UNIUNEA EUROPEANĂ

Instrumente Structurale 2014-2020

OFERTAREA NATIONALA DE IaaS PENTRU EOSC

CENTRU CLOUD ȘI BIG DATA PENTRU PARTICIPAREA LA CLOUD-UL EUROPEAN PENTRU ȘTIINȚA DESCHISĂ

Proiect cofinanțat din Fondul European de Dezvoltare Regională prin Programul Operațional Competitivitate 2014-2020

CONTRIBUȚIA NAȚIONALĂ LA INFRASTRUCTURA DE CALCUL ȘI DE STOCARE DE DATE A EOSC

❑ Proiecte de tip Cloud și de infrastructuri masive de date

Au obținut co-finanțare din FEDR prin intermediul Programului Operațional Competitivitate în 2020-2021, pentru 'dezvoltarea unor retele de CD, coordonate la nivel national si racordate la retele europene si internationale de profil...'

TITLU PROIECT	INSTITUTIE	ACRONIM	TITLU PROIECT	INSTITUTIE	ACRONIM
Dezvoltarea infrastructurii cloud a Universitatii Babes-Bolyai Cluj-Napoca pentru realizarea unui sistem integrat de management academic si suport decizional bazat pe BigSmart Data	UNIVERSITATEA "BABES-BOLYAI"	SmartCloudDSS	Centru Cloud si Big Data pentru participarea la Cloud-ul European pentru Stiinta Deschisa	INCD PENTRU FIZICA SI INGINERIE NUCLEARA " HORIA HULUBEI " - IFIN - HH	CeCBiD-EOSC
Registrul Regional al Patologiei Cerebro-Spinale	SPITALUL CLINIC JUDETEAN DE URGENTA CLUJ-NAPOCA	REGIOPaCS	Cresterea capacitatii de cercetare a UPB in tehnologii Cloud si prelucrarea masivelor de date	UNIVERSITATEA POLITEHNICA DIN BUCURESTI	CloudPrecis
Platforma Cloud de inalta performanta la Universitatea Politehnica Timisoara	UNIVERSITATEA POLITEHNICA TIMIŞOARA	CloudPUTing	Dezvoltarea infrastructurii de calcul numeric a Universitatii Ovidius din Constanta, pentru modelare numerica, simulare si procesare de structuri masive de date prin realizarea unui Centru de Date de tip Cloud	UNIVERSITATEA OVIDIUS DIN CONSTANTA	Ovidius Cyber Cloud
Cloud Cercetare UTCN	UNIVERSITATEA TEHNICA DIN CLUJ - NAPOCA	UTCN-CLOUDUT	Cresterea capacitatii de cercetare a UMF Iuliu Hatieganu Cluj Napoca, prin dezvoltarea unei infrastructuri de tip CLOUD conectata la resursele globale de informare	UNIVERSITATEA DE MEDICINA SI FARMACIE „ IULIU HATIEGANU" CLUJ NAPOCA	
Cresterea capacitatii de cercetare a Universitatii din Craiova prin investitii in infrastructuri de tip Cloud si Big Data	UNIVERSITATEA DIN CRAIOVA		Mediu colaborativ pentru dezvoltarea arhitecturilor cloud bazate pe OpenStack cu aplicatii in CDI	UNIVERSITATEA TEHNICĂ "GHEORGHE ASACHI" DIN IAŞI	
CLOUD si infrastructuri masive de date la Universitatea Maritima din Constanta	UNIVERSITATEA MARITIMA DIN CONSTANTA		Cresterea capacitatii de cercetare a ICSI Ramnicu Valcea prin dezvoltarea unei infrastructuri de tip CLOUD conectata la resursele globale de informare	INCD PENTRU TEHNOLOGII CRIOGENICE SI IZOTOPICE - I.C.S.I. RAMNICU VALCEA	4C-ICSI
Modernizarea infrastructurii de calcul si stocare a Centrului de Cercetare in Informatica al Universitatii de Vest din Timisoara pentru oferirea de servicii de tip Cloud si servicii de calcul de inalta performanta	UNIVERSITATEA DE VEST TIMISOARA	MOISE	Centru interdisciplinar CDI de tip Cloud si infrastructura masiva de date la Universitatea "Stefan cel Mare" din Suceava	UNIVERSITATEA "ŞTEFAN CEL MARE" DIN SUCEAVA	
Research As A Service – Iasi	UNIVERSITATEA "ALEXANDRU IOAN CUZA" din IASI	RaaS-IS	Dezvoltarea CENTRULUI de DATE din cadrul INCDTIM pentru realizarea unei platforme CLOUD, integrata in retele europene de CDI	INCD PENTRU TEHNOLOGII IZOTOPICE SI MOLECULARE	

