

GaiaX Technical workshop

Tecnalia use cases

Gorka Zarate - DATAC

A little bit of Tecnalia

TECNALIA is the largest center of applied research and technological development in Spain, a benchmark in Europe and a member of the Basque Research and Technology Alliance. We collaborate with companies and institutions to improve their competitiveness, people's quality of life and achieve sustainable growth. We do it thanks to people who are passionate about technology and committed to building a better society.



COMPETENCE CENTER SPAIN

As **IDSA Competence Center and Implementation Partner (business & technology)**, TECNALIA became the Spanish national benchmark center to promote IDS, develop new business models based on this technology, and guide companies when integrating their own data control processes.

IDSA Member, IDSA Competence Center Spain:

European and national R&D projects, (pre-production) pilots, consultancy and dissemination support. Alberto Berreteaga as IDSA Ambassador and IDSA Competence Centre Coordinator. Different working groups collaboration (rulebook, architecture, certification, training, dataspace protocol...) - <https://internationaldataspaces.org>

Gaia-X EU, Gaia-X Hub España (Gaia-x Spain Hub) member. Jesus Maria Santamaria as Gaia-X Hub Spain CTO. Different working groups collaboration (Trust framework, architecture, Clearing Houses, Identity...) - <https://www.gaiax.es>

DATA SPACES BUSINESS ALLIANCE (DSBA)

participant. As member of IDSA and Gaia-X.

ECLIPSE Foundation partner and **ECLIPSE Dataspace Working Group** member, <https://dataspace.eclipse.org>.

BAIDATA Partner - <https://www.baidata.eu/en>



Data Spaces Support Centre (DSSC): not partner but supporting initiatives / working groups: Governance, Technology and Business.

SIMPL: not partner but following the initiative and Community collaboration. - <https://simpl-programme.ec.europa.eu>

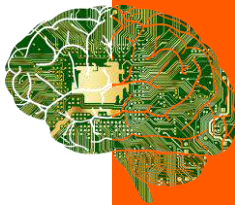
Sovity (Commercial provider) Connector as a service (CaaS) user and client (used for demos, internal testing and project support)

Huawei Boot-X (Commercial provider) alliance. Partners with Huawei EDS (Exchange Data Space), solution used to provide Data Spaces Technologies.

dataspaces@tecnalia.com
<https://www.tecnalia.com/en/>



DataSpaces in European projects



OASEES

Open Autonomous programmable cloud appS & Smart Edge
Sensors

The OASEES project aims to create a new programmability framework that will allow edge devices to work together in a decentralized and secure way, using advanced technologies such as AI/ML accelerators (FPGAs, SNNs, Quantum) and a privacy-preserving Object ID federation process. This framework will be fully open-source and developed specifically for Europe.



USE CASES



E-Health: Smart Nodes for Analysis of Voice, Articulation and Fluency Disorders in Parkinson Disease



Energy: EVs fleet coordinated recharging to support optimal operation of electricity grid.



Drone Swarm for area and infrastructure inspection: Drone Swarm over 5G for High Mast Inspection.



Structural Safety for Building and Critical Infrastructure: Swarm powered intelligent Structural safety assessment for Buildings

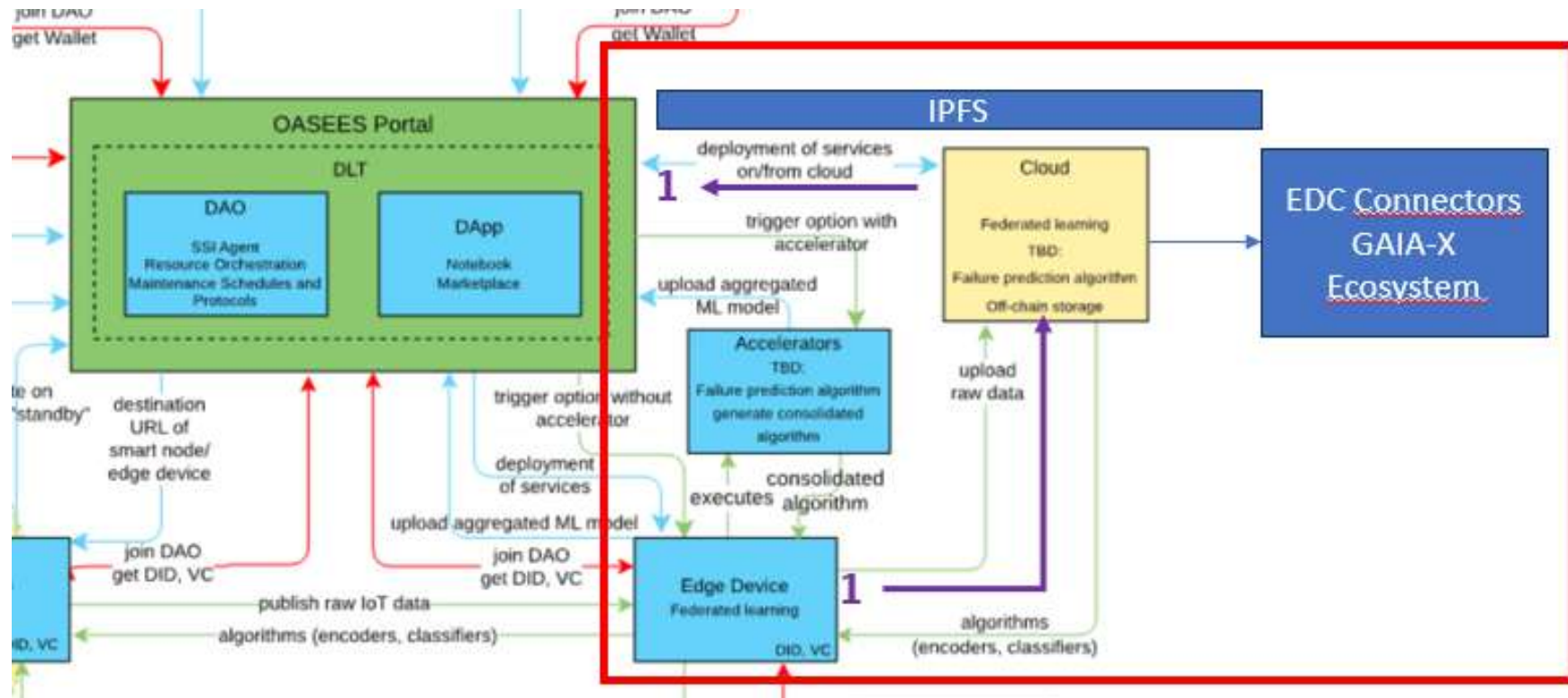


Collaborative robotic automation: : Robotic Swarm powered Smart Factory for I4.0



Wind Energy: Smart Swarm Energy harvesting and Predictive Maintenance Wind turbines

Close view on Use case data gathering



Wind energy Data Product definition

The Data Product Canvas

Name of Data Product: **Blade Acoustic Monitoring Swarm System**

Who is the customer? **Wind Farms owners – Wind turbine Maintenance companies**

We create the data analytics solution

... for the following customers and users

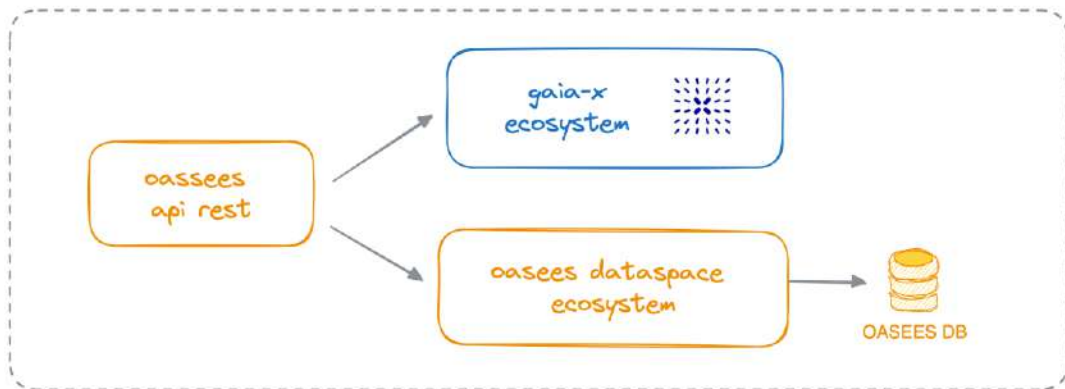
Data Sources	Analytics	Data Product	Customer benefits	Pains and Gains
 What data sources do we need to create customer value? Wind turbines (WT) acoustics monitoring systems: This refers to systems that monitor the acoustic characteristics of wind turbine blades. These systems collect raw acoustic data, providing insights into the sound produced by the blades during their operation. WT blade failure and stop historic. This involves gathering information about the historical occurrences of blade failures and instances where the wind turbine had to be stopped. WT blade maintenance plan. It outlines the schedule and procedures for maintaining and servicing the blades, ensuring optimal functionality and preventing potential failures.	 With which data analytics methods do we generate insights from the data? Signal Processing Methods: identifying relevant features in the sound patterns failures associated with turbine performance and potential. Neural Networks Trained by Distributed Learning Algorithms: Neural networks, a type of artificial intelligence, will be employed to recognize complex patterns in the acoustic data.	 In which form do we provide the data service to our users and customers? Technical Reports Based on Processed Acoustic Dataset: information included in the reports consists of datetime, wind turbine id, wind turbine height and diameter, and labelled anomalies. Wind Turbine Blades anomaly detection: Unusual patterns or anomalies in the acoustic data that can indicate issues with the blades. Maintenance Prediction and Impact on LCOE (Levelized Cost of Energy): potential impact of maintenance activities on the Levelized Cost of Energy Dynamic Maintenance Plan According to Blade Health Status: The data product includes a dynamic maintenance plan that adapts based on the real-time health status of the turbine blades. Anonymized Blade Acoustic Data: To address privacy concerns, the product includes anonymized versions of the raw acoustic data.	 What added value and what advantages does the data service generate to our users and services? This data service adds value by improving turbine performance, offering non-intrusive monitoring, enabling proactive analysis and detection, ensuring algorithm reliability, evaluating maintenance cost impact, and providing anonymized data for further analysis and development. These advantages collectively contribute to a more efficient and cost-effective management of wind turbine operations.	 What wishes, problems and challenges do our customers and users have? Wishes: - Privacy and data protection between stakeholders (Wind Farms owners – Maintenance companies) Problems: - Lack of availability, quality and veracity of the raw acoustic blade data. - Expensive blade failure detection methods. - Wind turbine shutdown for blade inspection. Challenges: -Improve Operational and Maintenance Expenditure elaborating dynamic maintenance plans. -New and innovative alternatives to diagnose blade status.

