

Naturgy joins forces with Insight to use AI to automate information management

More than 150,000 technical documents for each of Naturgy's ten combined cycle power plants need to be available for intelligent and immediate search across the board. With an automated AI-based process of assigning metadata for subsequent cloud storage, Insight's Digital Innovation team of experts is making this possible.

The Challenge

Naturgy has over 10 combined cycle plants in Spain, which are used to transform thermal energy from natural gas into electricity. Documentation was stored digitally on local servers with different criteria for each plant. This also meant different logical units, different networks, and no homogeneous or systematic processing, which made it difficult to search for documentation.

Technical files on Generation, dossiers, photos, plans for turbines - habitual users would retrieve all of this information by recalling the resource or folder where it was stored.

Steadfast in its ongoing commitment to sustainability, cost reduction and process optimisation, the company realised the advantage of staff across its plants being able to use this information across the board.

Addressing this issue, if not from a technological point of view, became a difficult task to figure out mainly because they needed a solution that didn't require the manual creation of metadata, as these did not exist previously.

The challenge was not only to classify the documentation, but to do so intelligently to ensure a high rate of success in the search results.

"We were looking for a reliable supplier with great accessibility, solvency and solid technology. And from digital transformation, in coordination with the Generation and IT business, we chose Insight. Their solution was very competitive and flexible to the requirements of generation."

Beatriz von Munthe af Morgenstjerne,
Digital Transformation Project Leader, Naturgy



Client Overview

Industry:

Utility - Gas and electricity generation, distribution and marketing.

Profile:

The largest integrated gas and electricity company in Spain, with presence in nearly 30 countries and more than 18 million clients. Providing comprehensive services, one of its key strengths is being a best in class operator in the distribution and sale of energy.

Relevant figures:

Year founded: 1843 (Sociedad Catalana para el Alumbrado por Gas)

No. of Employees: 11,847 (December 2019)

Turnover: €23,013 million (2019)

Power generation capacity: 16.9 GW

Project Overview

Naturgy wanted to provide its employees with a centralised platform for accessing more than 1.5 million documents that were located amongst a number of its plants. The platform needed to be equipped with advanced document search functionality and be accessible from any device to any employee, at any location.

Insight developed a solution based on Microsoft technology using Artificial Intelligence, to enable automatic indexing and assignment of metadata.

The pilot project initially covered three plants, and expansion is already underway to incorporate the other seven plants.

This initiative demonstrates Naturgy's commitment to transforming its business and processes, providing digital tools to make them more streamlined and efficient. The initiative represents a new development for the company in its process of digitalisation and optimisation, which in its initial phase has materialised in the Generation business and will be transferred across the board to other areas of the company.

The Solution

The Generation Digital Filing project, in which the most complex aspect has been to refine the search algorithms and adapting them to the great diversity of pre-existing documentation, was launched within six months.

To host all of the documentation in the cloud, five terabytes of storage have initially been enabled, so that the documentation can be gradually migrated to SharePoint Online.

Automatic indexing is carried out using a file processing automation flow developed by Insight, and different weights are given taking into account the source path, the document title, the text coming from the OCR process, the proximity of words and more.

Each document is catalogued and prepared for future searches. This includes the blueprints.

When searches are launched, they are generated both in English and Spanish and are even supported by a thesaurus. The results are obtained regardless of the source language, and there is an optional cognitive service that can translate the original document.

The quality of the results is such that the desired document will always appear among the first 20 results.

It is estimated that around 300 Naturgy engineers and technical professionals can use the solution developed by Insight to quickly find any document, favouring synergies between plants.

“What we value most is Insight’s flexibility, its methodology and its customer focus. When a project’s specifications are developed, often you don’t know how far you can go. Insight have adapted to the real need: they haven’t limited themselves to what’s on paper or to fulfilling only the initial commitment.”

Martín Ceballos-Escalera,
Power Generation Operations Support, Naturgy

The Benefits

- **Autonomy:** immediate searches are now possible, at any time and from any online device.
- **Across-the-board solution:** it is estimated that 30% of the searches come from other plants, something previously unthinkable.
- **Maximum flexibility:** in addition to the intelligent searches, the structure of the documentation in the original folders has been maintained.
- **Accessibility:** Users have been able to quickly learn how to use the tool, without little prior training.
- **Security:** Secure information available 24/7 in the Microsoft cloud, which is also accessible to group plants in other countries.
- **100% scalable:** the solution is already being applied by co-generation plants, and this is possible in other areas of the company, such as renewables, legal, UFD and Nedgia.

The Results Highlights



Insight developed all of the infrastructure, flows and algorithms, collaborating side by side in the debugging of these in a totally transparent process for Naturgy.



Now any employee can not only consult, but provide documentation from any device, which is classified in real time to optimise future searches.



The solution uses AI technologies that will facilitate its operation in other departments.