BIS Innovation Hub

Project Gaia

Enabling Climate Risks Analysis

BANCO DE ESPAÑA Eurosistema

DEUTSCHE BUNDESBANK EUROSYSTEM

The views expressed here are those of the presenters and not necessarily those of the Bank for International Settlements.

Outline

- Introduction
- Project Gaia
  - Vision
  - Outreach strategy
  - Technical considerations
  - Outlook
  - Demo
- Q&A

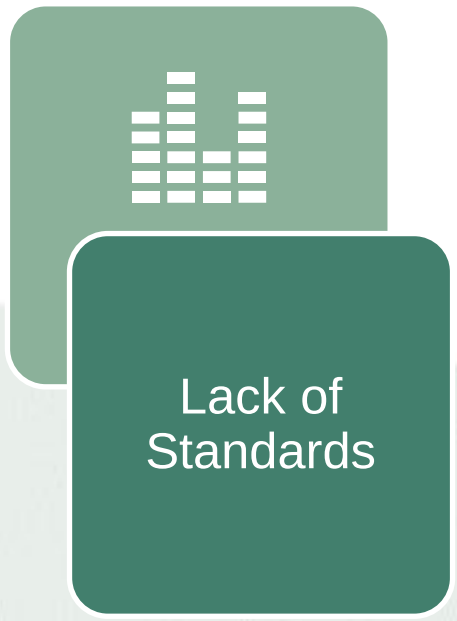
Need for **climate related data**

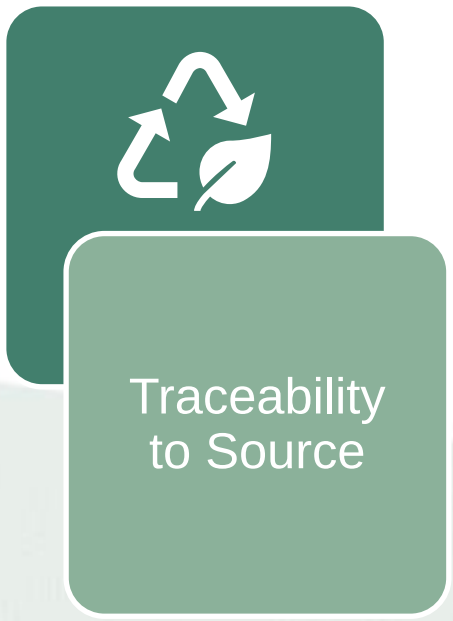
Dealing with climate change means managing **climate-related risk:**

