

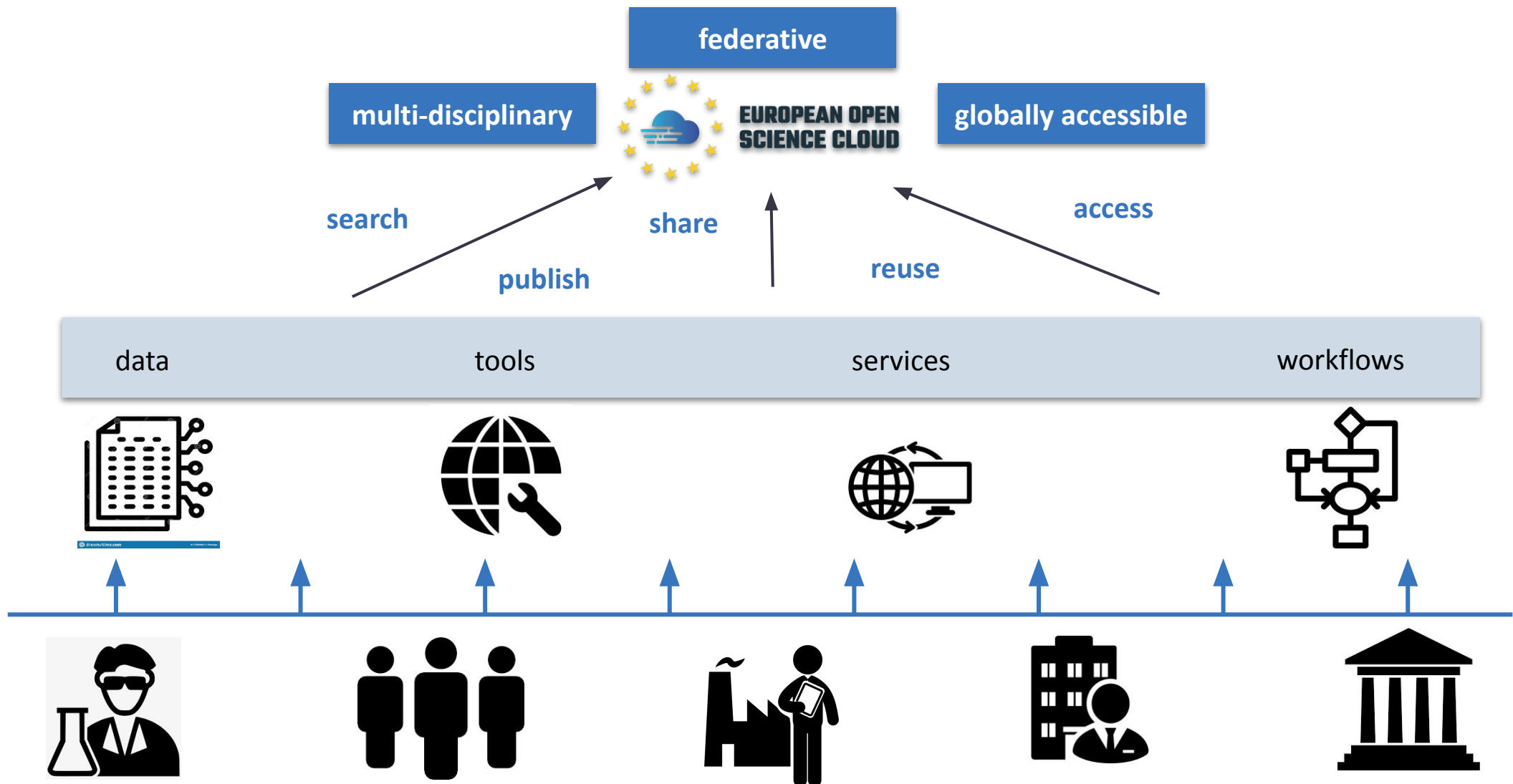
Onboarding services to the EOSC Marketplace: An example of REVIGO service

Supporting Open Communities,
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European Open Science Cloud (EOSC)



