



Open Call Terms and Conditions

ODEON Open Call

Submission start: 8th of April 2026, at 09:00 Brussels Time

Submission deadline: 9th of July 2026, at 17:00 Brussels Time

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Welcome to the ODEON Open Call Terms and Conditions (also Terms or Guide). This document outlines the rules for participation in the ODEON Open Call, including eligibility criteria, maximum grant amount, timeline, submission rules, and the evaluation process.

Please take a moment to read this document carefully to understand the requirements and process. For any questions, please contact us at ODEON.helpesk@fundingbox.com

Good luck!
ODEON Team

1. OPEN CALL BASIC CONDITIONS

Section	Description
Call opening date:	8th April 2026, at 09:00 Brussels Time
Call deadline:	9th July 2026, at 17:00 Brussels Time
Max. grant amount	The maximum grant amount is up to EUR 60,000 per project based on the budget included in the application form. The Project budget is part of the application form. The total amount you list will be fixed and will determine the grant you'll receive. The funding rate is 100% of the budget included in your application form. The grant will be paid as a lump sum¹.
Project scope - type of activities that can be funded	The activities that qualify for financial support have to fall within the scope of the ODEON project. ODEON seeks to facilitate the digital energy transition by establishing an inclusive ecosystem powered by a federated technological framework, the ODEON Cloud-Edge Data and Intelligence Service Platform, which orchestrates data, intelligence, service, and market flows. This framework integrates secure federated data management and intelligence services to enable energy value chain actors to engage in data sharing and deliver innovative data-driven services that support renewable energy integration and distributed flexibility. The project's results will be extensively validated across five large-scale demonstration sites in Greece, Spain, France, Denmark, and Ireland, involving diverse assets and grid contexts to ensure successful market uptake and replication. Scope: The type of activities eligible for funding involve the design, development and validation of innovative data and intelligence-driven energy services and applications. These applications must utilize the baseline technology offering of ODEON and ODEON's Cloud-Edge Data and Intelligence Service Platform. The eligible activities must focus on one of the challenges defined by the ODEON consortium. The activities must

¹ The lump sum is a simplified method of settling expenses in projects financed from Horizon Europe Programme funds. It means that the subgrantee is not required to present strictly defined accounting documents to prove the cost incurred (e.g., invoices) but is obliged to demonstrate that the implementation of the project is in line with the milestones set for it. The lump sum does not release the Beneficiary from the obligation to collect documentation to confirm the costs under the fiscal regulation

address the needs of the end-users: Network operators, Local energy communities/ Aggregators & Consumers / Prosumers.

The list of challenges is as follows:

1. Monitoring, Governance, and Lifecycle Management
2. Federated Edge-AI Pilot
3. Development of an Edge-Deployable Bi-Directional Data Connector for Residential Energy Assets
4. Next-Day Load Baseline Calculation for LFM participation
5. LV grid voltage violations prediction
6. Improving Flexibility Profiling and Baseline for Implicit Demand Response Campaigns
7. Smart Charging V2G/G2V under grid signals
8. Calculation of the sharing coefficients for an energy community with central PV is active
9. Forecasting Services for LECs
10. Improving Prosumer Understanding Through What-If Scenario Analysis
11. Improving Reliability and Performance Awareness of Residential DERs
12. Structuring Residential Flexibility for Demand Response and Aggregation
13. Cross-Dataspace Interoperability & Energy AI Services

When applying to the ODEON Open Call, please note that all activities are expected to start at TRL² 5-6 and finish at TRL 7-.8.

One application can address only one challenge. For the detailed description of challenges see Annex 1.

For more detailed information on ODEON's architecture, AI artefacts, pilots and services, please check the [Technical Guidelines Document](#).

How to apply?

Submit your application via our [online form](#) within the deadline.

Your application must be in English, and all mandatory sections must be completed.

² **TRL** - Technology Readiness Level - Technology Readiness Levels (TRLs) are indicators of the maturity level of particular technologies. This measurement system provides a common understanding of technology status and addresses the entire innovation chain. There are nine technology readiness levels; TRL 1 being the lowest and TRL 9 the highest. In our project, we refer to [Annex B of the General Annexes for Horizon Europe Work Programme 2023-2025](#) for a full description of TRLs.

	Applications can be modified after submission (but only until the Open call deadline). Multiple submissions are allowed. However, each application must address different challenges and applicants are permitted to submit a maximum of 3 applications with the condition that each proposal addresses a distinct challenge offered by ODEON. If more than one application on the same challenge was submitted, only the one submitted closer to the deadline will be considered. If more than one application on different challenges was submitted, only the highest-scoring application will be considered for funding. Though applicants could submit multiple applications, no entity can be funded twice by ODEON.
Duration of the Support Programme:	The Grant is offered together with the ODEON Support Programme. Our Programme lasts up to 10 months.
Who can apply?	We allow only single entities (not consortia). Applicants have to be single users or suppliers³, in particular <u>SMEs</u>, registered as a legal entity before the end date of this open call. All entities have to be legally established in any EU Member States or Horizon Europe Associated countries
Additional conditions related to who can apply?	The Team cannot include entities linked to each other by capital. Applicants under EU restrictive measures are ineligible. The ODEON partners and their affiliated entities can NOT be involved in the FSTP recipients' projects neither their employees and associates - including persons working under employment contract or contract equal or similar to employment contract and board members (former employees and associates shall be also excluded if they were involved in the project execution at any stage)

