

INSIGHT REPORT

DRIVING THE DIGITAL AGENDA IN ENVIRONMENTAL CONSULTING

Environment Analyst explores how consultancies are moving forward under the digital momentum both internally for their businesses and externally for their clients, and making the most of collaboration with the IT sector.

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AECOM'S DIGITAL JOURNEY

It's certainly been a question that AECOM's Peter Skinner has been asking himself.

As "a man of a certain age", Skinner is modest about his own digital capacity, noting that whilst he may not quite understand all the intricacies of how it works, he can appreciate the broader benefits.

In fact, Skinner is being somewhat bashful on this point because in reality he is the architect behind AECOM's digital strategy - at least for the environmental activities. (And he's pulling the purse strings!)

For Skinner, we are unarguably in the midst of a digital transition.

AECOM had been exploring technologies that would be digital for some time, but many of its projects, including those involving data and telepresence, had increased their reliance on digital tools.

Two years ago, he started to get into formulating a strategy for building a program.

Just as critical to the business success was his knowledge of the market. Skinner had been in the industry for 20 years.

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ERM'S DIGITAL JOURNEY

ERM too sees digital technologies as fundamental going forwards. In its 2017 sustainability report, the firm made clear the importance of leveraging high-tech solutions, noting: "Advances in technology and rapid digitization provide great opportunities for businesses and other organizations to become more productive, innovative and relevant in a fast-changing world. The ability of organizations to manage sustainability challenges relies on developing and harnessing technology to find new solutions."

Underlining the firm's commitment was the appointment of Shawn Doherty in 2017 to a new role to lead a strategic imperative called Harnessing Technology

fundamental both for its own operational success as well as that of its clients. "At ERM we are equally focused on new digital services to our core clients, advising clients on what the possibilities are in their own HSE and Sustainability programmes, as much as we are about transforming the way we deliver our core services. We have been making important changes to our organisational structure and have added new leadership to support this transformation.

"In the last few years, we have focused quite extensively on leveraging smarter data visualization techniques to improve decision-making. We have also moved a significant amount of our workloads to the Cloud. We are now seeing that our

with our key clients, we identified the opportunity to invest in globally-consistent and configurable approaches to collecting, managing, visualizing and reporting data. In addition to being able to deliver our services faster, better and safer, we saw an obvious opportunity to create robust data assets as we go.

"Using Design Thinking methods and some external agile development know-how, we built a solution for our sites and remediation services deployment started that was launched in our application of our methodology of our methodology line. This has resulted in 25% of our ERM's 150,000 employees

ERM's Digital Services

Helping clients transform their ERM operations to drive better performance and realize new value by harnessing data and technology

ERM Data Management & Analytics

Helping clients translate their data assets into actionable insights to improve business outcomes and create unmet value



Digital ERM Advisory
Helping clients understand and operationalise transformation to address challenges and improve outcomes

and Data' as part of the ERM's five-year strategy

Doherty summarizes the challenge: "Digital is core to our firm's strategy; we see it as paramount to earning client loyalty with our leading clients we see the value in leveraging technology through apps, wearables, devices to collect more of the data and using the analytics to make better decisions. The demand is in the hands of our clients. As a result, we have

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PARTNERS TO RIVALS

Arcadis recently set up its Digital Innovation Hub in Amsterdam, the focus of which is to identify opportunities for new products and services to meet its clients' current and future needs. One strand of the initiative is the three-month 'Arcadis City of 2030 Accelerator' programme, which will see the firm partner and mentor ten selected start-ups from around the world as they seek to develop the latest innovations, ranging from 3D real time master planning to blockchain-enabled mobility to AI-driven data analytics on public space use. (The other strand is the Digital Studio Incubator, the company's internal product and service development group.)

In fact, Arcadis has made digital a cornerstone of its strategy and publicly stated its goal to be a 'digital frontrunner in our industry'. It's made a good start, having recently been named by Dutch business publication *Het Financieele Dagblad*, as the second most digitally advanced firm in the Netherlands based on six criteria (strategy, governance, talent, culture, technology and business processes). Also in the top ten is compatriot and EC rival, **Royal HaskoningDHV**.