❑ Exemple de proiecte POC care propun sa ofere, printre altele, IaaS pentru utilizatori (inter)nationali / EOSC

- **Centru Cloud si Big Data pentru participarea la Cloud-ul European pentru Stiinta Deschisa (CeCBiD-EOSC)**, IFIN-HH

  "...modernizarea infrastructurii Cloud, extinderea infrastructurii Big Data și realizarea unui centru de date cu performante înalte, care să fie integrat în Cloud-ul European pentru Știință Deschisă"

- **Cresterea capacitatii de cercetare a UPB in tehnologii Cloud si prelucrarea masivelor de date (CloudPrecis)**, UPB

  "*Dezvoltarea de servicii Cloud care să asigure optimizarea capacităţii de gestiune eficientă a resurselor de calcul Cloud şi a sistemelor de procesare şi stocare din centrul de date Cloud PRECIS, precum şi interconectarea la reţele naţionale şi internaţionale*"

- **Dezvoltarea infrastructurii de calcul numeric a Universitatii Ovidius din Constanta, pentru modelare numerica, simulare si procesare de structuri masive de date prin realizarea unui Centru de Date de tip Cloud**, UOC

  "*Crearea unui Centru de Date mobil si a unei infrastructuri Cloud de inalta performanta in vederea integrarii in structuri internationale de tip Cloud si infrastructuri masive de date*"

- **Dezvoltarea CENTRULUI de DATE din cadrul INCDTIM pentru realizarea unei platforme CLOUD, integrata in retele europene de CDI**, INCDTIM

  "Crearea premiselor pentru aderarea INCDTIM prin platforma CLOUD la initiativa europeana privind implementarea Cloud-ului European pentru Stiinta Deschisa"

OFERTAREA COLECTIVA A SERVICIILOR DE INFRASTRUCTURA

❑ CLOUD FEDERALIZAT

Ansamblu de centre Cloud asociate sub o coordonare unica, beneficiind de servicii centrale de brokeraj, AAI, monitorizare, etc. Asigura elasticitate, performanta superioara servicii, timp de asteptare redus, etc.

➢ IMPLEMENTARE LA NIVEL INTERNATIONAL: EGI FEDERATED CLOUD

"*a IaaS-type cloud, made of academic private clouds and virtualised resources and built around open standards. Its development is driven by requirements of the scientific community*" https://www.egi.eu/federation/egi-federated-cloud/