- **Physical**
- **Transitional**

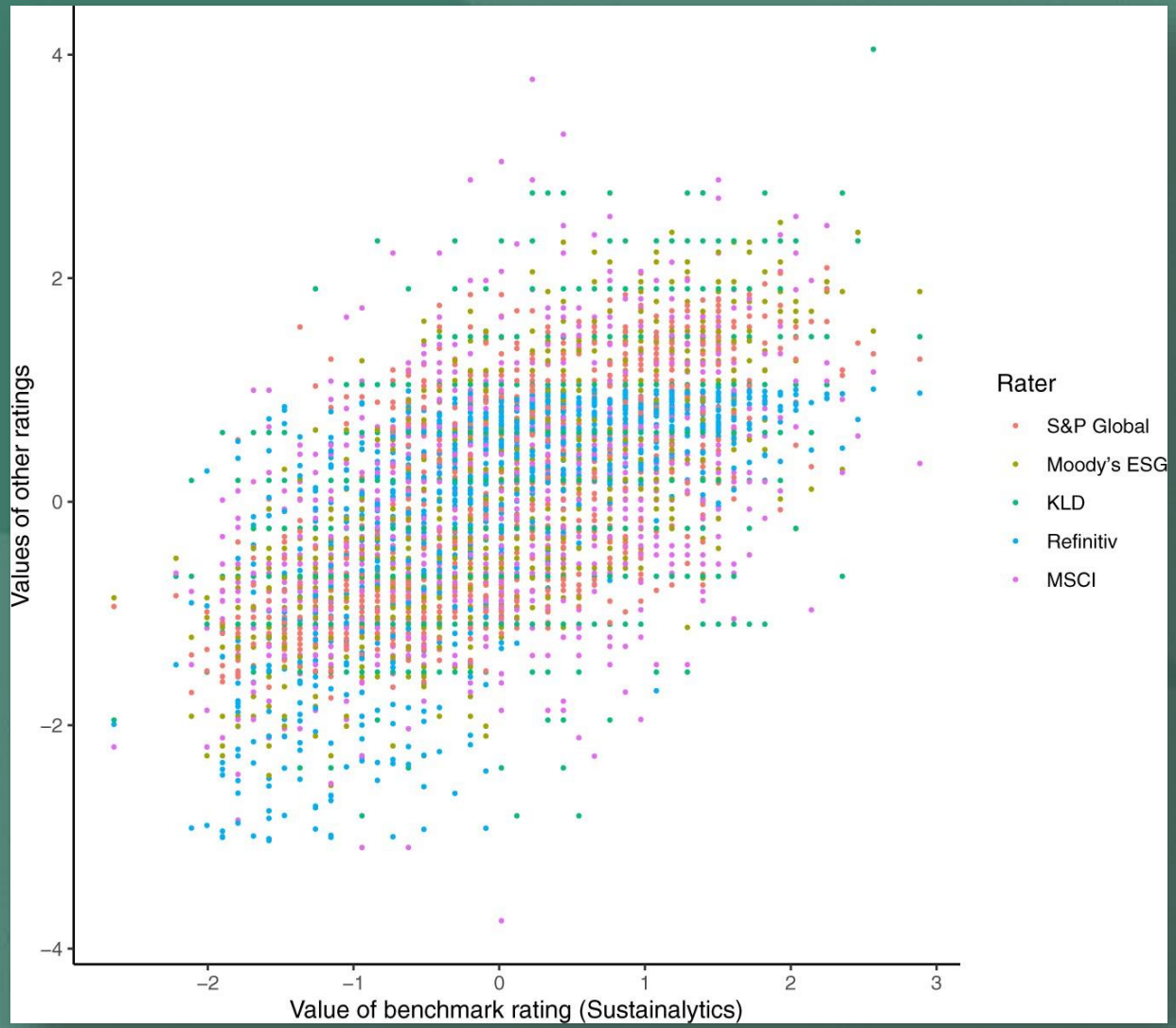
Reliable Data is needed to assess the impact of climate change **in the financial system**

Challenges for climate data





ESG Rating Divergence



Source: Berg et al. (2022)

Helping to pave the way towards broad and consistent disclosures by…

Keeping track of voluntary disclosures

Many companies will still not be subject to regulatory disclosure requirements in the foreseeable future. Voluntary reporting with limited standardization might therefore continue to pose challenges that Gaia addresses.

Improving availability and usability of historic data

Despite the shortcomings of todays climate-related reports many companies publish valuable information, some already over a long period of time. We aim to exploit this data to improve the tracing of past developments.

Making climate-related reports more accessible

Corporate ESG reports often contain large amounts of information that go beyond what is required by disclosure standards or regulatory obligations. Gaia will help to make structured and unstructured data more accessible.