EOSC projects

RBI - infrastructure projects



Other EOSC projects Thematic projects



NI4OS: National Initiatives for Open Science in Europe



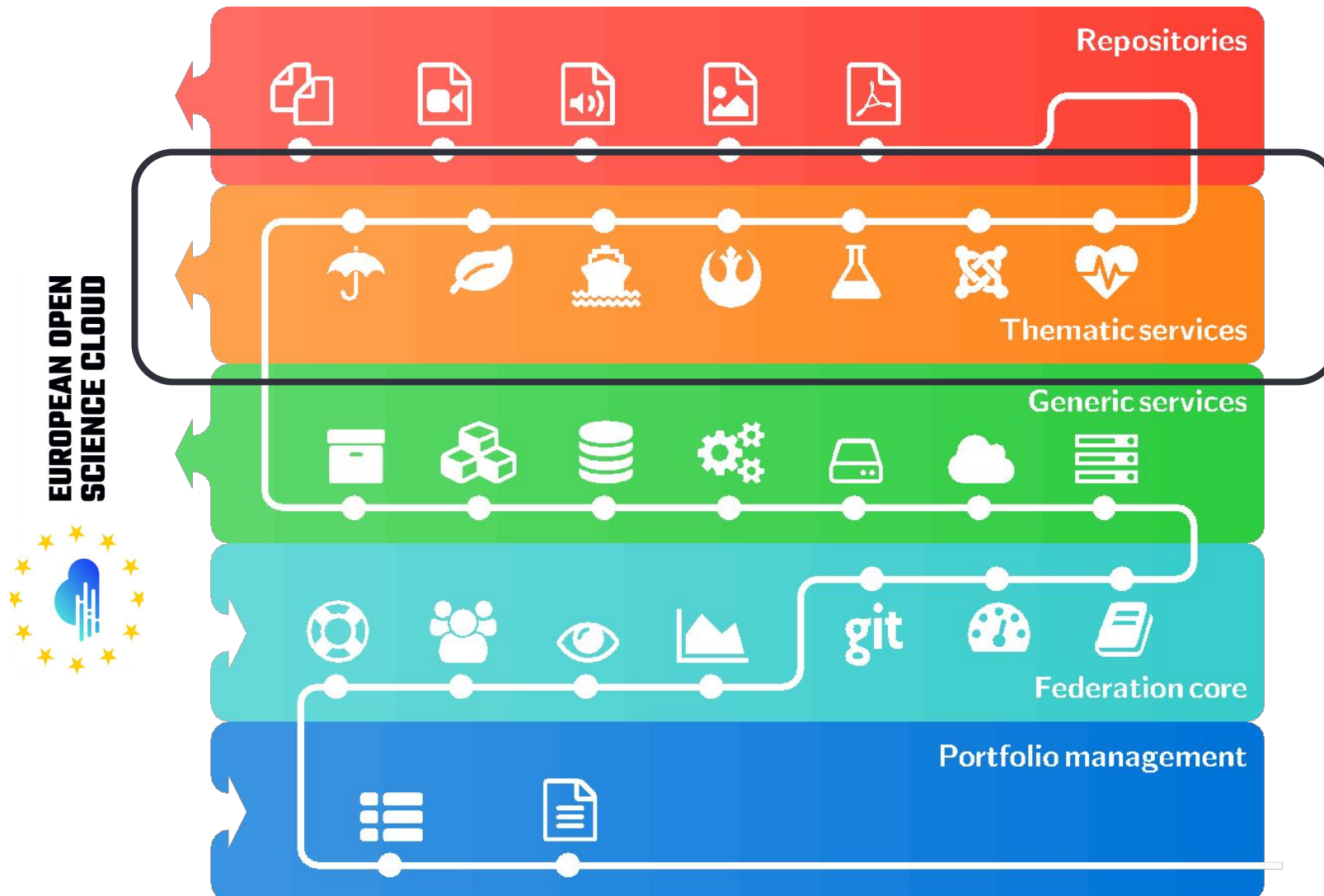
- 09/2019 - 02/2023
- 22 partners from 15 countries

RBI role includes 'onboarding' of specific thematic services (bioinformatics) from RBI research groups.