The process to make a Data Product for Gaia-X

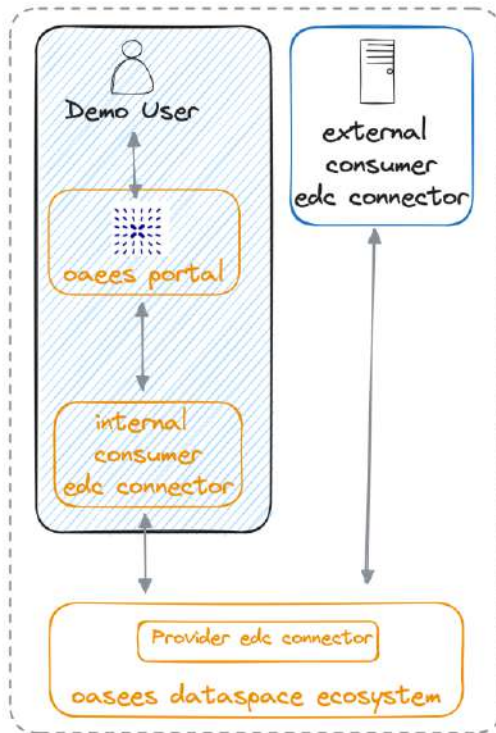
1 Store the data



2 Register the data-products



3 Consume the data



DATA PRODUCT generation (Technical Report)



Checking that the DATA PRODUCT is stored in IPFS

The screenshot displays the web interface for the IPFS API for Data Products - OASEES. The browser address bar shows the URL `172.26.41.12:8088/docs`. The page title is "IPFS API for Data Products - OASEES" with version indicators "0.1.0" and "OAS 1.1". Below the title, there is a "Servers" section with a dropdown menu currently set to "dataproducs". The main content area is divided into two sections: "default" and "Schemas".

default

- POST** `/{dataproducs_id}/path/` Create Folder Structure In Ipfs
- POST** `/{dataproducs_id}/files/add` Upload Files To Ipfs
- GET** `/{dataproducs_id}/files` Get Files In Zip
- GET** `/{dataproducs_id}/file` Get File
- GET** `/{dataproducs_id}/items` Get Item List By Path
- DELETE** `/{dataproducs_id}/items` Delete Item

Schemas

- `Body_upload_files_to_ipfs__dataproducs_id_files_add_post` Expand all object
- `HTTPValidationError` Expand all object
- `ValidationError` Expand all object

Generating the Verified Credentials for the Data Product offer

The screenshot displays the Swagger UI for the Oasees API. The browser address bar shows the URL `oasees9102/docs/#/`. The page title is "Oasees 0.1.0 (04.03.21)" with a sub-header "Oasees API documentation".

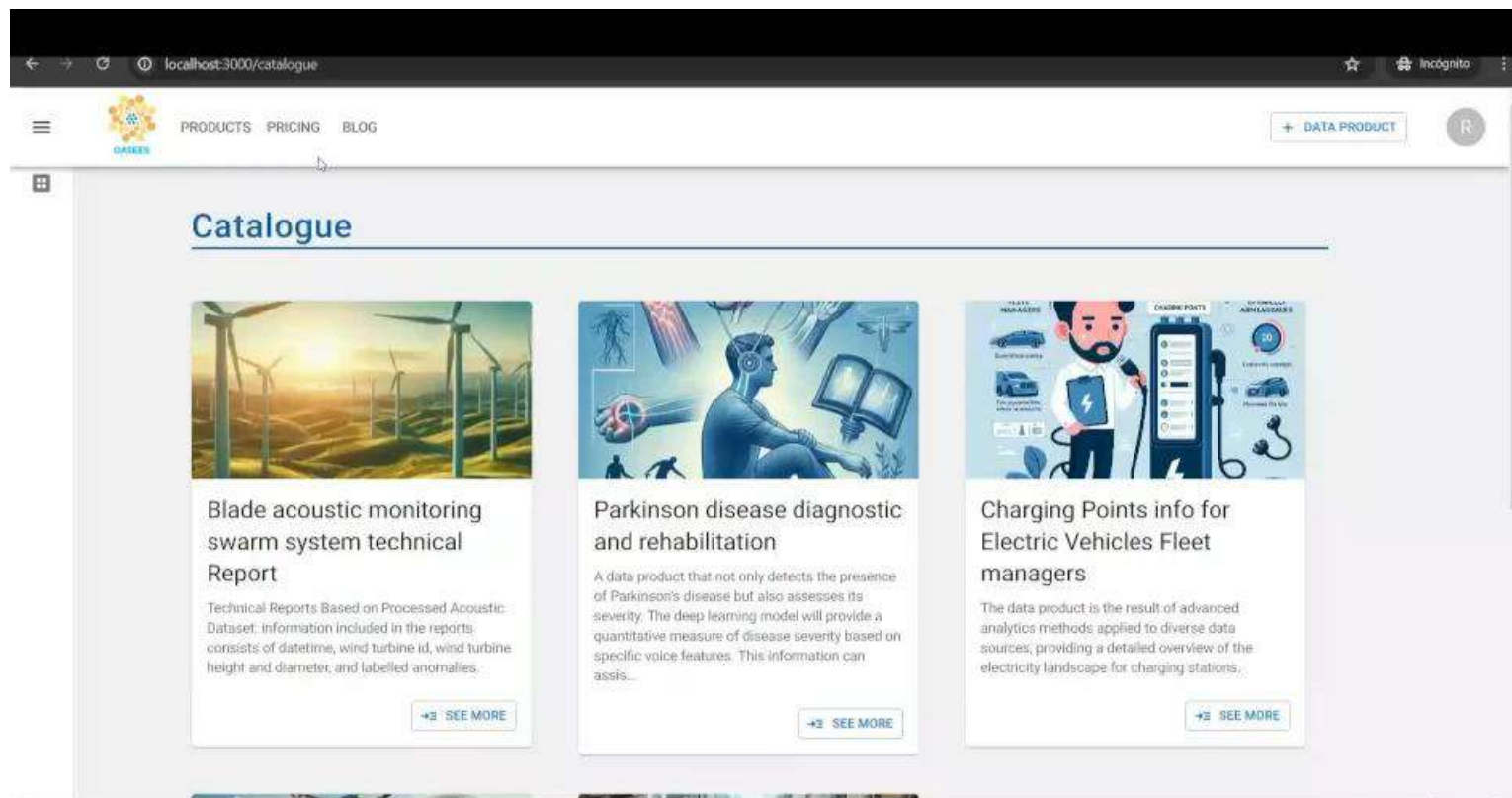
Oasees API

- POST** `/dsddocument` Create Dd
- POST** `/legalparticipant` Create legal participant
- POST** `/dataproducer` Create dataproducer with resources
- GET** `/dataproducer` Get dataproducer by name
- POST** `/publish-dataproduct` Create and publish dataproducer
- GET** `/dataproducers` Get dataproducers list
- GET** `/cesrecords` Get ces records

Oasees testing API

- POST** `/signVC` Sign VC
- POST** `/sign-vp` Sign VP
- POST** `/compliance` Call to compliance
- POST** `/credential-quest-response` Call to credential quest response

Data Product consumption



DataSpaces in real projects (Inkolan)

INKOLAN



Problem: Gas leak due to outdated data used for civil works

«Gas leak at the works to extend the car park at the Santiago Bernabéu stadium. According to initial reports, the leak occurred at around 8.40 am, when workers on the renovation, which is being carried out by Acciona, accidentally punctured a 20-inch diameter steel gas pipe.»