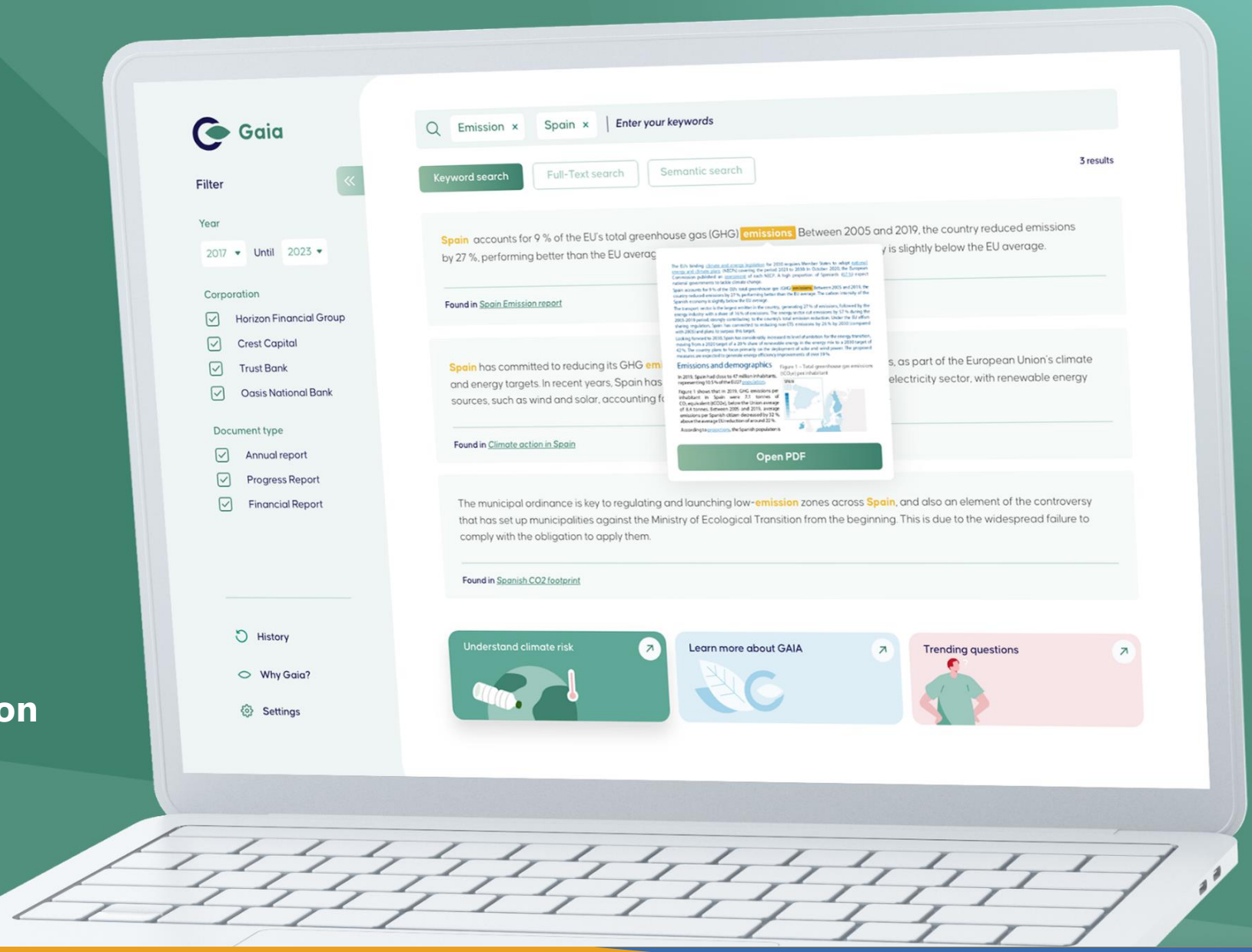
Monitoring global adoption of standards

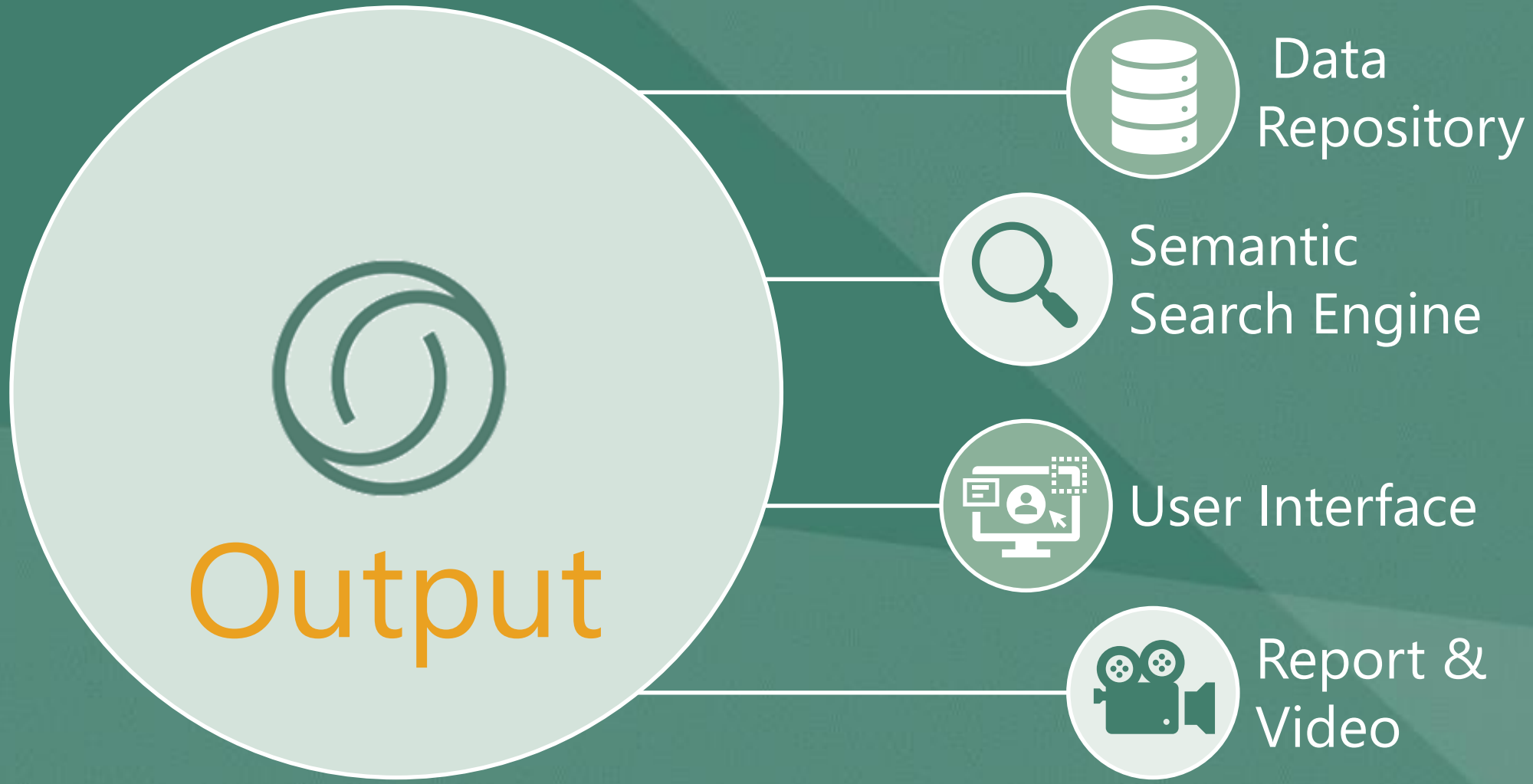
Gaia will enable analysts to monitor the global adoption of climate-related disclosures and help to understand how the reported information of companies evolves.

Project Gaia Vision

One platform to facilitate working with **publicly available climate related reports**.

- increase the **usability** of climate-related data
- **reduce** the **manual effort** during research
- build a **reference for climate-related information**



