eInfra Central

Highlights and Contributions to EOSC Portal

Informal review of EOSC-hub and OpenAIRE-Advance

24 January 2019
European Commission, Luxembourg

Alasdair Reid, Jelena Angelis, Elina Griniece, Christine de Neve (EFIS), Jorge Sanchez, Nikos Vogiatzis, Nektaria Berikou, Theodore Ntezes, Panos Spyrou (JNP), Natalia Manola, George Papastefanatos, Akrivi Katifori, Stefania Martziou, Antonis Lempesis (UoA), Jan Wiebelitz, Gabriele von Voigt (LUH), Yannick Legre, Sergio Andreozzi, Malgorzata Krakowian (EGI), Rob Baxter (EPCC), Annabel Grant, Michelle Williams, Shaun Cairns, Karl Meyer (GEANT), Donatella Castelli, Paolo Manghi, Franco Zoppi (CNR), Florian Berberich, Pedro Alberto, Manuel Fiolhais (PRACE)

Project

- Coordination and Support Action (CSA) in Horizon 2020 Programmme (INFRASUPP-03-2016-b-3 call)
- Implementation period: January 2017 – June 2019 (30 months)
- 9 partners, including 5 major e-infrastructures
- Effort: 138.5 PMs, Budget: €1.5m€

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731049

Mission

Ensure that by 2020 a broader and more varied set of users discovers and accesses the existing and emerging Services and Resources for Research

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Core Objectives and Key Results

Structure an open and guided discussion to consensually define a **common catalogue for their services and resources**	Reached consensus initially with 5 key e-Infras on standard description of services and resources and APIs. Now extended to 15+
Develop a **web platform** to act as the gateway for researchers to browse the catalogue of services and solve the “last mile” problem	Developed a production view of the EOSC Catalogue with 250+ services and resources
Capture and draw policy and sustainability lessons for the development of the **European e-Science marketplace**	Lessons from building the catalogue and work with SPs fed into the EOSC Portal development, CatRIS and will be further developed and communicated in 1S2019

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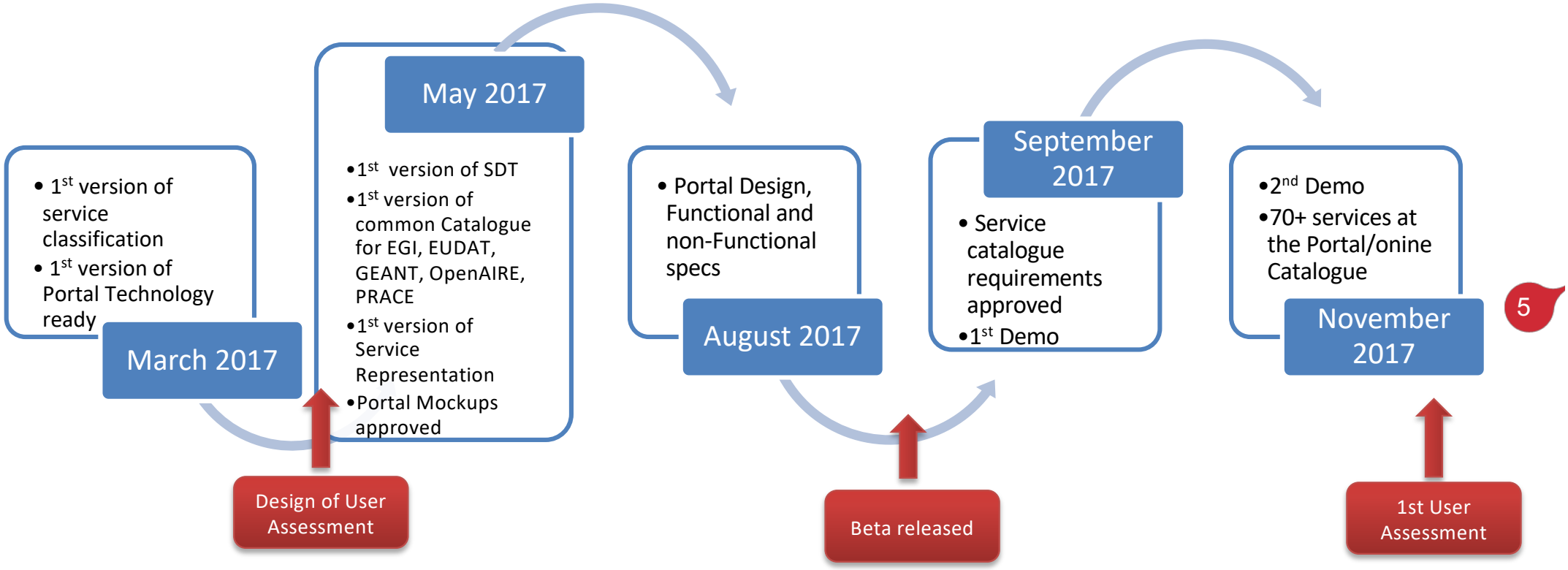
Highlights 2017



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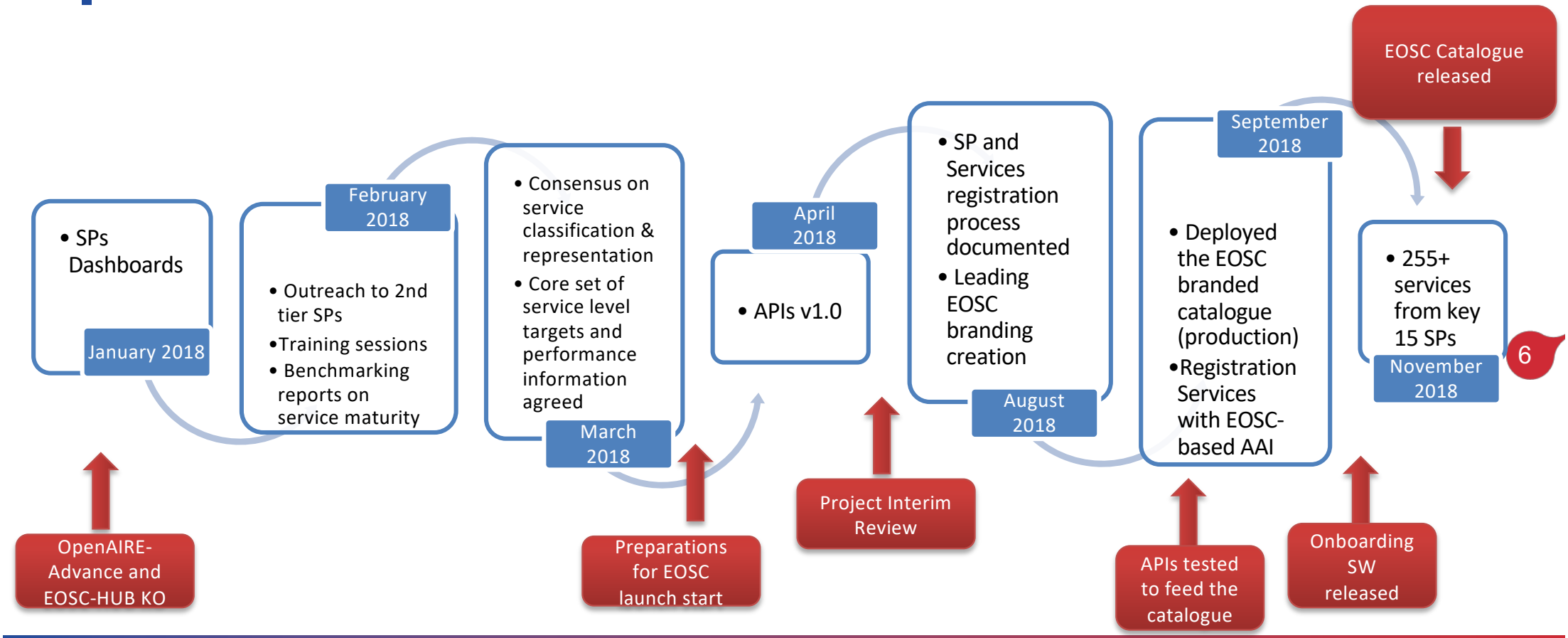
Highlights 2018



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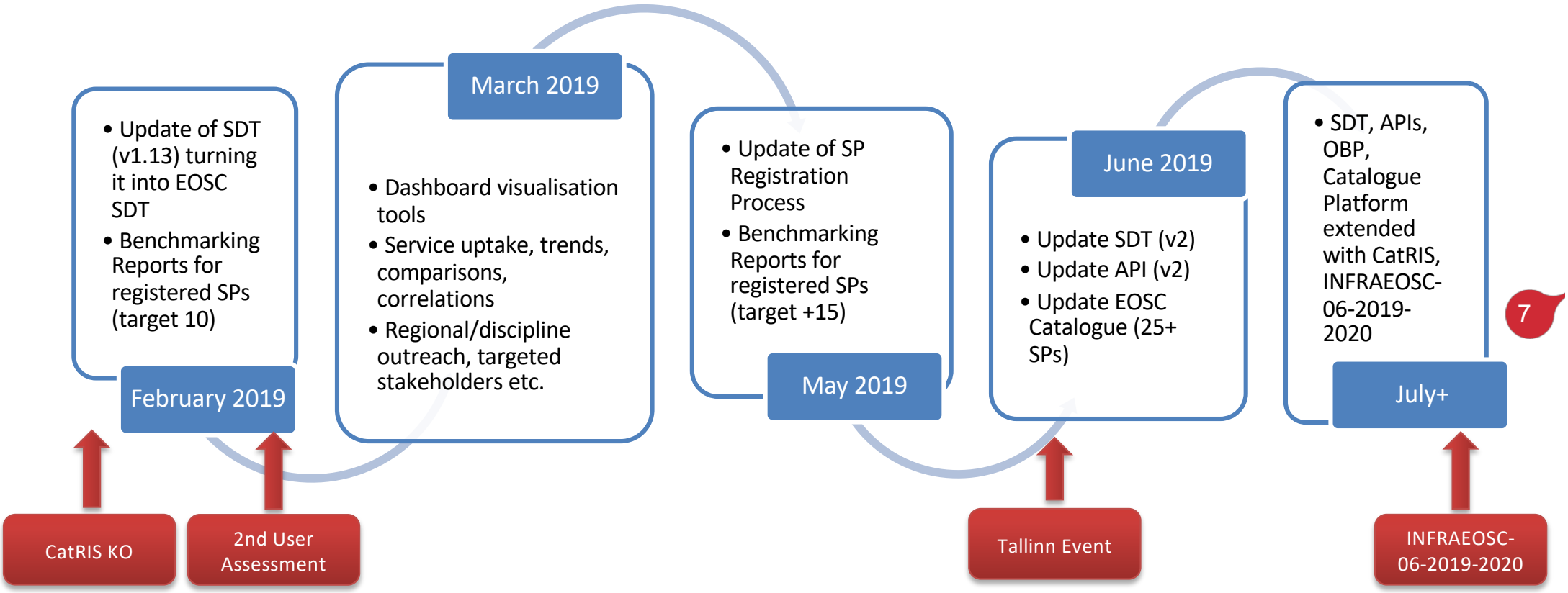
Key activities 2019



