

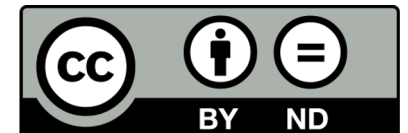
EOSC Digital Innovation Hub

Plans and Results via EOSC Future

Sy Holsinger, EGI Foundation / EOSC DIH Coordinator / EOSC Future T8.2 Lead

EOSC Future Open Days - 24 November 2021

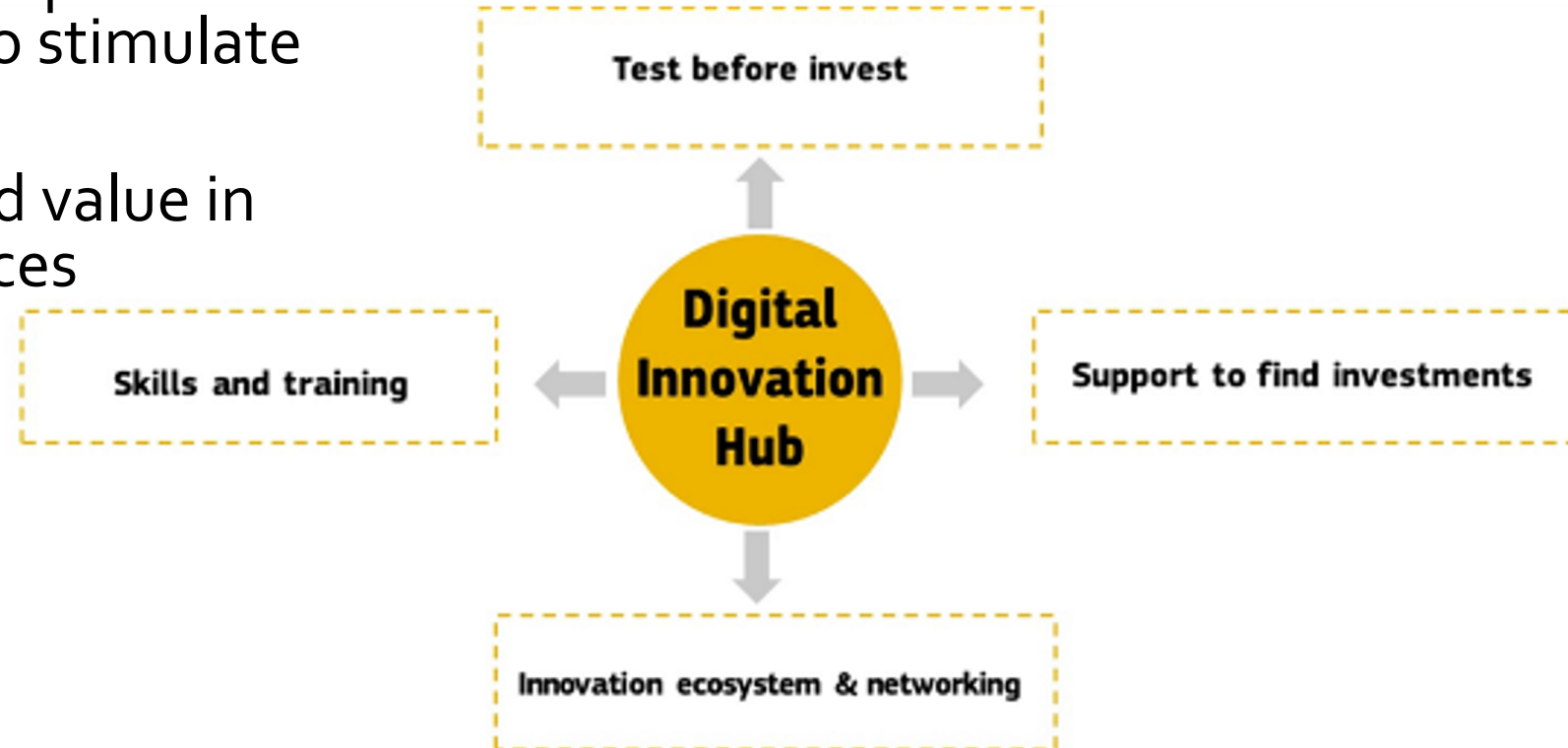
The EOSC Future project is co-funded by the
European Union Horizon Programme call
INFRAEOSC-03-2020, Grant Agreement 101017536



DIHs - Background

What is a Digital Innovation Hub?

