

THE STATE OF DIGITAL IA PRACTICE

8 December 2021



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Welcome!

@IAInetwork
#iaiawebinar

MODERATOR:
Bridget John
bridget@iaia.org

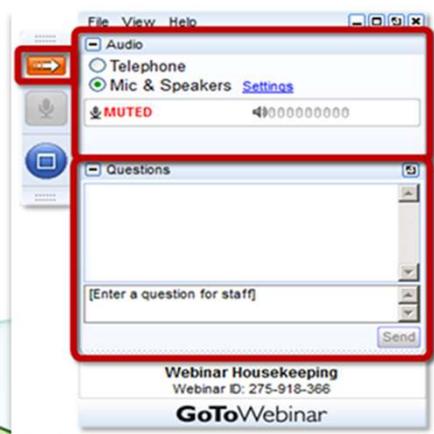
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- ✓ **Webinars on demand:**
 - Impact Assessment and the **Circular Economy**
 - A Rapid Tour of **Emerging Technologies** and IA
 - **Human Rights** and Impact Assessment
 - *and more!*
- ✓ **Online training and mentorship** through the Professional Development Program
- ✓ **Upcoming events**, including the IAIA22 annual conference and NEW online training courses
- ✓ **Free downloadable publications**, like Best Practice Principles, IA FastTips, and more

Find these resources and more at
www.iaia.org

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Housekeeping



- ✓ Recording?
- ✓ Questions?
- ✓ Slides available?

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The State of Digital Impact Assessment Practice



Launch Webinar 8 December 2021

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Welcome & Introduction



Josh Fothergill
Founder & Director
Fothergill Training & Consulting Ltd



Jo Murphy
Chief Executive
Fothergill Training & Consulting Ltd



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Outline

- The Project
- What is the Digital Impact Assessment?
- Benefits + Challenges Generated by IA's Digital Transition
- The State of Digital IA Practices
- Themes + Trends in Digital IA
- *Q&A Session*



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IAIA Innovation Grant supported Project:

Research and reporting on: *The State of Digital Impact Assessment Practice – Perspectives, Case Examples and Future Trajectories*

Objective: To help ensure IAIA (members & HQ) are able to effectively understand, engage with and aid the appropriate take up of advances in digital technology, approaches and innovations within IA practice across the globe.



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The Project: **Global Engagement**

Interviewees (+ Case Studies)

- Paul Morgalla and Fiona Wilson (Atkins – a member of the SNC-Lavalin Group),
- Etia Ndarake and John Lahu (Willend Associates Ltd), Dr Andy Aboje (Independent Consultant), Felix Olawore (RHDHV),
- Paul Eijssen (RHDHV),
- Timothy Peirson-Smith (Executive Counsel),
- Nikola Nikacevic (Eon+) and Andrew Jamieson (Eon+ and LR Consultants),
- Sebastian Elgueta (División de Seguimiento e Información Ambiental en Superintendencia del Medio Ambiente),
- Joanne Jacyk and Vera Yin (Nuclear Waste Management Organization, Canada),
- Ross Stewart (AECOM),
- Chris Gentle (WABSI and WAMSI),
- Atiyah Curmally (IFC – International Finance Corporation),
- Matt Jury (DHI),
- Lone Kørnø (University of Aalborg) Ulf Kjellerup (COWI),
- Clara U (HK EPD),

Additional Case Studies

- Prem Khanal (a leading Nepalese social IA expert working with the World Bank),
- David Burack (World Fish), and
- Massimo Zanasso (Wood).

Reviewers

- Professor Carla Duarte and Fernanda Garcia Nobre (Universidade Federal de São Paulo),
- Chris Gentle (Western Australian Biodiversity Science Institute (WABSI) and Western Australian Marine Science Institution (WAMSI)), and
- Daniel Smith (Royal Haskoning DHV (RHDHV))

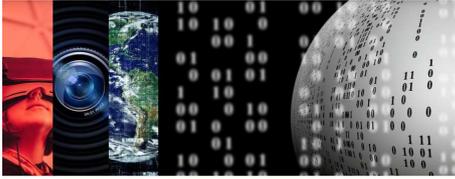
Participants

- 182 IA professionals from across the globe who completed the survey.