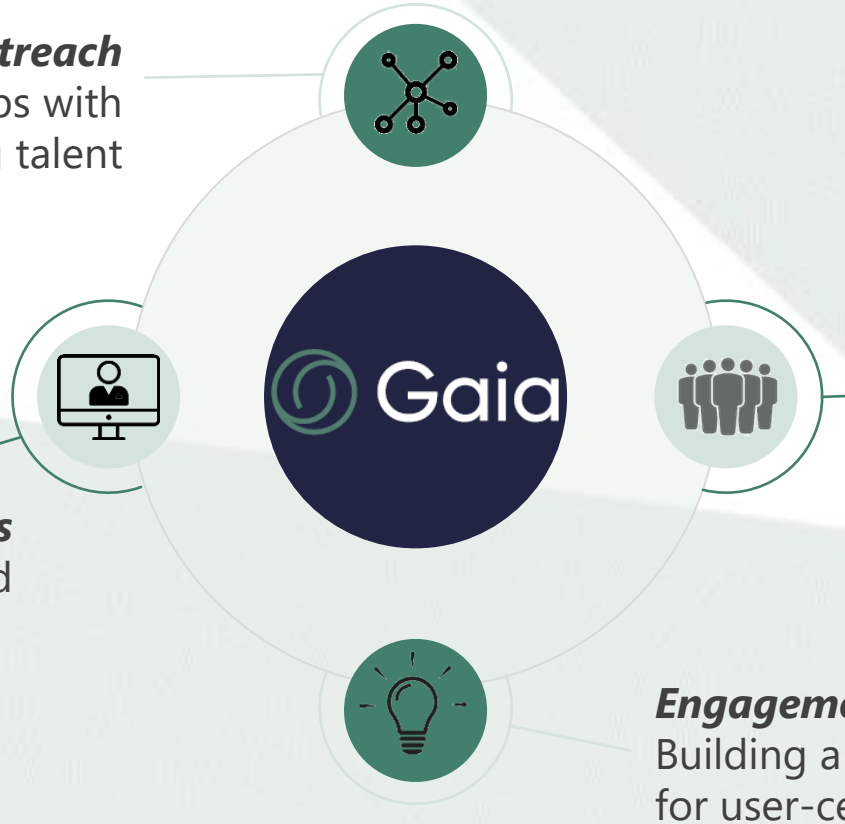

Output
Data Repository
Semantic Search Engine
User Interface
Report & Video

Metrics and KPIs

Outreach strategy

Phased outreach to optimally **engage all stakeholders**

Talent outreach
Creating relationships with experts and onboarding talent



Observer Group Policy and Technical
Establishing feedback channels from a diverse central bank audience

Conferences & Webinars
Initiating contacts and spreading the word

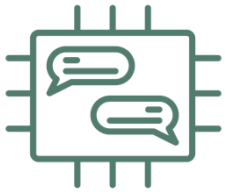
Engagement
Building a community of users for user-centric development and maximum impact