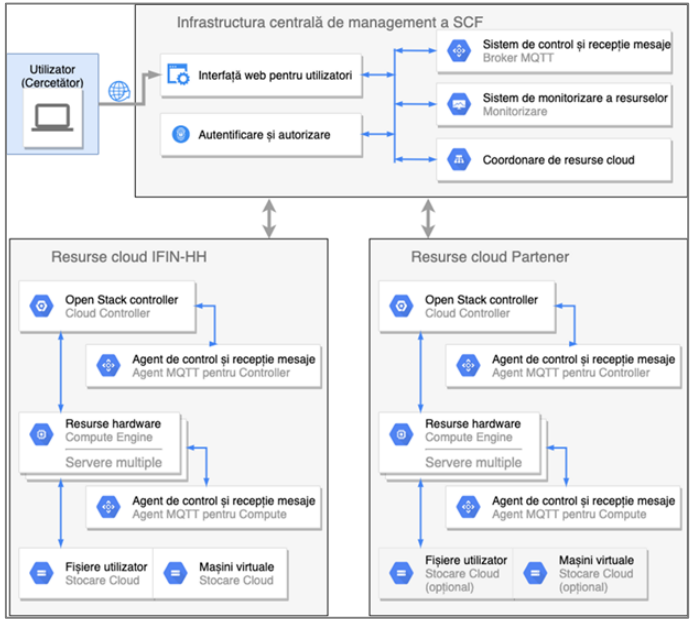
In perioada 2018-2020 in EGI FedCloud au fost integrate serviciile necesare pentru asigurarea suportului computational al **European Open Science Cloud.**

De asemenea, in colaborare, s-a realizat Portalul EOSC (https://eosc-portal.eu/)

➢ (PROPUNERE DE) IMPLEMENTARE LA NIVEL NATIONAL

Un obiectiv al proiectului CECBID-EOSC: *realizarea unei platforme pilot capabila sa interconecteze la nivel national, in cadrul unui sistem cloud federalizat (SCF), centre cloud independente dezvoltate in institutii apartinand sistemului de CDI.*

Acorduri de colaborare pentru realizarea platformei pilot au fost semnate de IFIN-HH cu Universitatea 'Ovidius' din Constanta si cu INCD pentru Tehnologii Izotopice si Moleculare din Cluj Napoca.



CALIFICAREA CA FURNIZOR DE SERVICII PENTRU EOSC

❑ CERINTE PENTRU FURNIZORII DE SERVICII/RESURSE

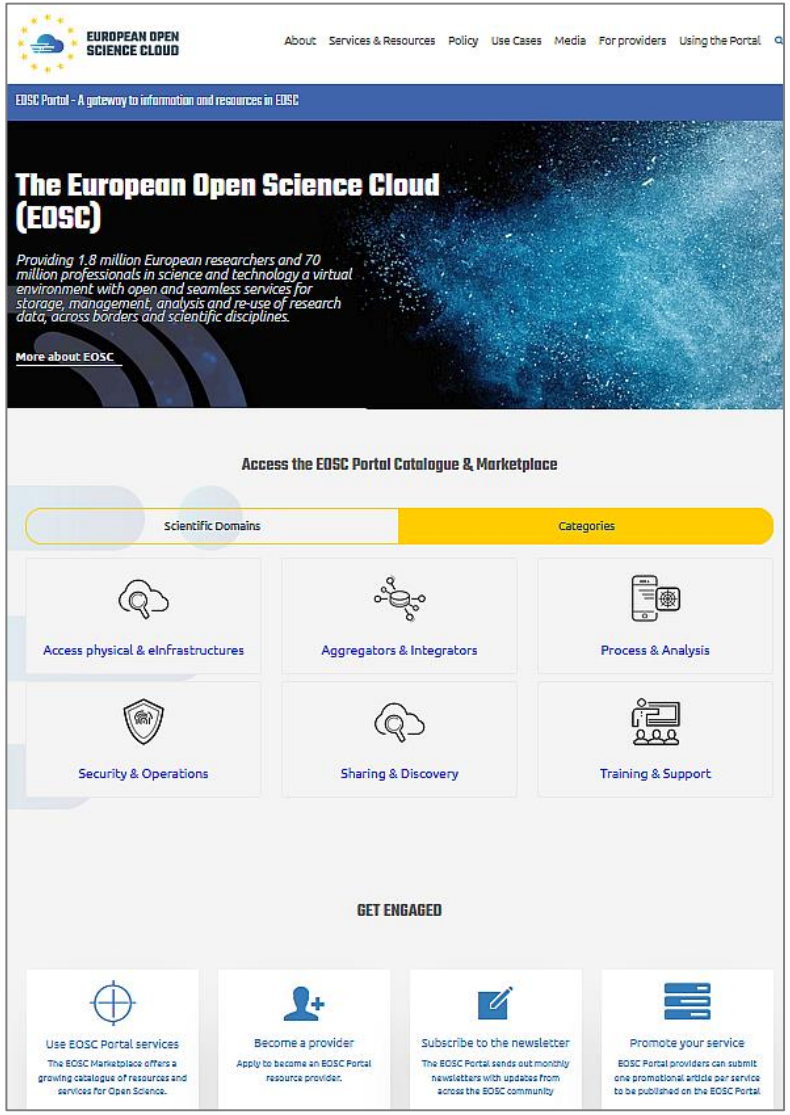
- Serviciul ofertat trebuie sa fie accesibil utilizatorilor din afara comunitatii locale.
- Toate serviciile ofertate trebuie sa fie prezentate in aceiasi termeni, care descriu capabilitatile functionale si valoarea pentru utilizatori.
- Cel putin o instanta a serviciului sa ruleze intr-un mediu de productie disponibil pentru comunitatea de utilizatori
- Publicarea datelor cercetarii realizate prin utilizarea serviciului trebuie sa satisfica normele FAIR (Findable, Accessible, Interoperable, Reusable)
- Documentatia privind serviciul trebuie sa fie completa si pusa la dispozitia utilizatorilor
- Trebuie sa existe suport disponibil pentru utilizatori privind colectarea cerintelor acestora, raportarea erorilor si asistenta.

