



3 Case Studies to Understand How AI is Revolutionizing Knowledge Management

White paper by Neodata group

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01

Introduction



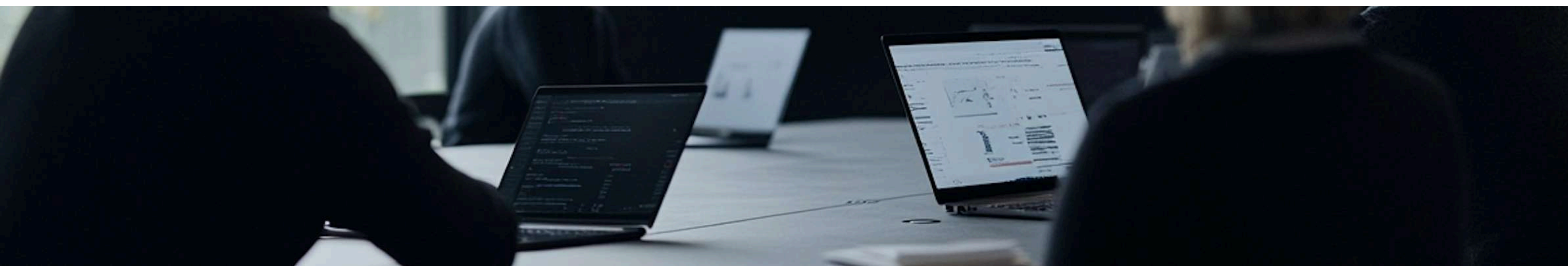
“Knowledge is neither data nor information. However, knowledge cannot exist without them”

Saaristo, 2012

Knowledge management is an integrated system of acquisition, creation, sharing, use and management of knowledge and information within an organization.

It aims to **facilitate learning, stimulate innovation and support decision-making processes**, acting as a real corporate library in which all knowledge is collected, organized and made accessible. The final goal of these systems is to improve operational efficiency, reducing the need to rediscover knowledge already acquired and continuously enriching it.

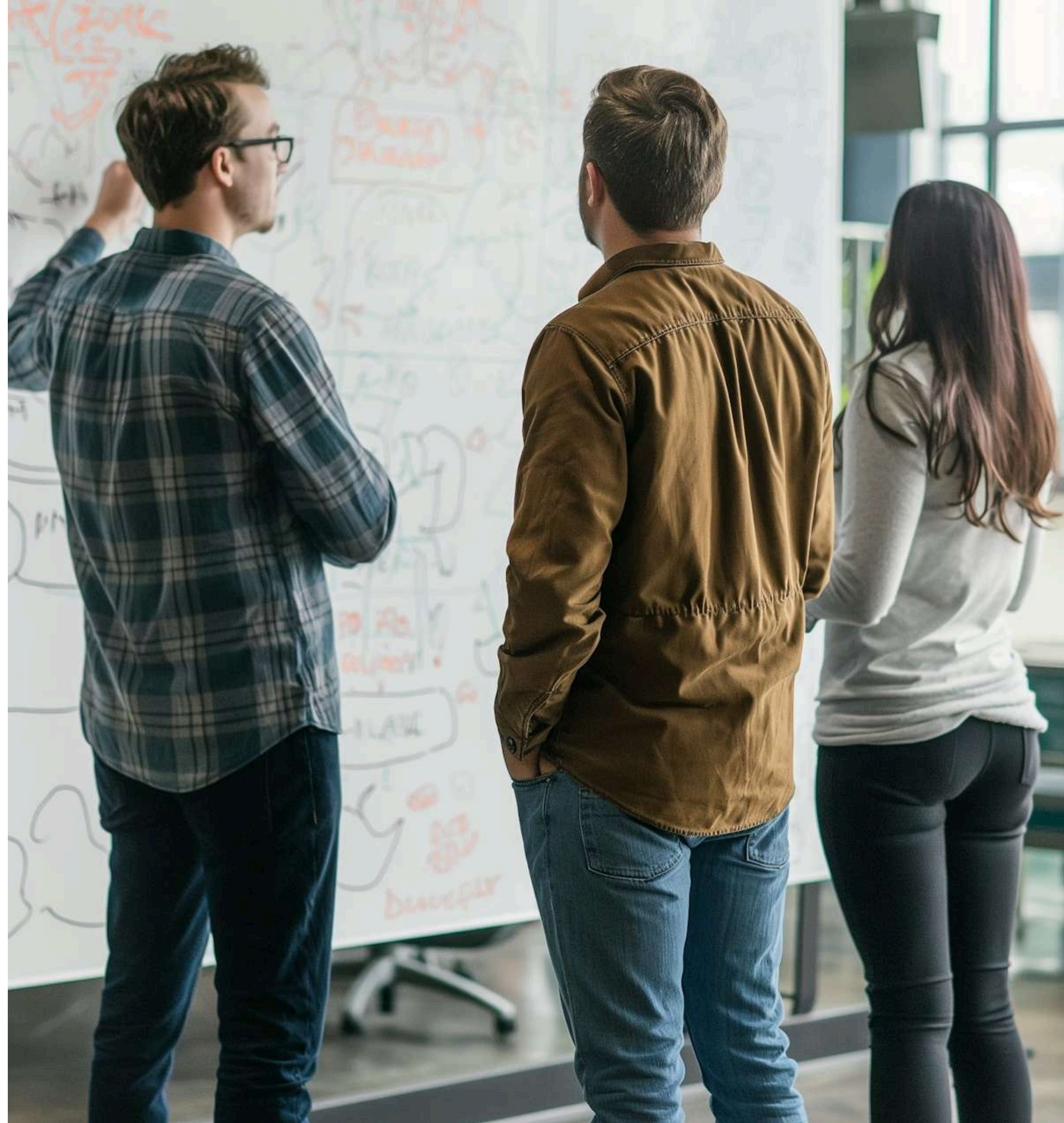
However, **the large amount of information and data available today**, coming from heterogeneous sources, makes traditional knowledge management systems obsolete and no longer up to the task.