A View into the **Engine Room**

Publicly available corporate **reports**

Stored Reports

Data Processing



Text & Table extraction

Information extraction

Output

Repository

Graphical User Interface

A solid foundation for **Innovation**

Data Science

- experimentation heavy
- high uncertainty
- team competence

build

NLP

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External vendor

buy

PDF

Data Engineering

- foundation of the project
- clear scope
- lack of skills in the team

Many Ways to say the **Same Thing**

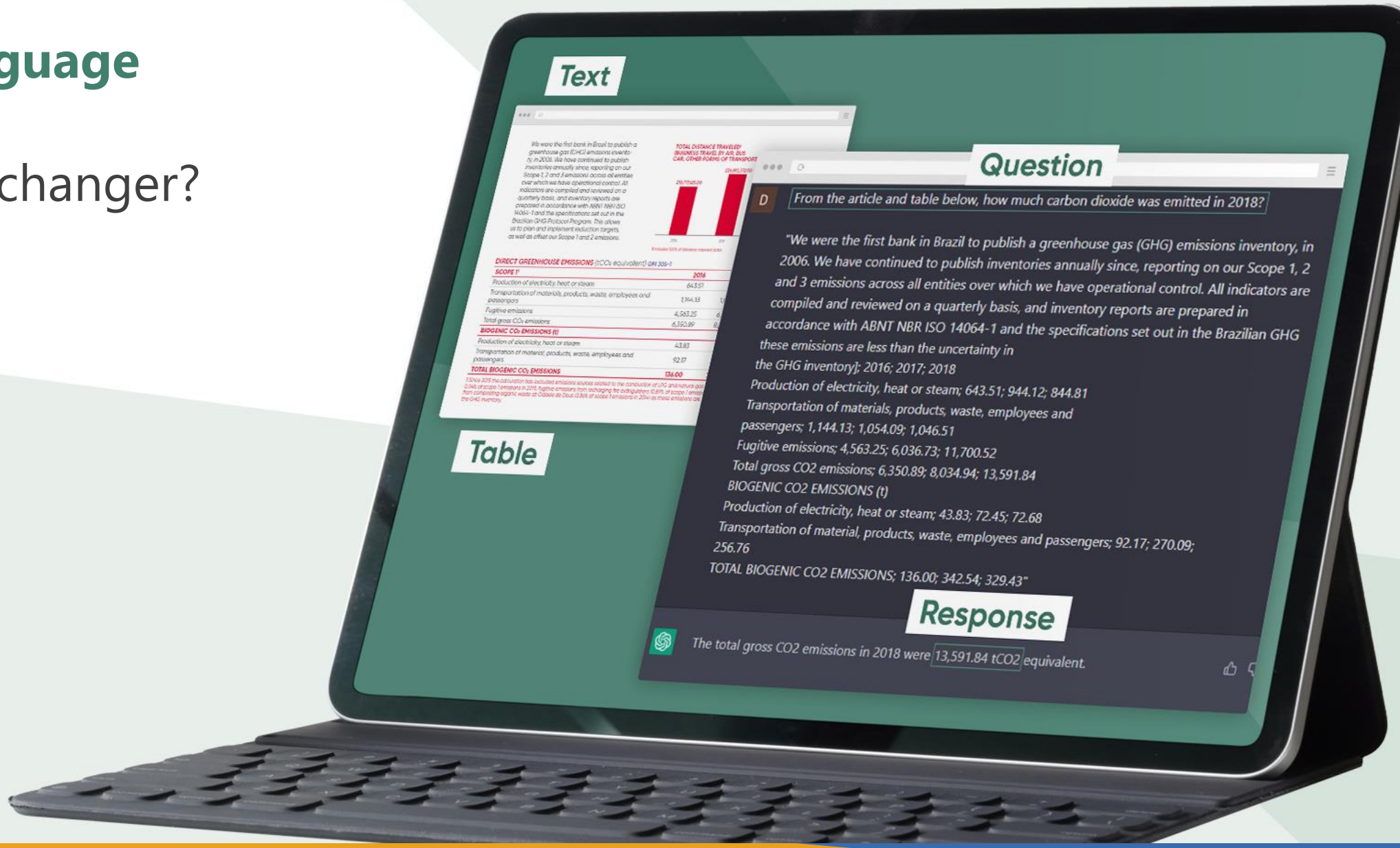
"In 2021, 96 percent of employees were included under the scope of the EMS"

"Merely 4 percent of employees were excluded from the EMS's purview in 2021"

"In 2021, the EMS encompassed nearly the entire workforce of 11400, with only 456"

"The EMS-scope coverage in 2021 excluded 4 out of 100 employees"

Large Language Models:
The game changer?