❑ PROCEDURA DE CALIFICARE CA FURNIZOR DE SERVICII/RESURSE

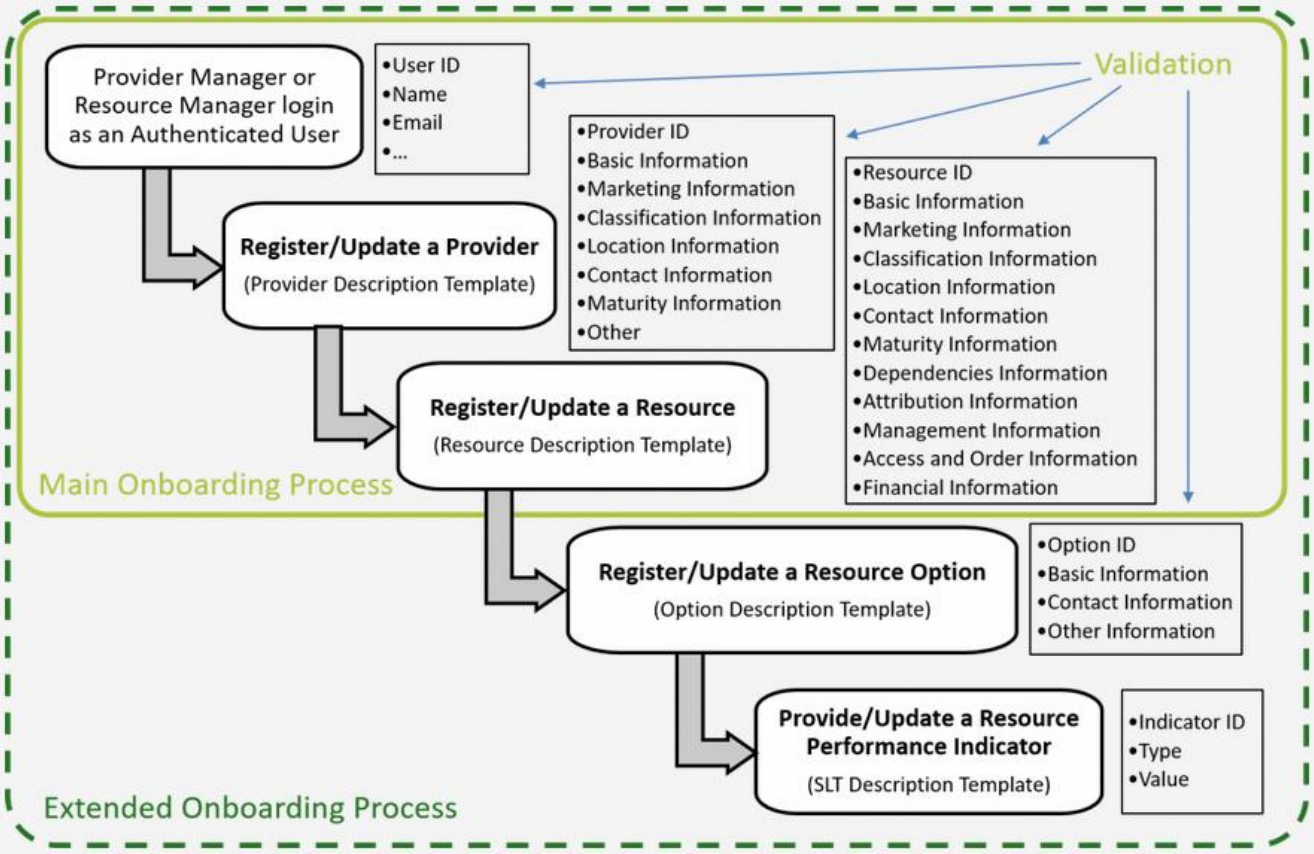
Este valabila atat pentru inregistrarea serviciilor generice cat si a celor tematice.

