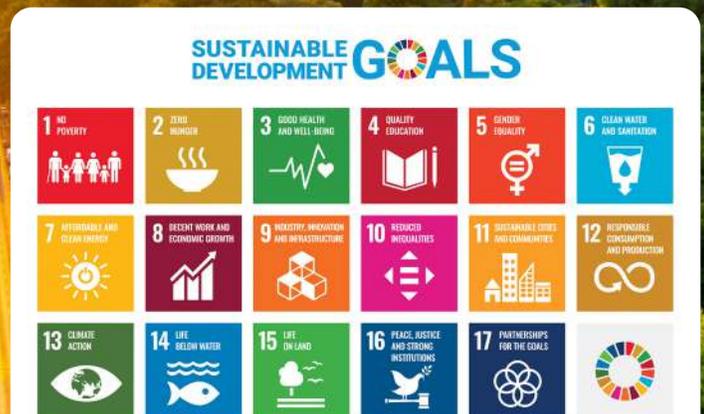


ES(D)G Initiatives



An ES(D)G initiative is a programmatic activity, engagement, or partnership with organizations or communities that deliver positive impacts (environmental handprints) to the United Nations' Sustainable Development Goals (SDGs) through collective action or ecosystem collaboration. These initiatives mainly promote user empowerment, building capacity, pilot initiatives, technology innovation, and acceleration initiatives.

iTWIN PLATFORM

The Bentley iTwin platform is an open, collaborative, vendor-agnostic, scalable cloud platform that provides APIs and services to help developers create digital twin applications that project teams and owner-operators can use to create, visualize, and analyze digital twins of infrastructure assets.

The Bentley iTwin platform is built on an open-source library called iTwin.js that users or independent software vendors can build on, reaffirming our commitment to an open ecosystem. The impact we expect the Bentley iTwin platform to have on society is aligned with SDG17 – Partnerships for the Goals, on target 17.17: Encourage and promote effective public, public-private, and civil society partnerships, building on the experience and resourcing strategies of partnerships.

The Bentley iTwin platform is the foundation for iTwin-powered applications and infrastructure digital twin solutions designed by Bentley and its strategic partners, digital integrators, system integrators, independent software vendors, and software developers.

The Bentley iTwin platform has been used recently in [optimizing offshore wind energy production efficiency](#).

One important ongoing development is the automated workflow for lifecycle assessment (LCA) or carbon footprint analysis in infrastructure projects.

iTWIN VENTURES

Bentley iTwin Ventures is a corporate venture capital fund fostering innovation by co-investing in startups and emerging companies strategically relevant to Bentley's objective of advancing infrastructure through going digital. The fund prioritizes seed investments in transformational digital twin solutions supporting design, simulation, construction, or physical infrastructure operations.

Bentley iTwin Ventures strives to invest in companies that are consciously working to create diverse leadership teams that are inclusive across gender, ethnicity, age, sexual orientation, disabilities, and national origins.

Priority areas for investment include IoT; Transportation; Renewables/Clean Tech; Digital Cities; Utilities Reliability; Environmental; Water Reliability.

ES(D)G related portfolio:

FutureOn: PaaS digital twin technology supporting energy companies' subsea field development projects, including energy transition on [emerging sectors such as offshore wind, green hydrogen, and carbon capture solutions](#).

SewerAI: Web-based wastewater and stormwater condition assessment, promoting increased efficiency in urban water cycle management by reducing inflow/infiltration reduction.

Unearth: Cloud-based integrated field operations platform helping critical infrastructure providers connect assets, data, and field teams. The field operations solutions include vegetation management, emergency response, and integrity management, increasing resilience, and modernizing energy utilities and the energy grid to provide cities with a more sustainable future.

ES(D)G Initiatives

iTWIN PARTNER PROGRAM

The iTwin Partner Program fosters a thriving community of organizations that share our vision of creating an open ecosystem for infrastructure digital twins, accelerating digital transformation and speeding up climate action. We achieve this by supporting the development of applications built on the Bentley iTwin platform and enabling organizations to take their digital twin applications to market.

Digital Construction Works: Digital integration services in the construction industry to reduce time, costs, materials, and waste.

Digital Energy: Digital transformation in the energy industry for increased efficiency, safety, sustainability, and transparency. The company improves the use and reuse of resources across industrial supply chains by collecting, measuring, and benchmarking environmental data.

Microsoft: Leveraging a strategic partnership with Bentley for sustainability and an alliance to accelerate infrastructure digital twins, Microsoft cloud services and Microsoft Cloud for Sustainability integrate iTwin-powered solutions and the Bentley iTwin platform, ensuring reliable, secure, and scalable infrastructure digital twins. Bentley is a launch partner of Microsoft Cloud for Sustainability solution.

Siemens: Bentley collaborates with Siemens as a result of a [strategic alliance](#) to drive new business value through digitalization for infrastructure projects. One of the collaboration points is the [new digital solution for distributed energy resources \(DER\)](#) designed to help utilities unlock previously untapped efficiencies in distributed generation, particularly with regard to accommodating an increasing amount of renewables into the grid, without compromising safety and reliability.

