

AtkinsRéalis



SIMULATOR

Predict. Prepare. Respond and Recover.

SIMULATOR is a planning and analysis tool for managing your systems in a challenging future. Utilized throughout the delivery lifecycle, each industry-focused solution assesses vulnerabilities, develops extensive and stress-tested adaptation plans, aligns funding for implementation, supports monitoring, and continuously reassesses for ongoing operational improvements.

Each industry-specific SIMULATOR solution begins with creating a digital twin of your system. We then project this digital twin into the future, simulating hazards and evaluating your vulnerabilities. Based on these insights, we develop and test thorough plans to enhance resilience through mitigation and adaptation.

SIMULATOR solutions are supported by our team of global experts in planning, civil engineering, sustainability, stakeholder engagement and dynamic simulation to establish a clear understanding of your systems and guide both you and your stakeholders to a shared vision for the future.

Whether you're safeguarding communities, ensuring a safe and reliable transportation network, fortifying military installations, or optimizing port operations, SIMULATOR facilitates proactive risk mitigation, helping you get the funding you need to protect your assets.

Explore projects powered by Simulator

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[Tool](#)

[Boulder](#)
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[NCDOT US 74](#)
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How we deliver

Tracking the data that matters.

Every SIMULATOR solution incorporates a wide range of data analytics to create detailed simulations of complex interactions and system dynamics.

Put simply, it doesn't just look at future rainfall, but at the impacts future rainfall will have on economics, people and the environment.

Data we track includes:

- Agents
- Road system
- Soils
- Buildings
- Stormwater system
- Coastline
- Land parcels/zoning
- Power
- Floodplains
- Political boundaries
- Telecom
- Census

This is then used to deliver key metrics focused on the triple bottom line of economy, people and ecosystems.



Experts in resilience

With more than 2,500 resilience and sustainability experts worldwide, whatever your challenge, our teams can help you.

Our integrated teams typically include planners, engineers, workshop facilitators, data scientists and outreach specialists. And with capabilities across a wide range of industries and services, we bring global knowledge and best practices to all our projects.

We believe that a shared vision is key to success on any project and will work closely with you and your stakeholders at every stage in the process to ensure you have the best solution possible.



Simulating the future

Extreme weather events are often a cause of disruption. We use state-of-the-art weather models to assess vulnerabilities and simulate challenges such as hurricanes, heatwaves and floods. This proactive approach allows you to identify risks early, so you can build resilient communities and infrastructure.

Beyond the weather, our service also lets you simulate population growth, adding commercial and residential infrastructure to mirror real-world urban development. This can help you plan for the community of the future, tracking key metrics like carbon footprint and flood risk.



Securing grants and funding

Our SIMULATOR solutions are designed to provide all the data you need to build winning grant and funding applications.

Compatible with a range of resiliency methodologies (e.g. ENVISION, Florida Resilience Grants, PIEVO), our team can rapidly align your SIMULATOR process to your preferred framework. This ensures that whatever solution you discover, it's supported by the right data speaking the right language, to ensure funding success.

Simply put, the SIMULATOR team can help assess, plan, design, install, fund (or prioritize existing funding), and validate, partnering with you to run your operations efficiently and successfully.

SIMULATOR

For Cities

Whether it is risk of flooding, ensuring continuity of energy throughout the grid, or maintaining economic productivity, our cities face tough challenges.

These uncertainties can mean a lot of disruption for communities, businesses and government services. Simulator for Cities provides you with unparalleled insight to help quickly identify risks, quantify future costs, apply for funding and find solutions that will work for communities now and in the future.





SIMULATOR

For Transportation

Transportation networks provide vital lifelines in managing the movement of people and goods. Understanding threats to maintaining these networks, identifying where vulnerabilities exist and how to mitigate them will improve the overall safety of the traveling public and commerce within a state.

Simulator for Transportation can focus on a single maintenance facility, a specific corridor, or a larger geographical area to provide a DOT with a risk assessment of critical infrastructure and systems by analyzing current and future threats, developing mitigation strategies, performing a cost/benefit analysis and identifying opportunities for grant funding. Having a safe, reliable transportation network improves community connections, quality of life and economic prosperity.