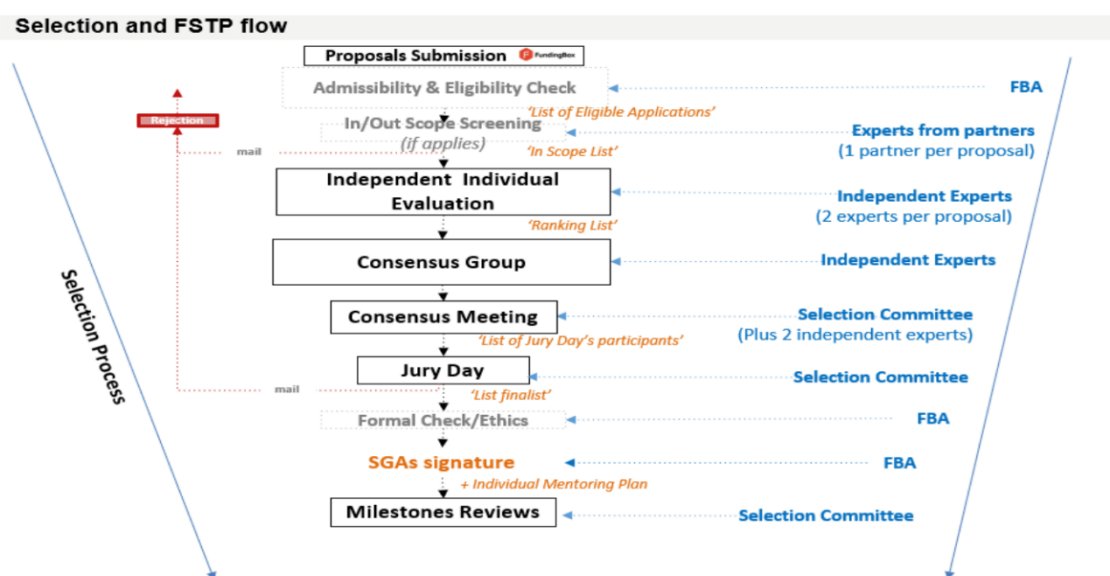
³ Suppliers are those entities providing the technology and services, while users those entities implementing and benefiting from the energy-driven applications

Number of grants and total funding available	We will support up to 20 Projects in this Open Call. The total budget available for this Open call is 1, 200, 000 EUR.
Support Programme	<i>Our Support Programme covers 3 Stages:</i> • Stage 1: Individual Mentoring Plan (IMP) & project design • Stage 2: Energy Service Development • Stage 3: Users Validation and Impact Creation
Ground rules and formal requirements	When applying to the ODEON Open call, please also note that the following conditions will be checked: 1. Submission deadline: Only applications submitted through the online form before the deadline will be considered. 2. Language requirement: Applications must be written in English. If mandatory sections are in another language, the application will be rejected. Non-mandatory sections in another language will not be evaluated, but the application will remain valid. 3. Data accuracy: The information you provide must be correct, complete, and allow proper evaluation. Extra material provided by you that was not requested in the form will not be considered. However, we may use other resources to verify that the provided data is true. 4. Completeness: Ensure all required fields are filled. You <i>can</i> edit your submission until the deadline, but no changes are allowed after that. 5. European dimension: Your application should align with EU goals and contribute to creating a positive impact within the EU. 6. Choose only one challenge: Your project should directly address one of the challenges defined by the ODEON (for a detailed description of the challenges, please see Annex 1). It means that you can address only 1 challenge per application. 7. Conflicts of interest: We will check for any conflicts of interest between applicants and Consortium partners. Partners, their affiliated entities, and their employees cannot participate. Each case of conflict will be reviewed individually. 8. Financial stability: Entities under liquidation, <u>in financial difficulty</u>, or excluded from receiving EU funding are not eligible. We also exclude companies in bankruptcy. 9. Original work: Execution of your project should not violate third-party IPR. It must be based on your intellectual property or you must be allowed to use third-party rights. IPR to the project can not be subject to any dispute. 10. Acceptance of rules: By applying, you agree to the Open call Terms and Conditions outlined in this document.

	11. Gender Equality Plan (GEP): Public bodies, universities, and research organizations from EU or Associated countries must have a GEP.
More info about ODEON	You can find more information about our Project on https://odeonproject.eu/ Open call is managed by FundingBox Accelerator sp. z o.o., and organised by the ODEON Consortium Partners All documents - including the template of the SubGrant Agreement can be found here.

2. SUBMISSION AND EVALUATION PROCESS

Only applications submitted through the [online form](#) before the Open Call Deadline will be considered. You will receive an email confirmation if the form is submitted correctly. If not, contact us immediately.



Our evaluation process is transparent, fair and equal to all participants. We will evaluate your project in a few phases described below. We will inform you about the results of the evaluation as soon as they become available.

2.1 Initial Check

After the closure of the ODEON Open Call, the system will review your application to ensure it meets the conditions outlined in this Terms and Conditions Document (Section 1). This check will be based on the declarations in your application. If your application does not comply with these conditions, it will be rejected.