- Joint partnerships between private and public organisations to stimulate innovation
- Community offering added value in addition to technical services



EOSC DIH – Creation to Expansion



Created

Expanding



- Experimentation**
- Test before invest
 - Pilots/proofs of concepts
 - Service/Product co-design
 - PaaS/SaaS Integration
 - Requirements analysis

- Technical Assets**
- Compute (HTC, HPC, Cloud)
 - Storage (Online/Archive)
 - Data management/ analytics
 - Machine Learning / AI
 - Open Research data
 - Tools & applications



- Consultancy & Training**
- Technical consultancy
 - Service management
 - Commercialization and business coaching
 - Brokerage to funding and opportunities

- Community & Visibility**
- Media Exposure
 - Participation to events
 - Promotional print material
 - Inclusion in marketplace
 - Networking
 - Strategic Partnerships



WHAT IS THE EOSC DIH?

EOSC DIH is an international and multi-partner cooperation that supports companies in easily accessing the digital technologies and services offered by the EOSC. It combines 4 main pillars to help companies become more competitive: Post design and co-design, Technical advice, Training & support and visibility.

WHAT IS THE EOSC?

EOSC is the European Open Science Cloud, a supporting environment to accelerate the transition to more effective Open Science and Open Innovation in a Digital Single Market by removing the technical, legislative and human barriers to the re-use of research data and tools, and by supporting access to services, systems and the flow of data across disciplinary, social and geographical borders.





EOSC DIH – Mission, Target Groups, Objectives

Mission

- Stimulate joint innovation with private enterprise leveraging EOSC services, data and expertise

Target Groups

- Spin-outs; Start-ups; SMEs
- EOSC support/regional projects
- Multiplier networks
- Other DIHs/EDIHs

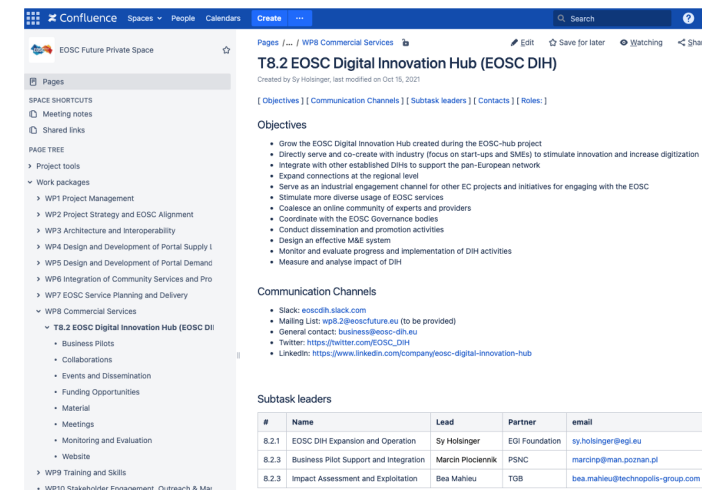
Objectives

- Coordinate the operation and expansion of the EOSC DIH community
- Manage the full lifecycle of business pilots
- Identify services/solutions required by the EOSC to be developed by industry
- Develop a more mature impact monitoring and evaluation system
- Establish corridors other DIHs to support the pan-European network and connect at the regional level
- Serve as an industrial engagement channel for other EC projects and initiatives for engaging the EOSC

EOSC DIH - Expansion and Operation

Management and Planning

- D8.4: EOSC DIH Strategy and Plans
 - Submitted (M6)
- Regular bi-weekly task meetings
- Project Confluence
 - Hosting all task related info
- Slack workspace
 - Opening to community
 - Private channels e.g. project task; each pilot
- Community-wide meeting (every 3 weeks)
 - Opportunity to discuss EOSC DIH wide activities
 - Share updates from partnerships and pilots
 - Service providers to present details of offer

T8.2 EOSC Digital Innovation Hub (EOSC DIH)

Created by Sy Holsinger, last modified on Oct 16, 2021

[Objectives] [Communication Channels] [Subtask leaders] [Contacts] [Roles]