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EOSC and eInfraCentral Catalogue

eInfraCentral catalogue provides access to 255+ services and resources in 155 entries of 15 SPs from the public and private sector in a fully functional catalogue with a production view (EOSC) and a beta for testing new advanced functionality

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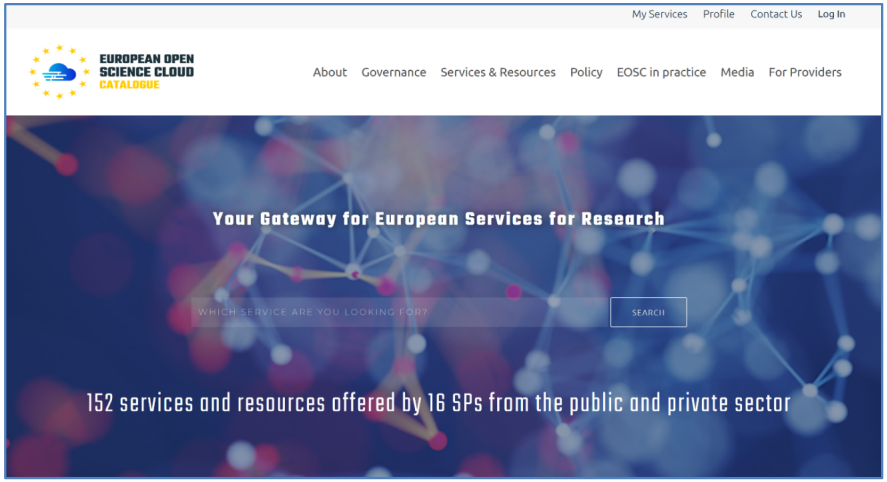
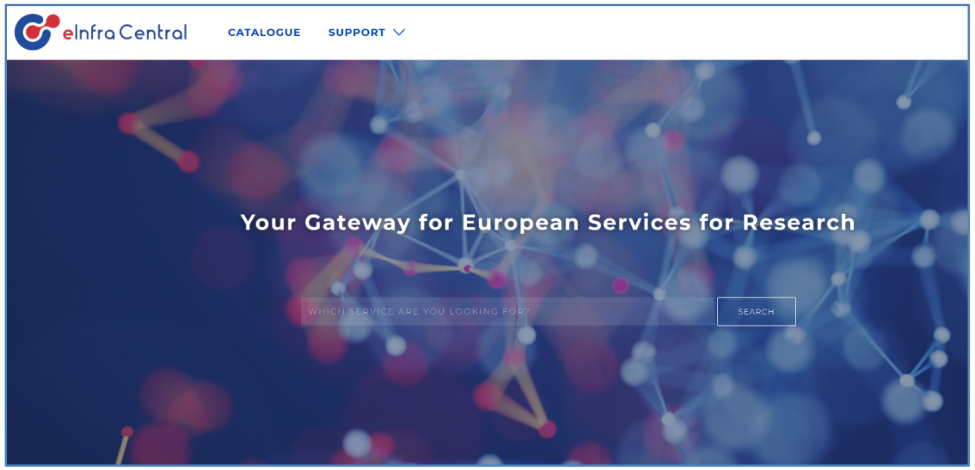
EOSC and eInfraCentral Catalogue

catalogue.eosc-portal.eu



beta.einfracentral.eu



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eInfra Central

Detailed Achievements related to the EOSC

Informal review of EOSC-hub and OpenAIRE-Advance

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European Commission, Luxembourg

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1. First Common Catalogue of Services

EGI, EUDAT, OpenAIRE, GEANT, PRACE

eInfra Central

Horizon 2020 Programme
Digital Excellence & Science infrastructure
eInfrastructure Science Cloud

Grant Agreement Number: **731049**
Project Acronym: **eInfraCentral**
Project Full Title: **European E-Infrastructure Services Gateway**
Type of Action: **Coordination and Support Action (CSA)**
Call: **H2020-INFRASUPP-2016-2017**

Service Catalogue

eInfra Central

Type (Distribution Level):	Restricted to eInfraCentral Partnership, the EC services and the eInfrastructures External Board
Deliverable Leader:	JNP
Authors:	Jorge Sanchez, Nikos Vogiatzis, Nikos Karampekios, Nektaria Berikou, Nancy Liva (JNP), George Papastefanatos, Akrivi Katifori, Natalia Manola, Stefania Martziou, Antonis Lempesis (UoA), Fabian Pflug, Gabriele von Voigt (LUH), Sergio Andreozzi, Malgorzata Krakowian, Sy Holsinger, Yannick Legre (EGI), Rob Baxter (EPCC), Annabel Grant, Shaun Cairns, Karl Meyer (GEANT), Donatella Castelli, Paolo Manghi, Franco Zoppi (CNR), Florian Berberich (PRACE), Henry Varga, Gaëlle de Meeûs, Lorena Rivera Leon , Alasdair Reid (EFIS).
Date:	12.06.2017
Version:	v0.2

Abstract: This document constitues a listing of currently available services; a catalogue of services of the following eInfrastructures: EGI, EUDAT, GEANT, OPENAITE, PRACE.

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eInfra Central — **Service Catalogue**

Service ID	Service Brand Name	Service Provider	Target Customers/Users	Service Category/Type	Service Phase/TRL	Service Webpage
01.01	Cloud Container Compute	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Compute	Production	https://www.egi.eu/services/cloud-container/
01.02	Cloud Compute	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Compute	Production	https://www.egi.eu/services/cloud-compute/
01.03	High-Throughput Compute	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Compute	Production	https://www.egi.eu/services/high-throughput-compute/
01.04	DIRAC Manager	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Platform	Alpha	https://www.egi.eu/services/
01.05	Online Storage	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Storage and Data	Production	https://www.egi.eu/services/online-storage/
01.06	Archive Storage	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Storage and Data	Production	https://www.egi.eu/services/archive-storage/
01.07	Data Transfer	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Storage and Data	Production	https://www.egi.eu/services/data-transfer/
01.08	DataHub	EGI Foundation (via EGI resource providers)	Customers: research organisations, SME/Industry Users: researchers, innovators	Storage and Data	Alpha	https://www.egi.eu/services/
01.09	FitSM Training	EGI Foundation	Customers: Any organisation that delivers IT services Users: All individuals involved in the provisioning of (federated) IT	Training	Production	https://www.egi.eu/services/fitsm-training/
01.10	Training Infrastructure	EGI Foundation	Customers: research organisations, SME/Industry Users: Attendees of cloud training courses, Attendees of scientific	Training	Production	https://www.egi.eu/services/training-infrastructure/
01.11	Applications Database	EGI Foundation (via EGI resource providers)	Customers: EGI service Providers Users: researchers, innovators	Repository	Production	https://www.egi.eu/services/
01.12	Service Monitoring	EGI Foundation (via EGI resource providers)	Customer: EGI service providers User: EGI users	Operations	Production	https://www.egi.eu/internal-services/service-monitoring/
01.13	Accounting	EGI Foundation (via EGI resource providers)	Customer: User communities and EGI service providers. User: VO Managers, Resource providers management	Operations	Production	https://www.egi.eu/internal-services/accounting/
01.14	Helpdesk	EGI Foundation (via EGI resource providers)	Customer: EGI service providers User: Users of the infrastructure, Software developers and support,	Operations	Production	https://www.egi.eu/internal-services/helpdesk/
01.15	Configuration Database	EGI Foundation (via EGI resource providers)	Customer: EGI service providers User: Infrastructure operators, service operators	Operations	Production	https://www.egi.eu/internal-services/configuration-database/
01.16	Validated Software and Repository	EGI Foundation (via EGI resource providers)	Customer: EGI service providers User: Site administrators; software developers.	Repository	Production	https://www.egi.eu/internal-services/validated-software-and-repository/
01.17	Operational tools	EGI Foundation (via EGI resource providers)	Customer: EGI service providers User: NGI Operations Manager, Resource Centre Administrators, VO	Operations	Production	https://www.egi.eu/internal-services/operational-tools/
01.18	Marketplace	EGI Foundation (via EGI resource providers)	Customer: EGI service providers, Research and Technology Organisations (RTOs) and universities, Research communities,	Operations	Alpha	https://www.egi.eu/internal-services
01.19	CheckIn	EGI Foundation (via EGI resource providers)	Customer: EGI service providers, Research communities User: Both end-users and service managers	Security	Beta	https://www.egi.eu/internal-services/
01.20	Attribute Management	EGI Foundation (via EGI resource providers)	Customer: Research communities, research infrastructures User: VO Managers	Security	Production	https://www.egi.eu/internal-services/
02.01	B2SAFE	EUDAT CDI consortium	Community data manager; service provider	Data storage	Production	https://www.eudat.eu/services/b2safe
02.02	B2SHARE	CSC	Individual researchers; community data manager	Data storage	Production	https://www.eudat.eu/services/b2share
02.03	B2DROP	JSC	Individual researchers; community data manager	Data storage	Production	https://www.eudat.eu/services/b2drop
02.04	B2FIND	DKRZ	Individual researchers; community data manager	Data discovery	Production	https://www.eudat.eu/services/b2find
02.05	B2STAGE	EUDAT CDI consortium	Individual researchers; community data manager	Data movement	Production	https://www.eudat.eu/services/b2stage
02.06	B2HANDLE	EUDAT CDI consortium	Service provider; community data manager	Data registration	Production	https://www.eudat.eu/services/b2handle
02.07	B2ACCESS	JSC	Service provider; community data manager	Authentication and Authorization Infrastructure	Production	https://www.eudat.eu/services/b2access