AI e knowledge management

Artificial intelligence (AI) and machine learning (ML) technologies have radically transformed the landscape of knowledge management. By integrating these technologies into knowledge systems, organizations can optimize knowledge discovery, automate knowledge extraction, improve collaboration, and enable personalized knowledge distribution.

AI-enhanced knowledge management systems are designed to **incorporate big data** into strategic decisions, using advanced AI tools to **extract valuable insights from large data sets**.





02

First use case:

Disseminating science
through Artificial Intelligence
and Knowledge Management



Scientific research is the **engine of human knowledge and discoveries**, but it is often complex to communicate its value to the general public and ensure the necessary support for progress.

A large research institute, engaged for years in the study of the origins of the universe, was facing precisely this challenge. Using underwater probes positioned in the depths of the sea off the coast of Sicily, **researchers are hunting for neutrinos, messengers of signals coming from distant cosmic sources.**

A **fascinating work** that opens a window on the mysteries of the cosmos, but **which needs to be told with clarity and involvement.**

Project Challenges

Manage a large, highly technical document base of thousands of pages

Telling the research results to the entire external environment

Improve internal processes and sharing of results among researchers

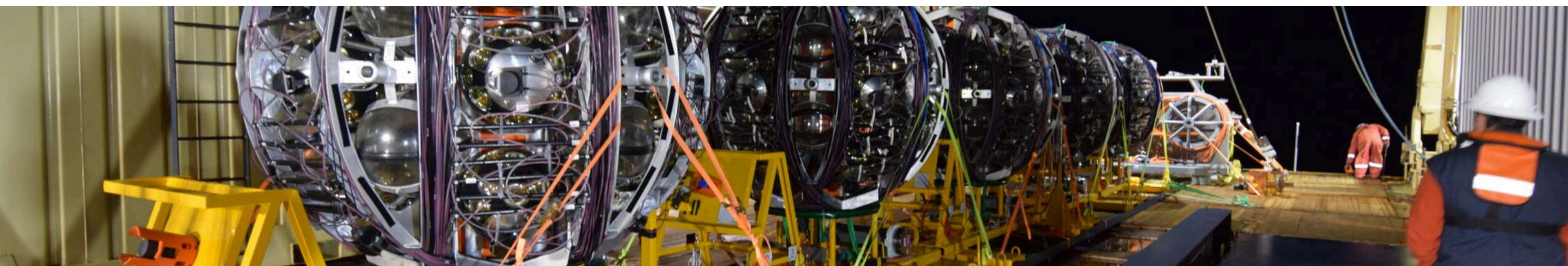
AI as a tool for simplification and diffusion

The impact of the project **goes beyond subatomic physics**, involving sectors such as marine biology, oceanography and geophysics, as well as offering opportunities for economic and cultural development for the Sicilian territory. However, **communicating all this to different audiences** – researchers, students, citizens – **is a complex challenge that requires dedicated languages and tools.**

To address this challenge, Neodata has developed a **solution based on AI technology.**

AI, through technologies such as Natural Language Processing, RAG, **generative AI and Large Language models**, allows us to:

- **Identify topics of interest to non-specialist audiences.**
- **Create accessible and targeted content.**
- **Facilitate access to technical information for researchers.**



A vision for the future

The implemented solution is **able to organize even the most technical documentation in thematic clusters, made available through a navigable knowledge base and an interactive chatbot**. This tool is not only accessible online, but also physically, through totems installed in the institute's museum.