Objectives

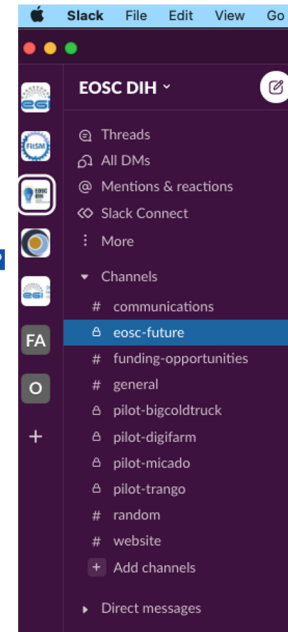
- Grow the EOSC Digital Innovation Hub created during the EOSC-hub project
- Directly serve and co-create with industry (focus on start-ups and SMEs) to stimulate innovation and increase digitization
- Integrate with other established DIHs to support the pan-European network
- Expand connections at the regional level
- Serve as an industrial engagement channel for other EC projects and initiatives for engaging with the EOSC
- Stimulate more diverse usage of EOSC services
- Coalesce an online community of experts and providers
- Coordinate with the EOSC Governance bodies
- Conduct dissemination and promotion activities
- Design an effective M&M system
- Monitor and evaluate progress and implementation of DIH activities
- Measure and analyse impact of DIH

Communication Channels

- Slack: [eoscdih.slack.com](#)
- Mailing List: [wp8.2@eoscfuture.eu](#) (to be provided)
- General contact: [business@eoscdih.eu](#)
- Twitter: [https://twitter.com/EOSC_DIH](#)
- LinkedIn: [https://www.linkedin.com/company/eosc-digital-innovation-hub](#)

Subtask leaders

#	Name	Lead	Partner	email
8.2.1	EOSC DIH Expansion and Operation	Sy Holsinger	EGI Foundation	sy.holsinger@egi.eu
8.2.2	Business Pilot Support and Integration	Marcin Plocienik	PSNC	marcinp@man.poznan.pl
8.2.3	Impact Assessment and Exploitation	Bee Mahieu	T08	bee.mahieu@technopolis-group.com



EOSC DIH - Expansion and Operation

Collaborations and Events

- Working with other WPs
 - T1.5: Grant committee and funding platform
 - WP5: Include the DIH and its offerings into the EOSC platform/portal
 - WP6: Onboarding procedure inclusion and closer integration with EOSC portal
 - WP7: SMS inclusion
 - WP8.1: Support for purchasing services; joint survey/outreach; reuse
 - WP10: Interfacing industry dissemination and communications
- Collaborations
 - All INFRAEOSC-07 projects; service providers
 - Multipliers
 - Regional DIHs
 - Other DIH and industry support projects
- Events
 - EOSC Symposium (June 2021)
 - ITM Industry Europe Fairs (Aug 2021)
 - EGI Conference (Oct 2021)
 - DIHnet Final Event (Oct 2021)
 - ...many others being tracked and planned





EOSC DIH - Business Pilot support and co-creation



Business pilots

- Mutual value exchange (no direct funding); mainly for start-ups/SMEs
- Provide technical services
- Offer expertise and support
- Promote results
- Periodic campaigns to entice new pilots

Purchasing services

- €600k budget (Art. 10)
- Value for EOSC
- Services, solutions, data not currently available but could be developed by industry for the use/benefit of EOSC
- Coordination with T8.1
 - Joint survey in progress
- Publication in EOSC Funding Platform

EOSC DIH - Business Pilot support and co-creation

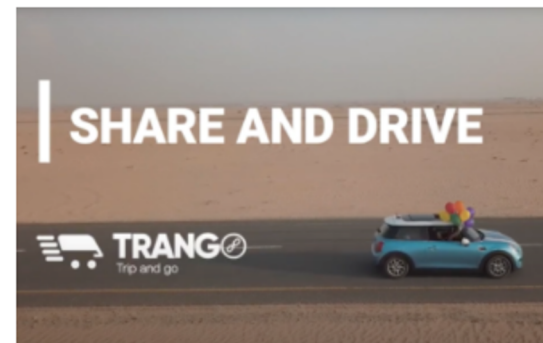
New pilots onboarded during EOSC Future



DigiFarm

Detecting agricultural field boundaries using deep neural network models and super-resolution Sentinel-2 EO-data

Intro from T8.1
partner contact



Trango. Trip and go.

