

A vertical photograph on the left side of the page shows a yellow excavator with its bucket raised, dumping material into the bed of a yellow haul truck. The truck is a Komatsu 730E, as indicated by the text on its side. The background is a clear blue sky with scattered white clouds. The ground is a mix of dirt and rock.

Haulage strategy optimization for a natural resources company

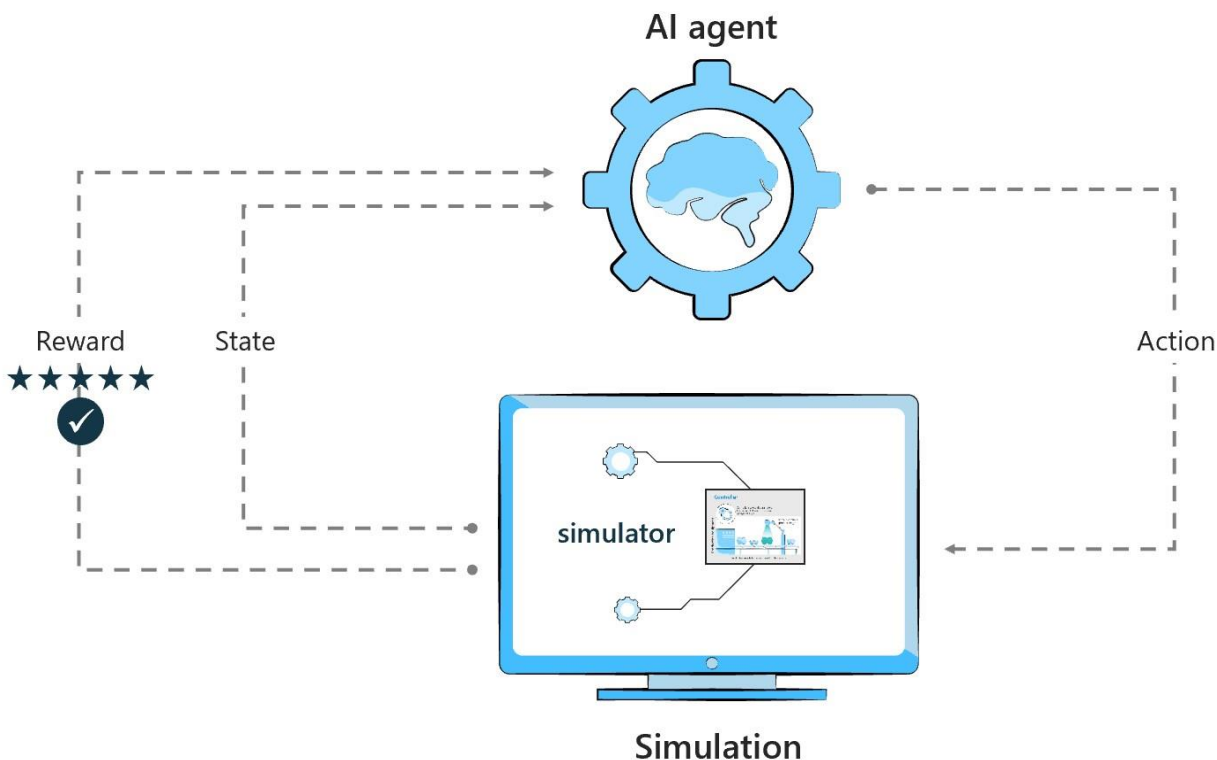
CHALLENGES

The natural resource company wanted to extend insights and analysis into its yearly haulage strategy across multiple sites. They wanted to maximize the haulage throughput, life of assets, and value. They needed something that can help them manage competing optimization goals and adapt to the changing conditions.

SOLUTIONS

Neal Analytics integrated Microsoft Project Bonsai with the existing strategy simulation, which helped the customer identify the best actions for next year. We trained the Bonsai brain using machine teaching and deep reinforcement learning to optimize multiple goals.

Deep reinforcement learning: training loop



RESULTS

Microsoft Project Bonsai evaluates the events of virtual year simulation and determines the best actions for the next virtual year across multiple sites. With this solution, the customer could extend their haulage strategy analysis from a single month to a multi-year.