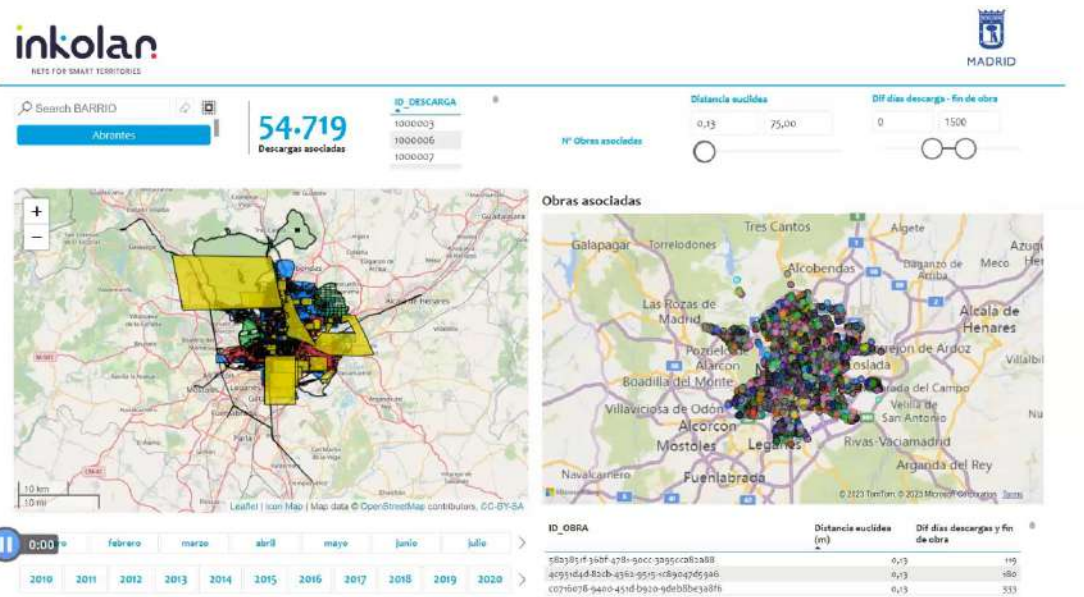
Madrid 05/22/2024.

The use of obsolete information or information not provided through INKOLAN may cause security incidents on the network, with risk to the population.



INKOLAN

Starting Business Model - Data Consumption - Madrid City Council



Once consumers select data on the INKOLAN portal, they receive a URL to download a ZIP file containing the CAD (DWG) files they have ordered.

These CAD files can then be uploaded to their GIS tools to incorporate into their maps. Once the consumer receives the URL, they can download the ZIP files as many times as they wish.

02

Adapting business to data space

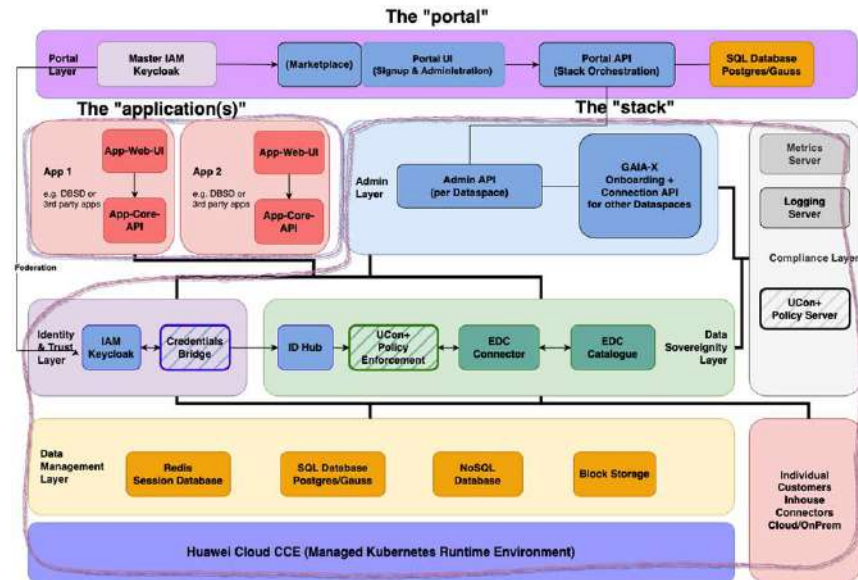
Using the BOOT-X Lighthouse

Why BOOT-X?

Boot-X is part of EDS (Exchange Data Space) and provides the infrastructure and technology needed to create a **complete data space environment** or join an existing one.

Boot-X **supports the Gaia-X Trust Framework** and provides interfaces to the GXDCH, making it easy to onboard new participants or services. It follows the EDC framework, implementing data transfer, cataloging, and identity management features. It further enhances these features with advanced identity management, policy management, and monitoring in a production-ready environment.

Boot-X is the technical enabler for **real-world use cases** and applications using data space technologies. Tecnalia and Inkolan are an example of a fully operational use case.

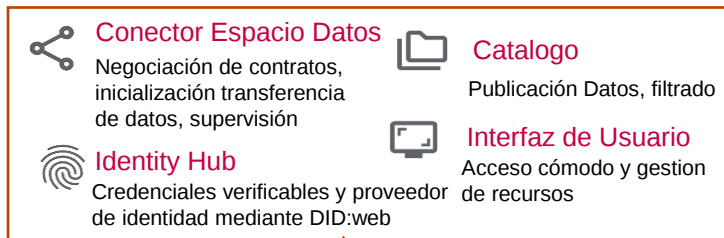


CASO DE NEGOCIO DE INKOLAN CON BOOT-X

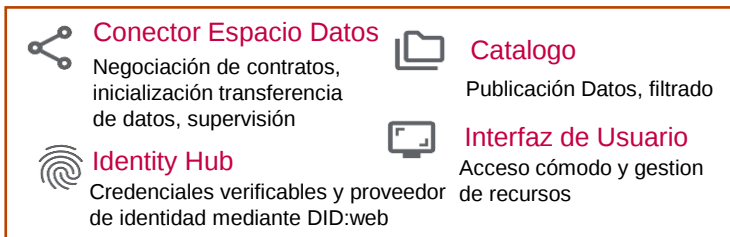
Participantes Espacio de Datos



INKOLAN (Data Broker)



Operador de red (Data Provider)



Comunicación
a través de **DSP**
y su especificación
para peticiones al **catalogo**,
negociación de contrato,
y **gestion de las transferencias**
(inspección)

Ayuntamiento (Data consumer)



CASO DE NEGOCIO DE INKOLAN CON BOOT-X

Espacio de Datos- Proceso

INKOLAN



Servicio de Registro

Autoridad central del espacio de datos



Centro de Identidad
Credenciales verificables y proveedor de identidad mediante DID:web

- Proporciona el formulario de aplicación web
- Procesos de aplicación actualizados para activar el backend del espacio de datos
- Define las políticas para el conjunto de datos (bundles)
- Persiste los acuerdos contractuales
- Registro y supervisión
- Procesa los datos obtenidos de las utilidades y genera archivos KML
- **Mejor control del uso de los datos salientes**
- **Infraestructura reutilizable para futuros casos o actualizaciones en las políticas**

- Inicia la aplicación como siempre
- Se autentica con la identidad del espacio de datos (CV diferente de Utilidad)
- Solicitud de datos (por ejemplo, seleccionar rango, añadir capa) mediante el formulario de la aplicación Web.
- Desde el visor SIG, cuando se solicita KML se da la uri del conector
- **Si se concede el acceso y se acuerdan las políticas, los datos se transfieren al visor del GIS y se muestran en el mapa.**

Operador de red

- Carga el archivo en OBS (en el futuro será a través de FTP/otro)
- Se autentica con la identidad del espacio de datos (VC)
- La petición de los datos acciona la petición vía conector del dataspace
- Contratos persistentes como prueba
- Seguimiento de los intercambios de datos con fines de auditoría. Información proporcionada a través de un panel de control

Ficheros (KML)
Keyhole Markup Language



La UX se proporciona en la misma plataforma GIS en la que se gestionan otros datos espaciales (por ejemplo, abiertos (Datos gubernamentales: qué son los datos abiertos | data.europa.eu) para proporcionar contexto a la información ofrecida por INKOLAN (privada y segura, relacionada con infraestructuras críticas...) y se tratan conjuntamente como Espacios Comunes de Datos Europeos | Shaping Europe's digital future (europa.eu)

Ayuntamiento



INKOLAN Data Space - Demo

From Data Providers (Network Operator) to Data Consumers (Municipalities)

The screenshot displays the INKOLAN Data Space website. At the top, a dark blue header contains the text "Atención telefónica 944 792 008". Below this is a light blue navigation bar with the INKOLAN logo and several menu items: "Servicios Inkolan", "Nuestro servicio", "Tarifas", "Información Técnica", "Proyectos", and a prominent blue button labeled "Área de clientes".