Best Location for Car Sharing

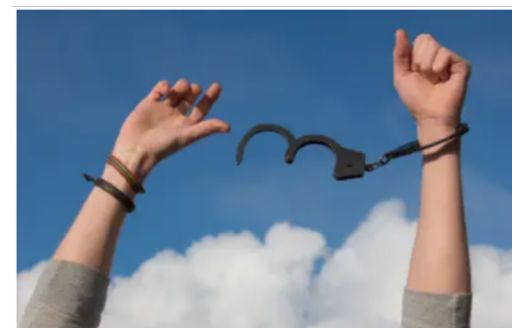
Brought by



BIGcoldTRUCK: Big data analytics for cold chain logistics optimization in refrigerated trucks.

Data analysis to predict the demand of goods, optimise the routes in real-time and provide visualizations and descriptions.

Wanted to continuing
working together –
developed new workplan



MiCADO – Cloud and Container Orchestrator

Orchestration Framework for Cloud Resources and Application Container

From partnership to
pilot



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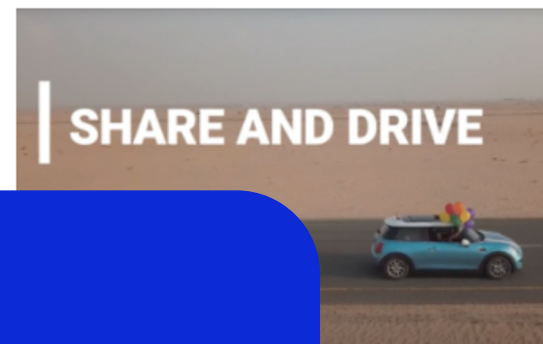
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Others under discussion
More details in next presentation



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MiCADO – Cloud and Container Orchestrator

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EOSC DIH - Impact Assessment and Exploitation

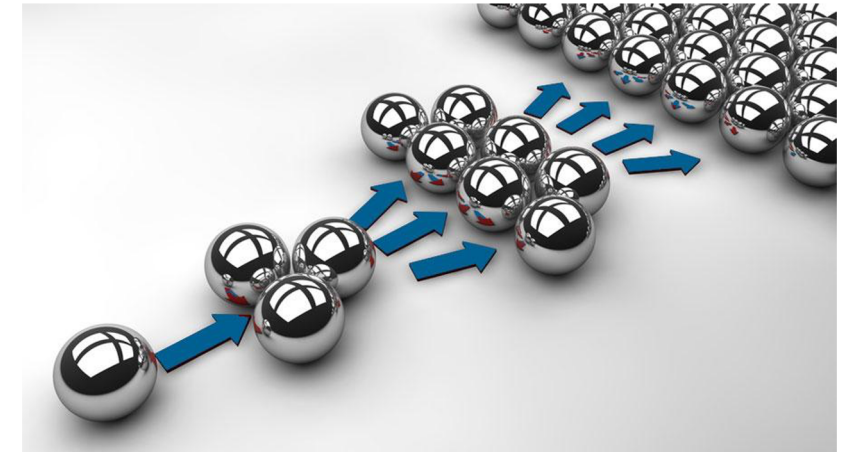
Challenge

- No common approach to impact assessment across DIH landscape and available metrics were a moving target during the life of EOSC-hub with no final community consensus at project end to adopt.
- Metrics are currently defined, but are more for scoping and monitoring the project task activities and objectives
 - e.g. # of individual SMEs directly supported, strategic partnerships, regional DIHs connected, industry events, services offered in EOSC Marketplace.



- Dedicated activity (subtask) to mature a more systematic monitoring and evaluation framework along with DIH, business pilots, and purchased service indicators and KPIs.