The prototype has already been made available to both the general public and researchers involved in the project. The system has allowed **researchers to reduce the time spent on document analysis and information search by 50%.**

In the coming months, it will be tested for:

- Stimulate students' interest in physics.
- Involve the local community, making the project perceived as a development opportunity.

If you want to know more, read the entire case study by [clicking here](#).

Tutti i topic



Portopalo di Capo Passero: impatto per la comunità e opportunità di crescita per il territorio



Rapporto con le istituzioni pubbliche e private



Informazioni sulle gare d'appalto e fornitori del progetto



Chiedi all'esperto

Puoi chiedere alla nostra AI qualsiasi informazione riguardo il progetto ma anche cercare argomenti specifici.



Tu
cosa sono i neutrini?



AI Expert
I neutrini sono particelle subatomiche molto piccole e difficili da rilevare. Sono noti per avere una massa estremamente ridotta e per interagire molto debolmente con la materia, il che significa che possono attraversare la Terra quasi senza ostacoli. Esistono in tre "sapori" o tipi: neutrino elettronico, neutrino muonico e neutrino tauonico. Un fenomeno interessante che riguarda i neutrini è l'oscillazione, che è il cambiamento del loro sapore mentre viaggiano. Questo fenomeno è spiegato dalla meccanica quantistica e implica che i neutrini, inizialmente ritenuti privi di massa, abbiano in realtà una massa. I neutrini sono fondamentali per la nostra comprensione dell'universo, poiché ci forniscono informazioni su processi cosmici ed eventi come le esplosioni di supernova.

Chatta con l'esperto

The background image shows a blurred scene of a presentation or meeting. Several people are visible in the foreground, looking towards a large display board. The board contains various technical diagrams, including a map of Europe, a complex wireframe model of a mechanical part, and a circular diagram with a red center. The overall atmosphere is professional and collaborative.

03

Second use case:
Knowledge Management and AI
for Technician Support



Efficiency in plant maintenance and installation is a major challenge for companies in industries such as manufacturing, energy, and automation. Highly trained technicians often need to quickly access complex technical information contained in manuals, diagrams, and extensive documentation.

This process, however, can slow down their work, increase downtime, and negatively impact productivity.

Our client's technicians, who often work in the field or on customer installations, needed a fast and rapid support system that would allow immediate access to highly technical and often updated information regarding the systems, their installation and maintenance.

The challenges of technical support

Complex and scattered documentation with technical manuals of hundreds of pages, often in different formats.

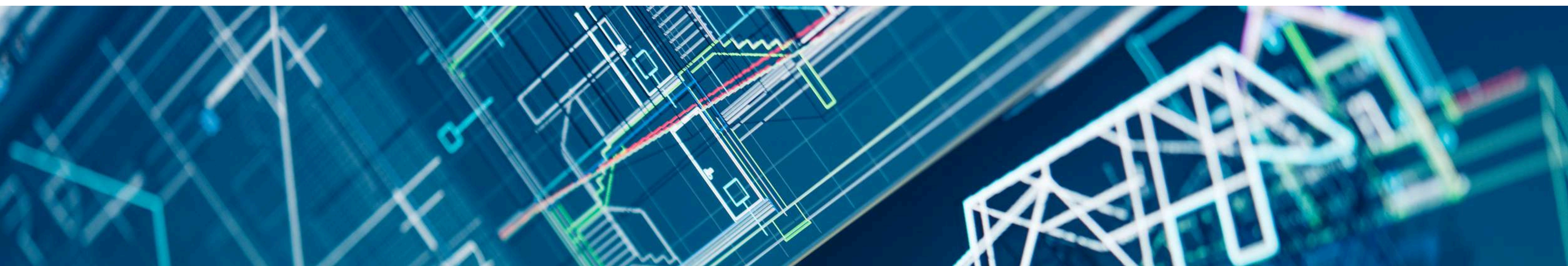
Difficulty in field access, technicians often work in remote locations, where access to paper documents or navigation in traditional databases was inefficient