One Click LCA Ltd: [Integrated workflow](#) between Bentley's infrastructure digital twin solutions powered by iTwin and [One Click LCA](#). This integration empowers Bentley's users, digital integrators, and Independent Software Vendors developing third-party applications built on the Bentley iTwin platform to seamlessly compute Life Cycle Assessment (LCA), environmental footprints, and embodied carbon for infrastructure projects. One Click LCA is a leading LCA and Environmental Product Declaration (EPD) generation software for the construction industry.

UNEP – GEOTHERMAL PROGRAM | EAST AFRICA

Across East Africa, there is potential for some 20,000 megawatts of geothermal energy generation according to a report from agencies including the United Nations Environmental Program (UNEP) and the Infrastructure Consortium for Africa (ICA). Seequent (a Bentley company) has formed a partnership with UNEP to deliver software and training seminars on geothermal energy in East Africa. The purpose is to harness geothermal energy in a region where tens of millions of people do not have power.

Between 2014 and 2020, Seequent supported government departments and government-owned utilities in East Africa, including Kenya, Ethiopia, Djibouti, Rwanda, Tanzania, Uganda, by working with UNEP Kenya and the New Zealand Ministry of Foreign Affairs and Trade (MFAT) to supply software and training to help them explore, assess, and manage their geothermal resources.

Geoscientists from the region had access to Seequent software and support, along with internationally recognized consultants.

The impact was seen publicly in 2017, when a geoscientist from Kenya who had been involved with the training won best paper in its section at the Geothermal Rising Conference, the largest annual geothermal conference in the world.

This initiative also involves supporting the biannual ARGeo conference hosted by UNEP.

UNEP – GEOTHERMAL PROGRAM | ICELAND

The [United Nations University](#) runs a Geothermal Technical Program, which involves students from around the world. The program supports the upskilling of students from Europe, Turkey, Kenya, Ethiopia, Tanzania, China, El Salvador, Chile, Colombia, Ecuador, and Mexico.

Seequent supplies software to support the training of these students as a part of their course work alongside the Icelandic Geological Survey and other local companies. It also provides software to postgraduate students to support their research.

GROUNDWATER RELIEF – | TECHNICAL SUPPORT, UNITED KINGDOM

Groundwater Relief is a registered charity in the United Kingdom that provides technical support to the humanitarian and development sector through a global membership of over 390 groundwater experts. Groundwater Relief finds the right people to support organizations, large and small, developing and managing groundwater resources for marginalized and vulnerable communities.

For several years Seequent has provided software for specific projects and occasionally offered technical services. Example projects are the [Rohingya Refugee camps at Cox's Bazar](#), as well as, refugee camps in Yemen, Uganda, and South Sudan. Recently, Seequent has entered into a more comprehensive software supply arrangement with Groundwater Relief.

ES(D)G Initiatives

ZOFNASS PROGRAM | FOR SUSTAINABLE INFRASTRUCTURE AT HARVARD UNIVERSITY

Leaders in large-scale sustainability have come together under the Zofnass Program at Harvard University to identify the metrics necessary to develop a measurement of sustainable infrastructure. This collaboration of leading firms and their representatives is essential for developing and implementing a system that can be accepted industrywide and produce a fruitful contribution toward sustainable infrastructure.

Through an innovative collaboration between academia and the private sector, key contributors practicing within the industries involved in planning and engineering infrastructure have provided support to the Zofnass Program and have worked closely with Harvard's researchers to develop the rating system.

THE CARBON PROJECT | ICE GLOBAL CARBON CHAMPIONS

The Institution of Civil Engineers (ICE) Carbon Project aims to provide the engineering community with the information needed to understand the net-zero challenge and meaningfully contribute to reaching the United Kingdom's net-zero goal. It is an industrywide initiative, bringing together leaders and experts from across the industry to tackle some of the challenges slowing our progress toward net zero. The Carbon Project represents a long-term commitment to a program of collaborative work that shares knowledge and best practices on delivering low-carbon solutions across the industry.

Within the project, ICE's Global Carbon Champions initiative celebrates the individuals and organizations committed to achieving and leading the way toward net zero.

Bentley is a founding sponsor of ICE's Global Carbon Champions initiative. Work has been driven by a steering group of industry leaders with different workstreams, with Bentley involved in the "measuring, sharing, and benchmarking carbon impacts" workstream.

ZERO

[ZERO](#) is an innovation-focused industry group, accelerating the journey to a zero-impact construction industry. ZERO's vision of the future is an industry that places great importance on carbon efficiency. An industry that continuously measures and manages carbon through all project stages, basing project decisions on CO2e emissions, not just cost, time, quality, and safety.

The mission is to learn, share, and raise awareness of relevant topics. Content is focused on original thinking and innovation, sparking change on projects, within organizations, and across the whole industry.

Bentley is a founding member of ZERO, a group of construction professionals that addresses collaboration and support for promoting a low carbon industry, and runs joint webinars, provides knowledge shares, and hosts hackathons.

To learn more, visit:

[BENTLEY ESG >](#)