The main content area has a blue header with the text "Área de clientes" and "Todos en Área de clientes". On the left, there is a sidebar with a "Descargas" section containing links for "Resultados descarga" and "Consulta de descargas", and an "Apoyos" section with links for "Modificación apoyo" and "Consultas de apoyo".

The central content area is titled "Bienvenido al Área de Clientes." and contains the following text:

Puede esta página tener acceso a los principales servicios que le ofrece Inkolan, de forma instantánea y con total seguridad, gracias a los datos de redes de agua, gas, electricidad, telecomunicaciones municipales.

Inkolan le permite conectar el estado de las redes y actualizar los datos cuando lo necesite.

Sitúese al mejor partido si sus clientes de la empresa están en contacto en su sistema de información digital cartográfica de redes de servicios.

Para saber más sobre la actualidad de Inkolan, [Síguenos en LinkedIn](#).

The footer is a dark blue bar with links for "Aviso legal", "Política de Privacidad", "Condiciones Generales de Contratación", and "Inkolan © 2022".

DASHBOARD for metrics



A dashboard has been developed to obtain real-time metrics of all transactions carried out within the data space so that this information can be used for **AUDITS**.

03

KATEA DATA SPACE (TECNALIA)

KATEA Research Cloud (KRC)

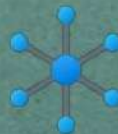
Where digital projects are built



Máquinas
Virtuales



Contenedores



SDN



Almacenamiento



Seguridad



API



KATEA Compute Platform (KCP)

When processing power is required

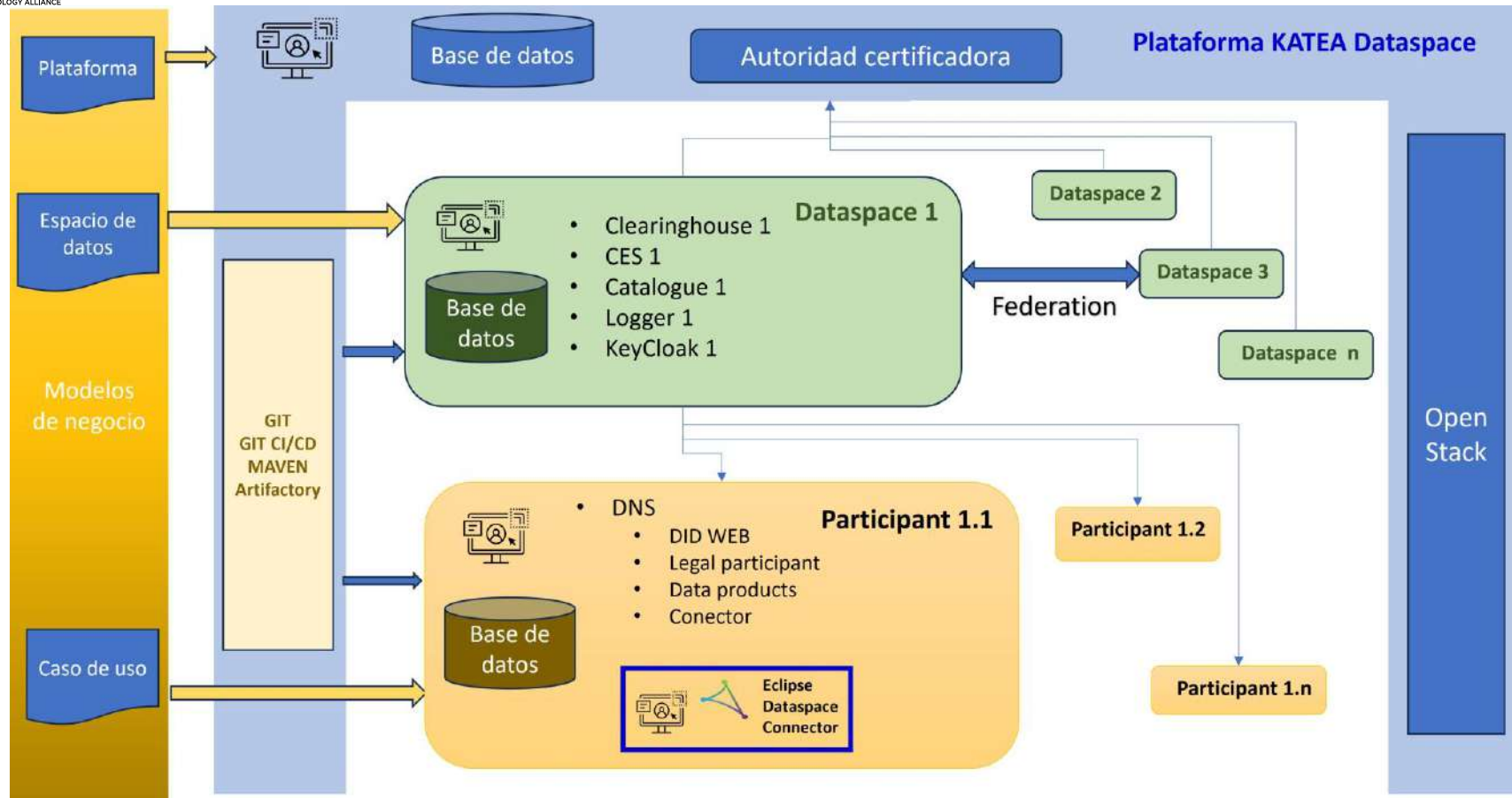
KCP, primer centro de super computación de KATEA ubicado en Mikeletegi 2 (Donostia)

Specs:

- **CPU:** 1120 cores a 3,8GHz
- **RAM:** 11 TB
- **Storage:** ~ 1 Petabyte
- **GPU:**
 - 5 x Nvidia A100 80GB
 - 6 x Nvidia H100 80GB
 - 8 x Nvidia H100 SXM 80GB

Potencia bruta:

- **CPU** – 85.555,2 Gflops
- **GPU** – 977,5 Teraflops





Espacio de Datos: “Urban Data Sharing”

Ecosistema para la compartición de datos de infraestructuras

Descripción del modelo de negocio

Enfoque actual del intercambio de datos urbanos

Datos para la ciudad del mañana según el World Economic Forum

In collaboration with Connected Places
Catapult and The Business of Cities

WORLD
ECONOMIC
FORUM

Global Future Council on Cities of Tomorrow

Data for the City of Tomorrow: Developing the Capabilities and Capacity to Guide Better Urban Futures

