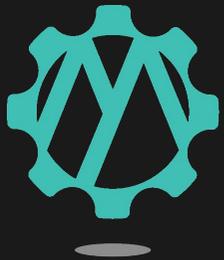


# Woodside - SMARTapps

Case Study



**MECHANICAL  
ROCK**

# The Client

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Woodside is Australia's largest independent oil and gas company with a global portfolio worth \$28 billion dollars.

The company invests across its value chain to support operational excellence and reduce exploration, development and production costs.

This includes advanced analytics and cognitive computing, IoT, 3D printing and the adoption of a flexible cloud native platform for specific software solutions.

## Operating Efficiency

Woodside operates a large number of oil and gas platforms around the world. Maintenance of these valuable assets consumes a sizable portion of Woodside's operating budget.

By adopting innovative technology solutions, Woodside has been able to actively reduce this ongoing spend, and leverage significant operating efficiencies.



# The Solution

## Smart Maintenance

Building on cloud native technology and using cutting edge web and serverless solutions, Mechanical Rock has delivered a suite of 'smart' applications to support Woodside maintenance teams in the field.

These apps eliminate paper based processes and give mobile maintenance technicians the same degree of access to enterprise systems as they would have in the office.

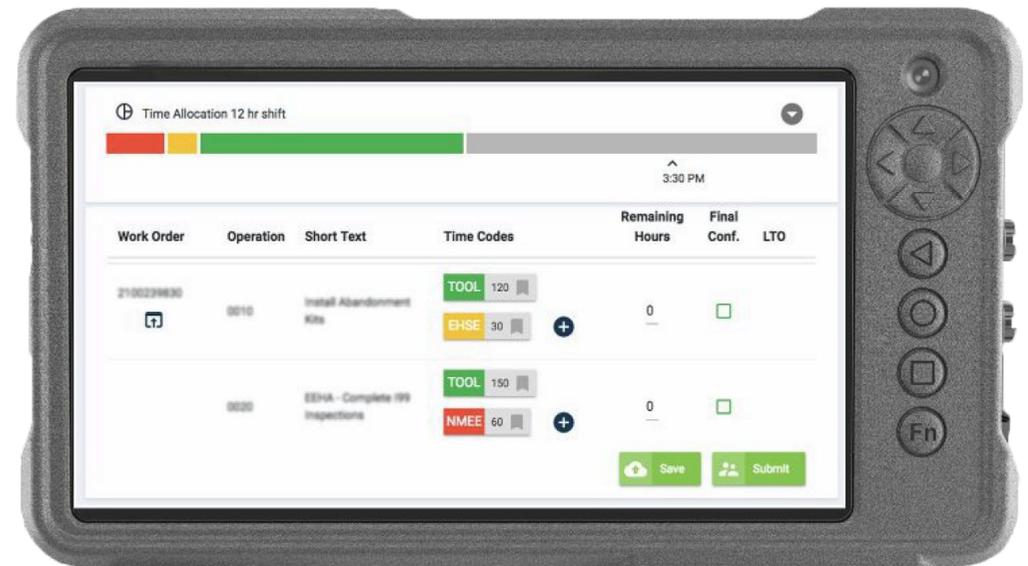
The SMARTapps solution brings together the power of cloud native computing, with modern web technologies to deliver a seamless mobile solution for maintenance engineers in the field.

Bi-directional integration with backend systems allows offline access to plant maintenance documentation, timesheeting and task tracking.

## Progressive Web meets Serverless Cloud

A Progressive Web Application (PWA) integrates seamlessly with corporate backend systems when network connectivity is available, and caches data when used on remote sites without connectivity.

A serverless backend autoscales to meet demand but only consumes resources when in use.



