

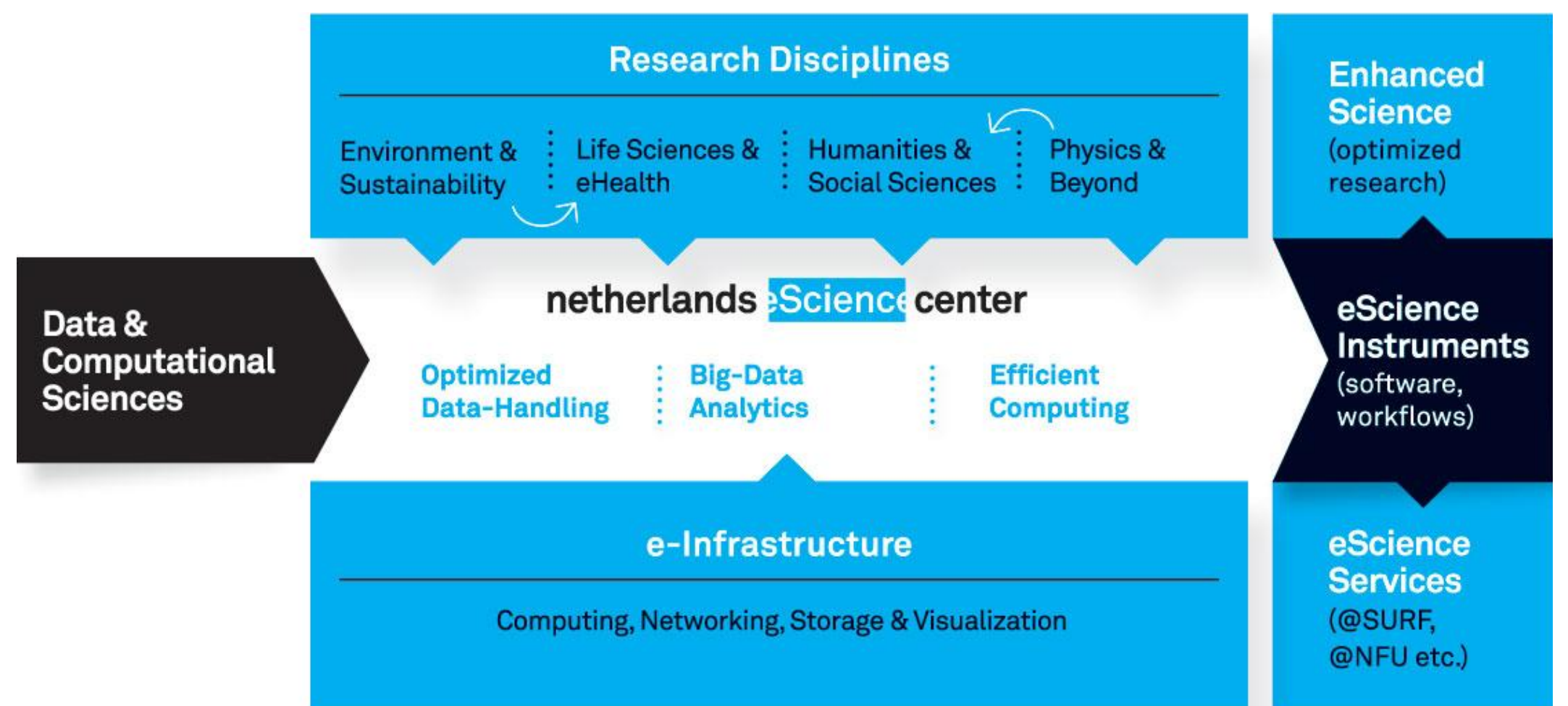
eStep: eScience Technology Platform

<http://estep.esciencecenter.nl>

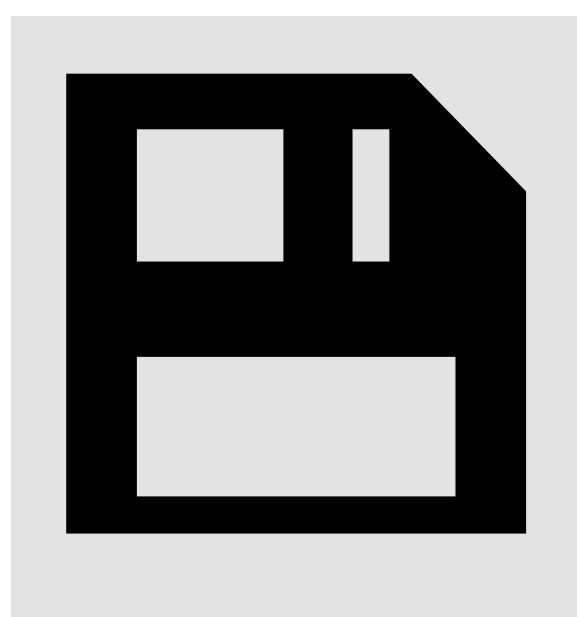
A coherent set of technologies to tackle the grand challenges in eScience

Why eStep?

An important aspect of science is the development of new software technologies. The route from data to information to insight should take optimal advantage of modern ICT facilities and e-infrastructures. This often requires specialist knowledge which is beyond the level of expertise of domain scientists. Our aim is to let researchers be engaged with scientific challenges rather than with the idiosyncrasies of ICT.



The two main tasks of eStep are to provide access to e-infrastructure, and to create eScience instruments.



Software



Research



Knowledge

What is eStep

The goal of eStep is to offer an extensive and stable set of advanced scientific software technologies. It will scout, adopt, research, and develop new software technologies, integrate them, and make them usable for scientific applications.

For whom?

For everyone! eStep explicitly aims to promote the exchange and re-use of best practices and to prevent fragmentation and duplication. eStep contains both software that is developed in-house and externally developed software that we have expertise in. A key idea behind eStep is to have high-level, and sometimes domain-specific, solutions on top of generic low-level libraries, thus maximizing software re-use.

Roadmap

In the long term, NLeSC will strive for eStep to develop into the national platform for eScience instruments and technologies. eStep will be an open platform. However, since NLeSC cannot provide support for all national eScience software, this platform will be federated in nature. Other key players in the national eScience spectrum will be invited to contribute to eStep, and to co-develop eScience solutions.