Main objectives:

1. Facilitate the federation of existing infrastructures & SoA services and their **smooth on-boarding** into EOSC - focus on OSC initiatives from 15 members of project consortium (SE-Europa)
2. Enable the EOSC-relevant, non-commercial infrastructures, repositories and thematic services to be accessed through the **EOSC portal**.
3. Provide the necessary technical, organizational and legal guidelines, tools, mechanisms and certification schemes, to support Open Research Data Management (ORDM) and its implementation in a harmonized and coordinated fashion.

Types of services for on-boarding



Why to become a part of EOSC?

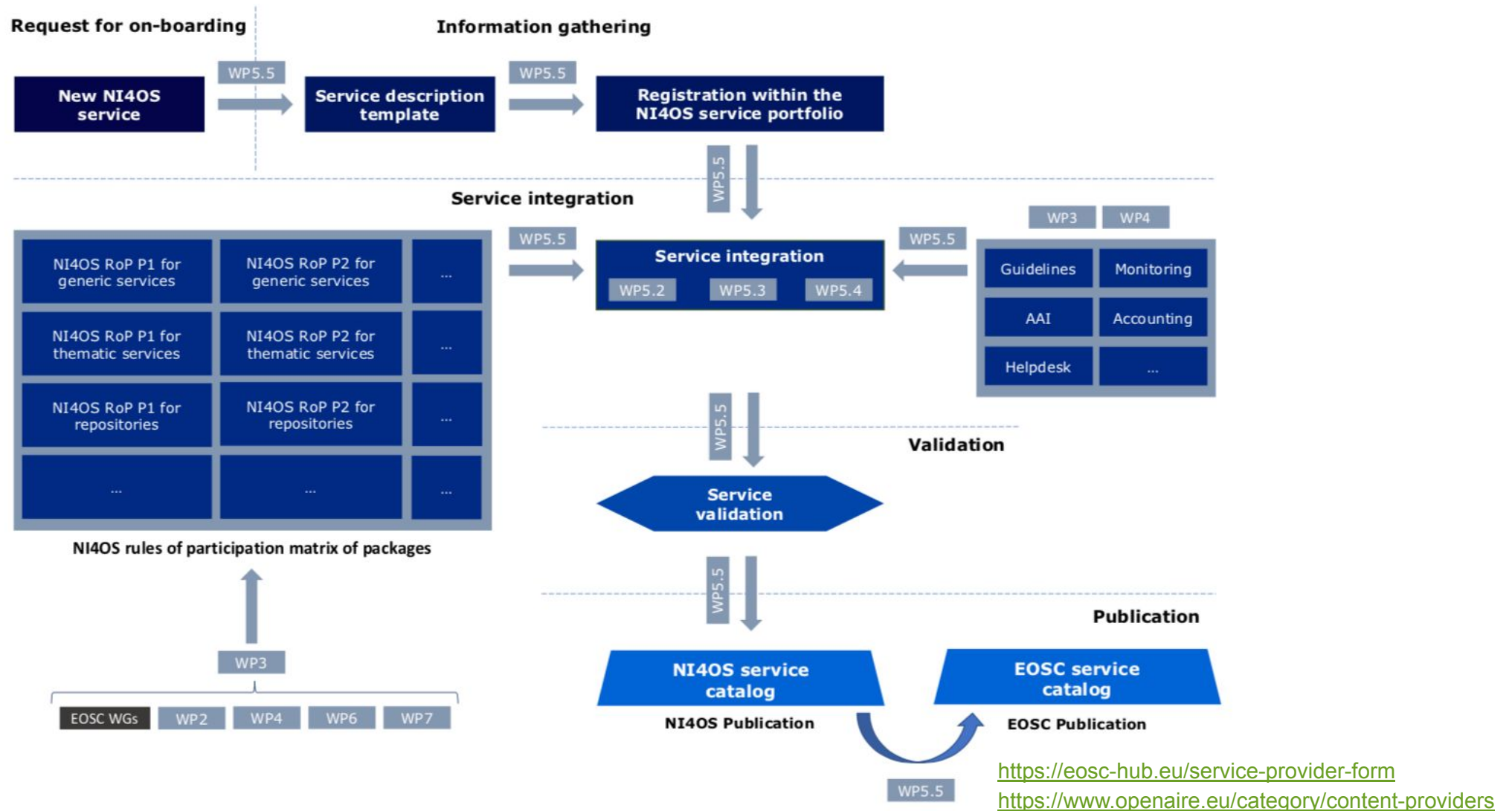
- ❑ **Visibility and reusability**
 - ❑ Visible to a larger community
 - ❑ Single point of access (via Marketplace)
- ❑ **Improved Quality of Service (QoS)**
 - ❑ Improved support to end users (helpdesk), federated AAI,
 - ❑ Federated solutions for some backend services and tools
 - ❑ helpdesk, accounting, monitoring, AAI
 - ❑ Hosting
 - ❑ compute and storage resources