2.2 In/Out Scope Screening

In case of a large number of applications or special needs of the ODEON project, the In/Out Scope Screening may be applied.

During this phase, the Selection Committee will review and assess the following aspects of your application:

- **Scope.** The objectives of the application must fit within the scope of the ODEON project, in particular, the application should directly address one of the challenges proposed in the Annex 1.
- **European Dimension.** The project should have a European dimension as it is described in point 5 of the "Ground rules and formal requirements" in section 1 of this Terms and Conditions Document.

A "Yes/No" approach will be used to assess those basic criteria, and non-compliant applications will be rejected.

Applications that do not comply with any of the requirements described above will be excluded. The ones complying with all of them will move on to the independent individual evaluation phase.

Applicants will be informed about the results of the in/out scope screening.

2.3 Independent Individual Evaluation

In this phase, each application will be evaluated by 2 independent experts, appointed according to the specific characteristics of the applicants from the pool of External Experts.

Your project will be evaluated within the following awarding criteria:

(1). EXCELLENCE will evaluate:

- **Ambition:** The applicants have to demonstrate to what extent the proposed FSTP project contributes to the project scope, has a European dimension and is beyond the State of the Art. Applicants must propose data and intelligence-driven energy services and applications that are built on top of the ODEON Cloud-Edge Data & Intelligence Service Platform. It is critical that the proposed services complement and do not overlap with the energy services and applications already being developed by the ODEON Consortium (see Technical Guidelines). Applicants must describe the innovative approach behind the solution and how it addresses the specific challenge and end-user group. The application must clearly identify how the solution addresses the needs of specific end-user groups, specifically Distribution System Operations, Local Energy Communities/Aggregators, or Consumers/Prosumers. It will also describe which services and how the work will be interoperable with the project framework.
- **Innovation:** Applicants should provide information about the level of innovation within their market and about the degree of differentiation that this project will bring. The applicant must describe how the solution will utilize the ODEON baseline technology offering across federated computing environments, including the bundle of pre-trained and re-usable AI artefacts (pipelines of AI models/algorithms) for the ingestion of the required intelligence in energy services and applications. To demonstrate interoperability, applicants should address how their solution interacts with the ODEON Semantic Data Model, which serves as the harmonization instrument for data collected and processed, ensuring compliance with open standards (e.g., SAREF, IEC CIM). Activities should ideally achieve TRL 7-8 (System complete and qualified) by the end of the project, starting from general-purpose digital solutions of at least TRL 5-6.
- **Soundness of the approach and credibility of the proposed methodology:** The credibility of the methodology will be evaluated on the applicant's plan to execute the three defined stages of the FSTP programme: Individual Mentoring Plan & Project Design (Stage 1), Energy Service Development (Stage 2), and Users Validation and Impact Creation (Stage 3).

(2). IMPACT will analyse:

- **Market opportunity and competition:** Applicants should highlight how their solution utilizes Cloud-Edge orchestration to spawn data and AI operations across federated environments. Innovation should be demonstrated by leveraging distributed data assets (IoT, DER, EV charging) to create value that was previously

non-reachable due to data silos. Applications should articulate how the solution differentiates itself by using federated data sharing to create new revenue streams or cost savings, such as through flexibility transactions or energy management optimization. Applicants must demonstrate a clear idea of their target market within the energy data value chain, creating an inclusive ecosystem where consumers and Local Energy Communities (LECs) can obtain active roles as market players.

- **Commercial Strategy and Scalability:** The applicants must demonstrate the level of scalability of the new/improved solution meaning by not addressing a specific problem but able to be commercialised to solve a structural problem in a specific sector/process/etc. The solution must be capable of validation and impact creation within the project timeframe. Applicants should demonstrate the potential for wide replication across diverse business and regulatory contexts, similar to the project's own validation across five large-scale demonstration sites (Greece, Spain, France, Denmark, and Ireland). The strategy should outline how the solution can be commercialized to solve structural problems, such as grid resilience, data sovereignty, or prosumer empowerment.
- **Environmental and social impact:** The applicants must demonstrate the project contribution towards environmental, social and economic impacts to contribute to sustainable development, Green Deal and other European policies. Applicants must demonstrate contributions to the Green Deal and sustainable development.

(3). IMPLEMENTATION will consider:

- **Team:** The applicants have to demonstrate their management and leadership qualities, their ability to take a concept from ideas to market, their capacity to carry through their ideas and understand the dynamics of the market they are trying to tap into. The team should be a cross-functional team to take the concept from idea to market, covering necessary technical and business expertise to interact with the ODEON platform. Gender balance should also be addressed.
- **Resources:** Applicants must demonstrate that the resources assigned are sufficient to achieve the objectives within a maximum duration of 10 months. Budget structure: The application should reflect the fixed lump sum funding model, with a maximum grant of EUR 60,000 per project. The resources should be planned according to the following tranche structure:
 - Stage 1: Up to EUR 9,000 for the Individual Mentoring Plan (IMP) & project design.
 - Stage 2: Up to EUR 30,000 for Energy Service Development.

- Stage 3: Up to EUR 21,000 for Users Validation and Impact Creation.
- All the entities will be entitled to request 100% of their estimated budget, with an overall maximum of EUR 60,000 per project. See Section 3.1 Payment conditions.