Meanwhile, **Mott MacDonald** is courting start-ups and tech companies that are "developing innovative digital solutions in our areas

of interest" through Mott MacDonald Digital Ventures (MMDV). "Our digital ecosystem includes organisations of all sizes, with a selected cohort programme to help accelerate start-ups," Mott says.

At the other end of the scale, Mott MacDonald has also just announced a strategic partnership with Microsoft to create a cloud-based digital design platform, using 3D modelling, simulation and AI, to help governments and businesses. Under the deal, which will be announced in detail in the coming days,



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Managing the impacts of climate change will be a very difficult problem to address without access to the large technology

Azure. The platform is already said to be helping Auckland City Council in New Zealand better engage with its customers by improving the accuracy of water quality predictions and the associated public health risk, from less than 20% to greater than 50%.

Trudy Norris-Grey, chief executive director of local and regional government and CityNext at Microsoft, says that one of the partners in the programme is time Microsoft is helping the company to not only improve its smart city solutions but also to improve its

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DIGITALLY ENGAGING WORKFORCES

So providing your staff are not about to quit, equipping them with the tools - and training to use them - is going to be critical in future. Global management consulting and professional services firm **Accenture** talks of leveraging the latest technologies to reinvent existing roles to make staff 'human+'.



"This growing collaboration between humans and technology creates new opportunities, but also presents new challenges. Today's enterprises are still optimized for the workforce of the past, leaving a disconnect that stretches across the organization. Companies have inadvertently created a new digital divide between themselves and their human+

recently wrote that the ability to write code is becoming "as fundamental" as yesterday's three Rs (reading, writing, arithmetic).



It might be a bit late for some of us to start learning Java or Perl but firms like **Arcadis** are in no doubt of the importance of a digitally savvy workforce in order to, as it says, "carefully grow 'the new'".

It was the reason the firm launched its "cornerstone digital transformation program" named Expedition DNA, "to drive the development of enhanced digital capability, and engage our people in the digital transformation of our business". The programme aims to build awareness and a common language

2018. Open to all 27,000 Arcadians, the aim is to build awareness of the firm's digital strategy and its implementation across the three time horizons: H1 - the digitization of its current business offerings; H2 - the creation of new digital products within the current business model; and H3 - development of new products and services with new business models.

Arcadians are also offered intensive 'Expeditions' which are enabled to connect and undertake a digital journey across four 'realities' of digital transformation.

The initiative is supported by voluntary digital skills training across the global workforce.

Lara, a senior manager at Arcadis, says: "We are committed to building a digital workforce that is ready to embrace the future."



workforces. To help close the gap, we offer strategies that address the next generation's new needs.

The future is now. It's time to invest in your workforce.

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THE BIG DIGITAL BANG

So, when is the EC sector's Digital Day Zero?

Actually, there probably won't be one, according to Skinner. He likens it to the transition from writing paper cheques on a daily basis to electronic payments. You might still have a half-empty, dog-eared cheque book still lingering at the back of a drawer but when was the last time you actually wrote one?

Combes is of the same opinion. He adds that in many cases it's likely to be driven from the top: "For example, a major retailer will tell the suppliers on their supply chain that they're going to be operating via blockchain in future so if you want to be part of that supply chain you'll need to factor that in."

All sectors, including EC, are currently in a process of digitalising their operations.

McKinsey talks of Digital Quotient® (DQ) as a measure of an organisation's performance across four key dimensions of digital maturity - strategy, organisation, culture and capabilities - which can then be used to identify digital strengths and weaknesses across business units and prioritise the initiatives of greatest potential impact.

GHD practice director for digital innovation Jacyl Shaw builds on this and highlights three key ingredients crucial to building a "digital mindset" to navigate this fourth industrial revolution: "This is about being tri-lingual - adding IQ and smarts with EQ (being able to engage with our clients, our communities and being responsive and aware) and what I have heard called AQ - adaptability quotient - the ability to live with ambiguity, to be comfortable with not always knowing the answer and being curious about the unknowns."