NI4OS Onboarding procedure:

- ❑ Onboarding includes all practical activities taken to incorporate a resources into the EOSC federation
- ❑ In general, NI4OS resource onboarding includes five main steps:
 - ❑ a **request** via a dedicated form - project operational team will initiate the onboarding procedure for all resources and send the corresponding request to the EOSC,
 - ❑ **relevant information** is gathered using a portal-specific RDT,
 - ❑ a resource **is integrated** with the NI4OS pre-production environment,
 - ❑ a service **is validated** by tools from the NI4OS pre-production environment,
 - ❑ a service **is published** in the EOSC catalogue

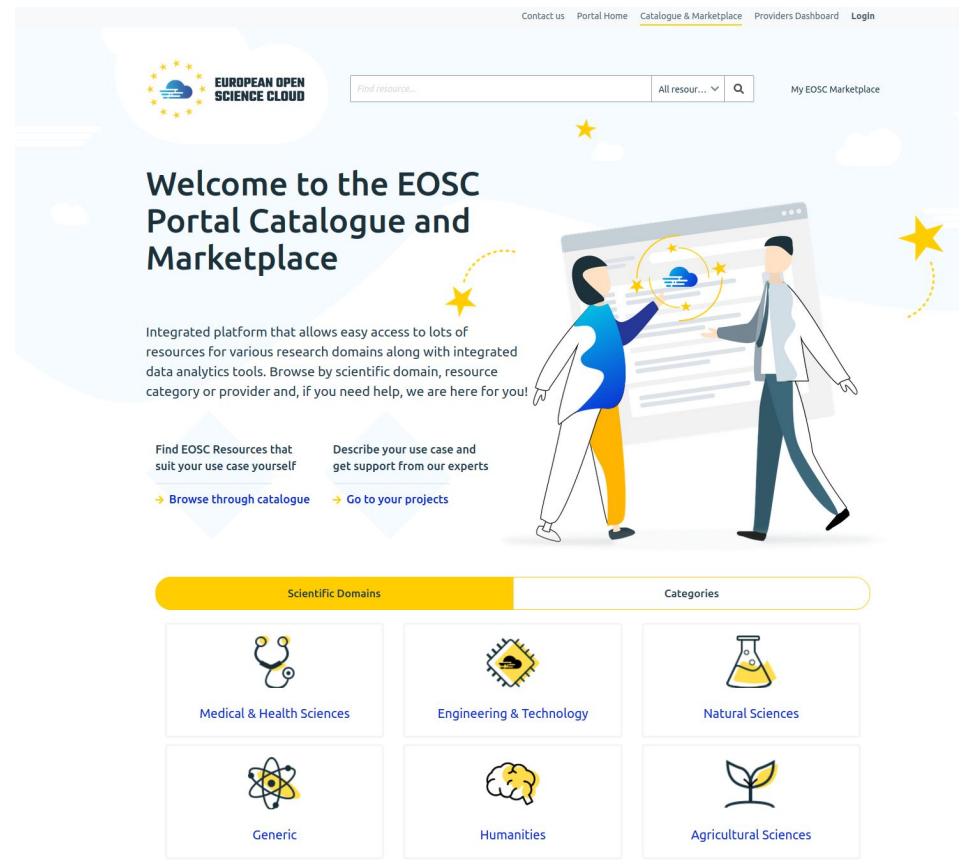


NI4OS-Europe view of the on-boarding process



EOSC Marketplace - one-stop-shop for EOSC compatible services

- ❑ Web portal for easy access to services and resources for various research domains: <https://marketplace.eosc-portal.eu/>