Each criterion will be scored on a scale from 0 to 5, with evaluators providing individual reports and scores based on these criteria. Once the Individual Evaluation Reports are submitted, the final score for each individual criterion will be calculated as the average of the scores provided by all evaluators.

The final score per application will be calculated as the sum of the score for each individual criterion.

The threshold for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, is 10 points.

Evaluation Consensus Group

In cases where there is significant divergence between the evaluators' scoring, experts will convene to establish a unified position on the evaluated applications. If no consensus is reached, a 3rd evaluator will be included to provide an extra evaluation.

Once we have an initial ranking, ties (if any) will be solved using the following criteria in order of priority:

- The highest score in the Impact Section.
- Gender balance among the personnel responsible for carrying out the activities.

Applications meeting or exceeding the threshold will advance to the next phase. Please note that we need time to process all the applications in this phase, so you probably won't hear back for a while.

2.4 Consensus Meeting

The Selection Committee (selected ODEON partners), advised by up to two External Experts, decides the 'List of Jury Day's participants' by consensus or a minimum 2/3 majority vote, based on the expert evaluation ranking.

While the highest-ranked applications are normally selected, the Committee may reject an application for fair reasons (e.g., alignment with ODEON goals, highest impact, ethical concerns, or conflict of interest), allowing the next-ranked application to be chosen instead.

The total number selected depends on overall quality, but the Committee seeks to select at least the highest-ranked application for each challenge if it meets the scoring thresholds. Selected applicants are notified and invited to pitch on Jury Day.

2.5 Jury Day

If your application is selected after the Consensus Meeting, you will be invited to an online Jury Day to pitch your project. The Selection Committee will then conduct a final evaluation based on specific criteria: potential impact, team vision/attitude, and positive impact on applicant processes.

The Committee will use consensus (or a minimum $\frac{2}{3}$ majority vote) to decide the 'Provisional List of FSTP recipients' and 'Reserve List'. The number of approved applications depends on overall quality, but the goal is to fund at least the highest-ranked application per challenge, provided it is above the scoring thresholds, to ensure a balanced portfolio.

If fewer applications than expected are approved, the Selection Committee may either reduce the number of beneficiaries or invite the next-ranked applicants (over the threshold) for an additional online pitching session. Results are communicated to applicants after Jury Day.

2.6 Formal Check, Sub-grant Agreement Signature

Finalists will undergo a formal check to confirm their legal status (e.g., company registration, financial documents, ownership structure, tax ID, etc.). Therefore, we will ask you to provide documents to confirm all the details (these will be - not be an exhaustive list: company's registration document, tax ID number, ownership structure, financial statements, Bank Identification Form). Documents must be provided within the given deadline. If you don't deliver the requested documents on time, without a clear and reasonable justification, we will have to exclude you from further formal assessment.

After passing this check, we will invite you to sign the Sub-grant Agreement with the ODEON consortium to officially participate in the programme.

The selected applications will also undergo an ethics assessment performed by ODEON's Ethics Partner. An 'Ethics Summary Report' will be produced and, when applicable, specific requirements will be included in the Individual Mentoring Plan.

3. AFTER THE SUBGRANT AGREEMENT SIGNATURE

3.1 Payment conditions

The Grant will be paid as a lump sum. Payments depend on the successful and timely completion of each stage of the work planned and outlined in the Individual Mentoring Plan developed at the beginning of the Support Programme. Payments are scheduled in tranches as follows:

Stages	Deliverable	Delivery date	Payment date	% of Total Grant	Max funding
Stage 1. Individual Mentoring Plan & Project Design	D1. Individual Mentoring Plan & Project Design Report	M1	M2	15%	up to 9,000 €
Stage 2. Energy Service Development	D2. Release of the Energy Service (Prototype)	M6	M7	50%	up to 30,000 €
Stage 3. User Validation & Impact Creation	D3. Evaluation and Impact Assessment Report	M10	M11	35%	up to 21,000 €
Total		10 months	100%	100%	up to 60,000 €

3.2 Progress evaluation

We pay upon the delivery of the agreed results - not upon the delivery of certain receipts. Therefore, Consortium Partners, gathered in the Selection Committee, will evaluate your progress regularly.

Stage	Explanation
Individual Mentoring Plan (IMP)	Within the first month of the Support Programme, you will prepare an <i>Individual Mentoring Plan (IMP)</i> outlining the final budget, KPIs, and deliverables for performance assessment. It will also cover any specific Ethics Assessment requirements (if applicable).

	The <i>IMP</i> will be evaluated by the Selection Committee, taking into account the Deliverables quality (90%) and Deadline compliance (10%).
Milestones' review	Before each payment, the Selection Committee will review your progress. Performance will be evaluated by <i>Technical Partners and Ethics Partners (in the case of third-party projects where specific requirements on ethics have been included as deliverable in the Individual Mentoring Plan)</i> based on: • Deliverables quality (30%) • Technical/Business KPIs (60%) • Deadline compliance (10%) Each criterion will be scored from 0 to 10, and the final score will be calculated based on the weights indicated. A score of 7 points or more is required to continue in the program. For more details, please check the template of the Sub-grant Agreement.