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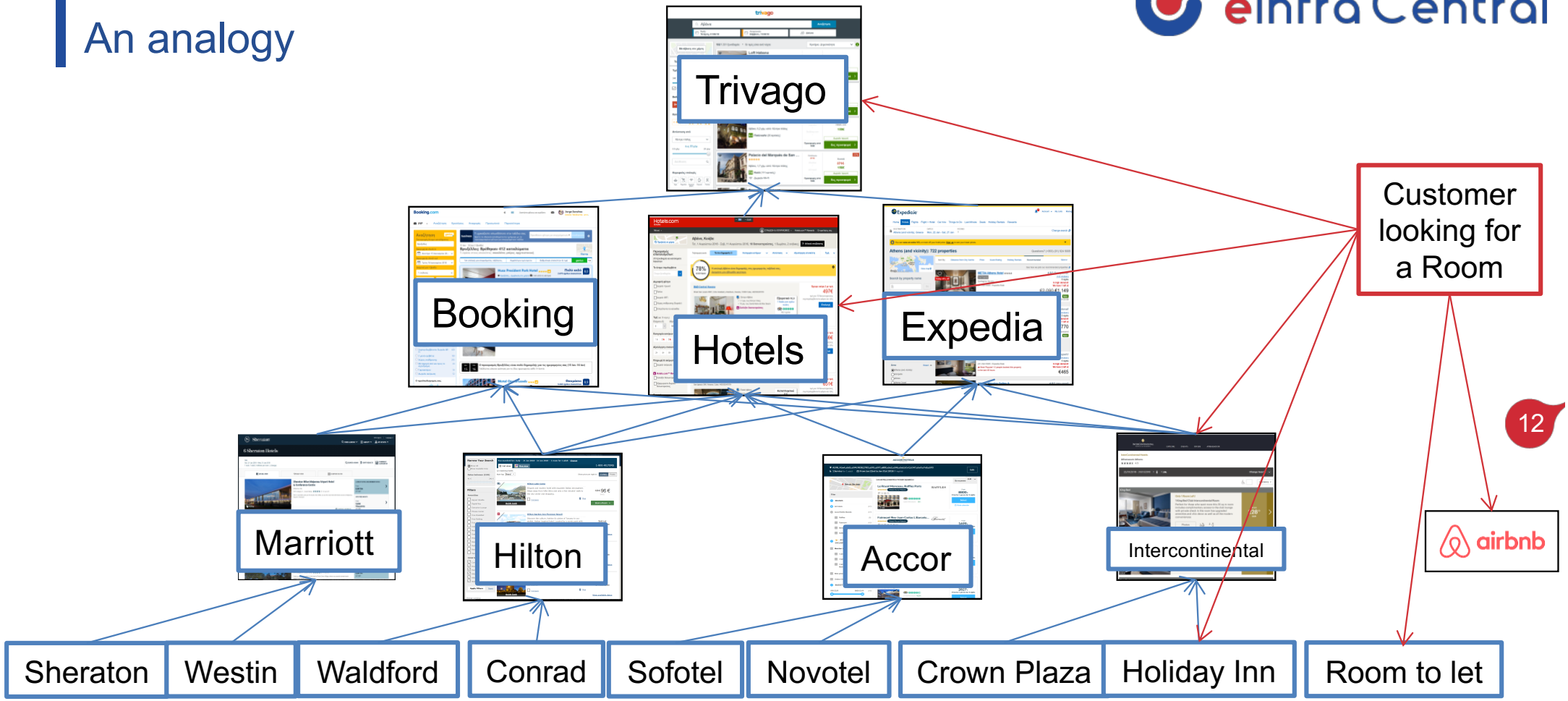
2. Convey the Big Picture

An analogy



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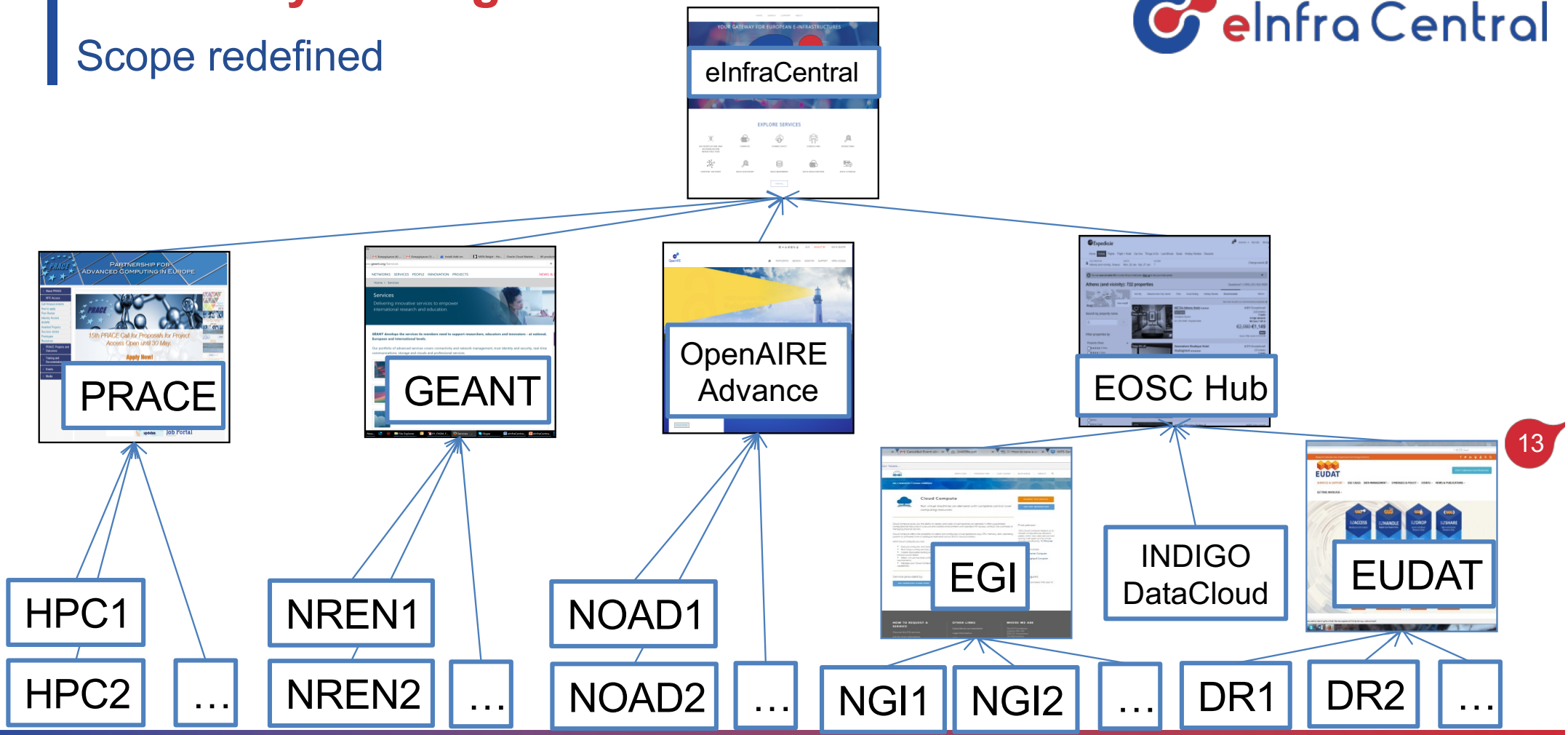
2. Convey the Big Picture

Scope redefined



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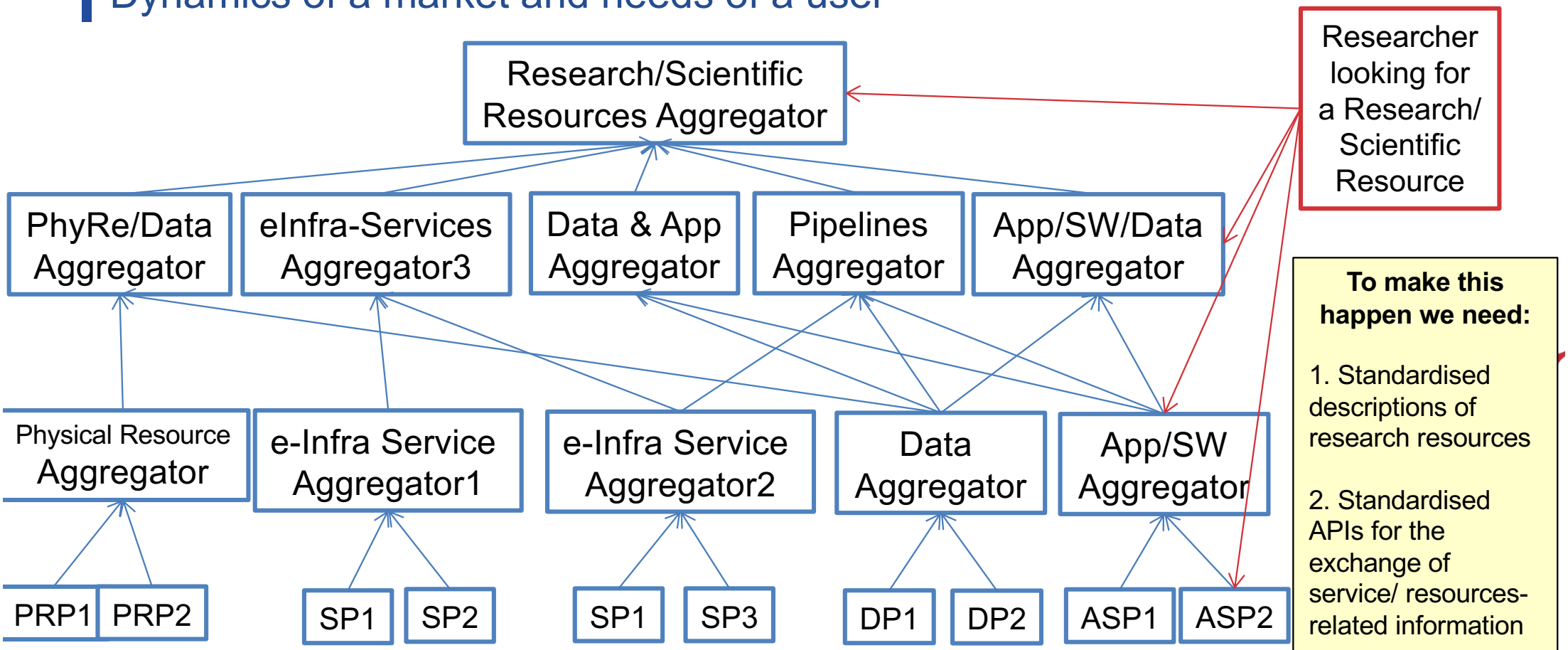
2. Convey the Big Picture

Dynamics of a market and needs of a user



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3. EOSC Catalogue

Target within eInfraCentral

PROCESS FREYA EUXDAT ESiWACE

DEEP AARC2 OPERAS-D XDC ANTAREX

EDISON AENEAS PhenoMeNal OpenMinTeD

DARE EarthServer-2 EVER-EST VI-SEEM

READ BlueBridge West-Life MuG

VRE4EIC OpenDreamKit BioExcel

COEGSS ESiWACE E-CAM MaX

POP NoMaD EoCoE AENEAS

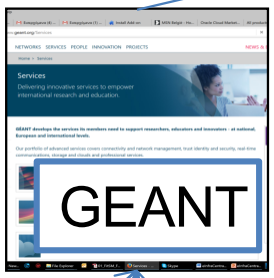
OpenRiskNet HIRMEOS UBORA

ComBioMed AGRINFRA+ MSO4SC

HPC1

HPC2

…



NREN1

NREN2

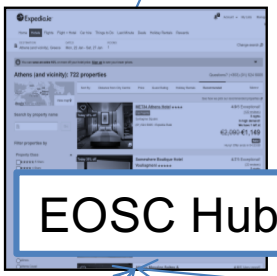
…

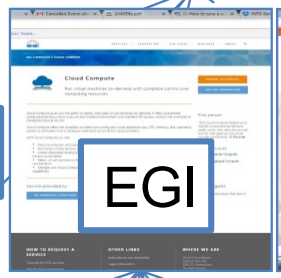
NOAD1

NOAD2

…

INDIGO DataCloud





NGI1

NGI2 …

DR1

DR2 …

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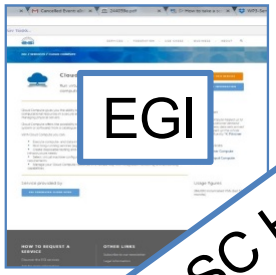
3. EOSC Catalogue