<http://revigo.irb.hr/>

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

REVIGO Summarizes and Visualizes Long Lists of Gene Ontology Terms

Fran Supek , Matko Bošnjak, Nives Škunca, Tomislav Šmuc

Published: July 18, 2011 • <https://doi.org/10.1371/journal.pone.0021800>



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	Totals	71,083	17,372	185	88,640
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REVIGO - REduction and VISualization of Gene Ontology

REVIGO summarizes and visualizes

Not Secure | revigo.irb.hr

REVIGO

reduce + visualize Gene ontology

Rudjer Boskovic Institute, Croatia

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Welcome to REVIGO!

REVIGO can take long lists of Gene Ontology terms and summarize them by removing redundant GO terms. The remaining terms can be visualized in semantic similarity-based scatterplots, interactive graphs, or tag clouds. [More about REVIGO...](#)

Please enter a list of Gene Ontology IDs below, each on its own line. The GO IDs may be followed by p-values or another quantity which describes the GO term in a way meaningful to you.

Examples: #1 #2 #3

Allowed similarity: How large would you like the resulting list to be?
☐ Large (allowed similarity=0.9) ☒ Medium (0.7) ☐ Small (0.5) ☐ Tiny (0.4)

If provided, the numbers associated to GO categories are...

☒ p-values
☐ some other quantity, where higher is better

Advanced options:

Select a database with GO term sizes: whole UniProt (default)

Select a semantic similarity measure to use: SimRel

Start Revigo

For all given GO terms in one ontology, calculate a matrix of pairwise semantic similarities

Find the most similar pair of GO terms t_i and t_j

Are t_i and t_j less similar than the user-specified cutoff C ?

YES: reject very general term

YES: reject less significant term

finish

Remove either t_i or t_j , depending on several criteria listed in the order of priority:

One term has only a very broad interpretation (frequency >5%)?

NO

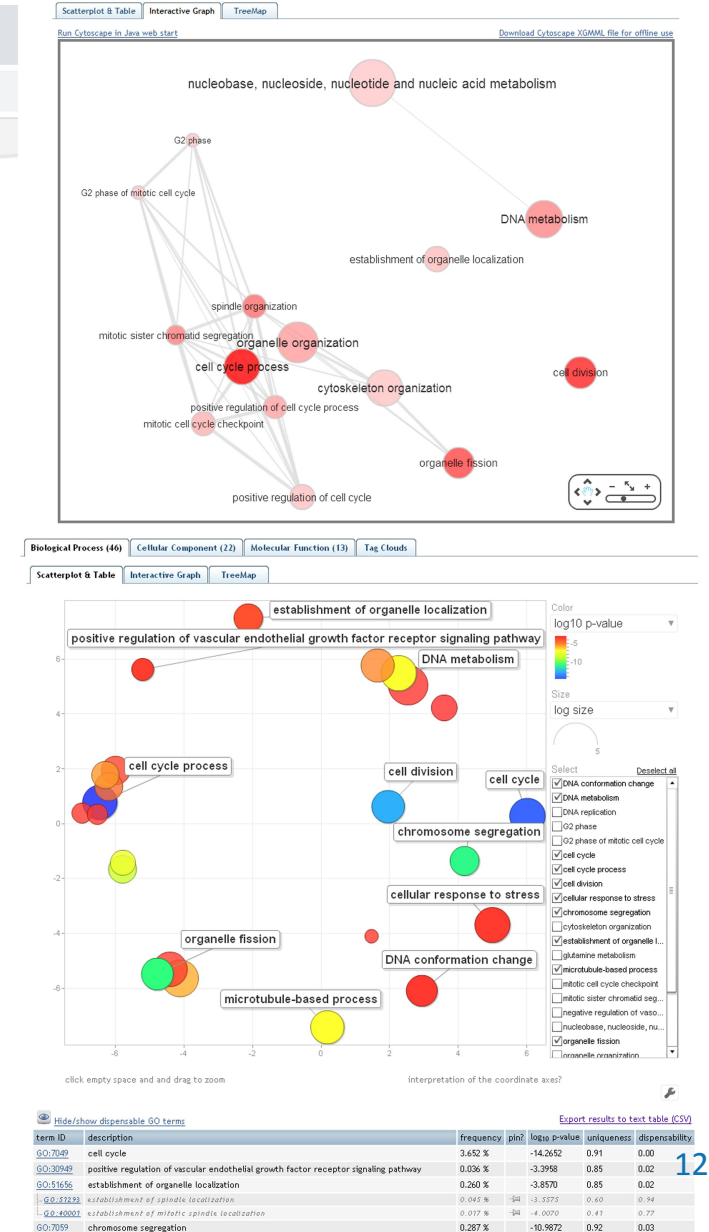
One term has a less significant p-value (weaker enrichment)?