Incepe cu accesarea link-ului "Become a provider" din pagina portalului EOSC.
https://providers.eosc-portal.eu/becomeAProvider

Se finalizeaza (pentru solicitarile acceptate) cu inscrierea serviciului respectiv in catalogul de servicii EOSC Marketplace (**onboarding**)



PROCEDURA DE ONBOARDING (1)



https://eosc-portal.eu/providers-documentation/eosc-provider-portal-basic-guide

❑ FAZELE PROCEDURII DE ONBOARDING

1. **Inregistrarea in portal** a managerului de resurse sau a reprezentantului furnizorului de servicii folosind AAI.
2. **Inregistrarea informatiilor privind furnizorul de servicii** prin completarea formularului electronic "Provider Profile" de catre persoana autentificata la pct. 1 si autorizata sa devina reprezentantul furnizorului de resurse (RF) dupa ce a acceptat conditiile de privacy ale portalului.

   Se deschide un tichet care este trimis catre echipa de onboarding. Urmeaza un proces de validare a furnizorului.
3. **Inregistrarea resurselor**
   Daca furnizorul a fost acceptat, RF completeaza si trimite catre echipa de onboarding formularul electronic "Resource Profile".

   Se deschide un tichet care este trimis catre echipa de onboarding. Aceasta analizeaza solicitarea, verificand indeplinirea cerintelor minime de calitate.

   Daca solicitare este aprobata, resursa este publicata in portal

PROCEDURA DE ONBOARDING (2)

CLOUDIFIN

ACCESS POLICY

Version 210610

The access to the CLOUDIFIN services is made through the *computing projects* which are conducted according to agreements concluded between the users and the provider.

The proposed projects are evaluated by a *Computing Resources Committee*, on a first come / first served basis.

Only those computing projects whose topics are related to the activity areas addressed in IFIN-HH will be accepted. These include but are not limited to topics related to the research and experimental development on natural sciences and engineering, and their applications.

The access to services is open to all the researchers who agreed with the *Terms of Use* (https://cloud.ifin.ro/TermsOfUse.pdf).

In general, the CLOUDIFIN resources and services can be accessed in two ways:

1. Access through sponsored use of the services

Free access is granted to the users for computing projects that are sponsored from RDI funding sources, such as EU or national projects. The service is free of charge at the point of use while its provision costs are covered from the above-said sources.

2. Paid access

Pay-per-use services can be offered for supporting computing projects whose provision costs are not sponsored from other sources. The fees will exclusively cover the operation and maintenance costs of the used resources, as IFIN-HH is not entitled to make any profit.