4. CONTACT US

If you have any questions regarding our application process, please post them in the [ODEON community - Open Call Helpdesk on Discord](#).

Please note that responses are given individually and do not change these Terms; they are provided for informational purposes only.

In case of any technical issues or problems, please include the following information in your message:

- your username, phone number and email address;
- details of the specific problem (e.g. error messages you encountered, bug description, i.e. if a dropdown list isn't working, etc.);
- screenshots of the problem.

4.1 Complaints

If you believe there was an error in one of the evaluation phases, you may submit a complaint within three (3) calendar days after sending the results to you. Send it to ODEON.helpesk@fundingbox.com in English and include:

- your contact details (including email),
- the subject of your complaint,
- evidence of the specific issue.

Please note that we will review only complaints related to:

- errors in the process caused by our staff,
- technical issues beyond the applicant's control,
- clear human or mechanical errors made by our staff,
- incorrectly marked statements, minor clerical errors, and obvious typographical mistakes.

Please note that we will not review complaints related to the content of the expert evaluations.

Complaints will be reviewed within seven (7) calendar days. If more time is needed, we will inform you via email. Anonymous complaints or those with incomplete information will not be considered.

5. Last but not least - final provisions

Any issues not covered by these Open Call Terms and Conditions are governed by Polish law, *Horizon Europe* Programme rules, and EU grant regulations.

We make our best effort to keep all provided data confidential; however, for the avoidance of doubt, you are solely responsible for indicating your confidential or sensitive information as such. Please be aware that your application form will be shared with the external evaluators and [ODEON Consortium partners](#).

You retain ownership of your intellectual property rights (IPR).

In the event that the FSTP recipient and an ODEON partner jointly generate results during the implementation of the FSTP project, the parties concerned should conclude a separate agreement (joint ownership agreement).

The results obtained by the FSPT recipients' projects have to be made available as open source, if possible, and offered as part of the ODEON ecosystem.

The signature of the Sub-grant Agreement is the initial condition to establish any obligations among applicants and any Consortium partners (with respect to the obligation of confidentiality of the application). The Sub-grant Agreement will include a set of obligations towards the European Commission (for example: promoting the project and giving visibility to the EU funding, maintaining confidentiality, and understanding potential controls by the EC/ECA, EPPO, and OLAF).

Please be aware that eligibility criteria will be checked throughout the process, including a final review and Support Programme.

In the event of any discrepancies between this Guide and their Annexes, the Guide shall prevail.

The ODEON Consortium reserves the right to cancel or modify the call at any time, informing applicants accordingly.

Need more help? Contact us at ODEON.helpdesk@fundingbox.com, and we'll be happy to assist.

ANNEX 1 Open Call Challenges

CHALLENGE 1	Monitoring Governance, and Lifecycle Management
Topic	Monitoring, Governance, and Lifecycle Management of Federated Data Pipelines
Scope and Expected Results	This topic targets the design, implementation, and validation of solutions that collect, analyze, and operationalize logs generated by data pipeline executions within the ODEON cloud environment. Proposed solutions should enable: • End-to-end observability of pipeline workflows (data ingestion, semantic mapping, anonymization, storage, and distribution) • Real-time and historical log analytics • Detection of failures, anomalies, bottlenecks, and policy violations • Traceability and auditability of data processing activities • Cross-platform interoperability of monitoring information • Actionable insights for operators and system administrators Expected outcomes include (Indicative): • Enhanced reliability and resilience of federated data pipelines • Reduction of downtime and undetected execution errors • Improved SLA compliance and operational KPIs • Automated alerts and intelligent diagnostics

	Transparent governance and compliance reporting
Datasets available	Participants may leverage: - Data pipeline execution logs - Operational system logs - Monitoring and telemetry data Logs may originate from: - Cloud deployments - Federated platform services (if available)
Tools and infrastructure Offered	The platform provides access to: ODEON monitoring services (logs)
Needs of End Users Addressed	Solutions developed under this topic should address: - Operational transparency – clear visibility of pipeline health & execution status - Fault detection & diagnostics – early identification of failures and degradation - Regulatory & policy compliance – auditable records of processing activities - Performance optimization – identification of inefficiencies & bottlenecks - Maintainability & lifecycle control – safe updates and version management Target stakeholders: - Platform operators - Data engineers - System administrators

CHALLENGE 2	Federated Edge-AI Pilot
Topic	Cloud-Edge Distributed Intelligence using Federated AI
Scope and Expected Results	This topic invites participants to design, deploy, and validate AI models or algorithms operating across cloud-edge environments using the full ODEON ecosystem while adhering to federated data sharing principles. Solutions should demonstrate: • Deployment of AI/ML models (e.g., flexibility forecasting, load prediction, anomaly detection, DER optimization) • Respect for local data sovereignty and privacy constraints • Use of federated learning or distributed intelligence approaches • Interoperability with ODEON components and services • Real-time or near-real-time intelligence at the edge Expected outcomes: • Operational Cloud-Edge distributed AI workflows • Privacy-preserving analytics and training • Reduction of data transfer through local processing • Scalable intelligence across federated nodes • Demonstrated performance, robustness, and reliability Types of Deployment (Indicative) Participants may propose one or more of the following architectures:

