

International Association for Impact Assessment (IAIA) Webinar on Emerging Technologies and Impact Assessment

The International Association for Impact Assessment (IAIA) shared a webinar (<http://www.iaia.org/webinar-details.php?ID=18>) on the 18th of September 2018, presented by Marla Orensteinⁱ.

Given my role as a Senior Environmental Consultant at CES, I like to keep up-to-date with the current events in this field, particularly information coming out from IAIA as my professional body. In her presentation Ms Orenstein discussed the likely benefits and limitations associated with the incorporation of emerging technologies in impact assessment.

The presentation covered the following ideas:

- The current roles and potential future roles of data visualisation and how that might be presented;
- Remote sensing (including drone technology);
- Block chain technology to potentially assist in the financial aspects of EIAs; and
- Artificial intelligence.

While block chain technology as a concept in EIA was interesting, Ms Orenstein's discussion on the incorporation of data visualisation, remote sensing and artificial intelligence/technology in impact assessment was particularly valuable. In my experience presenting data visually in Environmental Impact Assessments (EIAs) and specialist reports is crucial because it provides an opportunity to appeal to wider stakeholder (and I&AP) groups – being easier to understand. For example, a map of the proposed development within a specific environment or a graph containing water quality data which indicates a clear correlation between certain parameters.

CES makes use of technology to supplement the EIA process, this technology is mostly related to GIS mapping using available spatial datasets as well as spatial data developed during site assessment. However, CES do use 3D modelling as part of the specialist investigations, specifically for visual impact assessments, to assimilate the proposed development within the proposed footprint in an effort to improve the sustainability of the project and also to guide the reader's understanding of the potential impacts or aesthetic changes to the environment. While these outputs are still generally present in 2D (i.e. on paper), CES are considering alternative ways in which this data can be presented to maximise the effect.

CES also use tablet technology to collect real-time social data from the field, which is uploaded directly to a cloud database, providing field workers and stakeholders with the opportunity to verify the information immediately and avoid additional data capturing and the potential loss of information. In addition, CES use software on the tablets such as Orux Maps to record routes and tracks during site investigations and take waypoint photographs which contain the location data of the photographs.

In this current age, where data is expected to be available at our finger tips immediately, "emerging technology" could both supplement and enhance the EIA process in the future. It could certainly provide instant access to data by stakeholders during the EIA process. An artificial intelligence advancement could be the use of online forums during the Public Participation Process (PPP), similar to the Electronic Water Use Licence Application and Authorisation System (e-WULAAS) which has recently been implemented by the Department of Water and Sanitation (DWS) for the processing of water use applications. These PPP forums could contain copies of all of the relevant reports and the findings of the assessment(s). Stakeholders and I&APs would be able to register on these forums and, once registered, they would be able to provide information and comment on the specific sections of the reports for which they require clarity or have concerns. This would ensure that the information is directed to the correct project manager and/or contact person, provide context to both the questions and answers, and make the reports easy to access (as the size of these reports often exceed the limits of e-mails). While, at this point in time, a PPP forum would not replace the legislated PPP requirements (advertisements, public meetings, notice boards, etc.) as not all stakeholders have access to the technology, cell phone based interaction may be an intermediate step. Needless to say, the opportunities emerging technologies offer the EIA process are potentially significant and as a professional I look forward to exploring the possibilities.

ⁱ A member of the IAIA Board of Directors