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The Project:
Output



The State of Digital Impact Assessment Practice
A global review of the uptake of digital technologies and approaches within impact assessment practice

IAIA International Association for Impact Assessment
FOTHERGILL Training & Consulting

Accessible, here:
<https://www.iaia.org/publications.php>
and here:
<https://www.fothergilltc.com/digital>



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What is Digital Impact Assessment?

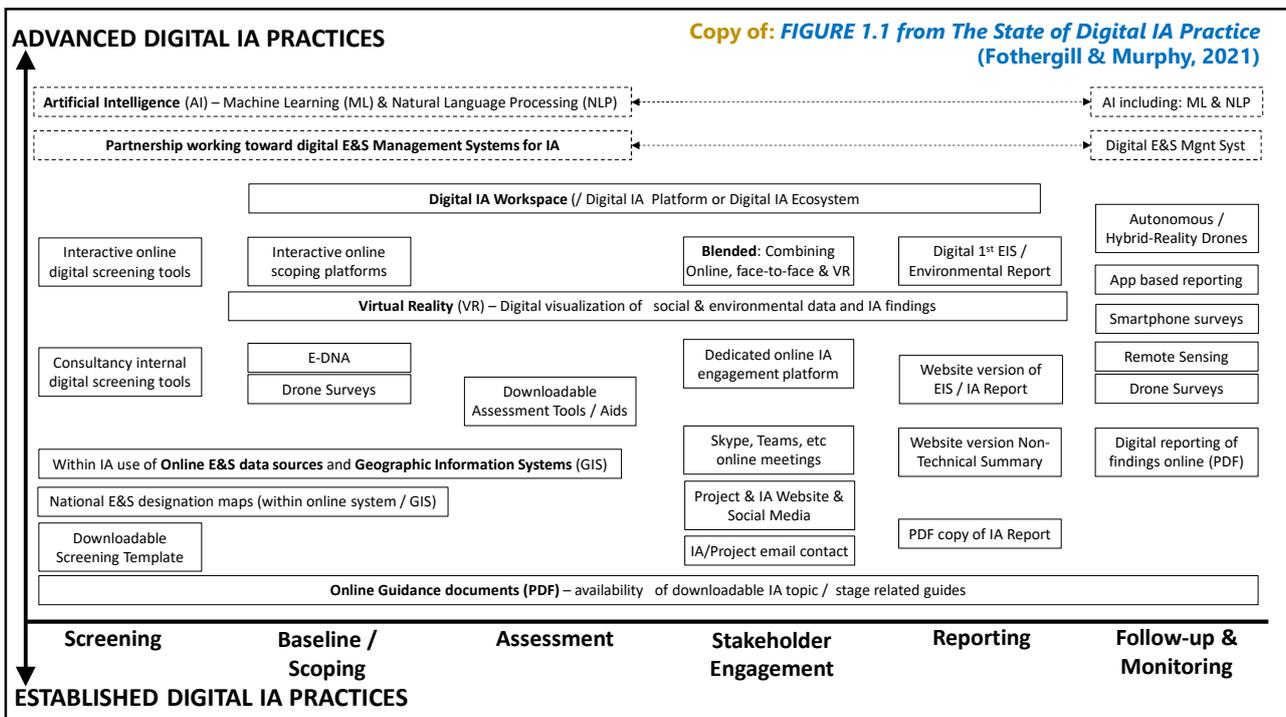
Tobias image, sourced from www.unsplash.com

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Using Digital approaches in IA is not new...



BUT... The pace of adoption has increased significantly since 2015!



Digital Transformation of IA A Global Phenomenon

North America:

- Canada, Environmental database management system
- IFC, Artificial Intelligence, and data innovation for social license

Europe

- Iceland, Early example of the potential of digital EIS
- Netherlands, Digital EIS, diagnostic tool country ESIA systems
- Serbia, Envigo digital IA platform

Asia

- China (Hong Kong), Virtual and hybrid reality systems
- Singapore, Autonomous vehicles + automated decision support systems
- Nepal, drones + digital air quality devices



South America

- Chile, Remote sensing and live database EIA follow-up
- Guyana, Imagery + GIS to map coastal ecosystem services, with in-field verification.