	• Deployment on Edge, Training on Cloud, Inference executed locally; centralized or coordinated training • Deployment and Training on Edge, Fully decentralized AI lifecycle • Deployment on Edge, Federated Training on Near-Edge, Collaborative learning across distributed nodes • Alternative hybrid configurations are welcome if justified.
Datasets available	Participants may leverage: • Local edge device data (e.g., sensors, smart meters, IoT streams) • Historical datasets from federated nodes • Aggregated or anonymized data streams • Synthetic/demo datasets (if real data is restricted) • Energy consumption / production profiles (if available) • Flexibility & DER operational data (if available) Data usage must comply with: • Federated governance policies • Privacy & access control rules • Data sovereignty constraints
Tools and infrastructure Offered	Infrastructure Access of ODEON project ODEON Services & Tools • Federated data sharing mechanisms • AI Pipelines Execution services • Model deployment & orchestration tools • AI Monitoring & telemetry services

Needs of End Users Addressed	Solutions should address real operational needs such as: • Low-latency intelligence at the edge • Privacy-preserving AI processing • Reduced bandwidth & cloud dependency • Resilient and fault-tolerant AI deployments • Energy system optimization & forecasting • Autonomous or semi-autonomous decision support Target stakeholders acting as data providers: • Energy service providers • Grid / microgrid operators • Facility & building managers • Aggregators & flexibility operators • Industrial energy managers • Technology providers
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CHALLENGE 3	Development of an Edge-Deployable Bi-Directional Data Connector for Residential Energy Assets
Topic	Development of an Edge-Deployable Bi-Directional Data Connector for Residential Energy Assets
Scope and Expected Results	The objective of this Open Challenge is to design and develop a bi-directional data connector for residential energy-related assets, aimed at increasing the level of digitalization of the ODEON project pilots focused on energy efficiency improvements for both consumers and prosumers. Applicants must be companies that already own or commercialize a residential asset (e.g. sensors, meters, controllers, or energy-related devices). The selected company will be responsible for providing the device to be

	integrated and for developing and containerizing the corresponding data connector. The connector shall enable secure acquisition, transmission, and management of asset data using a suitable communication protocol (e.g. LoRaWAN or equivalent) and must be packaged (e.g. Docker-based) for deployment on Edge Computing nodes within the ODEON infrastructure. The solution must support bi-directional communication, allowing not only data reading but also remote configuration, control, or actuation of the asset in the field. Expected results include: • A fully operational containerized bi-directional connector for a real residential asset owned by the applicant. • Successful deployment and execution on ODEON Edge Computing nodes. • Validation of the solution in a real pilot environment, demonstrating reliable data capture, command transmission, and asset interaction.
Datasets available	No pre-existing dataset is provided. Instead, the ODEON project offers selected applicants the opportunity to integrate and deploy their residential asset in a real pilot installation. This real-world deployment will enable: • Live data generation directly from the integrated residential asset. • Validation of the developed bi-directional connector under real operational conditions. • Assessment of data quality, reliability, and interaction capabilities (reading, configuration, and control) within the ODEON ecosystem.

Tools and infrastructure Offered	The ODEON project will provide: • Access to Edge Computing infrastructure for deployment and testing of the containerized connector. • Technical documentation and integration guidelines aligned with the ODEON architecture. • The possibility to deploy the proposed residential asset in one of the ODEON pilot installations for real-world validation.
Needs of End Users Addressed	End users (household consumers, prosumers, pilot operators, and energy service providers) require interoperable and scalable solutions to monitor and optimize energy usage at residential level. This challenge addresses their needs by enabling: 1) Seamless integration of real residential assets into digital energy platforms. 2) Edge-based data processing to reduce latency and improve reliability. 3) Remote monitoring, configuration, and control of devices to enhance energy efficiency and operational flexibility.

CHALLENGE 4	Next-Day Load Baseline Calculation for LFM participation
Topic.	LV grid power congestion prediction —Load Forecasting at Secondary Substation Level
Scope and Expected Results	For DSOs to participate in a LFM-Local Flexibility Market, or to activate Flexible Connection Agreements, FCAs, a load baseline forecast is required at a Secondary Substation (SS) Level. The algorithm should predict the load per SS with accuracy (<5% MAE) and transparency.

	The forecast can be performed either by using exclusively data collected at the SS level or using also data from the supply points downstream the SS. The LV grid could include consumption, production, batteries, EVs. Expected results: An AI artefact - to predict the day-ahead total load at the SS with an hour/15 minutes granularity. - with transparency, as the results should be reproducible by third parties - and accuracy calculation (MAPE error <5%), through demonstration with real data in collaboration with one of the following pilot site: French, Danish, Spanish or Greek pilot Site And an energy application that uses the predicted baseline load to calculate the flexibility that would be needed to solve congestion problems at the SS.
Datasets available	Historical data: - SCADA data at the MV/LV winding of the SS transformer (Power, Voltage, Current...). Available at the Spanish and Greek Pilot Sites. - Smart meter data at the LV supply points (imported/exported energy). Available at the French, Spanish and Danish Pilot Sites. - LV grid topology. Available at all Pilot Sites.
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.
Needs of End Users Addressed	DSO need to tackle power congestions at the SS