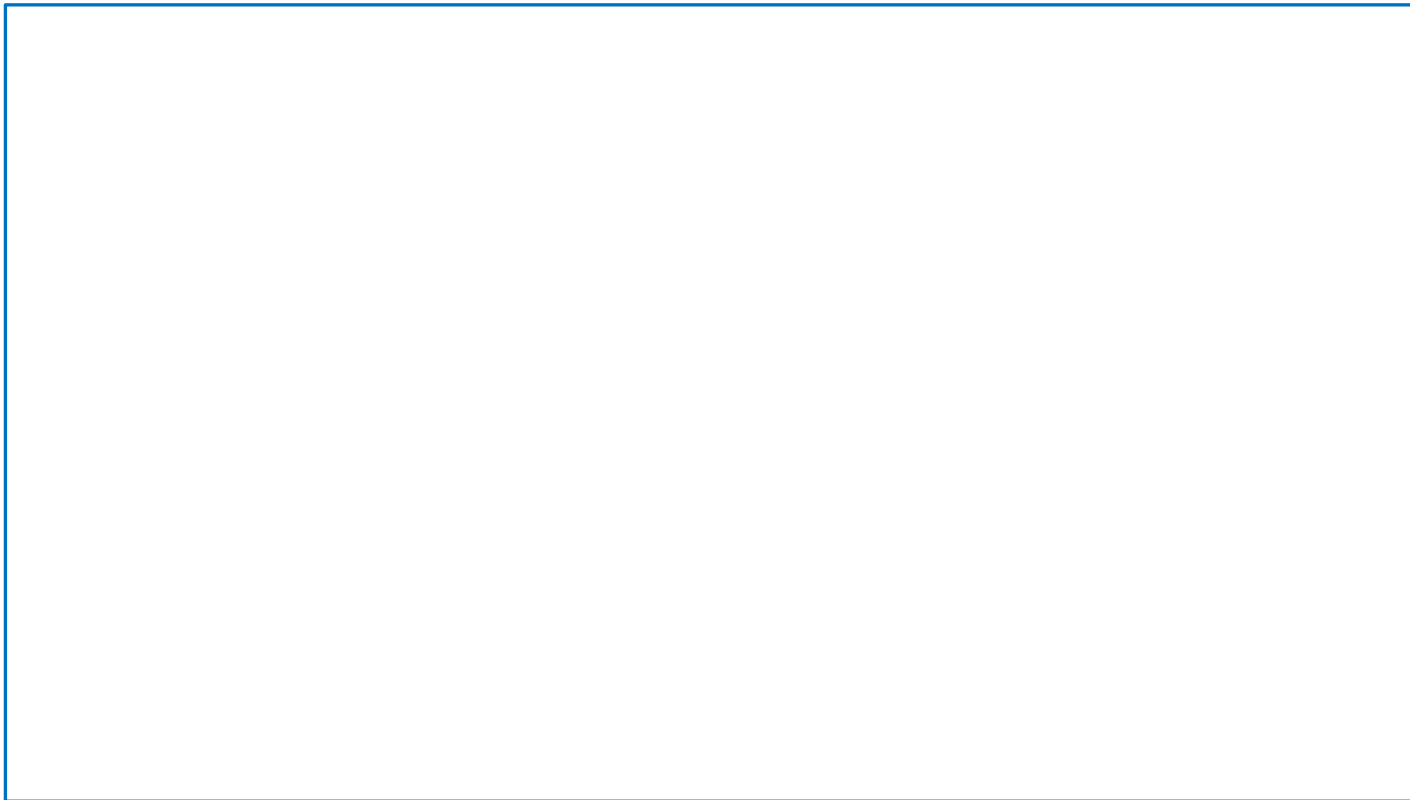
INSIGHT REPORT
JUNE 2023

TABLE 1 | The challenges holding back the application of data to city-making and management¹⁰

Problem and need	Limited data availability	Definitions and coherence issues	Few agreed standards
The problem	In many parts of the world, especially in lower-income cities and regions, the reservoir of public, private and civic data from which to draw is still modest.	No accepted universal definition yet exists for what constitutes a city, where cities stop, or what defines liveability, smartness or prosperity.	Efforts to standardize city indicators and data-collection processes ¹¹ are still at an early stage and are not uncontested. Data is also hard to interpret in a vacuum and translate into policy decisions.
What cities need	— Better data planning — Stronger digital infrastructure — More reliable or pooled resources — Incentives for data to spread to new places	— More clarity on “what success looks like” — More “like-for-like” data across diverse cities or contexts	— An agreed consensus on what data matters, for what and for whom — Advice to navigate the many data choices available
	Lack of skills and capacity	Governance and processes issues	Lack of trust
The problem	The collection of data, the development of accurate models and the preparation of information for decision-makers and residents rely on strong local capability and a culture of valuing this activity.	Only some cities have data strategies, chief data or technology officers, or enjoy strategic partnerships with data service providers.	Citizens do not always trust their local government or city with their data. They may also not fully understand how data is being used, especially with enhanced data sets (like digital twins).
What cities need	— Funds and structures to recruit the skills required — Strong technical and communication systems to maximize the value of data	— Credible governance and systems to organize data around problems — Tools to combine public- and private-sector information — Tried-and-tested arrangements for durable partnerships and responsible co-ownership	— Improved dialogue with citizens about the security and use of their data — Clear data policies and communication on the benefits data use will deliver to people and businesses and will contribute to sustainability — Local and international media to popularize good data for cities.

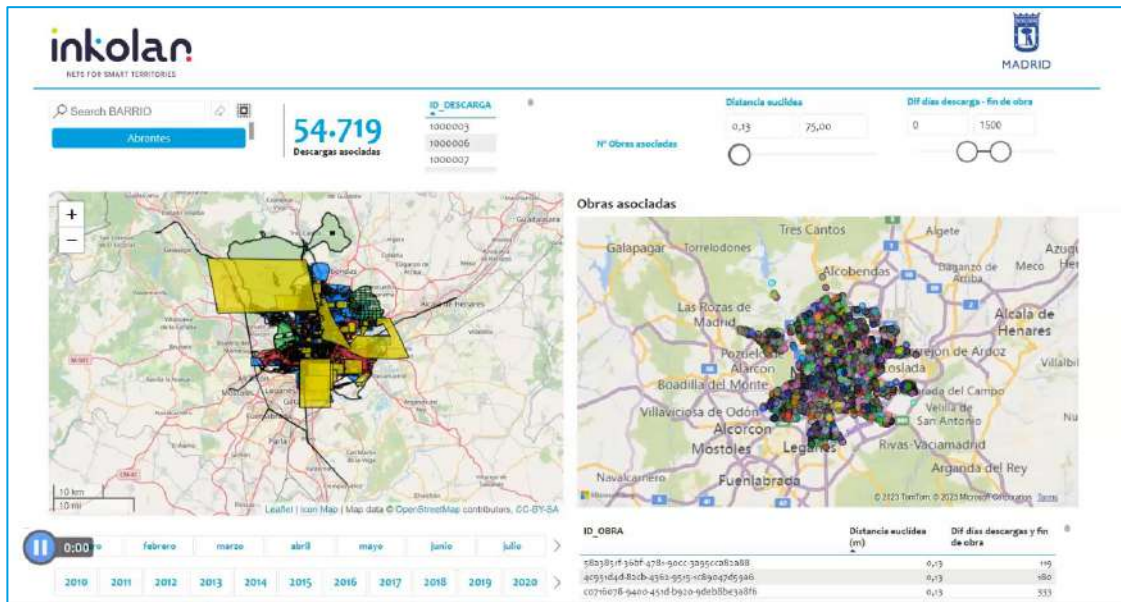
INKOLAN

Modelo de
Negocio



INKOLAN

Modelo de Negocio- Consumo de Datos- Ayuntamiento de Madrid



Una vez que los consumidores seleccionan los datos en el portal INKOLAN, reciben una URL para descargar un archivo ZIP que contiene los archivos CAD (DWG) que han pedido.

Estos archivos CAD pueden cargarse en sus herramientas GIS para incorporarlos a sus mapas.

Una vez que el consumidor recibe la URL, puede descargar los archivos ZIP tantas veces como desee.

RIESGOS INHERENTES AL SUMINISTRO DE DATOS GIS

Fuga de gas debido a los datos no actualizados utilizados para obra civil

«Fuga de gas en las obras de ampliación del aparcamiento del estadio Santiago Bernabéu. Según las primeras informaciones, la fuga se produjo en torno a las 8.40 horas, cuando los trabajadores de la reforma, que está llevando a cabo Acciona, pincharon por error una tubería de gas de acero de 20 pulgadas de diámetro.»
Madrid 22/05/2024.

El uso de información obsoleta o no facilitada a través de INKOLAN, puede originar incidentes de seguridad en la red, con riesgo para la población.



02

Adaptación del negocio a Espacio de Datos

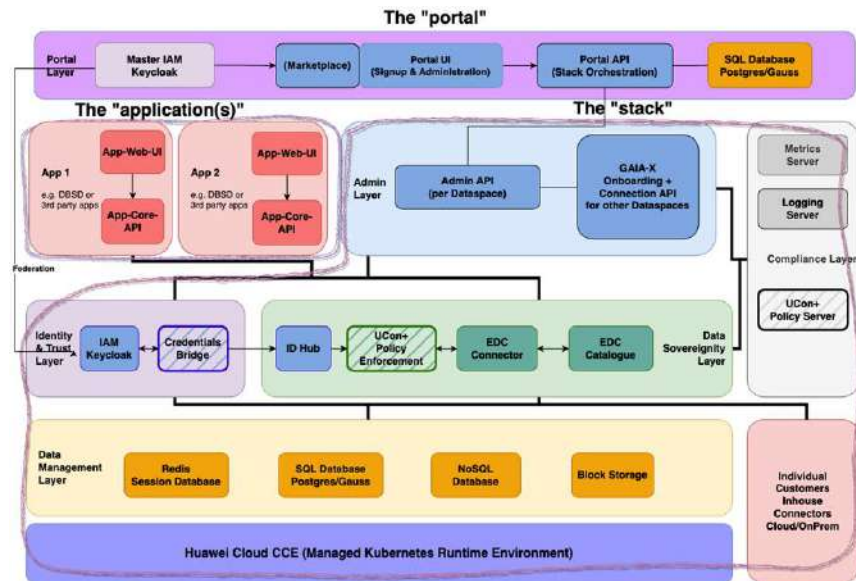
Utilización del Lighthouse BOOT-X

¿Porqué BOOT-X?

Boot-X forma parte de EDS (Exchange Data Space) y proporciona la infraestructura y la tecnología necesarias para crear **un entorno de espacio de datos completo** o unirse a uno ya existente.

Boot-X es **compatible con el marco de confianza de Gaia-X** y ofrece interfaces para el GXDCH, lo que facilita la incorporación de nuevos participantes o servicios. Sigue el marco EDC, implementando funciones de transferencia de datos, catalogación y gestión de identidades. Además, mejora estas funciones con gestión avanzada de identidades, gestión de políticas y supervisión en un entorno listo para la producción.