Software	Name	Description
49 selected out of 49 records	ARR2 pointcloud viewer	WebGL point cloud visualization of ARR2
Disciplines	AMUSE	The Astrophysical Multipurpose Simulation Environment
Environment & Sustainability	CClustVis	A 3D web tool for interactive visualization of hierarchically clustered big data
Humanities & Social Sciences	Cesium-ncVMS	3D Globe Visualization of NetCDF data
Physics & Beyond	Common Sense	User-friendly web application for showing (GIS) data on a map
Life Sciences & eHealth	Cross perspective Topic Modeling	A Gibbs sampler that implements Cross Perspective Topic Modeling
Competence areas	DataVaults	Technology of Attachment to a DBMS of large file repositories
Efficient Computing	Differential Evolution	Differential Evolution global optimization algorithm, with Metropolis for acceptance estimation
Technical expertise	ekwiviz	This tool can collect and visualize data astronomy measurement sets, as well as most LOFAR intermediate data products. It also does RFImaging.
Scientific Visualization	eEcology Annotation Tool	Visualize & annotate GPS measurements of bird movements
Standard Computing	eEcology Tracker calendar	Calendar overview with daily statistics of GPS-tracker
Database	wwater.eaf	Web-based visualization for the #WaterCycle project
Database Visualization	EX2JS-DataTime	DateTime form input field for EX2JS
Handling Sensor Data	FAIR Data Point	FAIR Data Point Metadata Service
Big Data/Big Data Analytics	GoogleEarth	Export data from MATLAB to GoogleEarth's KML format.
Technologies used		
Technologies		

(left) Screenshot of the eStep software page. The site allows easy searching and browsing on application domain, area of expertise, and technology. (below) Examples of technologies available in estep.

