Improving efficiency in multimillion pound global projects

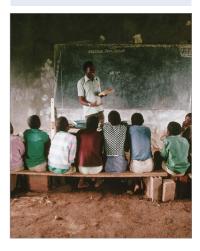# Mott MacDonald

The Challenge

- Improve the efficiency of a global business
- Deliver added value for clients

The Benefits

- Time savings resulting in more efficient project delivery
- Reduced paper & ink (plastic cartridges) use through vastly reduced printing requests
- Improved employee collaboration in multidisciplinary, global teams
- Added value for clients from better data collection and visualisation
- Award-winning public consultations

Mott MacDonald has significantly improved its efficiency in multimillion pound, global projects, by using Esri's ArcGIS platform to transform the way that it shares information both within and beyond its enterprise. Project teams can now collaborate more effectively, deliver added value for clients and engage successfully with the public in consultations.

The Challenge

The global engineering, management and development consultancy Mott MacDonald undertakes a vast array of projects all around the world, ranging from assessing the risk of climate change impacts, designing critical infrastructure across Central Asia and improving flood defences in the UK, to safeguarding turtles' nesting beaches in Cyprus. Common to all these projects is the company's goal to operate as efficiently as possible and use leading-edge technology to create value for clients.

The organisation had used geographic information system (GIS) solutions for many years, in some teams and some offices. However, this silo-based approach meant that GIS services and data were limited to a small number of users. There was no standard central GIS system across the company where everyone could view the same project GIS data, and this inhibited employees' ability to share data effectively, collaborate with colleagues in different offices and work efficiently.

The Solution

Mott MacDonald's GIS transformation began in 2015 when it signed an Enterprise Agreement with Esri UK and started to create a range of centralised GIS services for all UK employees, using Esri's ArcGIS. Such was the success of this enterprise GIS strategy that the company signed a Global Enterprise Agreement just three years later, enabling it to extend its GIS services out to all of the company's 16,000 global employees working on projects in as many as 150 countries.

Mott MacDonald now has a single ArcGIS platform, accessible to all global employees, that provides a centralised repository for all of the organisation's geospatial reference data including open government data from organisations such as the Environment Agency. This enterprise GIS gives everyone access to the same, up-to-date data and provides teams with a better understanding of the geographic context of their projects.

In tandem, Mott MacDonald has created a series of project-based ArcGIS Online applications, containing maps, data sets, documents and models that relate to specific clients. These portals can only be accessed by project team members and are integrated with Microsoft SharePoint, providing teams with a single location for all their project-related reports, documents, models and maps.

Through its Enterprise Agreements, Mott MacDonald can access the full suite of ArcGIS solutions, and the organisation is making increasing use of a wide range of ArcGIS tools, including, in particular, mobile solutions for data collection, such as Esri's Collector App and Survey123 for ArcGIS. Mott MacDonald uses advanced ArcGIS functionality for geospatial analysis, 3D modelling and city planning, depending on the requirements of individual projects. It also uses ArcGIS Online and ArcGIS Story Maps to help it share data effectively with clients and the general public.

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Helen Pickard, GIS Practice Leader, Mott MacDonald

ArcGIS displays the locations and types of early years and educational facilities available in Uganda.

The Benefits

More efficient project delivery

By adopting ArcGIS enterprise-wide, Mott MacDonald has been able to give all employees access to the data, maps and tools they need to enable them to work more efficiently. For example, some tasks that were historically undertaken using computer-aided design (CAD), such as habitat mapping, can now be completed much more quickly using ArcGIS, saving many hours of effort when revisions are made, or areas calculated. Similarly, field-based asset surveys that were previously undertaken using paper-based forms and maps, can now be completed faster using mobile ArcGIS tools. "One of the real advantages of our enterprise ArcGIS platform is that we have been able to extend GIS to users who were unable to benefit from GIS in their job roles before," says Helen Pickard, GIS Practice Leader at Mott MacDonald.

Improved collaboration in global teams

ArcGIS has significantly improved collaboration in global teams, by providing a more effective way for employees to share information with their colleagues. Employees no longer waste time looking for the latest environmental data, putting in requests for printed maps or emailing colleagues to check they have the most up-to-date site plan. Pickard says, "Everyone in a project team can see the same relevant, up-to-date information spatially, in one place, which really improves collaboration, particularly in large multidisciplinary teams, with people working in different offices and countries."

Added value for clients

ArcGIS also enables Mott MacDonald to deliver added value for clients, by providing new ways to collect data and share it visually. In one recent assignment, the company used Survey123 for ArcGIS to help it build up an accurate picture of early childhood care and educational facilities in Uganda as part of a policy review for the government. Surveyors were able to gather detailed information at 143 sites across the country, share it promptly with the wider project team back in the UK and then subsequently share the data with the client on a highly visual and meaningful map.

Effective engagement with the public

Increasingly, Mott MacDonald is using ArcGIS to share data with the general public as part of public consultations on behalf of its clients. For example, the organisation recently created an ArcGIS Story Map to present information clearly during a public consultation process as part of a Digital Environmental Scoping exercise for the Mott MacDonald, Temple, ERM and WSP (MTEW) Joint Venture. This particular initiative won the Transport for London Suppliers Award 2018 for Best Environmental Initiative and it subsequently also received the internal global Mott MacDonald Milne Award for Innovation 2019.

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