Boot-X es el habilitador técnico para **casos de uso y aplicaciones del mundo real** que utilizan tecnologías de espacio de datos. **Tecnalia e Inkolan** es un ejemplo de un **caso de uso plenamente operativo**



CASO DE NEGOCIO DE INKOLAN CON BOOT-X

Participantes Espacio de Datos

 **Servicio de Registro**
Autoridad central del espacio de datos

 **Centro de Identidad**
Credenciales verificables y proveedor de identidad mediante DID:web

INKOLAN (Data Broker)

 **Conector Espacio Datos**
Negociación de contratos, inicialización transferencia de datos, supervisión

 **Catalogo**
Publicación Datos, filtrado

 **Interfaz de Usuario**
Acceso cómodo y gestion de recursos

 **Identity Hub**
Credenciales verificables y proveedor de identidad mediante DID:web

Operador de red (Data Provider)

 **Conector Espacio Datos**
Negociación de contratos, inicialización transferencia de datos, supervisión

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Comunicación
a través de **DSP**
y su especificación
para peticiones al **catalogo**,
negociación de contrato,
y **gestion de las transferencias**
(inspección)

Ayuntamiento (Data consumer)

 **Conector Espacio Datos**
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CASO DE NEGOCIO DE INKOLAN CON BOOT-X

Espacio de Datos- Proceso

INKOLAN



Servicio de Registro

Autoridad central del espacio de datos



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Credenciales verificables y proveedor de identidad mediante DID:web

- Proporciona el formulario de aplicación web
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- Define las políticas para el conjunto de datos (bundles)
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- Procesa los datos obtenidos de las utilidades y genera archivos KML
- [Mejor control del uso de los datos salientes](#)
- [Infraestructura reutilizable para futuros casos o actualizaciones en las políticas](#)

- Inicia la aplicación como siempre
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Ficheros (KML)
Keyhold Markup Language



Operador de red

- Carga el archivo en OBS (en el futuro será a través de FTP/otro)
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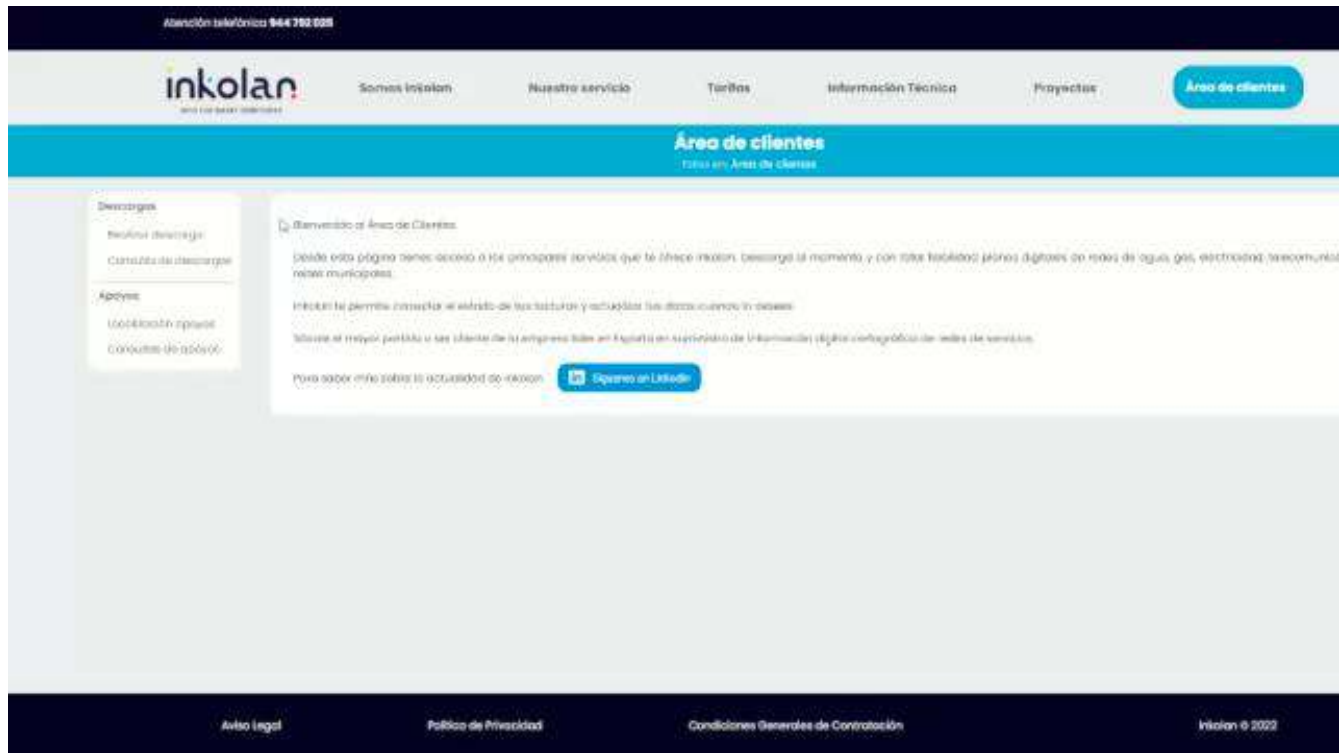
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Ayuntamiento

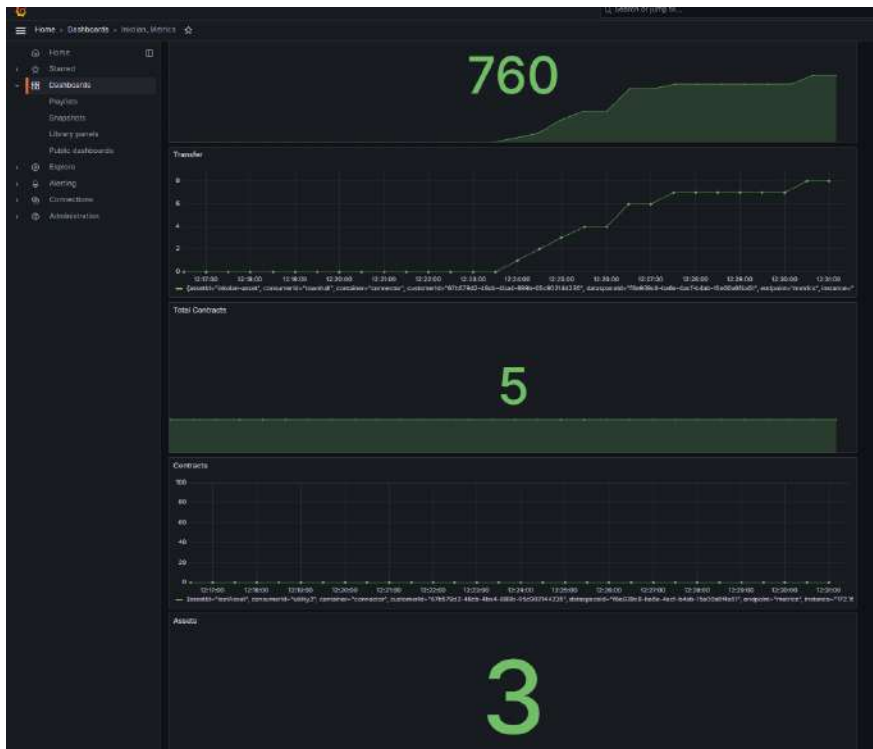


Espacio de Datos de INKOLAN - Demo

Desde los Proveedores de Datos (Operador de Red a los Consumidores de Datos (Ayuntamientos)



DASHBOARD para métricas



Se ha desarrollado un panel para obtener métricas en tiempo real de todas las transacciones que se realizan dentro del espacio de datos de forma que esta información se pueda usar para AUDITORIAS.



tech-x

TECH-X Conference & **HACKATHON** #7

23 & 24 May 2024
Luxembourg



in partnership with gaia-x

 Hub Luxembourg

#GaiaX #TechX24

How to make a data product for Gaia-X

Yesús María Santamaría

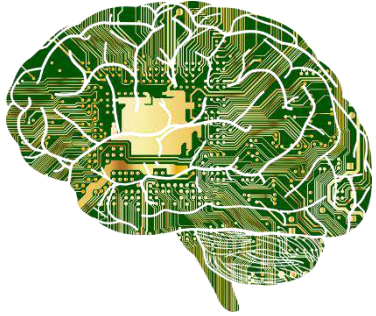
CTO Digital Unit, Tecnalia Research & Innovation

#GaiaX #TechX24

Context: OASEES Horizon Europe project



tech-x



OASEES

Open Autonomous
programmable
cloud appS & Smart
Edge Sensors

The OASEES project aims to create a new programmability framework that will allow edge devices to work together in a decentralized and secure way, using advanced technologies such as AI/ML accelerators (FPGAs, SNNs, Quantum) and a privacy-preserving Object ID federation process. This framework will be fully open-source and developed specifically for Europe.