Target ecosystem with CatRIS and EIC+



EOSC Hub

EOSC Pilot | CompBioMed

EoCoE | ESiWACE | AGINFRA+

NoMaD | EDISON | FREYA

EarthServer-2 | OpenRiskNet

OpenDreamKit | OPERAS-D

E-CAM | COEGSS | POP

BioExcel | DARE

AENEAS | DEEP

ENVRI PLUS | EUCALL | eLTER

AIDA-2020 | HYDRALAB-PLUS | EuBI PPI

PARTHENOS | iNEXT | RadioNet | GGP-EPI

ACTRIS2 | OPEN SESAME

SHARE-DEV3 | ERIGrid | CLONETS

SERISS | EHRI | INFRAFRONTIER202

Quaco | PedCRIN | AMICI | BELLA-S1

ACCELERATE | MARINERGI | OPTICON

PRE-EST | ASTERICS | EMPHASIS-PREP | RINGO

EuPRAXIA | BrightnESS | ComBioMed | SoNDe

GREST | EPPN2020 | ARISE2 | RItrain | EuroCirCol

EUNCL | NFFA-Europe | RICHFIELDS | EMBRIC | ASCENT

JERICO-NEXT | IPAD-MD | EVAg | LASERLAB-EURO

EVER-EST | SESAME NET | OpenMinTeD | VI-SEEM

READ | MuG | AARC2 | VRE4EIC | PhenoMeNal | MSO4SC | LEARN

HIRMEOS | BlueBridge | West-Life | MaX | UBORA | XDC | ANTAREX

ELIXIR-EXCELERATE | QUAEXCEL2020 | EMSODEV | Global BioImaging | EPOS IP | EPN2020-RI | IPERION CH | COOP_PLUS | SoBigData

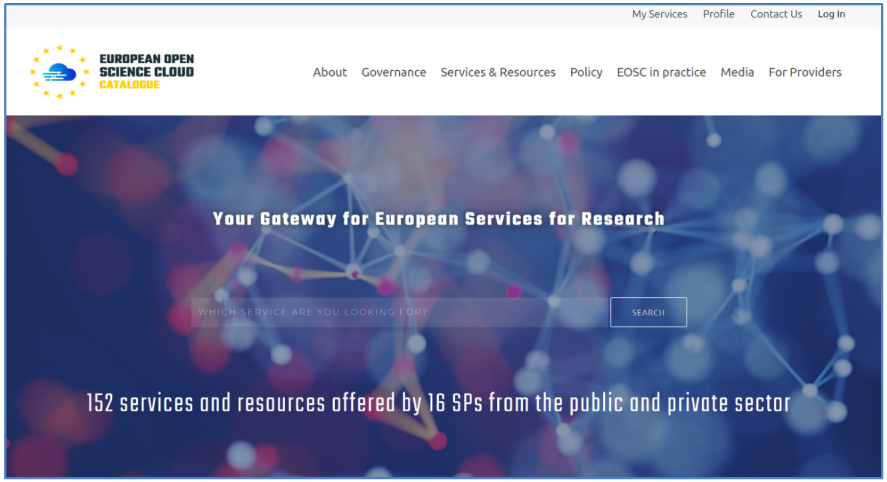
EUROCHAMP-2020 | JUMPING JIVE | CORBEL | EMSO-Link | ACTRIS PPP | ARIES | DANUBIUS-PP | MARINET2 | KM3Net 2.0 | SeaDataCloud

IDEAAL | INTERACT | AQUACOSM | ASSEMBLE Plus | TRANSVAC2 | BRSK II | E-RIHS PP | EUSMI | SINE2020 | CTA-DEV | ADOPT BBMRI

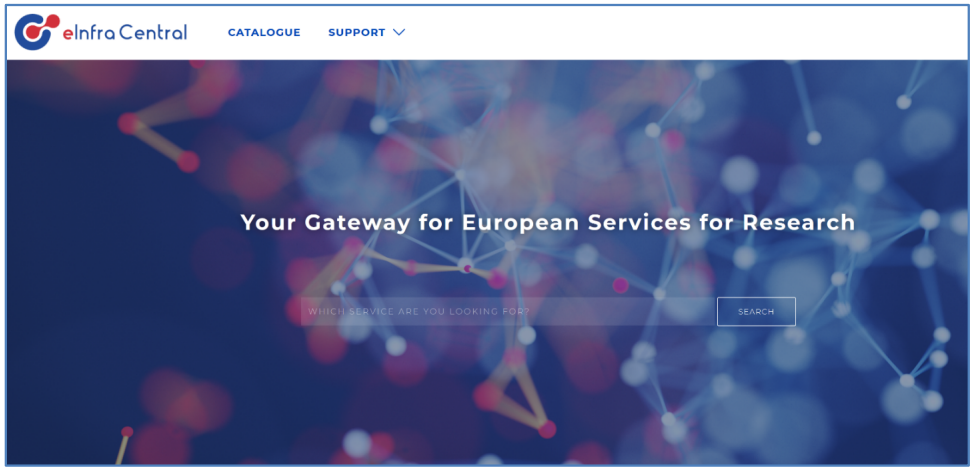
3. EOSC Catalogue

A branded and featured view of the eInfraCentral Catalogue

catalogue.eosc-portal.eu



beta.einfracentral.eu



eInfra Central

EOSCpilot
The European Open Science Cloud for Research Pilot Project

EOSC-hub

OpenAIRE ADVANCE

Views

Rules

Database

Views

Rules

EFIS

JNP

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

Leibniz Universität Hannover

GÉANT

PRACE

egi

EUDAT
epcc

OpenAIRE

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4. Service/Resource Description Template

Way to homogeneously describe the offerings

eInfra Central

Service Description Template
V1.12
July 2018

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Contributors

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EPCC/EUDAT: Rob Baxter
GÉANT Ltd: Annabel Grant, Shaun Cairns, Karl Meyer, Afrodite Sevasti, Michelle Williams
CNR/OpenAIRE: Donatella Castelli, Paolo Manghi, Franco Zoppi
PRACE AISBL: Florian Berberich, Pedro Alberto, Oriol Pineda
ARC: Penny Labropoulou, Androniki Pavlidou

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Search for eInfraCentral+github or

https://github.com/eInfraCentral

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4. Service/Resource Description Template v1.12

Basic Service Information				
Service ID	Mandatory	Global unique and persistent identifier of the service.	The first part denotes a unique identifier for the Service Provider and the second part the unique identifier of the service within the Service Provider.	01.03
Service URL	Mandatory	The Uniform Resource Locator (web address) to the entry web page of the service usually hosted and maintained by the service provider.	Create a unique URL for each service and provide the shortest possible alias	http://www.service-provider.eu/service-name or http://service-name.service-provider.eu
Service Provider Name	Mandatory	The organisation that manages and delivers the service and with whom the customer signs the SLA.	-	e.g. GEANT, PRACE, EGI, EUDAT, OpenAIRE, etc.
Service Name	Mandatory	Brief and descriptive name of service as assigned by the service provider.	Should be descriptive from a customer point of view and should be quite simple, such that someone non-technical is able to understand what the service is about. This attribute will be used in the search function to prioritise results.	B2DROP
Service Tagline	Optional	Short text, catch line or slogan which serves mainly marketing and advertising purposes.	Marketing specialists are encouraged to be engaged in order to come up with a catch phrase that can aid service dissemination and visibility.	Store, share and access your files and their metadata on a global scale
Service Description	Mandatory	High-level description in fairly non-technical terms of what the service does, functionality it provides and resources it enables access to.	Description in one paragraph without bullets or rich HTML. This field is used in the search function to prioritise results.	B2SHARE is a user-friendly, reliable and trustworthy service that allows to store and share worldwide small-scale research data, results and metadata from diverse contexts and guarantees their long-term persistence.
Service Options	Optional	A high-level description of the various options or forms in which the service can be instantiated.	Non-exaustive description in one paragraph without bullets or rich HTML.	"Standard or enhanced", "Bronze, silver and gold", "10, 20, 30", "Elementary Level, Advanced Level, Expert Level"
Target Users	Optional	Type of users/customers allowed to commission/benefit from the service.	This field is important in order to determine the primary benefited users of the Service. Target users should be defined as accurately and as inclusive as possible at the same time.	Research Organisations, Industry, SMEs, Researchers, Scientists, Funders, Policy Makers, Service Providers, Data Providers, etc.
User Value	Optional	Description of the benefit delivered to a customer/user by the service.	Benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving).	For the communities who need to guard against data loss, B2SAFE is a customer facing service that allow data replication and safe storage between geographically distributed centres in the EUDAT CDI.
User Base	Optional	List of customers, communities, users, etc using the service.	Description should be as quantified as possible.	900+ data providers in Europe with different compatibility levels. Adoption in Latin America (LaReferencia), Mexico and Japan.
Service Symbol	Mandatory	The Uniform Resource Locator (web address) to the logo/visual identity of the service.	Provide the shortest possible URL to the service logo. It is better that each service has its own logo with the same look and feel.	http://service-name.service-provider.eu/Symbol.jpg
Service Multimedia	Optional	The Uniform Resource Locator (web address) to the multimedia material of the service (screenshots or videos).	Provide the shortest possible URL to a video or other multimedia material.	http://service-name.service-provider.eu/Multimedia

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4. Service/Resource Description Template v1.12

Service Classification Information				
Service Version	Mandatory	Informs about the service version that is in force.	Only stable releases should be referenced.	3.1
Service Last Update	Mandatory	The date of the latest update of the service.	The date should refer to when the updated version became available to users, not when it was developed or released internally in the SP.	43159
Service Change Log	Optional	A log of the service features added in the last and previous versions.	Clear, staccato sentences for each feature should be used.	Upgrade of user interface. Correction of minor bugs.
Service Valid for	Optional	The date up to which the service description is valid.	You may put here the date a related project is planned to conclude and this migh lead to a change in the service delivery model. The expiring date should imply validity period until 23:59:59. In case it is earlier, the previous day should be used in the date.	03/12/2018
Service Life Cycle Status	Mandatory	Used to tag the service to the full service cycle.	For the eInfracentral catalogue, allowed values are: Alpha, Beta and Production.	Production
Service TRL	Mandatory	Used to tag the service to the Technology Readiness Level, a method of estimating technology ma-turity of critical technology elements. TRL are based on a scale from 1 to 9 with 9 being the most mature technology.	See https://en.wikipedia.org/wiki/Technology_readiness_level#European_Commission_definition For the eInfracentral catalogue, allowed values are: TRL7, TRL8, TRL9.	For the eInfracentral catalogue, allowed values are: 7 - system prototype demonstration in operational environment, 8 - system complete and qualified, 9 - actual system proven in operational environment.
Service Category	Mandatory	A named group of services that offer access to the same type of resource that is of interest to a customer/user.	Select only one category.	Networking
Service Subcategory	Mandatory	Type/Subcategory of service within a category	Select only one be subcategory.	Direct Connect
Service Place	Mandatory	Regions/Countries Availability	-	World
Service Language	Mandatory	Languages of the User interface	-	English
Service Tags	Optional	Attribute to facilitate searching based on keywords.	This field will be used in the search function to prioritise results. This field is very important to make your service discorerable.	AIA, Security
Required Services	Optional	Other services that are required with this service.	List of Service IDs. If needed, give the name of a service. When registered in the catalogue this will be replaced by the ID.	01.21
Related Services	Optional	Other services that are commonly used with this service.	List of Service IDs. In preparation note the name of a service. When your services are registered in the catalogue this should be replaced by the SID.	03.04

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4. Service/Resource Description Template v1.12

