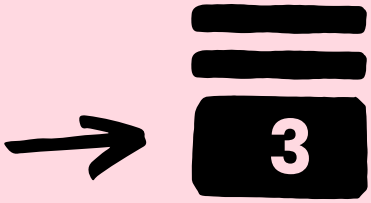
A COLLECTION OF CASE STUDIES

The large-scale modernisation series

Divide-and-conquer with micro-services

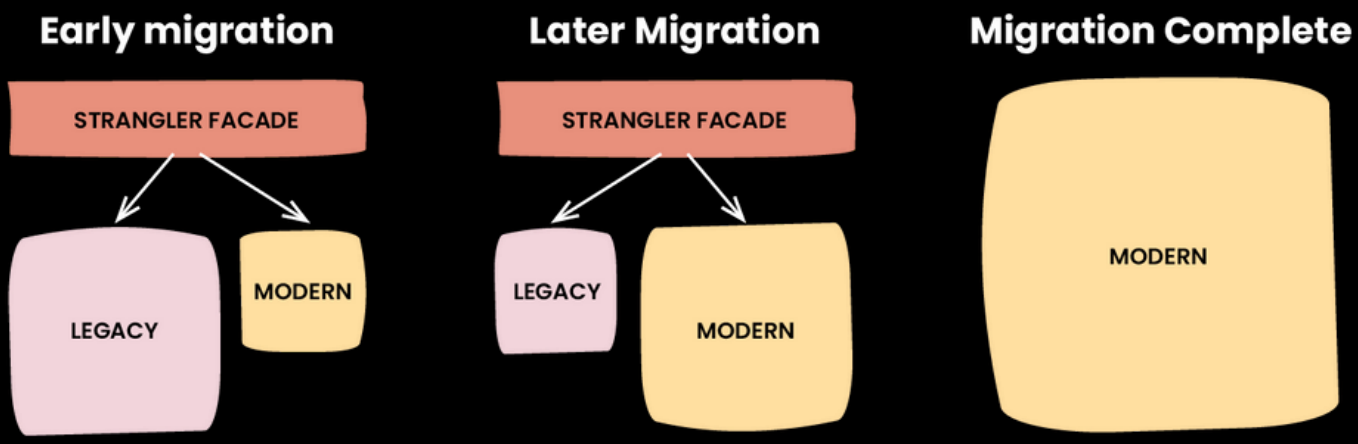


workingmouse

C1 / 55 Railway Tce
Auchenflower, QLD, 4066

workingmouse.com.au

The problem 01



In order to modernise a large legacy system, **Queensland Department of Transport and Main Roads (TMR)** implemented a facade around its APIs to divide-and-conquer with micro-services.

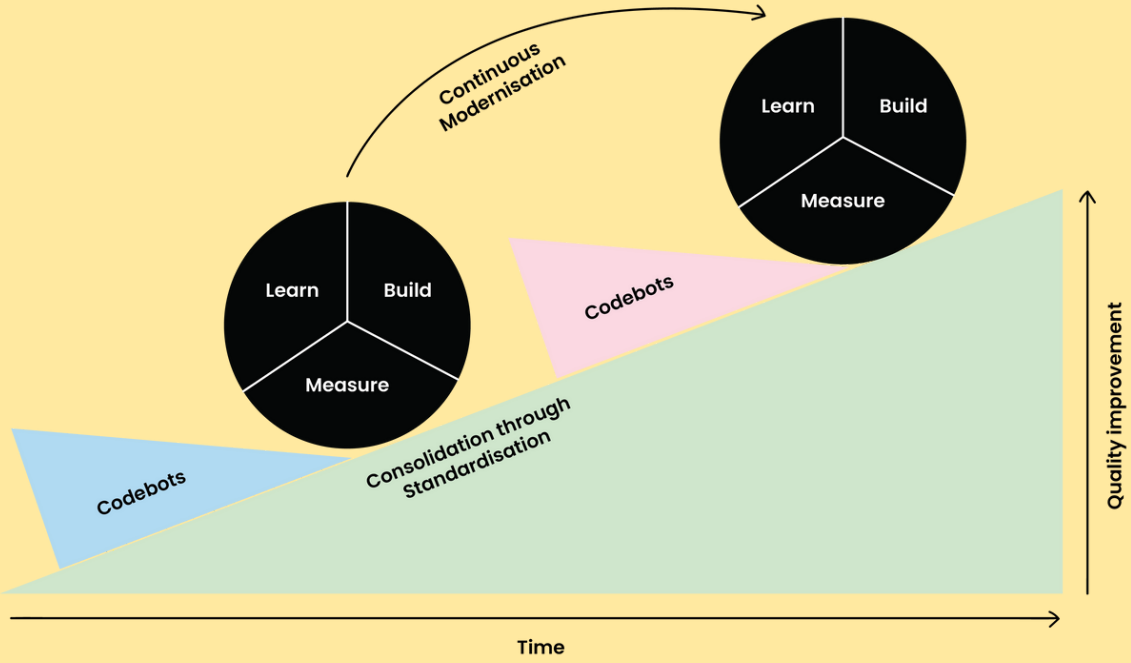
An example micro-service was built to demonstrate the architecture and test that the facade and the overall strategy would work. The results were positive.

A second and a third micro-service were commissioned but the implementations were not consistent and technical debt was already building fast.

The solution 02

After the success of applying automation to the API facade, TMR approached WorkingMouse again to investigate applying automation to micro-services.

WorkingMouse approached the project using the principles of Jidoka (automation with a human touch) by using the existing micro-services as a reference for a new codebot.



The codebot allowed WorkingMouse to create specific software engineering tools for the target micro-service architecture and environment for TMR.

The outcome 03

TMR's new custom built bot was able to generate over **88% of the code** that was being written manually for 2 out of the 3 micro-services.

It was decided the 3rd micro-service would be rebuilt in the same architecture as the other micro-services.

This was an early signal of technical debt and history repeating itself.

By using a codebot, TMR was able to create consistent micro-services of high quality as they significantly reduced the amount of manual work.

This has created a path whereby TMR can now create many more micro-services and save costs by applying Jidoka.