NO (terms' p-values or enrichments are close)

t_i and t_j are in a parent-child relationship?

NO

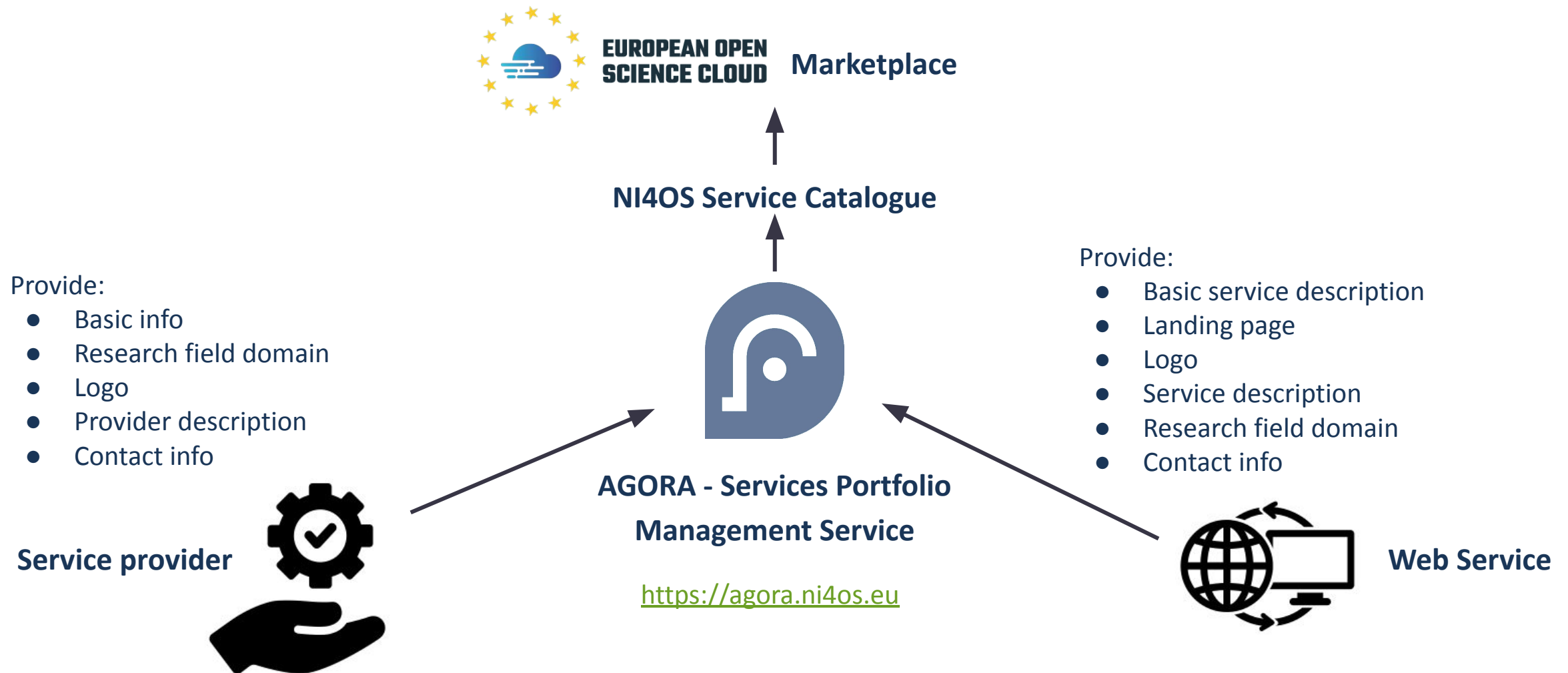
reject t_i or t_j at random (actual choice is deterministic to ensure reproducibility)