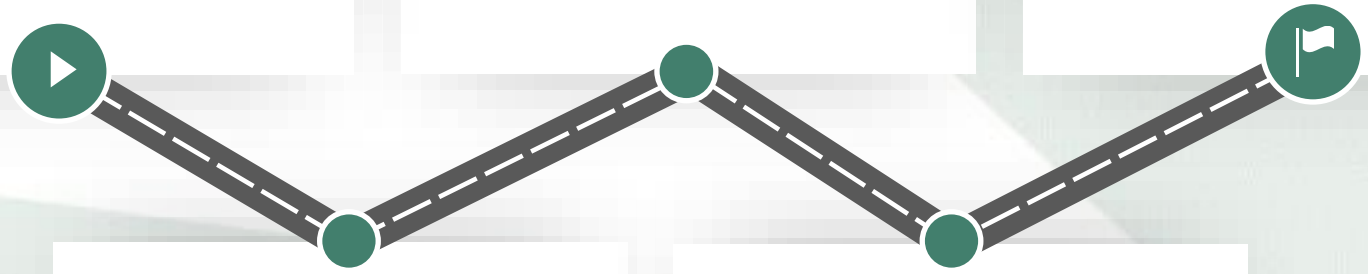


Project Gaia
Roadmap to a Proof of Concept

Based on work from **Bank of Spain***

Design a **User-centric front-end** for facilitated data retrieval

Easy access of climate related data to all Central Banks



Configure **Enterprise-grade platform** for report processing

Research **Large Language Models** for green finance information extraction

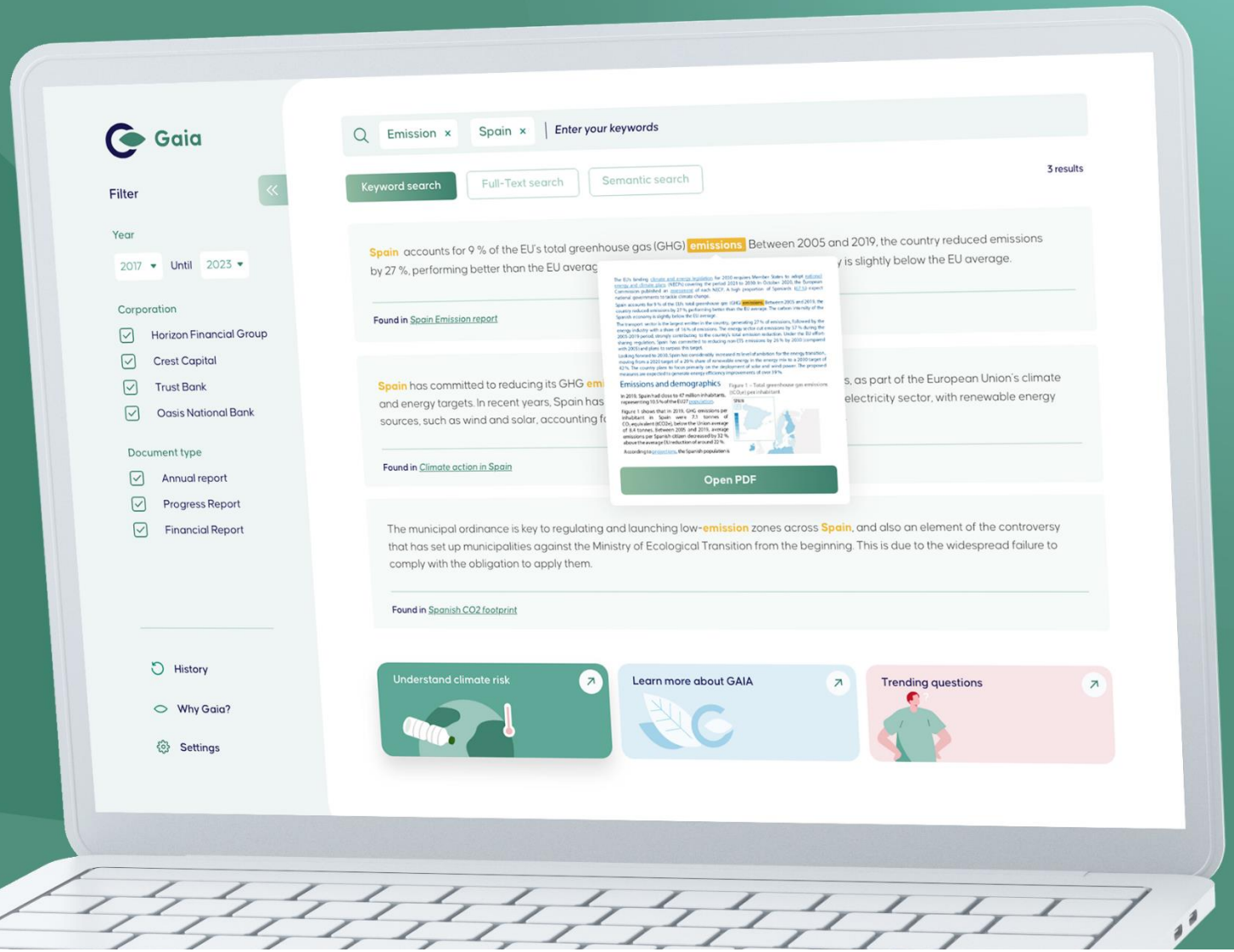
*" Analysis of ESG disclosures in Pillar 3 reports. A text mining approach" Ángel Iván Moreno Bernal y Teresa Caminero García (2022)

Project Gaia – Enabling Climate Risks Analysis

DEMO

Please reach out to:

✉ **Gaia@bisih.org**



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