CLOUDIFIN

TERMS OF USE

Version 210610

These Terms of Use ("ToU") are a binding legal contract between the following parties:

Horia Hulubei National Institute for Research and Development in Physics and Nuclear Engineering (IFIN-HH), with headquarters in Măgurele, 30 Reactorului St., Ilfov county, Romania, hereinafter referred to as the **Provider**,

and

the user of the services and resources offered by the Provider through the CLOUDIFIN center, which is managed by the Department of Phyisics and Information Technology (DFCTI) at IFIN-HH, hereinafter referred to as the User.

The ToU govern the User's access to and the use of Provider's website and CLOUDIFIN center, together with all content, services available at or through any service linking to this ToU (hereinafter referred to as the **Services**).

IMPORTANT NOTICES:

- The User must read the ToU carefully before using the Services. Using the Services indicates that the User accepts and agrees to be bound by the ToU. The User must not use the Services if he/she does not accept the ToU.
- The Provider may change or modify the Services or the ToU at any time. Such changes, revisions, or modifications shall be effective immediately upon being posted in relation to the Services. Any use of the Services by the User after the changes were posted to the ToU constitutes the User's acceptance of those changes.
- THESE ToU CONTAIN DISCLAIMERS AS WELL AS INFORMATION ABOUT CERTAIN LIMITATIONS ON THE USER ABILITY TO BRING A CLAIM AGAINST THE PROVIDER.
- Any person who registers as a user or provides his/her personal information on the Services represents that he/she is 18 years of age or older.
- The Services can only be offered to persons who have a contractual relationship with an employer or follow higher education studies.

1. CONTENT RESPONSIBILITIES

The User guarantees that he/she owns any copyrights, trademarks or other intellectual property rights in any content he/she uploads to the Services (hereinafter referred to as the **Content**). The User is entirely responsible for the content of, and for any harm resulting from, the content made available by means of the Services. That is the case regardless of what form the content and materials take, which includes, but is not limited to video, text, photo, or other material. By making content available, the User represents and warrants that his/her content does not violate these ToU.

CLOUDIFIN

PRIVACY POLICY AND PROTECTION OF PERSONAL DATA

Version 210610

The CLOUDIFIN site is owned by *Horia Hulubei National Institute for Research and Development in Physics and Nuclear Engineering* (IFIN-HH), with headquarters in Măgurele, 30 Reactorului St., Ilfov county, Romania. As Controller, IFIN-HH processes personal data in accordance with the provisions of *EU Regulation No. 679/2016* on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (hereinafter referred to as the Regulation).

Before continuing the use of the CLOUDIFIN resources, we recommend that you read this policy carefully. Should you not agree to it and wish that your personal data be not used as detailed below, please do not continue using the site and do not provide us your personal data.

Each accessing of the CLOUDIFIN site is a confirmation that you have read, understood and consented to comply wih this policy.

Personal data will not be passed on to third parties or used beyond the original purpose of their acquisition. If a forwarding to third parties should be necessary to answer an inquiry or to carry out a service, the consent of the data subject is considered to have been given when using the respective function or service. In particular, the data you provide to us will not be used for advertising purposes.

Personal data collected via CLOUDIFIN may be passed on to state institutions and authorities, insofar as we are obliged to do so or insofar as this is necessary for efficient legal defense or assertion of rights.

1. DEFINITIONS

Personal data - any information about an identified or identifiable natural person ("data subject").

Identifiable natural person - an identifiable individual who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that individual.

Processing - any operation or set of operations performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.

CLOUDIFIN

USER MANUAL

1. INTRODUCTION

CLOUDIFIN is a Cloud computing centre managed by the Department of Computational Physics and Information Technology (DFCTI), at the Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH, https://www.nipne.ro/). It provides resources and services for researchers, research groups and research communities, in scientific domains related to the research and experimental development on natural sciences and engineering, and their applications. The site is fully integrated into the EGI's Federated Cloud and contributes to the EOSC infrastructure.