Impact



Express your interest and apply for a pilot



**EOSC DIH Expression
of Interest for
Business Pilots**

Deadline
3 December 2021



<https://eoscfuture.eu/eoi-for-dih-business-pilots/>



Q&A webinar

**EOSC DIH Expression
of Interest for
Business Pilots**

25 November 2021
14.00 CET

**Register
now!**



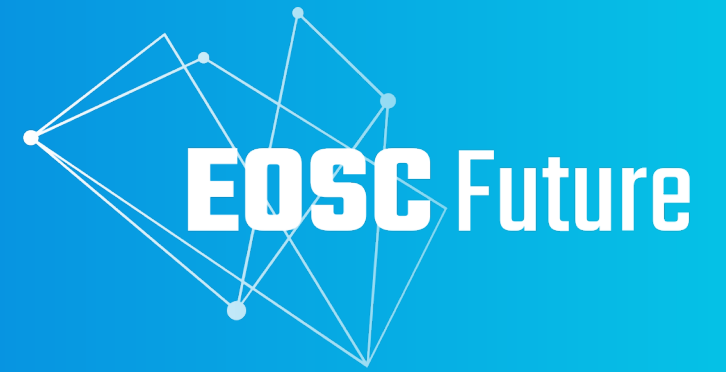
<https://eoscfuture.eu/eventsfuture/eosc-dih-eoi-for-business-pilots>



Summary

- Strategy and Plans Defined
- Started to onboard business pilots
 - Promotional campaign to entice more
- Collecting EOSC requirements for services/solutions needed
 - Survey available; analysing responses (~50)
 - Direct engagement with task forces and working groups planned
 - Reach out if you have specific needs
- Collaboration agreements established
 - Looking to expand with more multiplier networks and service providers
- Regional DIH corridors
 - Only just started, interested in hearing from the EOSC community who are involved in national/regional DIHs to discussion opportunities
- Ramp industry event participation in 2022

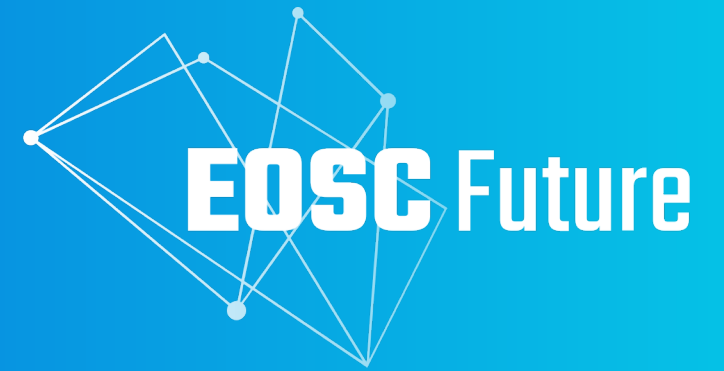
Contact us! business@eosc-dih.eu



Thank you for your attention

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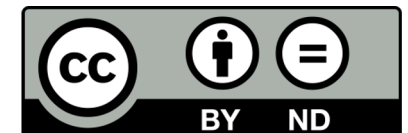
EOSC Digital Innovation Hub

EOSC DIH Business Pilots

Marcin Plociennik, PSNC / EOSC DIH Business Pilots Coordinator / EOSC Future T8.2

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EOSC DIH - Business Pilot support and co-creation



Business pilots

- Mutual value exchange (no direct funding); mainly for start-ups/SMEs
- EOSC DIH role:
 - Provide technical services from across EOSC
 - Provide the resources for testing purposes (pre-commercial)
 - Offer expertise and support
 - Promote results
 - Periodic campaigns to entice new pilots
- Commercial partners:
 - Validate usefulness of the EOSC services
 - Co-create new products and services
 - Develop innovative solutions on top of EOSC services and data

EOSC DIH - Business Pilot support and co-creation

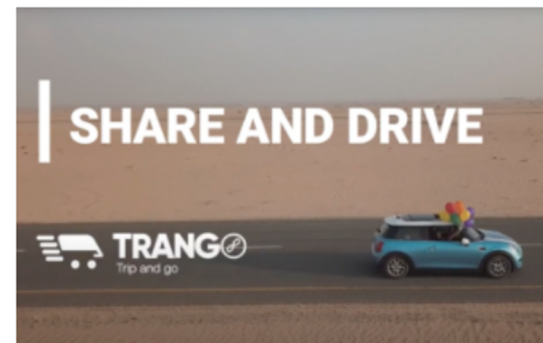
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Intro from T8.1
partner contact



