

# Global oil and gas leader innovates for efficiency



**Sogeti's innovative digital app transforms a costly quality control process to save thousands of euros in operating costs.**

## **Reducing costs in a challenging market**

With uncertainties around long-term consumer demand, rising political tensions and weakening economic growth, the global oil and gas industry faces immense challenges. To stay competitive in the market, oil and gas companies must find ways to cut costs. Key to this is streamlining operational efficiency through continuous innovation.

One global leader in oil and gas project lifecycle management is dedicated to this cause. The company works tirelessly to reinvent its technologies and processes to simplify procedures and drive greater efficiencies. Most recently the business collaborated with Sogeti to transform its approach to the post-production quality control of expensive tubes used in oil manufacturing, extending their life and saving thousands of euros per year.



## **Overview**

**Location:** Europe

**Industry:** Oil and gas

**Client challenge:**

- The global oil and gas leader needed to transform its approach to the post-production quality control of expensive tubes used in oil manufacturing

**Solution:**

- Working with Sogeti, the oil and gas leader designed a digital mobile app and dashboard to automate and speed up the inspection process, reduce human error, and generate greater insight into tube characteristics and performance over time

**Benefits:**

- Time taken to complete tube inspection reduced from two weeks to a few hours
- Fewer human errors as readings are recorded straight into the app
- Built-in calculations provide more accurate averages of readings in real time for later trend analysis
- Savings of up to 5,000 euros per year on follow up flights since inspectors can identify and address problems during the inspection, rather than after the event
- Reduced manufacturing costs for each tube by five percent by extending tube life
- Secure storage of logfiles and other data in a private database on Microsoft Azure Cloud
- Standardized replication of app and process across all its manufacturing sites

## Eliminating errors, improving accuracy

Processing oil requires gigantic ovens consisting of special tubes. These tubes are custom designed and cost in the region of one million euros each. Since it's extremely costly to replace them, Sogeti's client follows a strict quality control program to ensure that production is optimized so each tube performs at its absolute best for as long as possible. Extending the life of a tube for just one year equates to a huge operational cost saving.

As each tube is produced, the company puts it through a series of stress tests to assess how it might perform once in production. First, an inspector records the tube's straightness, wall thickness, amplitude, and ovality. The inspector then bends the tube by 90 degrees and takes the same measurements again. After that, the pipe undergoes a mechanical heat treatment before inspectors record the measurements once more.

Traditionally, the company has relied on employees to take and record readings manually. Inspectors would record the measurements using pen and paper, later entering them into a computer. This process was time consuming and prone to human error.

The oil and gas leader needed a solution to speed up the quality control process and reduce room for mistakes. It also wanted a way to generate greater insight into the tube bending process. For this, the company turned to Sogeti to create and pilot a digital app to replace pen and paper. The app needed to be intuitive and provide direct access to company data and log files stored in a secure database. The oil and gas company also wanted the app to be deployed to every site following its first release.

## Transforming data aggregation via digital app

A Sogeti workshop helped define the specific business requirements. Together, the two organizations produced a set of visual drafts for a digital app and immediate approval. Once the customer was clear the proposal was in line with their expectations, Sogeti put together the logical flow and initial design for the app, including detail for the required functionality and technical requirements.

At the frontend, employees needed an intuitive user interface, allowing them to quickly and easily record measurements directly while on the factory floor. At the backend, they needed a secure, single digitized database providing easy access to stored data and PDF, Excel and CSV log files. For this, Sogeti chose a standalone Microsoft Azure SQL database which, on the cloud, was preferable to integration into the customer's on-premise IT. Meanwhile, the end-user device needed to be field-ready, portable and robust to withstand inevitable knocks or falls, so Sogeti recommended Panasonic Toughpad FZ-A2s powered by Intel Atom® x5-Z8550 processors, running an Android operating system. The oil and gas leader favored Android OS due to desired interoperability and flexibility required by the inspectors carrying out the tube bending tests.

The initial product release took only six weeks and met and exceeded the company's expectations in terms of time, value and mitigated risk.



## Greater operational efficiency, lower costs

Use of the digital app has transformed the tube quality control process. Since employees now enter the readings straight into the app, the time it takes them to complete a full inspection has been reduced from two weeks to just a few hours. Also, the room for human error has been reduced.

Thanks to built-in calculations, the inspectors now have instant access to a broad range of accurate average measurements taken over time, making it easier for them to carry out later analysis, spot long-term trends, and implement proactive, corrective measures to improve tube production. They can also identify any issues during the inspection process rather than afterwards, which means they no longer need to fly between sites to address problems at a later date. They can resolve them in real time. The oil and gas leader estimates that this alone saves up to 5,000 euros per year in follow up flight costs. Finally, by extending the life of each tube, the company expects savings of up to five percent on the manufacture of each new tube moving forward.



**€5000** savings  
per year in flights



**5%** savings on  
manufacturing  
of each new tube

Following this first round of user feedback, Sogeti has improved the app further by adding functionality that lets inspectors write comments as they go should they see something unusual or abnormal. They can also quickly review and amend their entries via an overview screen, providing opportunities for continuous improvement.

Working with Sogeti allows the oil and gas company to quickly and efficiently trial innovation that improves efficiency and cuts costs. The business also benefits from the stability and continuity that comes with working with a large service provider, as well as Sogeti's unparalleled levels of service and after care.

## Maintaining leadership, remaining competitive

The initial deployment proved that Sogeti's new digital app would help to improve accuracy, streamline operational efficiency, and enable significant cost savings in the tube quality control process. Ultimately, the innovative app helps the company maintain its leadership position in a highly competitive and challenging market.

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## About Sogeti

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