USE CASES



E-Health: Smart Nodes for Analysis of Voice, Articulation and Fluency Disorders in Parkinson Disease



Energy: EVs fleet coordinated recharging to support optimal operation of electricity grid.



Drone Swarm for area and infrastructure inspection: Drone Swarm over 5G for High Mast Inspection.



Structural Safety for Building and Critical Infrastructure: Swarm powered intelligent Structural safety assessment for Buildings

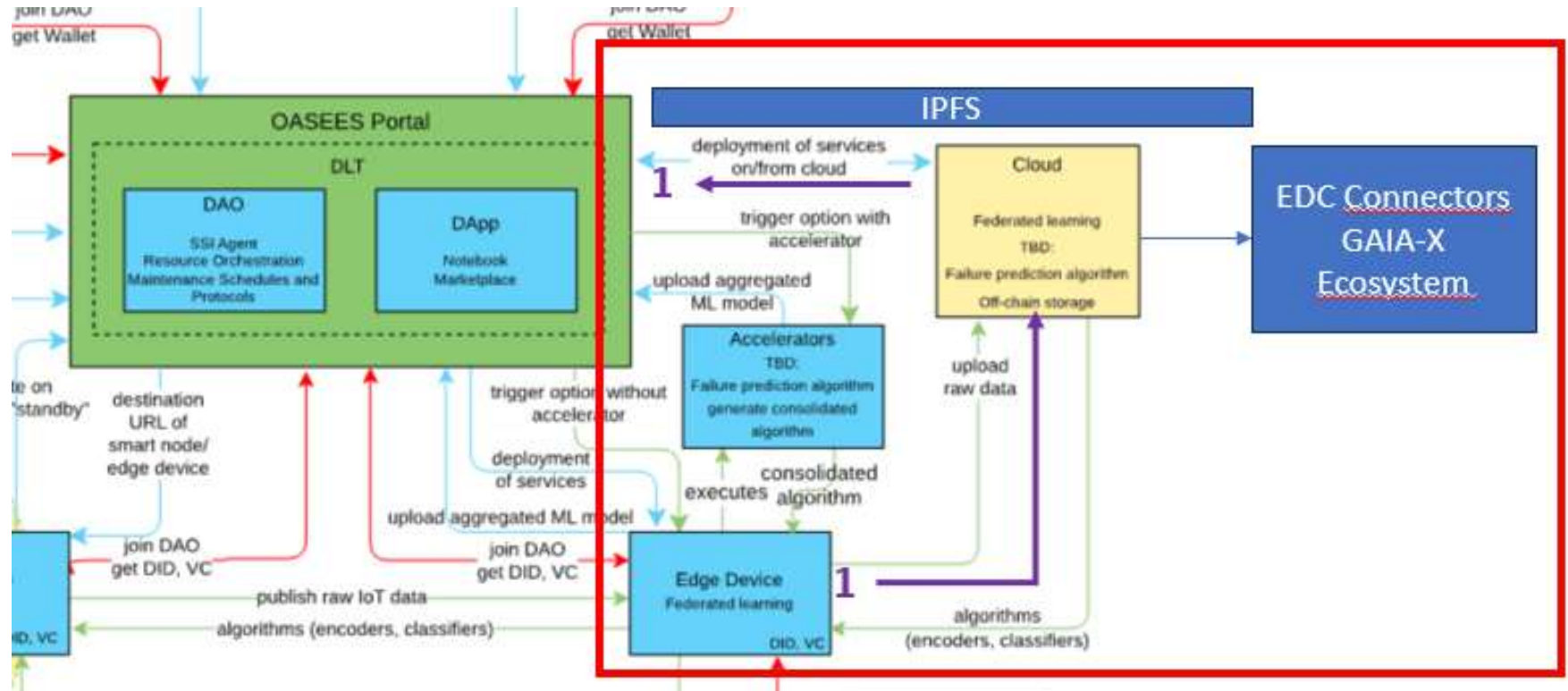


Collaborative robotic automation: : Robotic Swarm powered Smart Factory for I4.0



Wind Energy: Smart Swarm Energy harvesting and Predictive Maintenance Wind turbines

Close view on Use case data gathering



Wind energy Data Product definition



The Data Product Canvas

Name of Data Product: **Blade Acoustic Monitoring Swarm System**

Who is the customer? **Wind Farms owners – Wind turbine Maintenance companies**

We create the data analytics solution

... for the following customers and users

Data Sources	Analytics	Data Product	Customer benefits	Pains and Gains
 What data sources do we need to create customer value? Wind turbines (WT) acoustics monitoring systems: This refers to systems that monitor the acoustic characteristics of wind turbine blades. These systems collect raw acoustic data, providing insights into the sound produced by the blades during their operation. WT blade failure and stop historic. This involves gathering information about the historical occurrences of blade failures and instances where the wind turbine had to be stopped. WT blade maintenance plan. It outlines the schedule and procedures for maintaining and servicing the blades, ensuring optimal functionality and preventing potential failures.	 With which data analytics methods do we generate insights from the data? Signal Processing Methods: identifying relevant features in the sound patterns failures associated with turbine performance and potential. Neural Networks Trained by Distributed Learning Algorithms: Neural networks, a type of artificial intelligence, will be employed to recognize complex patterns in the acoustic data.	 In which form do we provide the data service to our users and customers? Technical Reports Based on Processed Acoustic Dataset: information included in the reports consists of datetime, wind turbine id, wind turbine height and diameter, and labelled anomalies. Wind Turbine Blades anomaly detection: Unusual patterns or anomalies in the acoustic data that can indicate issues with the blades. Maintenance Prediction and Impact on LCOE (Levelized Cost of Energy): potential impact of maintenance activities on the Levelized Cost of Energy Dynamic Maintenance Plan According to Blade Health Status: The data product includes a dynamic maintenance plan that adapts based on the real-time health status of the turbine blades. Anonymized Blade Acoustic Data: To address privacy concerns, the product includes anonymized versions of the raw acoustic data.	 What added value and what advantages does the data service generate to our users and services? This data service adds value by improving turbine performance, offering non-intrusive monitoring, enabling proactive analysis and detection, ensuring algorithm reliability, evaluating maintenance cost impact, and providing anonymized data for further analysis and development. These advantages collectively contribute to a more efficient and cost-effective management of wind turbine operations.	 What wishes, problems and challenges do our customers and users have? Wishes: - Privacy and data protection between stakeholders (Wind Farms owners – Maintenance companies) Problems: - Lack of availability, quality and veracity of the raw acoustic blade data. - Expensive blade failure detection methods. - Wind turbine shutdown for blade inspection. Challenges: -Improve Operational and Maintenance Expenditure elaborating dynamic maintenance plans. -New and innovative alternatives to diagnose blade status.

The process to make a Data Product for Gaia-X

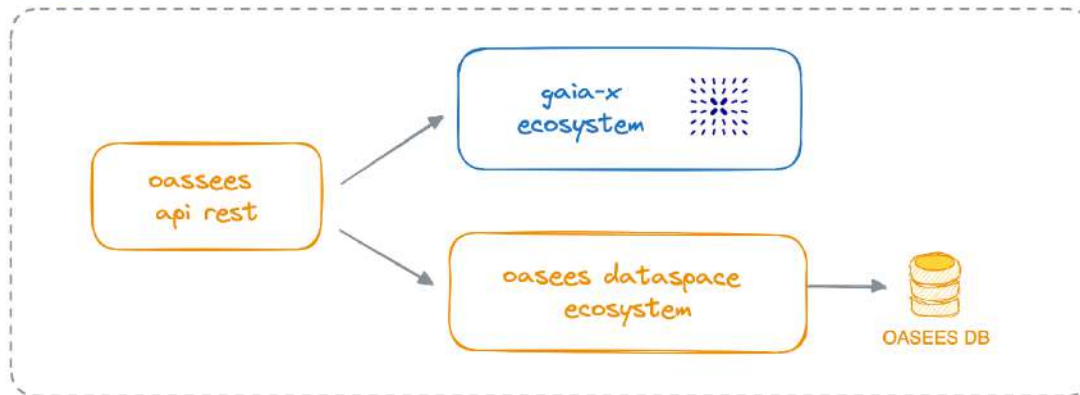
gaia-x



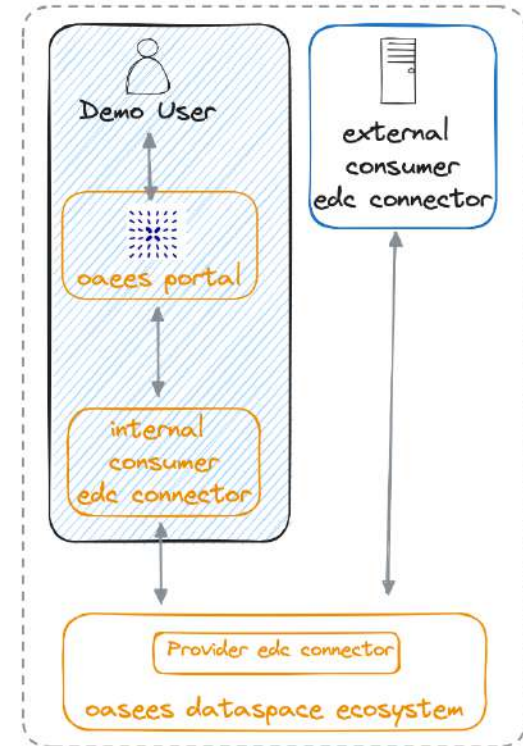
1 Store the data



2 Register the data-products



3 Consume the data



DATA PRODUCT generation (Technical Report)