REVIGO onboarding steps

- ❑ Goal: register in the NI4OS catalogue
 - ❑ Enables automatic service registration within EOSC Marketplace
- ❑ Step 1: Provider and service registration (NI4OS Agora Service)
- ❑ Step 2: Define policies
- ❑ Step 3: Integrate with other EOSC/NI4OS services

Step 1: Provider and service registration - Agora (Mandatory)



Step 2: Define policies

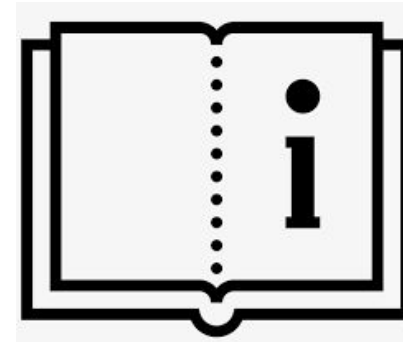
User policy

Terms of use

Access policy

User manual

Privacy policy

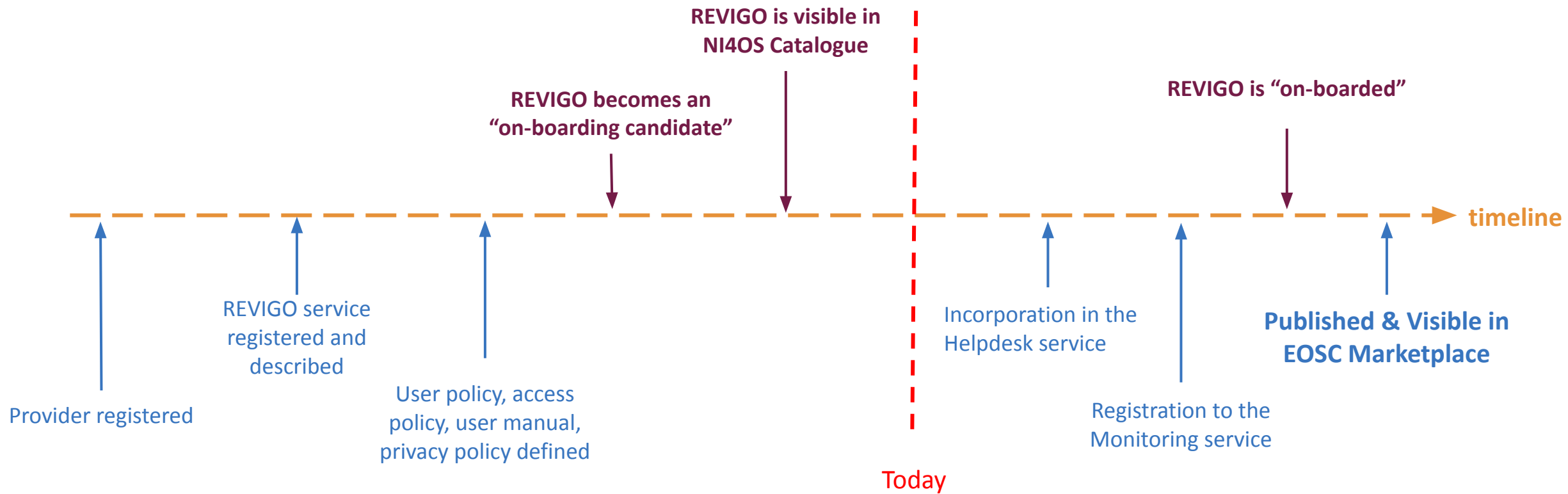


Most of these were undefined in the Revigo service before onboarding!

