



Field operation fleet management

PT. Chevron Pacific
Indonesia (CPI)

In the highly competitive Indonesian oil industry,
productivity is more than just a focus, it's a business model.

Project overview

Chevron Pacific Indonesia turned its traffic management system into an enterprise-wide efficiency machine that has boosted productivity and yield, along with company profits.

“iJourney Management System (iJMS) has given us the ability to measure, calculate and display spatial information in a far more intelligent way, saving us millions of dollars.”

Ananta Bodhitama – BI and GIS Team Leader, PT. Chevron Pacific Indonesia

Chevron Pacific Indonesia in focus:

For more than 90 years, PT. Chevron Pacific Indonesia (CPI) has been a leading energy producer in Indonesia and continues to use investment in innovation to explore the country's energy potential. One of the biggest oil producers in the region, CPI contributes around 28 per cent of the nation's total oil production. The company's main oil field in Duri is home to 10,000 wells operated by more than 3,000 employees and 8,000 contractors.





The challenge:

CPI sought a new approach to understanding their transport systems as part of an organisation-wide comprehensive safety campaign which also covered governance, internal processes, personnel and system applications.

It was no small feat. CPI's 5,000 strong fleet of resource transport vehicles deliver impressive annual numbers by any measure: more than 17 million miles are covered during 20 million working hours and across a 5,000-hectare operational area that consists of 300 miles of road and incorporates 700 bridges.

From its inception, CPI has had a strong commitment to the safety and efficiency of its transport system, but its legacy procedures and guidelines relied heavily on manual forms and reports: an approach that made it difficult to monitor, analyse and improve operations. CPI needed to develop an updated, spatially-enabled approach to safeguard its workforce and enhance vehicle safety and performance.

Because CPI is committed to environmental sustainability, the company also has teams and facilities dedicated to decontaminating soils through site remediation. With spatial in mind, CPI were determined to rethink this process, specifically how significant various volumes of soil could be transported from sites to cleanup facilities more efficiently and effectively.

The solution:

CPI turned to Geographic Information System (GIS) technology to develop an innovative and dynamic mapping solution called iJourney Management System (iJMS).

iJMS tracks CPI's entire transport fleet by collecting raw GPS data in near real-time and presenting it on an internal mapping interface. The interface is accessed by personnel in 13 separate control stations dotted around their operational area to monitor each individual vehicle's movements. Speeding, over-acceleration and unsafe driving and other factors critical to safety and efficiency, are identified immediately. Additionally, the monitoring of vehicle information such as speed and miles driven allows CPI to determine when drivers are fatigued or whether they are adhering to optimal routes.

However, while iJMS was created as a vehicle tracking system, it was quickly upscaled and integrated with other systems to deliver business value above and beyond its original purpose. An environment team now utilises the system's Network Analyst extension to measure variables – including hauling volume, start and destination points, fleet capacity and the distance between facilities – to optimise their remediation schedules.

The iJMS is also used by CPI's drilling and completion team to identify hazards along rig transport routes. Early hazard identification provides invaluable information for engineers when determining the optimum sequence of wells that oil rigs are transported to, reducing rig downtime and vastly increasing productivity.

The innovation:

The custom built iJourney Management System has allowed CPI to understand the precise location, movements and status of every one of its more than 5,000 vehicles in near real-time, for the first time.

The development of the system itself was highly innovative, specifically in how a range of disparate data from a multitude of sources was integrated. The iJMS now incorporates raw GIS data from nine GPS providers for more than 5,000 vehicles under 70 fleet contractors.

But CPI didn't stop there. A combination of vision and sheer excitement at the ROI the traffic management application had delivered, led the company's leaders to roll out the system throughout the company's operations. The system is now delivering efficiencies in hazard detection, scheduling, route selection and environmental management – day in, day out. True to its innovative spirit, CPI is continuing to identify new ways of spatially enabling its business.

“With the cost savings, better decision-making and team collaboration we have already experienced, the iJMS has delivered ROI in spades.”

Zulkarnaini – Functional Maintenance Manager,
PT. Chevron Pacific Indonesia

The outcomes:

While originally envisaged as a transport vehicle management system, the implementation of iJMS has introduced safety and efficiency gains across the organisation, including:

- + **The development of optimum hauling routes and schedules**, which has increased the company's hauling ratio and saved CPI millions of dollars in fuel, wages, maintenance and other costs.
- + **A vast reduction in oil rig idle times** and a corresponding increase in productive hours, resulting in greater oil yields for less cost.
- + **The ability to identify hazards quicker and more accurately**. This enables CPI to implement effective prevention plans and avoid vehicle accidents, ultimately lowering costs and producing a safer working environment.
- + **The ability to identify and coach non-complying drivers**, resulting in an improved and sustained culture of safety awareness, and compliance with company requirements and obligations.

“iJMS has not reached the finish line yet – the adoption, improvement and system integration are continuing to this day.”

Deffarmen Mehan – GIS Business Analyst, PT. Chevron Pacific Indonesia

Solution mix:

- + ArcGIS Server
- + ArcGIS Network Analyst Extension
- + ArcGIS Desktop



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