This manual details the steps that should be followed by anyone who intends to use CLOUDIFIN's infrastructure to carry out a computing project, from requesting resources to achieving and reporting the results.

Here by *computing project* is meant a coordonated activity that requires specific ITC resources and services for a limited duration of time in order to reach a well-defined goal with scientific relevance.

2. ACCESS PROCEDURE

The request for access to the resources and services provided by CLOUDIFIN is made by filling in an electronic form (AAF - *Access Application Form*) with information on the technical requirements and relevant scientific aspects of the proposed calculation project. The AAF also captures/includes the identification and the contact data of the applicant and of the principal investigator/team lider/supervisor.

The application is reviewed by the *Computing Resources Committee* (CRC), that makes the appropriate decision, taking into account the resource request/availability, technical capacity of the applicant and the scientific value of the project.

During the evaluation, the CRC may require more information on various aspects of the proposal.

Eventually the application may be accepted as it is, or accepted with amendments, or rejected, and the result of the evaluation is communicated to the applicant.

If the request is positively evaluated and the applicant agrees the conditions imposed by the CRC, he/she must undertake to comply with the *Terms of Use* (https://cloud.ifin.ro/TermsOfUse.pdf) and the *Privacy Policy* (https://cloud.ifin.ro/PrivacyPolicy.pdf), before having access granted to specific resources and services provided by CLOUDIFIN for the duration of the computing project. The applicant will be registered as a user and will get an account where his personal and work data will be stored in.

3. ACCESS INTERFACE

The access interface (https://cloud.ifin.ro/) has multiple purposes:

- to register a new user together with a computing project that he/she proposes;
- to access the resources of an ongoing computing project;
- to register a new user on an existing computing project;