Service Support Information				
Service Order	Mandatory	The Uniform Resource Locator (web address) to the webpage to request the service from the service provider.	Visible to Customers	http://service-name.service-provider.eu/Order
Service Helpdesk	Optional	The Uniform Resource Locator (web address) to a webpage with the contact person or helpdesk to ask more information from the service provider about this service.		http://service-name.service-provider.eu/Helpdesk http://helpdesk.service-provider.eu
Service User Manual	Optional	The Uniform Resource Locator (web address) to the service user manual and documentation.		http://service-name.service-provider.eu/UserManual
Service Training Information	Optional	The Uniform Resource Locator (web address) to training information on the service.		http://service-name.service-provider.eu/Training
Service Feedback	Optional	The Uniform Resource Locator (web address) to the page where customers can provide feedback on the service.		http://service-name.service-provider.eu/Feedback
Service Contractual Information				
Service Price	Optional	The Uniform Resource Locator (web address) to the information about the payment models that apply, the cost and any related information.		http://service-name.service-provider.eu/Price
Service Level Agreement	Mandatory	The Uniform Resource Locator (web address) to the information about the levels of performance that a service provider is expected to achieve.	Take a look at EGI SLA https://www.dropbox.com/s/86z098cd1ipzwir/EGI%20Corporate%20SLA%20FINAL.PDF?dl=0) and EUDAT SLA https://www.dropbox.com/s/86z098cd1ipzwir/EGI%20Corporate%20SLA%20FINAL.PDF?dl=0 to formulate. It can be very simple to start with. One page.	http://service-name.service-provider.eu/SLA
Service Terms Of Use	Optional	The Uniform Resource Locator (web address) to the webpage describing the rules, service conditions and usage policy which one must agree to abide by in order to use the service.		http://service-name.service-provider.eu/TermsOfUse
Service Funding	Optional	Sources of funding for the development and/or operation of the service.	Publicity guidelines of each respective funding sources should be adhered to. Good if you could give here reference to EC or other public funding.	EC (Horizon) and National (NREN) Development: EC (H2020), National (NREN). Operations: National (capacity and federation), EC (federation).

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4. Service/Resource Description Template v1.12

Service Performance Information				
Service Requests	Optional	The total number of demands for a specific service, e.g. service access requests, service information requests, requests for other material service attributes, etc.		15
Service Users	Optional	The total number of people who utilise a specific service.		200
Service Usage	Optional	The level or percentage of actual penetration/utilisation of a specific service.	As many decimal points as needed should be used.	35,00%
Service Capacity	Optional	The maximum volume of available service provision while maintaining standards of quality and performance. e.g. 30.000 concurrent users, 3.000 service orders per day, etc.		3000 service orders per day
Service Coverage	Optional	The range of geographical areas and/or thematic sectors that a service is addressed to, e.g. EU Member States (regional), high energy physics (scientific community) etc.		EU Member States (regional)
Service Cost	Optional	The monetary value that a user is requested to pay in order to utilise a specific service, e.g. free of charge, 100 €, etc.		Free of charge
Service Availability	Optional	Availability, i.e., the fraction of a time period that an item is in a condition to perform its intended function upon demand ("available" indicates that an item is in this condition); availability is often expressed as a probability.	As many decimal points as needed should be used.	99,99%
Service Reliability	Optional	Reliability, i.e., the probability that an item will function without failure under stated conditions for a specified amount of time. "Stated conditions" indicates perquisite conditions external to the item being considered. For example, a stated condition for a supercomputer might be that power and cooling must be available - thus a failure of the power or cooling systems would not be considered a failure of the supercomputer.	As many decimal points as needed should be used.	98.1%
Service Serviceability/Durability	Optional	Serviceability, i.e., the probability that an item will be retained in, or restored to, a condition to per-form its intended function within a specified period of time Durability, i.e., the ability of a physical product to remain functional, without requiring excessive maintenance or repair, when faced with the challenges of normal operation over its design lifetime.	As many decimal points as needed should be used.	99.99%, High, Very High, …
Service Performance Indicator Name	Optional	Other Service Level Target or Performance Infdicator	N/A	Total number of service orders
Service Performance Indicator Value	Optional	Indicator Value Measurement of Other Indicator	N/A	1

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5. Categorisation/Classification of Services

Super Categories	Categories	Subcategories
Infrastructure Services (or Enabling Services)	Networking	Direct Connect
		Virtual Network
		Load Balancer
		VPN Gateway
		Exchange
		Content Delivery Network
		Traffic Manager
		Other
	Compute	Virtual Machine Management
		Container Management
		Job Execution
		Workload Management
		Orchestration
		Serverless Applications Repository
		Other
	Storage	Data
		File
		Queue
		Disk
		Online
		Archive
		Backup
		Synchronised
		Replicated
		Recovery
		Other

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5. Categorisation/Classification of Services

2	Sharing & Discovery	Datasets (or Databases)	Government and agency data
			Statistical data
			Scientific data
			Research Data
			Online service data
			Other
		Scholarly Communication	Preparation
			Discovery
			Analysis
			Writing
			Publication
			Outreach
			Assessment
			Other
		Software	Software Repository
			Platform
			Software Package
			Libraries
			Other
		Applications	Communication
			Collaboration
			Productivity
			Business
			Education
			Social
			Utilities
			Applications Repository
			Other
		Development Resources	Developer Tools
			Software Development Kits
			Libraries
			APIs Repository/Gateway
			Other
		Aggregators & Integrators	Services
			Services & Datasets
			Sevices & Applications
			Services & Software
			Applications & Datasets
			Software & Datasets
			Applications & Software
			Services & Applications & Datasets
			Services & Software & Datasets
			Services & Applications & Software
			Services & Applications & Software
			Services & Applications & Software & Datasets
			Other

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5. Categorisation/Classification of Services

Processing & Analysis	Workflows (Experiments)	
	Data Management	Mining
		Access
		Transfer
		Registration
		Persistent Identifier
		Interlinking
		Publishing
		Discovery
		Anonymisation
		Preservation
		Brokering
		Annotation
		Validation
		Other
	Analytics	Machine Learning
		Artificial Intelligence
		Forecast output visualization and access
		Data access and computing
		Data exploitation
		General user service
		Other

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5. Categorisation/Classification of Services

4	Security & Operations	Security & Identity	User authentication
			Identity and access management
			Threat protection
			Coordination
			Tools
			Certification authority
			Single Sign-On
			Firewall
			Group Management
			Other
		Operations & Infrastructure Management Services	Accounting
			Helpdesk
			Monitoring
			Analysis
			Configuration
			Utilities
			Coordination
			Billing
			Order Management
			Other

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5. Categorisation/Classification of Services

5	Training & Support	Training	Highly-specialized seminars and courses to help advance [your] research knowledge and sharpen [your] scientific skills.	Online Courses
				Open Registration Courses
				In-house Courses
				Training Tool
				Training Platform
				Other
		Advisory Services	Dedicated professional support for a wide range of scientific disciplines and research activities.	Consulting
				Audit and Assessment
				Certification
				Application Porting
				Application Scaling
				Application Optimisation
				Software Development
				Software Improvement
				Other

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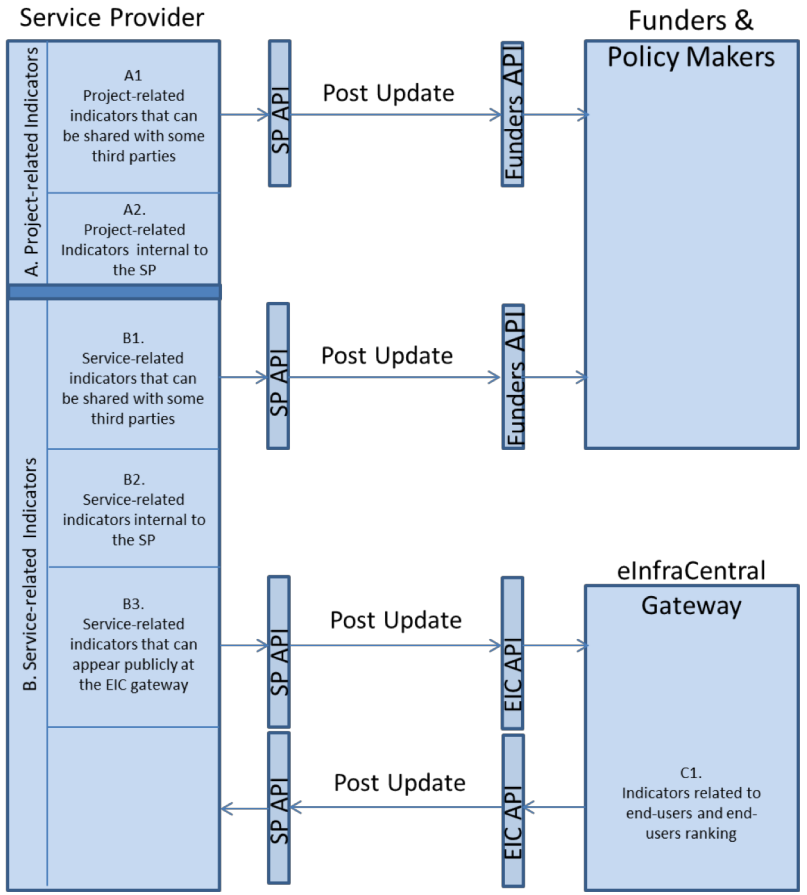
6. Performance Monitoring Framework



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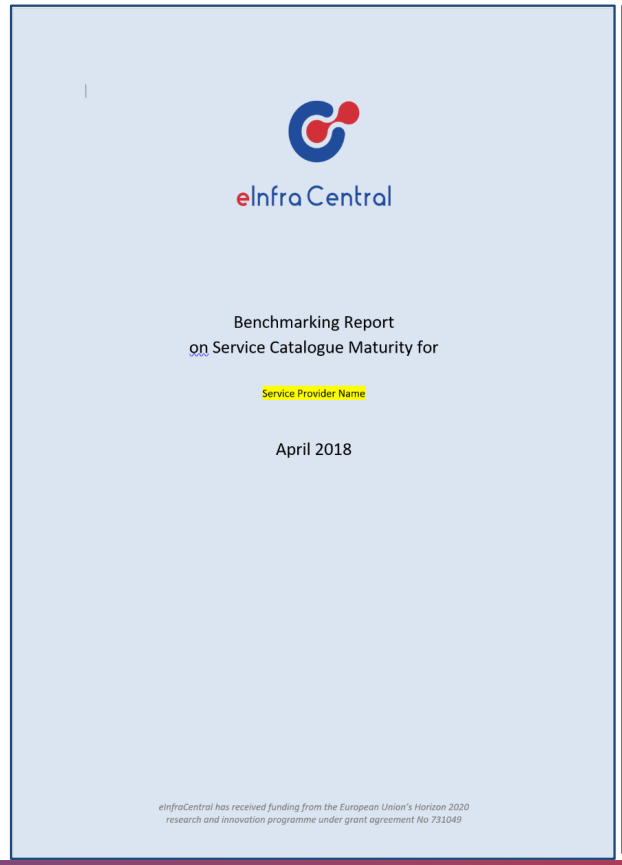
7. Labelling on Catalogue Maturity