# The Solution

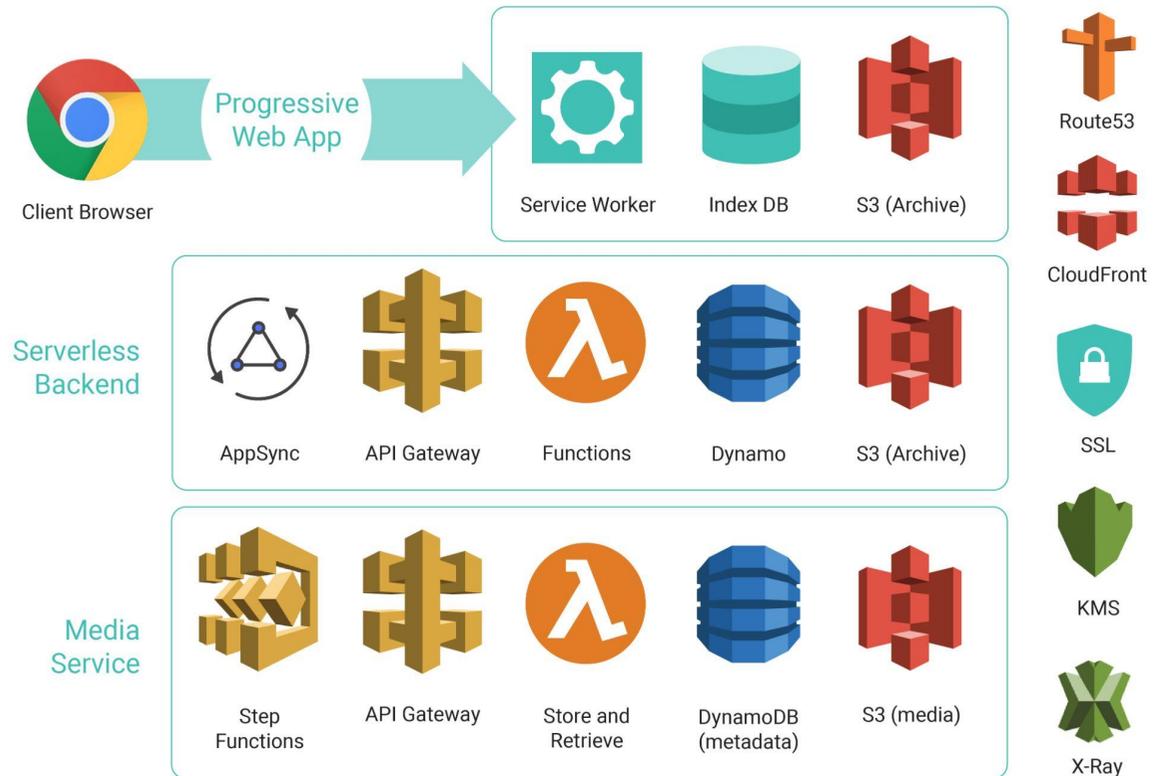
## Cloud Native Development Environment

The SMARTapps solution uses AWS Cloud Services to deliver a cloud native platform for maintenance mobility.

The Progressive Web App written in React.js, provides offline capability and a rich user experience in the browser.

The Serverless Backend synchronises data with enterprise systems-of-record and preserves the offline state for users. A backend Media Service, implemented as a cloud native microservice, delivers rich media to multiple front-ends including SMARTapps.

The SMARTapps design follows all the principles of the AWS “Well Architected Framework” (WAF) to deliver a secure, scalable and robust solution that is flexible and cost efficient.

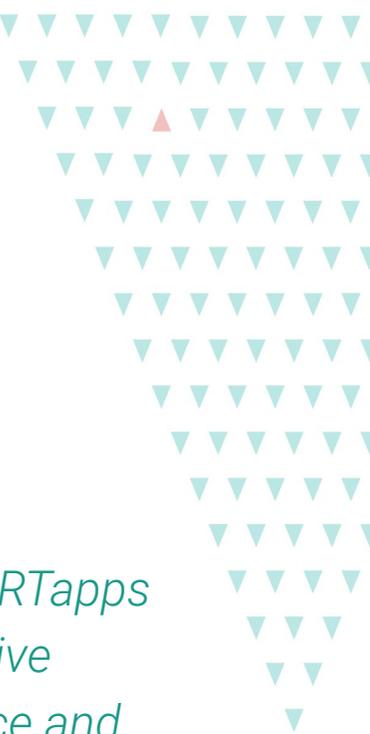


# The Benefits



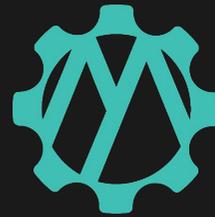
The Mechanical Rock cloud native solution offers significant benefits over traditional software solutions.

- A fluid and responsive user experience via the progressive web app, even in the challenging ergonomic environment of an oil and gas plant.
- Access to native device hardware, like the camera, which allows maintenance workers to capture images in the field and attach them to work orders and operations.
- Lower total cost of ownership (TCO) because there are no long-running servers and the solution automatically scales to meet concurrent demand.
- Increased reliability through 'everything-as-code' and rigorous test frameworks.
- Real time deployment to production with zero downtime and no need for lengthy 'app store' approval.



*The Mechanical Rock SMARTapps solution delivers a responsive modern software experience and harnesses the power of a cloud native application to provide a seamless mobility solution for Woodside's maintenance engineers, at a fraction of the cost.*





**Think we can help with your project?**

Get in touch so we can chat about your plans over a coffee

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[www.mechanicalrock.io](http://www.mechanicalrock.io)