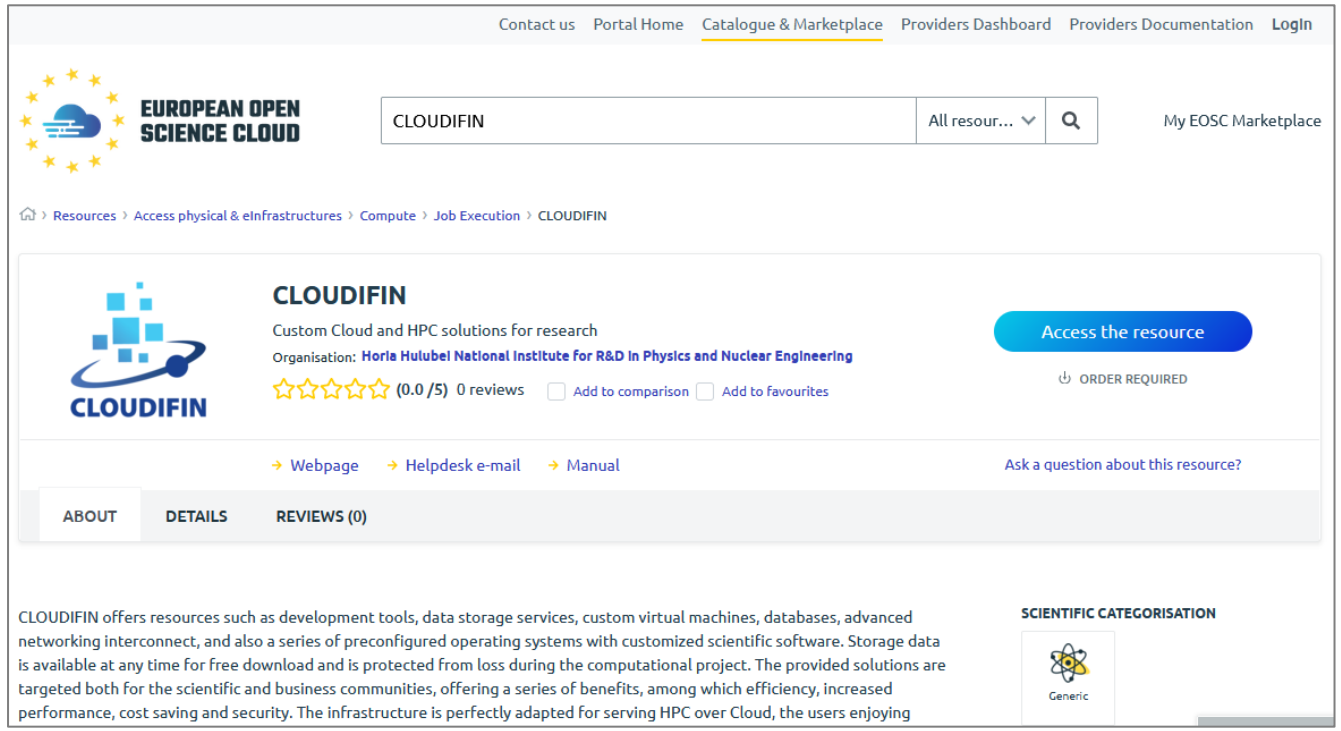
❑ DOCUMENTATIE OBLIGATORIE

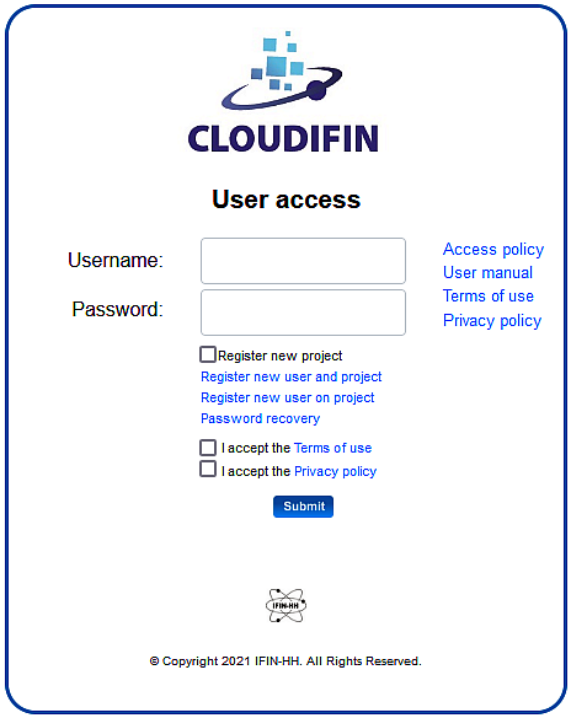
1. Politica de acces la resurse
2. Politica de confidentialitate si de protectie a datelor personale
3. Termeni de utilizare a resurselor
4. Manualul utilizatorului

❑ ATRIBUTE pt. "RESOURCE PROFILE"

1. Basic information: Name (CLOUDIFIN); Resource Organization; Resource Providers; Webpage.
2. Marketing information: Description; Tagline; Logo; Multimedia; Use cases.
3. Classification information: Scientific (sub)domain; (Sub)Category; Target users; Access type/mode; Tags.
4. Geographical/language availability
5. Resource location
6. Main contact/Resource Owner
7. Public contact
8. Other contacts: Helpdesk; Security
9. **Maturity information**: TRL; Life Cycle Status; Certifications; Standards; Open source technologies;
10. **Dependencies information**: Required resources; Related resources; Related platforms
11. Attribution information: Funding body / Program; Grant/Project name
12. Management information: Helpdesk page; User manual; Terms of use; Privacy Policy; Access policy; Service level; Training info; Status monitoring; Maintenance
13. Access and order info: Order type; Order page.
14. Financial info: Payment model; Pricing

PUBLICAREA RESURSEI IN EOSC MARKETPLACE





https://marketplace.eosc-portal.eu/services/cloudifin?q=CLOUDIFIN

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http://cecbid-eosc.ifin.ro

VA MULTUMIM PENTRU ATENTIE !

Dragos Ciobanu, Ionut Vasile, Mihnea Dulea

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