

Pertamina Hulu Rokan

Turning operational data into collaborative insights

Since taking over the management of the Rokan Block in August 2021, Pertamina Hulu Rokan (PHR) has not only continued leveraging geographic information system (GIS) technology but has also strengthened its capabilities to address increasingly complex operational challenges.

Challenges

The Rokan Block, one of Indonesia's largest and most strategic oil fields, plays a critical role in the country's energy production. With over 30 operating areas, 26,000 wells, tens of thousands of kilometres of pipelines, and up to 8,000 vehicles spread across more than 70,000 square kilometres, PHR manages vast amounts of data.

This includes spatial, textual, imagery-based, structured, and unstructured data—all of which require high-quality standards and seamless integration to support efficient operations.

Solution

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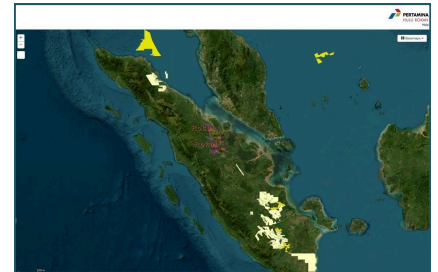
The ONE PHR GIS solution enables PHR to:

- Streamline asset data inventory and integration: Consolidate spatial data from wells, pipelines, land assets, and production facilities, while integrating historical data from previous operators into a single unified system.
- Build an enterprise GIS platform powered by ArcGIS: Delivering a centralized GIS Portal accessible via both web and mobile applications.
- Integrate advanced technologies such as AI and Big Data: Including object detection from imagery, GPS-based vehicle monitoring, intelligent routing using network analysis, and machine learning-driven field survey analysis.

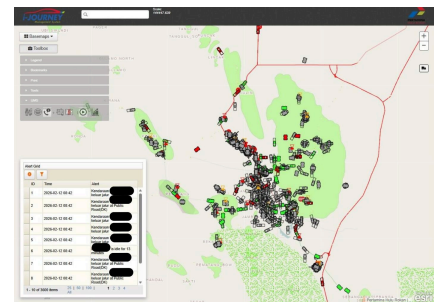
"This transformation has not only driven internal impact within Pertamina Hulu Rokan but also enabled broader integration with upstream initiatives such as XD ONE MAP, SYNERGI Pertamina Persero, and SKK Migas' SPEKTRUM IOG 4.0."

Triatmojo Rosewanto S.

Vice President of Information Technology Regional 1



SINERGY Dashboard (SONAR Integrated Well Execution Readiness Strategy)



Smart vehicle routing powered by ArcGIS Network Analyst

Achievements

Increased rig movement effectiveness by **10%**

Reduced non-productive time due to road damage by **50%**

Decreased lost production opportunities by **40%**

Esri Technology

- ArcGIS Pro
- ArcGIS Enterprise
- ArcGIS Experience Builder
- ArcGIS Dashboard
- ArcGIS Scene Viewer
- ArcGIS Survey123
- ArcGIS Field Maps

Contact our specialists

✉ Schedule a consultation

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