Long-term catalogue quality

- Methodology introduced by JNP to improve the “service readiness” of SPs.
- A SP is awarded with a label based on 41 quality indicators assessed by 3 independent reviewers.
- A comparison to other SPs is provided and recommendations to improve the service catalogue and related processes.
- Data and report are treated with confidentiality; not available to any other third party, unless the service provider has agreed beforehand in written manner


eInfra Central

Benchmarking Report
on Service Catalogue Maturity for

Service Provider Name

April 2018

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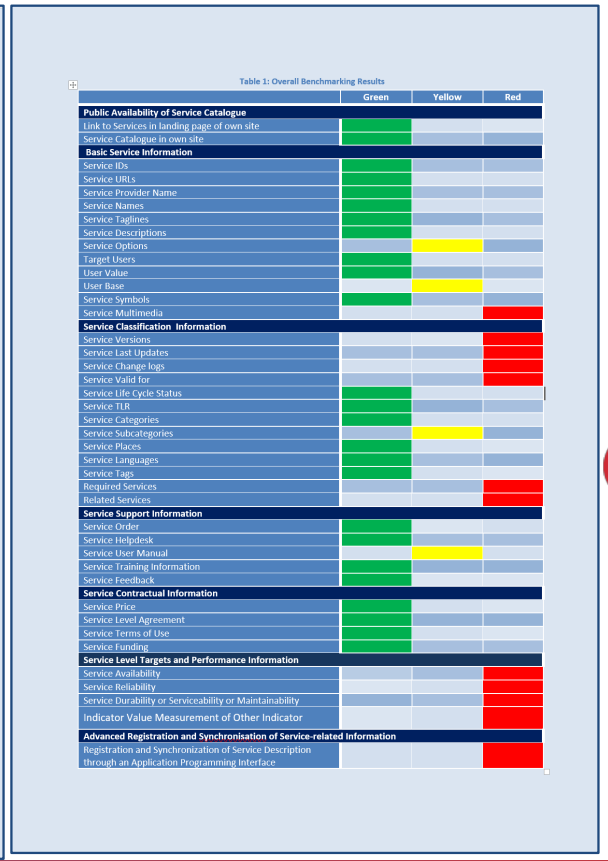
Table 1: Overall Benchmarking Results

	Green	Yellow	Red
Public Availability of Service Catalogue			
Link to Services in landing page of own site			
Service Catalogue in own site			
Basic Service Information			
Service IDs			
Service URLs			
Service Provider Name			
Service Names			
Service Taglines			
Service Descriptions			
Service Options			
Target Users			
User Value			
User Base			
Service Symbols			
Service Multimedia			
Service Classification Information			
Service Versions			
Service Last Updates			
Service Change logs			
Service Valid for			
Service Life Cycle Status			
Service TLR			
Service Categories			
Service Subcategories			
Service Places			
Service Languages			
Service Tags			
Required Services			
Related Services			
Service Support Information			
Service Order			
Service Helpdesk			
Service User Manual			
Service Training Information			
Service Feedback			
Service Contractual Information			
Service Price			
Service Level Agreement			
Service Terms of Use			
Service Funding			
Service Level Targets and Performance Information			
Service Availability			
Service Reliability			
Service Durability or Serviceability or Maintainability			
Indicator Value Measurement of Other Indicator			
Advanced Registration and Synchronisation of Service-related Information			
Registration and Synchronization of Service Description through an Application Programming Interface			

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8. Service Provider Registration Process

Rules of Participation

- A transparent, inclusive and open process for the registration of SPs and their Services/Resources in the eInfraCentral Gateway that can be followed by all interested parties irrespectively of their maturity.
- With a long-term aim to find paths of the process that can be automated so as to allow scalability and avoid bottlenecks in the registration process.
- The Process includes currently 6 steps
- One more will be added to support the registration to the EOSC marketplace

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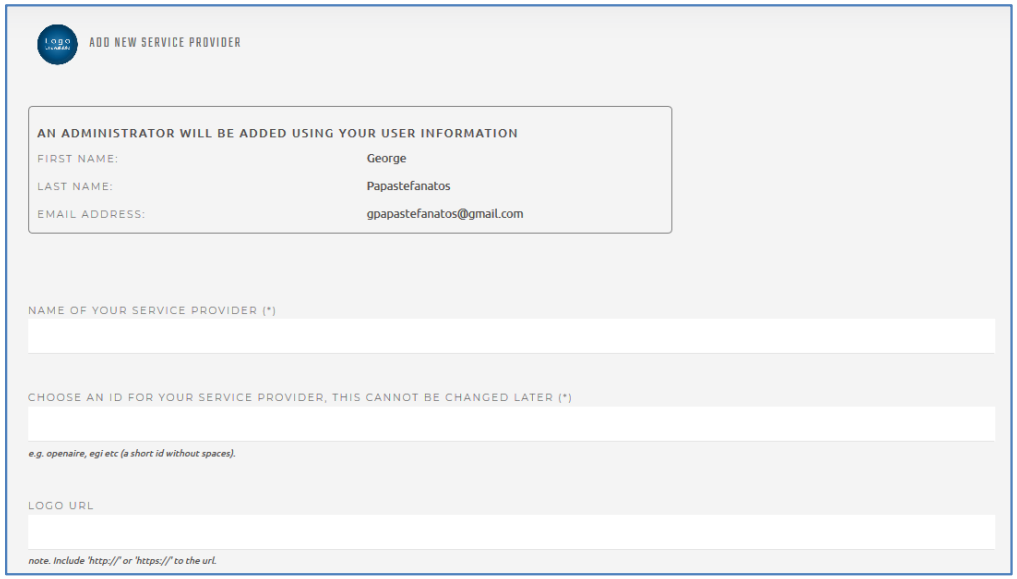
8. Service Provider Registration Process

Onboarding in practice



Registration

Validation

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9. Schema Representation and API

Way to exchange information and interoperate

- Guidelines for the REST API and the service-related representation and specifications for the exchange of information among service providers and third party applications.
- The APIs methods offer the functionality to programmatically access, search and retrieve the contents of the catalogue, such as services, service providers, service performance indicators and service analytics.

Horizon 2020 Programme
Digital Excellence & Science infrastructure
eInfrastructure Science Cloud

Grant Agreement Number: 731049
Project Acronym: eInfraCentral
Project Full Title: European E-Infrastructure Services Gateway
Type of Action: Coordination and Support Action (CSA)
Call: H2020-INFRASUPP-2016-2017

Deliverable D3.3
Guidelines for schema representation and APIs

eInfra Central

Type (Distribution Level):	Public
Deliverable Leader:	UOA
Authors:	George Papastefanatos, Akrivi Katifori, Natalia Manola, Stefania Martziou, Antonis Lempesis, Panagiotis Labropoulos (UoA)
Due Date:	30.04.2018
Actual Submission Date:	21.05.2018
Version:	1.0

Abstract: This document specifies the guidelines for the service-related representation of eInfraCentral information, and the REST API specifications for the exchange of information from service providers to the eInfraCentral Gateway and its provisioning to third party applications. The APIs methods offer the functionality to programmatically access, search and retrieve the contents of the eInfraCentral catalogue, such as services, service providers, service performance indicators and service analytics.

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10. Portal Functionality

Researcher

Browse
- Categories
- Services

Search
- Keyword search
- Filters

View
- Service Details
- Service stats

Compare
- Service characteristics
- Service ratings

Request
- Service from provider

Personalize
- Add to Favorites
- Register to Alerts

Service provider

Register
- Organization
- Service manager users
- Services
- Service Level Target Indicators

Update (Web & API)
- Service Descriptions
- Service Level Target Indicators

Analyze
- Service updates
- Indicator updates
- Service stats from portal

Funder

View
- Service Details
- Service Level Target Indicators
- Service rating

Compare
- Services
- Service Level Target Indicators

Visualize & Analyze
- Service Statistics
- Indicators
- Service evolution
- Service provider statistics

Personalize
- Add to Favorites
- Register to Alerts

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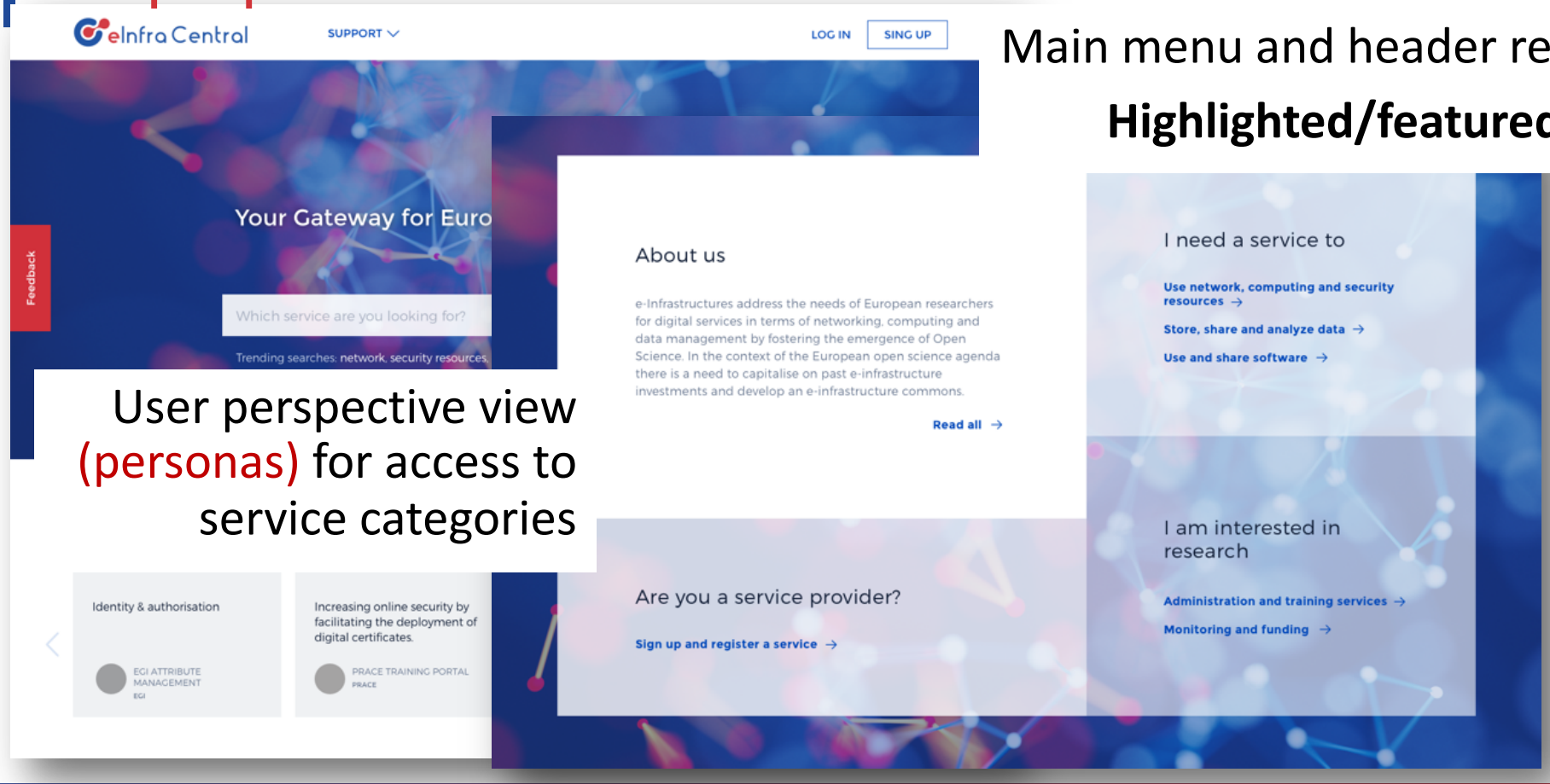
11. Views