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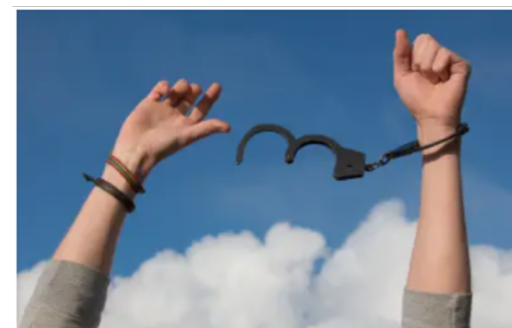
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EOSC DIH - previous pilots (EOSC-hub) - sectors



Finance



Video



AI



Trucking



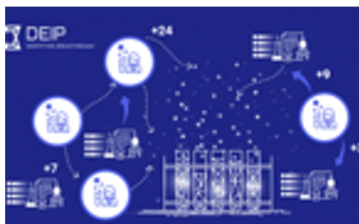
Furniture



Environment



Compute Credits



FAIR data



Space



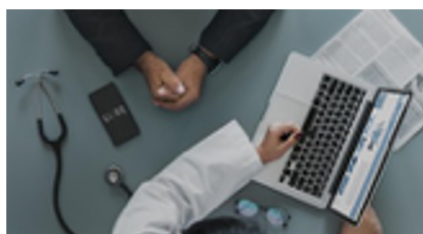
Accommodation



Security



Agriculture



Health



Collaboration



Manufacturing



Blockchain



Seaport



Sports

Success stories publication (EOSC-hub)



2019 Edition



2021 Edition

Table of retrieval time for 1 month data



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[EOSCfuture](https://www.linkedin.com/company/eosc-future/)

New Business Pilot: DigiFarm



DigiFarm

Detecting the world's highest accuracy field boundaries to power precision agriculture.

- DigiFarm is a Norwegian based ag-tech startup established in 2019.
- DigiFarm's core vision is to detect the world's most accurate field boundaries and seeded acres to power precision agriculture, using AI.

The pilot will include:

- developing and modeling a training deep neural network model for detection of entire-country sized regions including Germany, Austria, Belgium and the United Kingdom.
- Usage of the EOSC infrastructure
- Evaluation of the available EOSC technologies

Intro from T8.1
partner contact



EOSC Service Provider



New Business Pilot: TRANGO



- TRANGO is a service developed by the Agilia Center R&D team under the umbrella of the [ARTICONF](#) project and supported by the [EGI-ACE](#) project.
- The objective of the use case is to create an AI-driven mobile app that mixes car sharing and carpooling models, allowing cost sharing and safe travel through direct trustworthy transactions among passengers.
- Supported by a machine learning algorithm, the system will suggest to you the best location for your vehicle according to the demand prediction.
- Moreover, TRANGO tries to reward users who change the previously established route to reduce the idle time of the vehicles.

The pilot will include:

- Creation of an AI-driven mobile app that mixes car sharing and carpooling models
- Demonstration that machine learning model is able to predict the demand in advance with enough accuracy (greater than 85% in the most demanding zones)
- Usage of the EOSC services
- Visibility and marketing, commercialisation planning

EOSC Service Provider



Supported by



New Business Pilot: MiCADO



- cloudSME, the University Research Centre for Parallel Computing (University of Westminster, UK) and the Laboratory of Parallel and Distributed Systems (MTA SZTAKI, HU) are responsible for the development of the open-source engine of MiCADO.
- The open-source engine MiCADO extends the default functionalities of state-of-the-art technology, like Kubernetes, to safeguard the implementation of more complex scaling rules and advanced security features. It automates deployment, scaling, management and monitoring of containerised microservices in multiple cloud interfaces, like OpenStack, Google Cloud Platform, Azure, AWS and many more.

The pilot will include:

- The development and integration of a cloud resource adapter for EGI/EOSC resources into MiCADO;
- The re-use of the outcome from an EU founded innovation action within other similar projects;
- Establish a European alternative to the solutions of the market leaders;
- The provision of an example operated in a production environment for demonstration purposes in order to give users a deeper insight into MiCADO. Users can freely visit the sections of the read-only MiCADO dashboard.

