# Arcadis gen – Analytics Development Engineer Exercise

## Introduction

The analytics development engineer role focuses on three core skillsets analyse, build, and collaborate. This exercise is designed to be lightweight but acts as an opportunity to demonstrate your thinking process and approach to a task focusing on analyse and build. The exercise is **lightweight**, we are looking for your approach and thought process **not** your ability to flesh out minor details as such **it isn’t expected that you should spend more than 2 hours** on this exercise.

The dataset contains fictional data that has been engineered for the purposes of this exercise. It includes a UID, some numeric and categorical attributes and a variable of interest to our customers, Job Cost. In the context of this exercise, the end user's goal is to understand and predict a new asset's job cost.

## The task

Your task is to produce a report which you will spend 5-10 minutes talking through in interview covering three core headings:

* Description of the data
* Modelling and analysis
* Delivery of results

## Description of the data

This section should contain a brief overview of the data. It should be lightweight calling out any issues or features within the data that are of particular interest during a preliminary inspection.

## Modelling and analysis

This section is your opportunity to demonstrate your data science skillset. This section is freeform, and you are encouraged to show your passion for modelling through your analysis. An excellent answer will strive for meaning offering an approach which could:

* Successfully informs the user about the relationships within the data
* Predicts job cost well
* Articulates how well their model is fit to the data
* Articulates how well their model can predict job cost
* Discusses the advantages and disadvantages of their approach

But this is your chance to express your ability, focus on an approach that excites you!

## Delivery of results

The role often includes delivery of results via interactive dashboards as well as reports. This section is an opportunity to demonstrate communication of your results to non-expert users in an understandable way. It should include a wireframe of a dashboard or report with commentary on what functionality is included and accounted for to generate a fantastic user experience for your customer.