User perspective

Main menu and header redesigned

Highlighted/featured services



User perspective view (personas) for access to service categories

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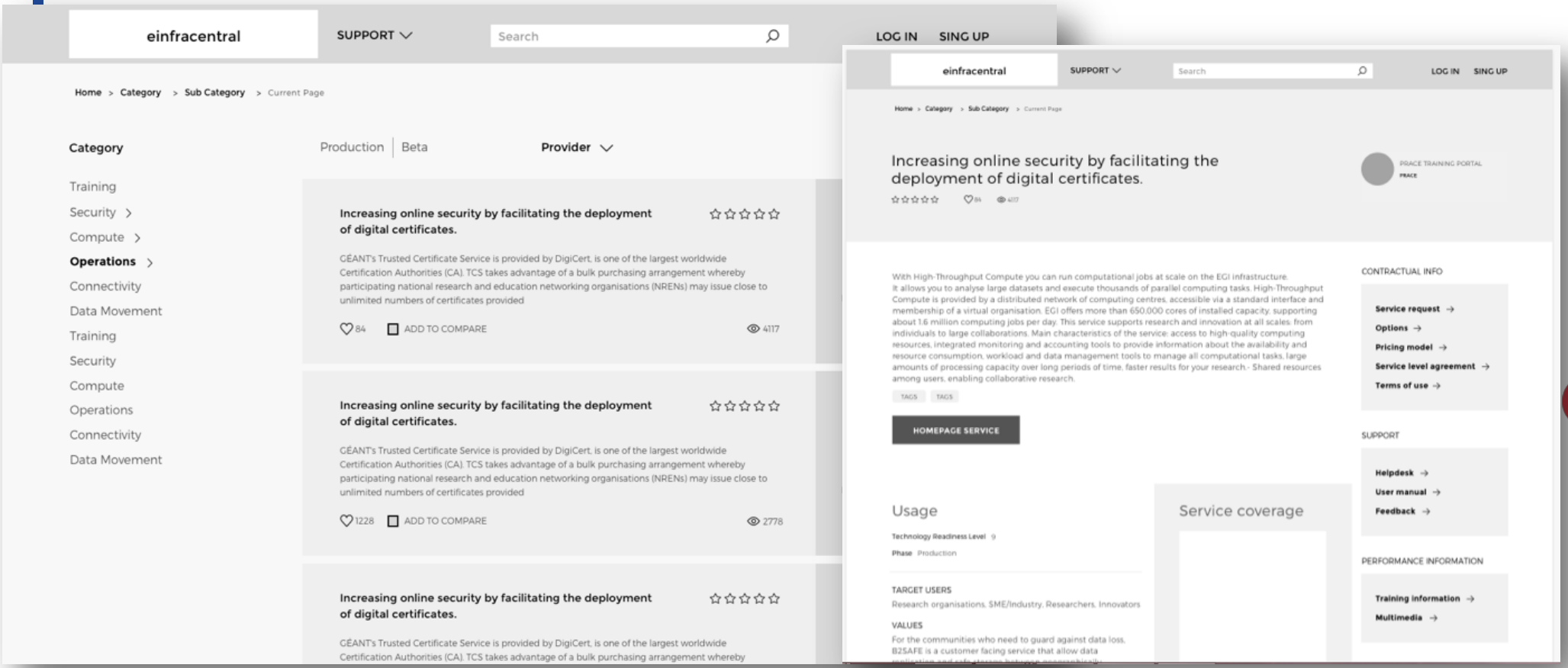
11. Views
Direct and compact



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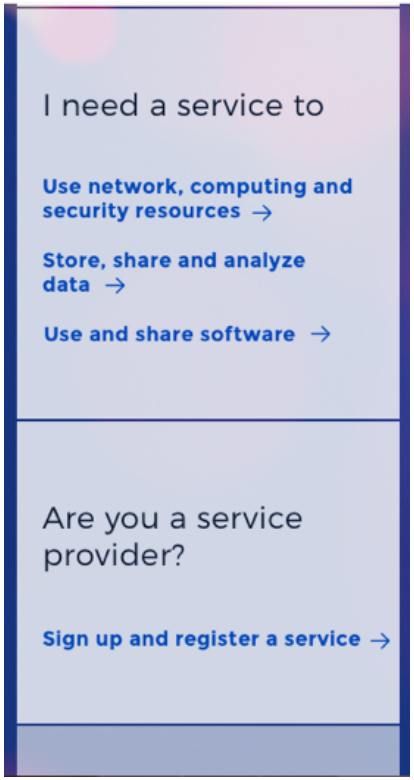
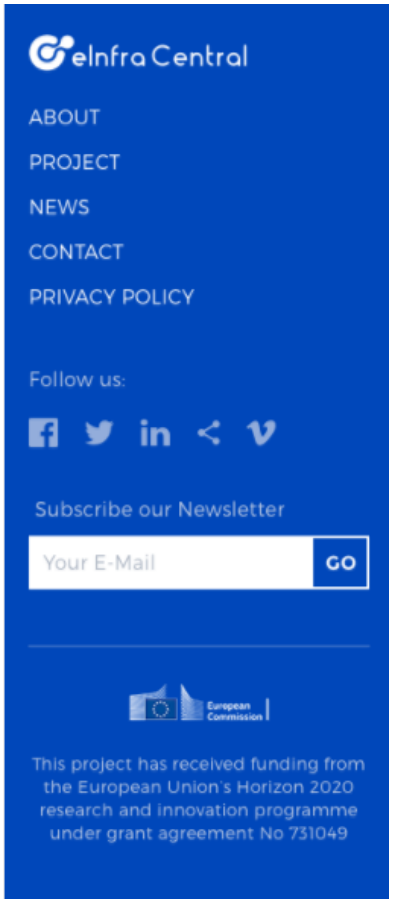
11. Views
Mobile





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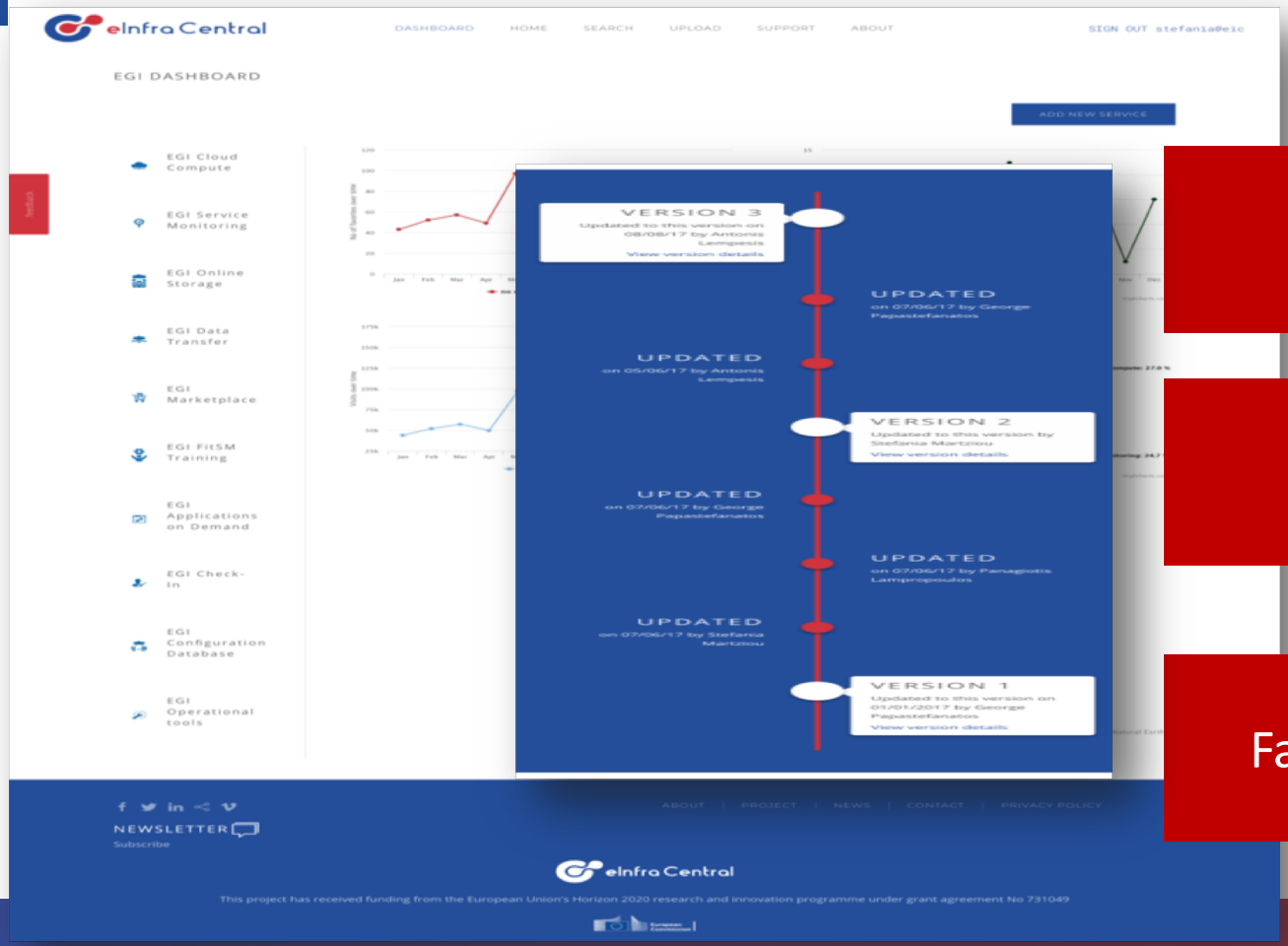
12. SP Dashboards



Data collected by eInfraCentral usage/traffic (Matomo)