Africa

- Kenya, Drones surveys
- Nigeria, Developing digital EIA project + drone surveys
- South Africa, digital screening platform

Australasia

- Australia, digital EIA studies, reports and monitoring system.

Defining Digital IA...

- No adopted definition of what digital IA is considered to be.
- Lots of different views based on experience and perspective on IA practice

"The use of advances in digital technologies and their applications in the pursuit of enabling more effective IA practice."

Fothergill & Murphy , 2021



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Digital IA Key Areas of Change Requiring Management

Data Access, Integration and Trust	Quality & Costs More effective practices / loss skilled humans in IA?
Engagement Equity, Inclusion + Reach: <i>Digital Divide</i>	Safety, Privacy + Security

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Perspectives from our IA profession

Benefits		Barriers		Risks	
... of adopting Digital IA					
Access to data	39%	Digital skills in IA	17%	Trust/reliability in technology & data	38%
Efficiency of IA	33%	Standardization	13%	Replacing traditional IA approaches	33%
Engagement	33%	Regulatory barriers	6%	Digital divide / Equity	25%
Effectiveness of IA	31%			Transparency / black box	23%
Improved impact Monitoring	8%		Privacy, safety & security	16%	
Centralized data	8%		Increased costs	12%	
Wider application of IA	6%		Information overload	6%	
Health & safety	5%		Style over substance	6%	
New data opportunities	5%				
Reduced travel	5%				



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on [Unsplash](#)

Webinar Poll Benefits and Challenges in Digital IA

Which two areas of digital IA requiring change management would you most like to learn more about in the future?

- A. Data**
- B. Quality & Cost**
- C. Engagement**
- D. Safety, Privacy & Security**



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The Report Explores 10 Elements of Digital IA Practice

Digital Impact Assessment	
Digital Approaches & Technologies enabling progress in Digital IA	Digital Transformation within Aspects of the IA process
Inter-IA and online environmental and social management systems	Digital screening tools
Digital baseline data capture devices	Digital IA platform / workspace
Artificial intelligence (AI) in IA	Digital stakeholder engagement
IA and virtual, augmented & mixed realities	Digital EIS and web-based reporting
Online learning and capacity building	Digital follow-up: monitoring and auditing



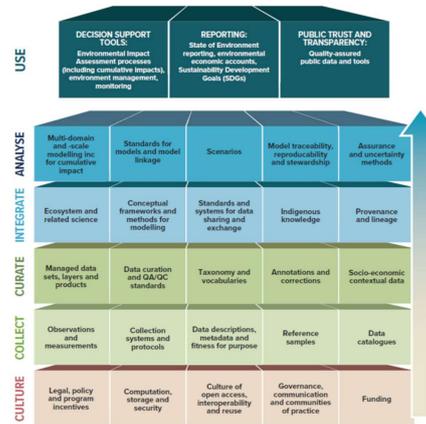
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1. Inter-IA and online environmental and social data management systems

Online sources of E&S data and analysis that can be used in (basic) or are dedicated toward (advanced) the IA process.

Examples:

- **IRELAND:** ENVIRONMENTAL SENSITIVITY MAPPING WEBTOOL (ESM)
- **WESTERN AUSTRALIA:** SHARED ANALYTICAL FRAMEWORK FOR THE ENVIRONMENT (SAFE)
- **DENMARK:** CENTRAL EIS REPOSITORY AND ANALYSIS (DREAMS DIGITAL IA PROJECT)



SAFE Project – W.Australia



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2. Digital baseline data capture devices

Digital technology and approaches that influence how capture and management of baseline information is undertaken.

Key Technologies:

- **Remote Sensing**
- **Drones**
- **Remote cameras and sound traps**
- **eDNA**



Ian Usher image, sourced from www.unsplash.com



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3. Artificial Intelligence (AI) approaches in IA

Using a program, algorithm to do IA tasks usually undertaken by professionals – risk mapping, scoping, analysis of trends.