BAMS Laboratorio Madrid

Capgemini

BAMS Laboratorio Madrid

[15:27:34] - ▲ Anomalia 1

Channels: 2, SampleRate: 48000, BitRate: 384000

Spectrogram Original WAV



Spectrogram Filtered WAV



Alert History



TEMPERATURE



HUMIDITY



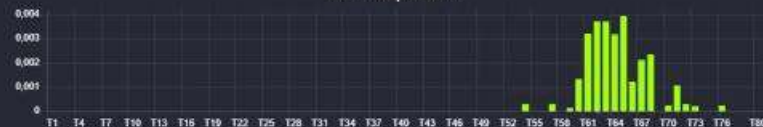
PRESSURE



WIND_SPEED



Audio Freq Filtered



Audio Freq Filtered AVG



WIND_DIRECTION



Checking that the DATA PRODUCT is stored in IPFS

gaia-x



The screenshot shows a web browser window displaying the 'IPFS API for Data Products - OASEES' interface. The browser's address bar shows the URL '172.26.41.12:8088/docs'. The page title is 'IPFS API for Data Products - OASEES' with version indicators '0.1.0' and 'OAS 3.1'. Below the title, there is a 'Servers' dropdown menu currently set to 'idataproducs'. The main content area is titled 'default' and lists several API endpoints with their methods and descriptions:

- POST** `/({dataproducs_id})/path/` Create Folder Structure In Ipfs
- POST** `/({dataproducs_id})/files/add` Upload Files To Ipfs
- GET** `/({dataproducs_id})/files` Get Files In Zip
- GET** `/({dataproducs_id})/file` Get File
- GET** `/({dataproducs_id})/items` Get Item List By Path
- DELETE** `/({dataproducs_id})/items` Delete Item

Below the endpoints, there is a 'Schemas' section showing the following schemas:

- `Body_upload_files_to_ipfs__dataproducs_id_files_add_post` Expanded as `object`
- `HTTPValidationError` Expanded as `object`
- `ValidationError` Expanded as `object`

Generating the Verified Credentials for the Data Product offer

A screenshot of a web browser displaying the Swagger UI for the Oasees API. The browser's address bar shows the URL "https://oasees9102/docs/#/". The page title is "Oasees 0.1.0 GA1.1". Below the title, it says "Oasees API documentation". The main content is divided into two sections: "Oasees API" and "Oasees testing API". Each section lists several endpoints with their HTTP methods and descriptions. The "Oasees API" section includes endpoints for creating documents, legal participants, data products, and retrieving product information. The "Oasees testing API" section includes endpoints for signing verifiable credentials (VCs) and compliance checks.

Oasees 0.1.0 GA1.1

Oasees API documentation

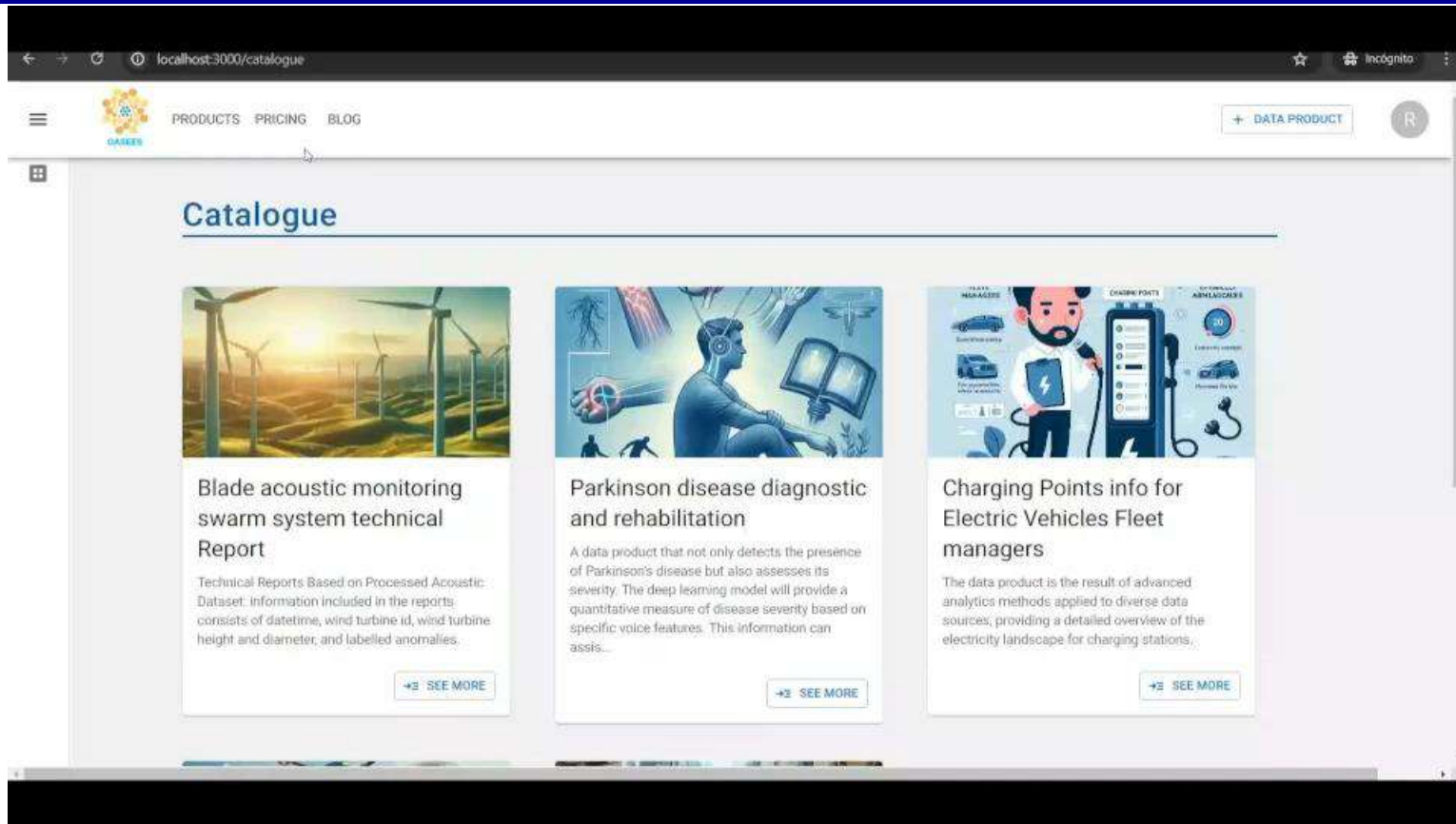
Oasees API

- POST /dsddocument Create Doc
- POST /legalparticipant Create legal participant
- POST /dataproducer Create data product with resources
- GET /dataproducer Get data product by name
- POST /publish-dataproduct Create and publish data product
- GET /dataproducers Get data products list
- GET /cesrecords Get ces records

Oasees testing API

- POST /signVC Sign VC
- POST /sign-vp Sign VP
- POST /compliance Call to compliance
- POST /credential-quest-response Call to credential quest response

Data Product consumption



The screenshot displays the Gaia-X Data Catalogue web application. The browser's address bar shows the URL `localhost:3000/catalogue`. The application's header includes a menu icon, the Gaia-X logo, and navigation links for **PRODUCTS**, **PRICING**, and **BLOG**. On the right side of the header, there is a **+ DATA PRODUCT** button and a user profile icon labeled **R**. The main content area is titled **Catalogue** and features three data product cards:

- Blade acoustic monitoring swarm system technical Report**
Technical Reports Based on Processed Acoustic Dataset. Information included in the reports consists of datetime, wind turbine id, wind turbine height and diameter, and labelled anomalies.
[SEE MORE](#)
- Parkinson disease diagnostic and rehabilitation**
A data product that not only detects the presence of Parkinson's disease but also assesses its severity. The deep learning model will provide a quantitative measure of disease severity based on specific voice features. This information can assist...
[SEE MORE](#)
- Charging Points info for Electric Vehicles Fleet managers**
The data product is the result of advanced analytics methods applied to diverse data sources, providing a detailed overview of the electricity landscape for charging stations.
[SEE MORE](#)

Thank you!

Jesús María Santamaría

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#GaiaX #TechX24