



## CASE STUDY

Unlocking digital  
transformation  
through data  
science education



# How a leading global energy company upskilled its workforce to fuel the clean energy revolution

A global energy conglomerate with billions in assets advanced their digital transformation goals by investing in Udacity Nanodegree programs. The custom learning paths upskilled employees in the fields of machine learning and AI technologies — expanding digital capacity, elevating company morale and mitigating millions of dollars in risk.

## The Problem

### How do you operate efficiently while spearheading a digital transformation?

The multinational energy company, with over 84,000 employees, sought to improve its operations by strategically implementing machine learning and AI technologies across all areas of the organization. As an industry leader, the company needed a scalable way to quickly embed AI into its workflow in order to simultaneously progress its vision for technological advancement. However, they had more than 300 AI projects in progress — and only 160 data scientists who specialized in the requisite technologies. Furthermore, they were at risk of experiencing severe, costly machine malfunctions at onshore refineries and offshore platforms.

“The potential to move the needle and help people understand that we’re serious about trying to change the way we do things for the better is not an easy task. But one thing we do know is that technology is a huge element of that change. We need to find a way to provide more and cleaner energy, and investing in AI is a key way in which we’re going to do that.”

**Udacity Customer**

## The Goal

# Leverage new technologies to mitigate risk and spark change

To prevent these expensive malfunctions, the workforce needed to learn how to build predictive maintenance models to analyze sensor data. The company was also striving to be a clean energy pioneer, which requires advanced AI and machine learning technology.



### Customized learning paths

To tailor learning to a massive global workforce, Udacity worked alongside the company to determine which courses—from data analysis and machine learning to AI data science for business leaders—best fit current needs and goals. Furthermore, Udacity created four custom Nanodegree programs with these goals in mind, focusing on AI engineering, predictive analytics and business translating.

## The Solution

# Empower employees with bespoke digital skills learning

To avoid the cost (time, money, resources) of hiring outside data scientists, the company sought to upskill existing employees, starting with the most digitally-advanced. These lessons would equip employees with the in-depth AI knowledge needed to improve proprietary technologies, build an agile workforce and position the conglomerate to lead an industry-wide digital transformation.

The company partnered with Udacity and embarked upon a multi-year investment in their foremost AI initiatives. Udacity's industry experience and robust offering delivered the following benefits:



### Human-to-human education

Udacity classes are more than pre-recorded training videos; they are dynamic, engaging lessons with more than 1,400 supportive, experienced mentors available at every step. These skilled mentors are former Udacity learners themselves, and therefore are able to quickly identify roadblocks for learners and provide tools to effectively move forward.



### Real-world experiences with industry professionals

Rather than abstract assignments, the employee cohort participating in the Nanodegree programs completed practical projects representative of actual industry practices. These were evaluated by industry professionals, who shared their experience and personalized feedback.

## The Results

# Fulfilling a vision for the industry's future

Upon completion of the customized Udacity Nanodegree programs, a cohort of 145 existing employees gained the skills to work on a variety of transformative ML/AI projects, including finding spots to drill for oil and advising on potential equipment malfunctions — and those used in a global effort to produce cleaner energy solutions.

**\$2M**

in savings per incident due to increased implementation of AI-powered and data science-powered systems, including predictive maintenance models used to prevent malfunctions

**145**

employees upskilled through 34 Nanodegree programs, including four programs that were tailored to the company

**86%**

of those enrolled reported feeling valued in their work and an increase in job satisfaction as a result of the training investment, bolstering long-term company commitment

**2,000+**

more learners in 2021 continuing Udacity enrollment

Udacity equipped this global energy leader with the skills necessary to stay ahead of the competition — and empower meaningful industry change.

### **Changemakers come from within.**

Transform your workforce and move your industry forward with Udacity's courses in data science, curated to fit your needs. What can we help you with?

[Contact us](#) today for a free consultative session.