Examples:

- **INTERNATIONAL FINANCE CORPORATION:** MACHINE LEARNING ENVIRONMENTAL, SOCIAL AND GOVERNANCE ANALYST (MALENA)
- **DENMARK:** BUILDING PRACTICAL IA TOOLS USING AI: THE DREAMS PROJECT
- **SINGAPORE AND MALAYSIA:** COMBINING DRONES AND DIGITAL SYSTEMS TO AUTOMATE MONITORING OF WATER QUALITY ON INSHORE CONSTRUCTION PROJECTS



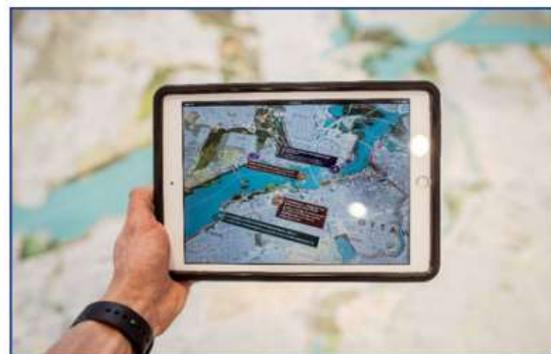
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4. IA in multiple realities (virtual, augmented, and mixed)

The application of virtual, augmented, hybrid mixed reality and digital twins within IA across scoping, stakeholder engagement, monitoring, etc.

Approaches include:

- **VR – Virtual Reality**
- **AR – Augmented Reality**
- **H / MR – Hybrid / Mixed Reality**



Tobias image, sourced from www.unsplash.com



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5. Online learning and capacity building

The shift to online training and capacity building and the growth of e-learning across the IA profession from students, participants to specialists and IA practitioners.

Examples:

- **THE EQUATOR PRINCIPLES ASSOCIATION:** ESIA e-learning toolkit to enable capacity building across its membership
- **IAIA:** Foundation course, Webinars and IAIA21 Conference
- **WIDER IA COMMUNITY:** IFC, HKIEIA, AEIAN, IEMA, etc.

IAIA21: VIRTUAL CONFERENCE SMARTENING IMPACT ASSESSMENT IN CHALLENGING TIMES



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Webinar Poll

Digital approaches and technologies enabling progress in Digital IA

Which two areas of digital approaches and technologies would you most like to learn more about in the future?

1. Inter-IA and online ESMS
2. Digital data capture devices
3. Artificial Intelligence
4. Virtual Reality, AR + MR
5. Online IA capacity building

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A. Digital Screening Tools

Tools to (help) determine whether EIA is / is not required, or is unclear and needs a determination by specialists. Tools have the potential to aid, or even automatically generating screening reports for competent authority.

Examples:

- **SOUTH AFRICA:** NATIONAL WEB-BASED ENVIRONMENTAL SCREENING TOOL
- **GLOBAL:** NEXUS ENVIRONMENTAL ASSESSMENT TOOL (NEAT+)
- **CONSULTANCY:** ENVIGO, TESA, ETC



B. Digital IA Workspaces (Digital IA Platform / Ecosystem)

IA and IT professionals working to create dedicated digital systems that seeks to house all/part of the collaboration and exchange activities that occur within the IA process into dedicated systems.

Examples include:

- **UNITED KINGDOM:** CROSSRAIL 2'S DIGITAL SCOPING WORKSPACE
- **GLOBAL (via SERBIA):** ENVIGO - A COMPREHENSIVE SYSTEM FOR DIGITAL ESIA
- **GLOBAL:** CONSULTANCIES – ROYAL HASKONING, AECOM, XODUS GROUP, ETC.



Royal Haskoning

C. Digital Stakeholder Engagement

Using a program, algorithm to do IA tasks usually undertaken by professionals – risk mapping, scoping, analysis of trends.

Examples:

- **CANADA:** BUILDING STAKEHOLDER TRUST IN DEVELOPING A DIGITAL ENVIRONMENTAL DATABASE MANAGEMENT SYSTEM
- **GLOBAL:** THE SOCIAL LICENCE DATA TOOLKIT, IFC + BHP FOUNDATION
- **GLOBAL:** DIRECT WORKER REPORTING, AS PRESENTED BY &WIDER AT IAIA21



D. Digital EIS and web-based reporting

The development of effective digital IA reporting tools seeking to deliver more effective and proportionate IA practice.