CHALLENGE 5	LV grid voltage violations prediction
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Topic	Undervoltage/overvoltage predictions at the supply points of a LV grid
Scope and Expected Results	There are currently no real-time measurements at the supply points of a LV grid, which means we lack visibility into potential voltage excursions. The increasing adoption of heat pumps and electric vehicles significantly decreases feeder voltage and local PV generation has the contrary effect. The combination of both results in fluctuating voltage patterns in LV feeders. Expected results: • A software tool, combination of an energy application and AI artefacts, to predict undervoltage/overvoltage at the supply points of a LV grid • Demonstration with real data in collaboration with the Greek Pilot Site
Datasets available	Historical data: • SCADA data at the MV/LV winding of the SS transformer (Power, Voltage, Current...). • Smart meter data at the LV supply points (imported/exported energy, overvoltage/undervoltage events). • LV grid topology
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.
Needs of End Users Addressed	Grid stability DSOs

CHALLENGE 6	Improving Flexibility Profiling and Baseline for Implicit Demand Response Campaigns

Topic	Demand Response Analytics
Scope and Expected Results	Promote the development and testing of software-based services that estimate baselines and price elasticity for portfolio clusters in Local Energy Communities or aggrupation of domestic-energy consumers. The goal is to foster the development and validation of software-based services, yielding flexibility profiles and confidence intervals for Local Energy Communities. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Danish, Spanish or Greek pilot Site.
Datasets available	• Users imported/ exported energy • Weather data • Historical DSO area demand/generation • DSO area demand/generation prevision • User Socioeconomic data • Dynamic tariff price series This information will be available at the referred pilot sites.
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.
Needs of End Users Addressed	LEC Operators are provided with flexibility profiles analytics to perform DR campaigns based on dynamic pricing and reduce forecasting errors.

CHALLENGE 7	Smart Charging V2G/G2V under grid signals
Topic	Improving EV Charging fleet Smart Charging Optimization
Scope and Expected Results	Design and validate optimization algorithms for EV charging strategies, integrating Vehicle-to-Grid (V2G) capabilities and State of Charge (SoC) constraints. Solutions should be based on the development of high-fidelity models to ensure charging optimization aligns with real-world infrastructure and battery degradation profiles in Electric Vehicles and Electric Vehicles Fleets. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Danish or Spanish pilot Site.

Datasets available	• EV services static data • Energy tariffs • Data on EV Fleets • EV-charger data • Disaggregated flexibility requests This information will be available at the referred pilot sites.
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available
Needs of End Users Addressed	Provide an optimization tool to Fleet operators that optimizes in detail the energy consumption in EV fleets.

CHALLENGE 8	Calculation of the sharing coefficients for an energy community with central PV
Topic	Optimization problem formulation in energy sharing in Local Energy Communities
Scope and Expected Results	Motivate the definition of the sharing coefficients (% of the central PV energy assigned to each community user) as variables of an optimization problem, resulting in the optimal values based on social criteria. This will be calculated accordingly to the country where the datasets will be considered. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Irish or Spanish pilot Site.
Datasets available	• Energy Generation Data • Energy Consumption Data • Energy Storage Data • Electric Vehicle Data • Grid Interaction Data • Building Level Demand Forecast • DER Level Generation Forecast • Flexibility Profiling This information will be available at the referred pilot sites.
Tools and infrastructure Offered	Access to authorized datasets via the ODEON Energy Data Space, where available
Needs of End Users Addressed	The proposed solution directly tackles the evolving requirements of local energy ecosystems prioritizing

	optimal energy management for individual community levels such as savings, self-consumption maximization to optimize network usage, at the same time benefiting grid operators.
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CHALLENGE 9	Forecasting Services for LECs
Topic	Development of forecasting Services for LECs characteristics of LECs to predict at community level.
Scope and Expected Results	The proposed solution shall develop forecasting models that generate electricity demand and load profiles (including prosumer behavior and aggregated community demand). Moreover, Renewable energy generation forecasts (considering local conditions) will be determined. The model also should be able to determine energy market prices and local tariffs; technology costs as well as flexibility availability and consumption/generation uncertainty. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Danish, Spanish, Greek or Irish pilot Site.
Datasets available	• Energy Generation Data • Energy Consumption Data • Energy Storage Data • Electric Vehicle Data • Grid Interaction Data • Building Level Demand Forecast • DER Level Generation Forecast • Flexibility Profiling This information will be available at the referred pilot sites.
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available

Needs of End Users Addressed	The proposed solution targets Local Energy Communities and aggregators providing improved planning and operational decisions, reduced uncertainty in energy sharing and trading as well as better assessment of economic performance. The solution will impact consumers/prosumers to provide more accurate expectations of energy costs and benefits and improved transparency and trust in community decisions. Indirectly, network operators will gain better visibility on aggregated demand and generation patterns.
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CHALLENGE 10	Improving Prosumer Understanding Through What-If Scenario Analysis
Topic	What-If Scenario Simulation for Residential Energy Consumption and Production
Scope and Expected Results	Encourage the development and validation of software-based services that enable residential prosumers to explore predefined what-if scenarios using historical or synthetic household data. Solutions should allow adjustment of a limited set of parameters (e.g. consumption levels, production profiles, tariff structures, asset availability) and present the resulting impact on high-level indicators (e.g. energy cost, self-consumption, grid dependency), without providing optimization, control, or personalized recommendations. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Danish, Spanish, Greek or Irish pilot Site.
Datasets available	- Household consumption and/or production time-series (e.g. smart meter / PV), where available. - Tariff / pricing tables or representative tariff structures for scenario evaluation, where available.

