

# Data Science and Analytics Education at DIIS

## Client

### Department of Industry, Innovation and Science (DIIS)

The Department's mission is supporting economic growth and job creation for all Australians.

The Department drives the National Innovation and Science Agenda (NISA).

## Timeframe

March to June 2018

## Responsibility

Co-designed and delivered the programme in partnership with the University of Technology Sydney (UTS)

## Areas of expertise


- data science
- digital capability
- education and training

## Scale

 2,400 workers

 regional workforce

 500 datasets

 data analysis deemed a core competency for all staff

## Outcomes

Over 100 staff members achieved data literacy.

275% increase in participant confidence (statistically significant, self-reported from first to second assessment,  $p < 0.05$ ).

125% increase in participant ability to design and construct data visualisations.

525% increase in participant ability to maintain datasets.

Scope increased, with additional courses added.



## Project Description

The Data Management and Analytics Taskforce (DatMAT) was seeking a development partner to build data and analytics capability across the entire Department. This directly delivered a core element of the Capability Development Strategy 2017-20.

## Approach

With UTS, we co-designed and delivered a Data Science and Analytics training programme which included:

- data and information management
- quality assurance
- data strategy and governance
- data value-chain
- evidence-based storytelling
- visualisation, Power BI
- mathematical theory and statistics
- data cleansing
- Excel, Automation, Visual Basic for Applications
- Departmental DataHub, DataSet Register.

We used an evidence-based approach to defining the core competencies for users. The competencies were mapped across the key subject areas covered in the course design. Each learning segment was linked to strategic outcomes, supporting the Department's Data Governance Framework and Data Management Strategy 2016-18.

“After attending the training, user confidence increased by 275%”

We designed practical exercises that took the participants on a guided-discovery pathway to achieve the learning outcomes. This included rigorous mathematical theory and statistics and practical methods for presenting data and influencing stakeholders.

We created an inclusive learning environment, implementing reasonable adjustments and supporting participants from culturally and linguistically diverse backgrounds (CALD).

As our principal consultant is a qualified trainer and assessor, our methods always address key adult learning requirements and are readily accessible for all adult learning styles. Additionally, we were able to provide one-on-one coaching to address specialised learner needs.