From partnership to pilot

Supported by



Evolved Business Pilot: BIGcoldTRUCKS

BIG data analytics for COLD chain logistics optimisation in refrigerated TRUCKS

1. HPC Computing: Deep Hybrid Data Cloud

- ARIMA, LSTM

- Deepaas API

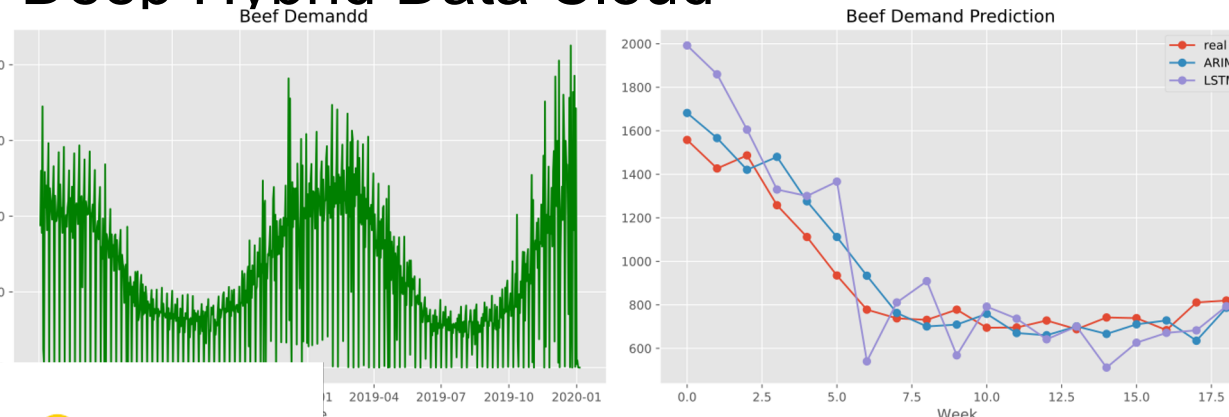
2. ElasticSearch

- Product's rankings

- Trip durations

- Seasonality of prod

- Geographic represe



Goals

Provide descriptive tool:

1. Organise storage

2. Organise trips

3. Detect quality loss

Needs

1. Data management, storage and access

2. Access to HPC for Machine Learning

EOSC Service Provider

	NoElastic	Elastic	Improvement (%)
Product's ranking	1,107	0,022	98
Product's ranking	1,03	0,057	94
Groups of product's ranking	1,493	2,47	-65
Groups of product's ranking	1,55	4,578	-195
Trip durations	3,444	1,687	51
Seasonality of product's demand	1,163	0,051	96
Geographic representation	0,978	0,062	94

Table of retrieval time for 1 month data

Characteristics of the Business Pilots so far

- **Initial pilots helped to define the DIH, and its operation**
 - Focus of new pilots was diversifying from IaaS
- **Further pilots - a mix between**
 - Resources: Computing/storage support
 - e.g. DataFurn, Muon, BBC R&D, DigiFarm
 - Providing technological expertise
 - e.g. Knowco4EOSC, IBISA, Erasmus Play
 - Co-design using EOSC services
 - e.g. Cyberhab, DCP
 - Support and co-development with other projects
 - e.g. BI Insight, BIGcoldTRUCK, DEIPDASFD
 - Evaluation of usability of EOSC services
 - e.g. BI Insight, BIGcoldTRUCK, DigiFarm
- **Requested Expertise**
 - ML/DL/AI
 - Security
 - AAI
 - BigData technologies
 - Domain services e.g. Geo, Agri

Support channels

- Communication channels
 - Slack workspace (EOSC DIH)
 - Trello boards
 - Status meetings
 - Technical meetings with the required experts
 - Website: forum, newsletter
- Community forums
 - Networking
 - Innovation workshops
- Webinars
 - Marketing, exploitation, IPR, technology transfer models
- Events participation
 - Success stories promotion
- Publishing success stories

Technology Transfer Models Webinar

24.09.2020

[Download presentation](#)



How to get involved

- **Expression of Interest** – co-creation (next slide)
 - Attract wider community
 - Target specific areas
- **Join our community**
 - Establish a partnership
 - Defining specific engagement areas
 - Contribute expertise in a specific field/area
 - Join our Slack workspace: https://join.slack.com/t/eoscdih/shared_invite/zt-w88st24l-u171lDok4LTYd8KZjavP4w
- Ask us through **webpage**
 - If you have a pilot idea
 - If you want to kick start engagement
 - <https://eoscdih.eu/contact/>
- **Collaboration** with other projects
 - Being an exploitation channel for EOSC projects!!!!
 - Defining long-term collaboration scope and agreements
 - <https://eoscdih.eu/partnerships/>

Express your interest and apply for a pilot



**EOSC DIH Expression
of Interest for
Business Pilots**

Deadline
3 December 2021



Objective:

Onboard businesses developing innovative solutions and – with EOSC technologies and services – help bring products and services to market.

