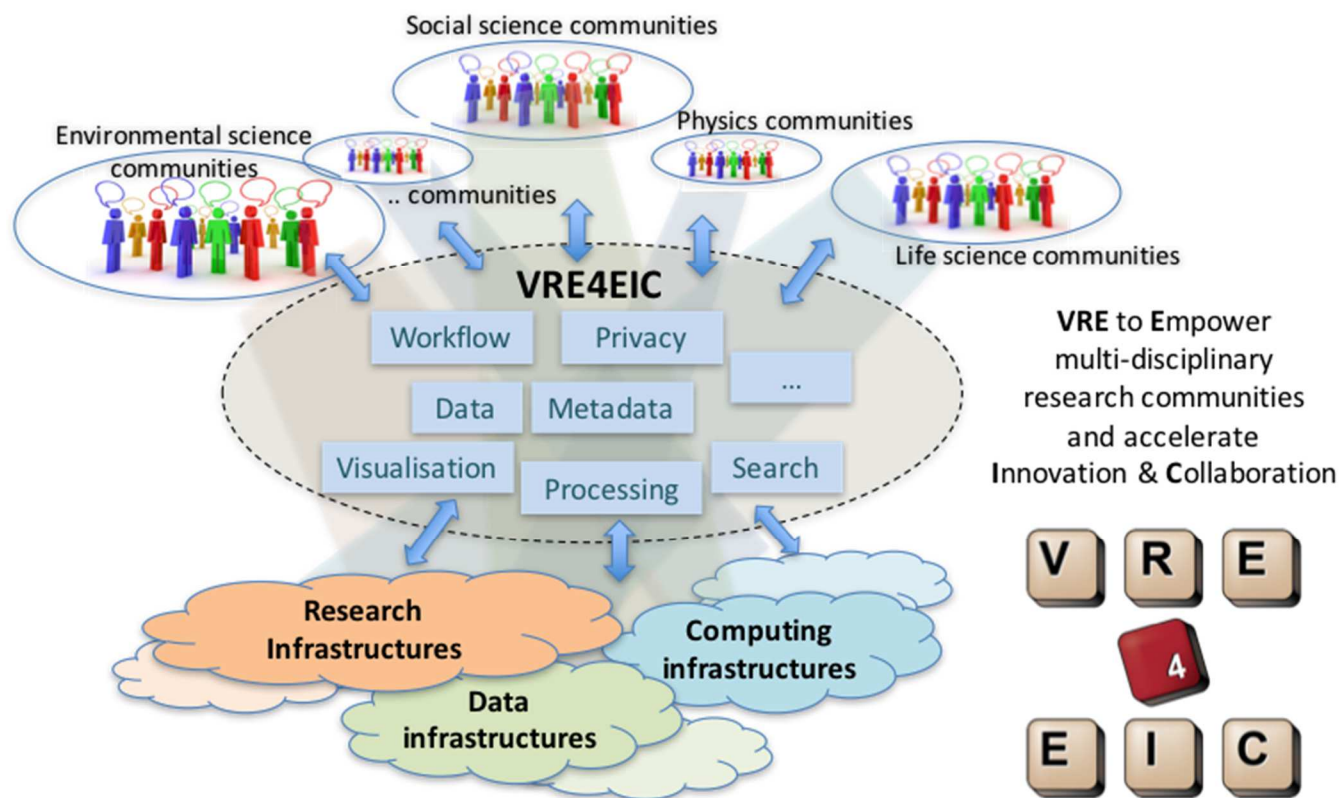


A Reference Architecture,  
a VRE prototype & Software  
components for  
**enhanced Virtual  
Research Environments**



A Europe-wide interoperable  
**Virtual Research Environment**  
**to Empower** multidisciplinary  
research communities  
and accelerate  
**Innovation and Collaboration**

[www.vre4eic.eu](http://www.vre4eic.eu)



## Success stories

### e-VRE for EPOS

The European Plate Observing System (EPOS, [www.epos-ip.org](http://www.epos-ip.org)) aims at creating a pan-European infrastructure for solid Earth science to support a safe and sustainable society.

*"The innovation impact of the e-VRE architecture is enormous, especially in the environmental data domain, where the integration of different types of data together with computational and collaborative tools, can help to monitor and unravel the dynamics and the complexity of the Earth system."*  
Daniele Bailo, INGV, Italy

### e-VRE for ENVRIplus

The ENVRIplus ([www.envriplus.eu](http://www.envriplus.eu)) 'Data for Science' theme aims to design a suite of standard solutions based on the reference model of research infrastructures (ENVRI-RM) and the e-VRE architecture proposed by VRE4EIC.

*"The e-VRE reference architecture in the VRE4EIC project is being used to guide the development of interfaces to access data and software resources from ENVRIPLUS RIs."*  
Zhiming Zhao, Univ. of Amsterdam

## A solution for easier Collaboration within Research Communities

### The context

Research has increasingly become specialised, although many phenomena can only be understood via a multidisciplinary approach. Recently, many communities have set research infrastructures (RIs) bringing together teams and assets for easing collaboration.

### The pain

This collaboration comes with complications. Each community has developed its own methods, data formats and tools, leading to a great heterogeneity in scope, features, protocols and technologies...

### The solution

One way to assist and encourage multidisciplinary research is to bring together the communities and assets of RIs.

The goal of a Virtual Research Environment (VRE) system is to decouple science from IT complexity, by providing research communities with a facility that takes care of IT, allowing them to focus on their work.

e-VRE has taken into account a considerable amount of requirements and characteristics of many RIs in the goal of assisting researchers.

For further learning about e-VRE functions and benefits, more information is available at [www.vre4eic.eu](http://www.vre4eic.eu).