Errors due to misinterpretations, the complexity of the information, in fact, increased the risk of error, resulting in additional costs and delays.

the implementation

To address these issues, Neoknowledge was implemented, a Knowledge Management solution that uses artificial intelligence to:

- **Extract specific information in seconds:** Using Natural Language Processing, technicians can enter a question (for example: "What is the procedure to replace a converter component in model XYZ?") and immediately receive a targeted answer extracted from the technical manual.
- **Centralized knowledge management:** All documents, including updated versions of manuals, are uploaded to a single digital repository, accessible from any device.
- **Response adaptation:** the system is able to rework the contents and assist technicians step by step in situations of need.





The benefits

Since Neoknowledge was adopted, the daily work of technicians has become faster and more organized.

1. Instant access to information

A technician who needs to replace a component or fix a problem can simply type a request in natural language and receive the correct instructions. This has reduced the time wasted searching for information by 30% and made interventions smoother.

2. A single source that is always up to date

Technical documentation is collected in one place, accessible from any device. In this way, all technicians always work with the most recent versions of the manuals.

3. Concrete support for those working in the field

One of the most appreciated aspects is the possibility of receiving contextualized answers and step-by-step explanations for the most complex operations. This has improved the autonomy of technicians and reduced the need to ask for support from colleagues by 20% and has decreased the number of errors by 10%, especially in urgent situations.

4. Better maintenance management

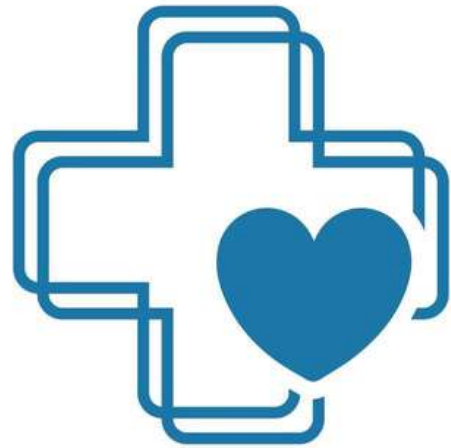
By monitoring the most frequently asked questions, it was possible to identify recurring patterns in faults and technical problems, allowing preventive intervention on some critical issues of the systems.

Overall, NeoKnowledge has made the work of those who operate the systems easier, reducing intervention times, improving service and reducing costs.



04

**Third Use Case:
Revolutionizing Healthcare:
Process Improvement and
Service Quality**



In hospitals and healthcare facilities, doctors and nurses need quick access to up-to-date information on treatment protocols, drug interactions, and operating procedures. However, documentation is often spread across multiple systems, electronic medical records, paper guidelines, and internal databases, making it complex and time-consuming to retrieve the information needed at critical moments.

To solve these difficulties, Neoknowledge, Neodata's knowledge management system based on artificial intelligence, designed to offer healthcare personnel immediate and targeted access to clinical information, was also adopted in this case.

The objectives
Quickly find answers to clinical guidelines and hospital procedures by typing natural language questions.
Consult protocols and therapeutic recommendations without having to navigate complex documents or perform lengthy searches in external databases.
Check dosages, contraindications and drug interactions directly at the time of prescription, reducing the risk of errors.



The benefits

1. Reduction of consultation times

Previously, to verify a procedure or check an updated guideline, staff would spend several minutes manually searching and asking colleagues. With Neoknowledge, information is available in seconds, reducing the time by more than 80%, thus allowing faster decisions, especially in high-intensity departments.

2. Greater precision and reduction of errors

One of the major advantages is the system's ability to provide reliable and always up-to-date answers, avoiding the risk of consulting obsolete documentation. This has contributed to a 5% reduction in errors in prescriptions and treatments.

3. A single reference platform

All protocols and guidelines are now collected in a single digital space, accessible from any medical device, avoiding inconsistencies between different sources and improving the standardization of care.

4. Support in training and updates

Neoknowledge is not only useful for those who work in emergencies, but also for the training of healthcare personnel, offering easy access to the latest scientific research and changes in treatment protocols.

Learn more about our Knowledge Management solutions



About neodata

Neodata, with over twenty years of international success in the Big Data and Ad-tech sector, today places guided Artificial Intelligence at the center of its mission.

Our company stands out for excellence and innovation, carrying out cutting-edge projects with a multidisciplinary team of data scientists, programmers, business consultants and business experts.

Our experience translates into AI solutions for medium and large companies.

AI for Your Business. Delivered.





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