NCDOT US 74 Corridor

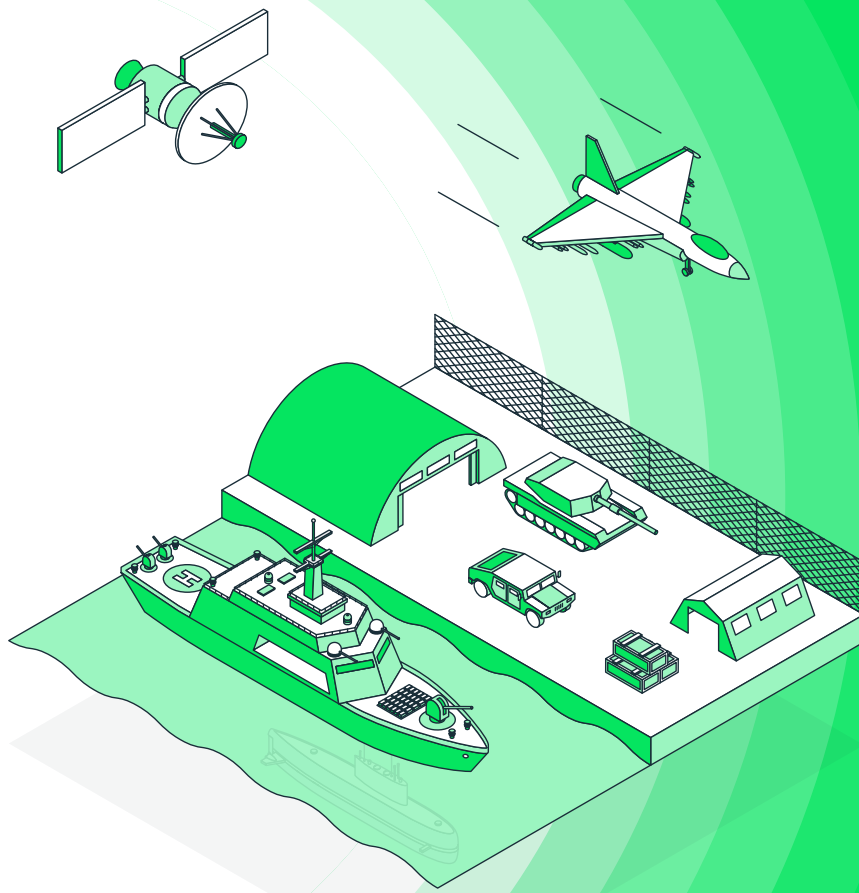
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For Seaports

Cargo movement faces challenges at sea, at port and on land. Anticipating those challenges, avoiding them where possible, and adapting to them where necessary is critical to keeping a safe and efficient operation.

Simulator for Seaports **mimics** the global supply chain moving through your port providing insight on performance with detailed data to pinpoint vulnerabilities, quantify impact and ensure you're developing the most effective solutions possible.





SIMULATOR

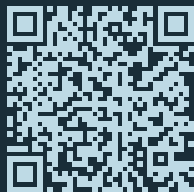
For Installations

Simulator for Installations evaluates resiliency of installation infrastructure and identifies cost-effective solutions tailored to leadership priorities.

Our expert team will guide installation professionals through an in-depth analysis and assessment of current and future installation performance through locally informed (man-made, earthquake, and weather) scenarios, thereby defining and analyzing future scenarios, giving leaders the confidence to make effective, data-driven decisions.

Engineering a better future for our planet and its people.

**Build resilience.
Scan now.**



We're a world-class engineering services and nuclear organization. We connect people, data and technology to transform the world's infrastructure and energy systems.

Together, with our industry partners and clients, and our global team of consultants, designers, engineers and project managers, we can change the world.

We create sustainable solutions that connect people, data and technology to transform the world's infrastructure and energy systems. We deploy global capabilities locally to our clients and deliver unique end-to-end services across the whole life cycle of an asset including consulting, advisory & environmental services, intelligent networks & cybersecurity, design & engineering, procurement, project & construction management, operations & maintenance, decommissioning and capital.

The breadth and depth of our capabilities are delivered to clients in strategic sectors such as Engineering Services in key regions (Canada, the United States, the United Kingdom, as well as Asia, the Middle East and Australia), Nuclear and Capital.