Examples include:

- **ICELAND:** A STEP FORWARD IN DIGITAL EIS - BURFELL WIND FARM
- **NETHERLANDS:** HOUTRIBDIJK PROJECT - PILOTING A RETROSPECTIVE DIGITAL EIS TO IDENTIFY KEY LESSONS FOR FUTURE DIGITAL EIS PRACTICE
- **UNITED KINGDOM:** BUILDING MARKET INTEREST, AWARENESS, AND UPTAKE OF DIGITAL ES



Highways Agency & AECOM – UK



E. Digital monitoring, follow-up, and auditing

Integrated digital systems to efficiently and transparently enable the real-world delivery of E&S commitments to be validated, poor performance and unanticipated occurrences readily identified + resolved, and lessons learned from plan/project implementation.

Examples:

- **CHILE:** THE DIGITAL TRANSFORMATION OF A NATION'S APPROACH TO POST-IA ENVIRONMENTAL PERMIT COMPLIANCE AND MONITORING
- **DENMARK:** DIGITAL MANAGEMENT OF ESG FOLLOWUP BY THE DANISH EXPORT CREDIT AGENCY
- **CHINA (HONG KONG):** THE USE OF HYBRID REALITY VISUALIZATION IN IA FOLLOW-UP



Hong Kong EPD



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Webinar Poll Digital transformation within the IA process

Which two areas of digitalization within IA process steps would you most like to learn more about in the future?

- Digital screening tools**
- Digital IA workspaces**
- Digital stakeholder engagement**
- Digital EIS + web-based reporting**
- Digital follow-up**

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NEXT STEPS
*Enhancing the
 Transition to
 Circularity via IA*

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Digital EIA...
Themes and Trends

Digital trends across IA practice		
Digital IA is a spectrum of activity across practice not a distinct sub-field	Digital approaches are key to IA generating more value from its data	Digital is not a silver bullet for the delivery of "perfect" IA

Trends within digital IA
Making the case for digital approaches in IA is getting easier
Effective digital IA systems embrace wider advancements in technology and software
Digital approaches are becoming more integrated into the IA process
The skill set required to deliver IA is expanding
Blending established and digital approaches delivers effective outcomes
Increasing opportunities for truly local to global IA teams



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Beyond the State of Digital IA Practice

Professional discussion needed on...

How digital approaches + technology could change IA practice in the longer term

Can digital IA provide new ways to demonstrate ESG outcomes?

What role will AI play in the future delivery of the IA process?

Might digital move IA from plans/projects to *geographies*?

Will open-source data and tools enable democratization of IA?

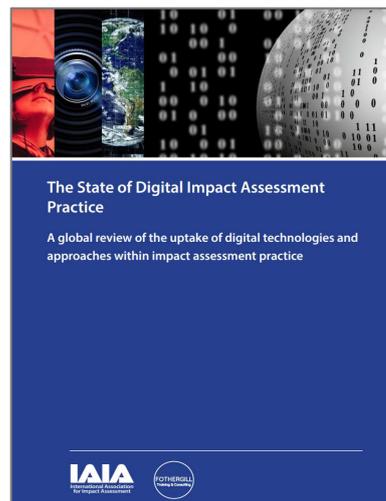


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NEXT STEPS

Post-webinar:

- Read, reference + make use of the *State of Digital IA Practice*.
- Spread the word to other IA professionals and within project teams.
- Consider benefits, barriers and risks when considering digital approaches.
- Engage in discussion and share case examples.



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	<h2>Question & Answer Session</h2>  <p>Download, here: https://www.fothergilltc.com/digital</p>	
<p>Fothergill Training & Consulting Ltd E: Josh@fothergilltc.com W: www.fothergilltc.com</p>		

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This Project was supported by an IAIA Innovation Grant

- Innovation Grants are a competitive funding source from the IAIA Board to encourage members to undertake innovative projects to advance the strategic direction of IAIA.
- Grants range from \$2,000 to \$5,000.
- The Board awards a small number of grants that advance IAIA's direction each year (2-4), depending on available funds.
- Projects should be deliverable in 12 months.
- Projects that leverage financial / in-kind support from others are encouraged.

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Thank You for Attending

The State of Digital Impact Assessment Practice

Launch Webinar

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Thank you!

Let's continue the discussion:

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