History of service updates in EIC

Facets by organization or by service

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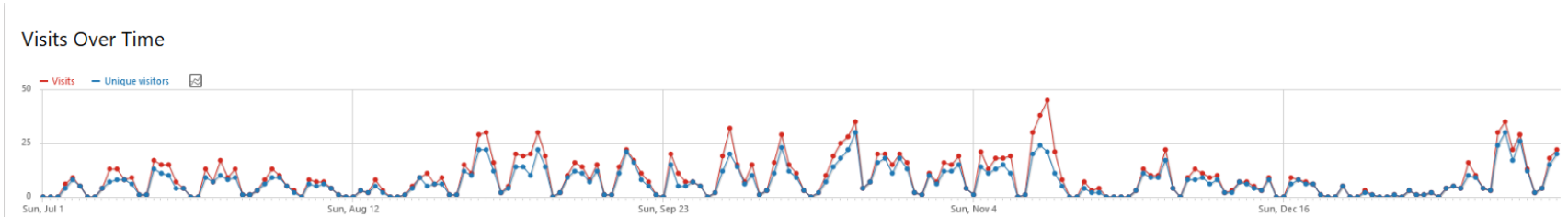
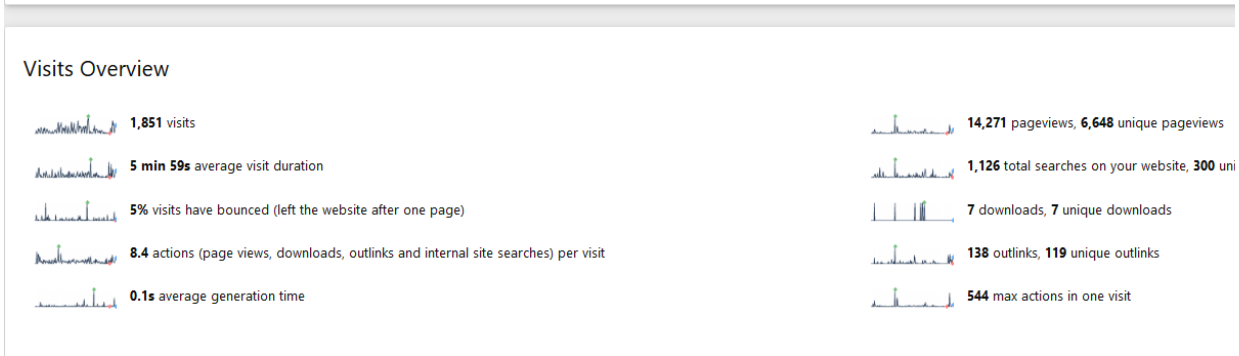
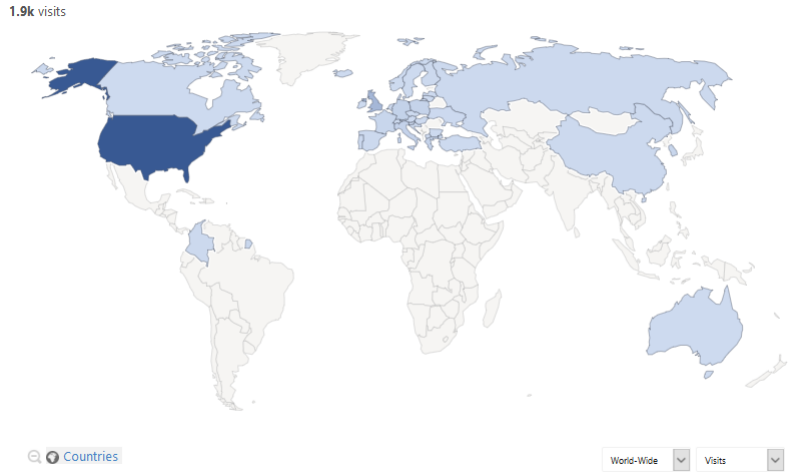
13. Analytics







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eInfra Central

Demonstration

Informal review of EOSC-hub and OpenAIRE-Advance

24 January 2019
European Commission, Luxembourg

Alasdair Reid, Jelena Angelis, Elina Griniece, Christine de Neve (EFIS), Jorge Sanchez, Nikos Vogiatzis, Nektaria Berikou, Theodore Ntezes, Panos Spyrou (JNP), Natalia Manola, George Papastefanatos, Akrivi Katifori, Stefania Martziou, Antonis Lempesis (UoA), Jan Wiebelitz, Gabriele von Voigt (LUH), Yannick Legre, Sergio Andreozzi, Malgorzata Krakowian, Sy Holsinger (EGI), Rob Baxter (EPCC), Annabel Grant, Michelle Williams, Shaun Cairns, Karl Meyer (GEANT), Donatella Castelli, Paolo Manghi, Franco Zoppi (CNR), Florian Berberich, Pedro Alberto, Manuel Fiolhais (PRACE)

eInfra Central

Recommendations

Informal review of EOSC-hub and OpenAIRE-Advance

24 January 2019
European Commission, Luxembourg

Alasdair Reid, Jelena Angelis, Elina Griniece, Christine de Neve (EFIS), Jorge Sanchez, Nikos Vogiatzis, Nektaria Berikou, Theodore Ntezes, Panos Spyrou (JNP), Natalia Manola, George Papastefanatos, Akrivi Katifori, Stefania Martziou, Antonis Lempesis (UoA), Jan Wiebelitz, Gabriele von Voigt (LUH), Yannick Legre, Sergio Andreozzi, Malgorzata Krakowian, Sy Holsinger (EGI), Rob Baxter (EPCC), Annabel Grant, Michelle Williams, Shaun Cairns, Karl Meyer (GEANT), Donatella Castelli, Paolo Manghi, Franco Zoppi (CNR), Florian Berberich, Pedro Alberto, Manuel Fiolhais (PRACE)

Recommendations

Policy

- Continue focus on developing the components that allow for interoperability:
  - a single Service/Resource Description Standard
  - the one and only related API
- Facilitate the community with a shared vocabulary about Service Management, SM management standards and frameworks
- Support SPs to become professional in service provisioning, user-oriented, user-centric, business-focus and adopting FAIR principles
- Devise a framework to maintain the quality level of the catalogue and thus its sustainability (including the rules of engagement, registration process, quality report, user ratings, etc)
- Drive consensus on the service-level performance indicators and monitoring framework. Research/scientific resource providers are reluctant to share performance related information to any third party mainly because of “fear” of misuse.
- Take special actions to communicate to all scientific communities, industry, government and citizens, in all member states, about the EOSC Portal to collect additional requirements and related feedback

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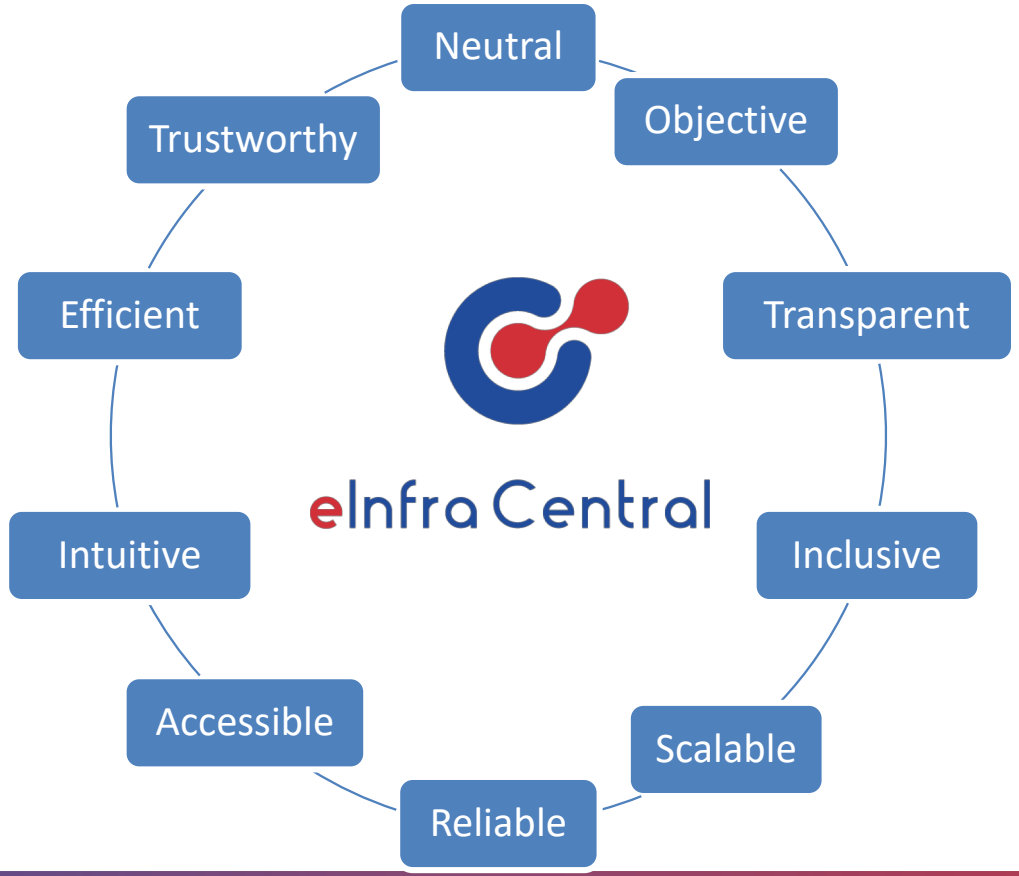
Recommendations

Characteristics of the Catalogue



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Recommendations

Technical

- Advanced catalogue functionality to improve the user experience
- Improve user centric approach with added value services to users
- New options for service listings and comparisons
- New algorithms for service recommendations to users
- Additional user personalization capacities
- Allow for users to build their portfolios
- Establish multi-facetted service ordering processes
- Technically push on interoperability among catalogues and marketplaces

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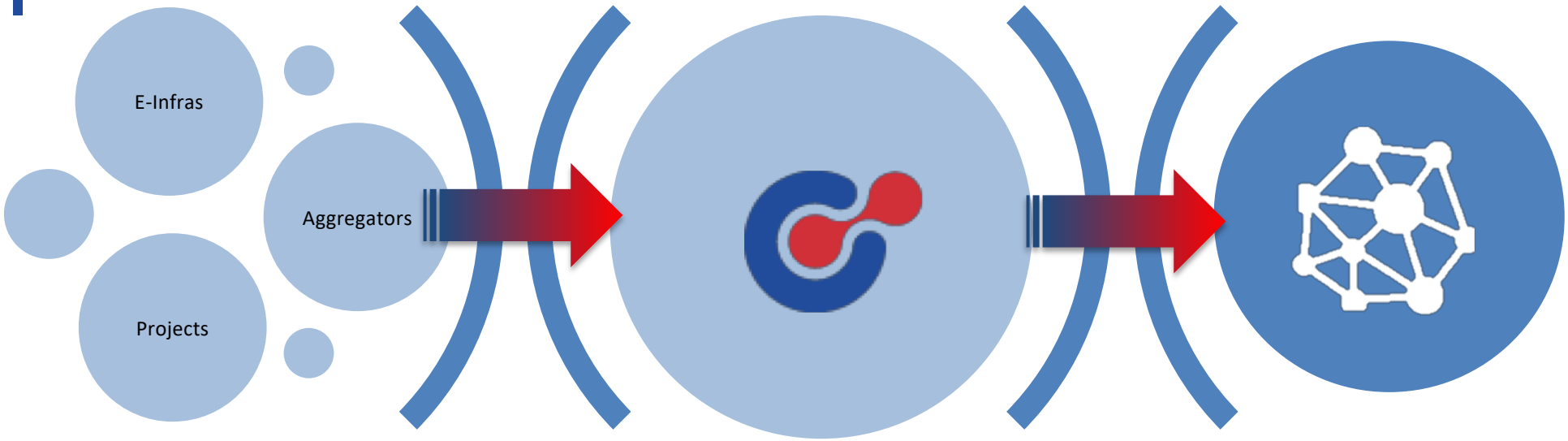
Open REST API



Service providers

Eosc Catalogue

Service catalogue consumer

Service Level Target Indicators
Service Description Details

EOSC Marketplace
Service classification and vocabularies
Service Analytics collected

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Thank you

catalogue.eosc-portal.eu

contact@einfracentral.eu

@eInfraCentral

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