	Public, or synthetic datasets for development and validation. This information will be available at the referred pilot sites.
Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.
Needs of End Users Addressed	Prosumers require simple and transparent ways to assess how changes in consumption, production, or tariffs may affect energy-related outcomes

CHALLENGE 11	Improving Reliability and Performance Awareness of Residential DERs
Topic	Operational Condition Assessment and Degradation Awareness for Residential DERs
Scope and Expected Results	Encourage the development and validation of software-based services that assess the operational condition of residential DER assets (e.g. PV inverters, batteries, EV chargers) using available operational and status data. Solutions should aim to identify early signs of performance degradation, sub-optimal operation, or misconfiguration, supporting improved asset reliability and availability without requiring additional hardware installation. The challenge will be demonstrated with real data in collaboration with one of the following pilot sites: French, Danish, Spanish, Greek or Irish pilot Site.
Datasets available	- Representative time-series operational data and status indicators from residential DER assets subject to pilot and asset availability. - Sample or synthetic datasets for development and benchmarking. This information will be available at the referred pilot sites.

Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.Top of Form Bottom of Form
Needs of End Users Addressed	Residential prosumers require improved visibility into DER operational conditions in order to detect faults earlier, reduce unexpected downtime, and avoid performance losses.

CHALLENGE 12	Structuring Residential Flexibility for Demand Response and Aggregation
Topic	Flexibility Characterisation and Packaging at Prosumer Asset Level
Scope and Expected Results	Encourage the development and validation of software-based services that identify and quantify flexibility potential at the level of individual prosumer assets (e.g. storage, EV charging) using available operational and historical data. Solutions should translate asset-level capabilities into structured, time-dependent flexibility descriptors (e.g. available capacity, duration, constraints, availability windows) suitable for exchange with retailers, DSOs, or local energy community aggregators. Expected results include improved consistency and transparency in the preparation of flexibility inputs for demand response or aggregation workflows, without prescribing specific market mechanisms or bidding strategies.
Datasets available	• Historical time-series measurements from residential assets relevant to flexibility assessment (e.g. power, energy, basic asset indicators such as on/off status, operating mode, or static asset metadata), subject to availability. • Sample or synthetic datasets for development and validation • Flexibility-related event or request information, where available.

Tools and infrastructure Offered	Access to authorised datasets via the ODEON Energy Data Space, where available.
Needs of End Users Addressed	Prosumers and flexibility aggregators require clearer, quantified representations of asset-level flexibility in order to reduce manual effort, uncertainty, and inefficiencies in demand response preparation and aggregation processes.

CHALLENGE 13	Cross-Dataspace Interoperability & Energy AI Services
Topic	End-to-End Interoperability for Energy AI Services across ODEON&HEDGE-IOT Dataspaces
Scope and Expected Results	This challenge asks participants to show how two different dataspace can work together using energy data. The main goal is to create a complete process where energy pilot data is transformed into a forecast service inside the ODEON platform, and then securely shared with a second, external dataspace. First, participants must bring their own energy pilot data into ODEON. Aligning their data with one of the semantic models supported by the ODEON platform. Once the data is inside ODEON, participants will use the platform's AI pipeline creator to train and fine-tune an AI model. After training the model, participants must configure a pipeline to use this model and generate real energy forecasts. These final forecast predictions are what must be published as a new asset on the ODEON Data Asset Marketplace. This asset will act like a service that delivers the forecast data. When publishing,

	participants must define the rules and conditions for anyone who wants to access these predictions. The next step is to prove the connection between dataspace. Acting from a second, third-party dataspace, the participant must search for this forecast asset in the ODEON catalogue. They need to request access, negotiate the conditions, and establish a formal data-sharing contract. After the contract is signed, the participant must successfully receive the forecast predictions into the second dataspace, proving that the two systems can talk to each other. Finally, the evaluation of this challenge will look at two main things. Proving the technical connection between the dataspace is mandatory and will be evaluated as a simple pass or fail. However, to find the best solutions, the quality of the AI models will also be evaluated. The accuracy and precision of the generated energy forecasts will be a key factor in scoring the participants.
Datasets available	Participants must use their own energy-related pilot data, such as smart meter readings, grid information, or weather data. They will upload this data into the ODEON platform to train their AI models. If necessary, participants can also use simulated or streaming data to copy real-time energy situations.

Tools and infrastructure Offered	<i>ODEON will provide the complete environment to make this possible. This includes tools to ingest data and match it to semantic models, the AI pipeline creator to train models and generate forecasts, and the ODEON Data Asset Marketplace to publish the results. ODEON also provides the mechanisms needed to negotiate contracts and share data.</i>
Needs of End Users Addressed	This challenge helps energy companies share smart insights, like energy forecasts, without losing control of their data. It allows users in one dataspace to easily find, contract, and use AI predictions created in another dataspace. This proves that European dataspaces can share more than just raw data. They can share valuable, intelligent services in a simple and secure way.