There seems little doubt that the industry is building and embedding digital strategies remain relevant. The future is going to be a lot different. It will come!

Can Skinner's prediction of a "digital environmental consulting industry" be done?

For him, looking even five years ahead is a bit like the hoverboards from Back to the Future: you can have fun imagining but you'll probably be wrong; clearly, we haven't quite cracked the personal flying vehicle technology just yet. [That said, **Antea Group** has just recently signed a global partnership agreement with **PAL-V**, manufacturer of the PAL-V (personal air and land vehicle), a compact, two-seater gyroplane that can travel by road or by air - precisely "personal flying mobility"!] But helping AECOM to uncover some of the unknowns are "skunkworks" teams, who are given total autonomy to look at problems in a completely different way:

"It gives them the chance to think the unthinkable and to challenge conventional wisdom; it's a really strong way of getting a quantum leap into our thinking."

And, what Skinner can visualise is that in two years' time there will be more greater consistency around the use of cutting-edge digital technologies across the global AECOM operation. "We will be doing well what most of our operation are already doing. I'm sure we will also be doing well in many areas; we'll be agile."

ERM's Deborah Doherty agrees, too, saying that digital planning is a professional imperative. "We will be doing well what most of our operation are already doing. I'm sure we will also be doing well in many areas; we'll be agile."

mention but I think blockchain that will have a huge impact on the environmental consulting industry because it touches so much in terms of supply chains and transparency and traceability; it's going to transform how the environment is perceived, and moving it from shareholder to stakeholder. It is going to be really interesting. The tokenisation of recycling for a broader community. Traceability, transparency, it is going to be huge."

And he is in no way revolutionising the way we do things. It's not quite that simple. Underneath it all, an environmental consulting firm is still a consulting firm.

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ENVIRONMENT ANALYST'S GLOBAL 22	DIGITAL STRATEGY	KEY DIGITAL-DRIVEN DEVELOPMENTS 2018/19 (inc. M&A, innovation, partnerships, key hires & project examples)
AECOM	Through its Digital by Design strategy, Aecom is aiming to 'leverage technology to deliver services to clients'. The strategy also includes the establishment of robust IT governance processes and policies to ensure consistency and standards across all the global group's operations, clients and projects. Particular focus on digital transformation (digital data management, analysis, presentation; IoT; drones & remote sensing; virtual & augmented reality technology)	<ul style="list-style-type: none"> • 5-year strategic partnership with SilScape that will see the roll out of SilScape's digital enterprise enablement platform (DEEP) software solutions across AECOM's Management Services group • Global strategic alliance with Arrow Electronics in response to growing demand for development of Smart City and digital transformation initiatives, and to accelerate the delivery of these solutions into AECOM markets • Partners with HTC Corporation, technology innovator, smart mobile and virtual reality technologies, to jointly develop and extend VR technology to benefit the architecture, engineering and construction (AEC) industry
ANTEA GROUP	Innovation is a strategic priority with particular focus on digital transformation, including sensoring, 3D printing and asset and data management	<ul style="list-style-type: none"> • Launch of Innovation Hub in Poland as a physical centre aimed at providing digital solutions in specific countries across the globe • Acquires Poland-based technology solutions provider to international level • Acquires Poland-based technology solutions provider to international level • Acquires Poland-based technology solutions provider to international level
ARCADES	Innovation through digitalisation is a stated strategic priority, with the focus on scaling existing technologies and exploring new technologies as it targets data-driven business models, human-centric digital solutions, and co-creation of new technologies with clients. Firm claimed "significant progress" on its digital agenda in 2018. It is aiming to be a "digital front runner in our industry"; firm has committed to reporting the % of revenues invested in digital technologies going forwards	<ul style="list-style-type: none"> • Launch of innovation hub to identify and scale digital solutions • Acquires Poland-based technology solutions provider to international level • Acquires Poland-based technology solutions provider to international level
CARDNO	Cardno has actively been investing in technology and digital solutions	

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