<https://eoscfuture.eu/eoi-for-dih-business-pilots/>

Eol: What we are looking for

Onboarded pilots are expected to benefit from using EOSC services and develop/innovate solutions in key, but not limited to, areas such as:

- Industry 4.0
- Green Deal
- Mobility
- Health
- Energy
- Agriculture
- Public Administration
- Earth observation
- Environmental monitoring

Examples:

- Reuse of research data (i.e. earth observation) to create or improve the products and services
- Usage of machine learning and artificial intelligence for recognition, prediction or optimization
- Data analytics, image recognition or simulations (i.e. healthcare)



Eol: Providers of technical services for this call

Collaboration with prestigious ongoing projects that offer their services to pilots:

- **Guaranteed**

- **DICE** (Data Infrastructure Capacity for EOSC), <https://www.dice-eosc.eu/>
- **EGI-ACE** (EGI Advanced computing for EOSC), <https://www.egi.eu/projects/egi-ace/>
- **OpenAIRE Nexus** (The nexus of scholarly communication services for the European Open Science Cloud), <https://www.openaire.eu/openaire-nexus-project>

- **Subject to negotiation**

- **C-SCALE** (Copernicus - eoSC AnaLytics Engine), <https://c-scale.eu/>
- **RELIANCE** (REsearch Lifecycle mAnagement for Earth Science Communities and CopErnicus users in EOSC), <https://www.reliance-project.eu/>



EOI: Offer

What will selected pilots receive?

- Access to e-infrastructure resources and additional technical services
- Ability to prototype, scale up, design, performance verification and testing
- Build partnerships with other SMEs and industry stakeholders, innovation clusters and accelerators
- Receive business coaching and training for increased market uptake
- Boost visibility at a European and international level

No direct funding

Through this Eoi, we will also support industry applicants wishing to become service and content providers for the EOSC community (via the EOSC marketplace).



Eol: Timeline

Onboarding programme timeline

Phase	Description	Time
Eol	The EOSC DIH is open to receive Eol from applicants.	Deadline: 03/12/2021, 17.00 CET
Evaluation	Eligible applicants will be evaluated by members of the EOSC DIH. Highest score evaluation will be invited to sign a Service Level Agreement (SLA) before implementing their pilot.	06/12/2021 to 17/12/2021
Execution	Execution of pilots developing solutions using EOSC DIH services.	Starting January 2022 for a duration of 3-8 months
Report	Report pilot activities, the extent to which the services were used in their pilot, and its socio-economic impact. Promotional activities will be explored and agreed with each pilot.	After execution of pilot

Q&A webinar invitation

Q&A webinar

EOSC DIH Expression of Interest for Business Pilots

25 November 2021
14.00 CET



Join the
EOSC DIH
community

<https://eoscfuture.eu/eventsfuture/eosc-dih-eoi-for-business-pilots>

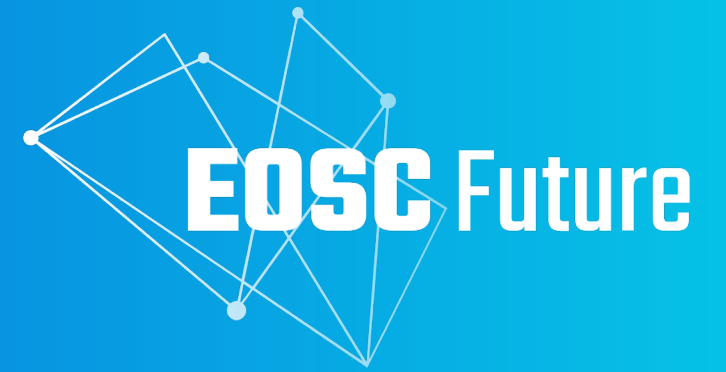
Partners and Contact



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Contact us: business@eosc-dih.eu



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