Step 3: Integration with EOSC core services (ongoing)

- ❑ Integration with the NI4OS Helpdesk system
 - ❑ Provide user-support via federated helpdesk systems instead of sending emails
- ❑ Integrate in the Monitoring system (ARGO)
 - ❑ online monitoring the health of the service: status, availability and reliability
- ❑ Other possibilities:
 - ❑ Storage systems
 - ❑ Compute services (e.g. cloud infrastructure)
 - ❑ Authentication and authorization (AAI)

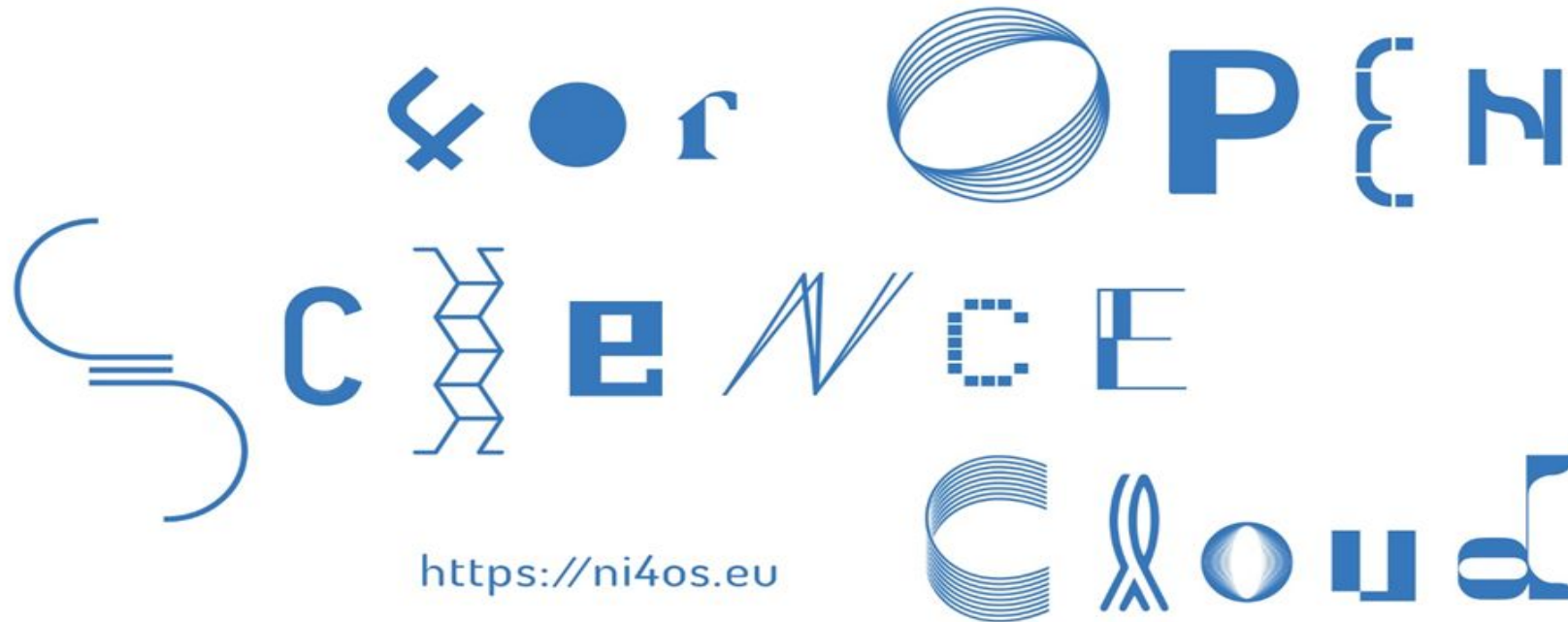
REVIGO onboarding timeline



Lessons learned / experiences

- ❑ For well-matured services the processes is simple and easy
- ❑ Improved QoS
- ❑ The onboarding processes “forces” us to improve the service’s documentation (different policies) -> use best-practice
- ❑ The process was straightforward and easy to conduct
- ❑ Reduced time and know-how to operate backend services -> Helpdesk, Monitoring

Thanks!



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