

# X-ACT

## RISK INTELLIGENCE

Expose risks and gain certainty in decisions with X-ACT



The ability to anticipate and agilely respond to risk is key to the success of any organization. This requires a future understanding of what could go wrong and how to limit the consequences. X-ACT® exposes risks, which are undiscoverable using other methods of analysis, to help users fix problems and prepare for what's next.

Using digital twin technologies, X-ACT allows users to explore multidimensional risk scenarios and identify conditions that might lead to an undesirable economic, performance and/or quality outcome. This includes risks that are difficult to quantify due to a lack of comprehensive data, foresight or the inherent complexity of modeling many-to-many relationships.

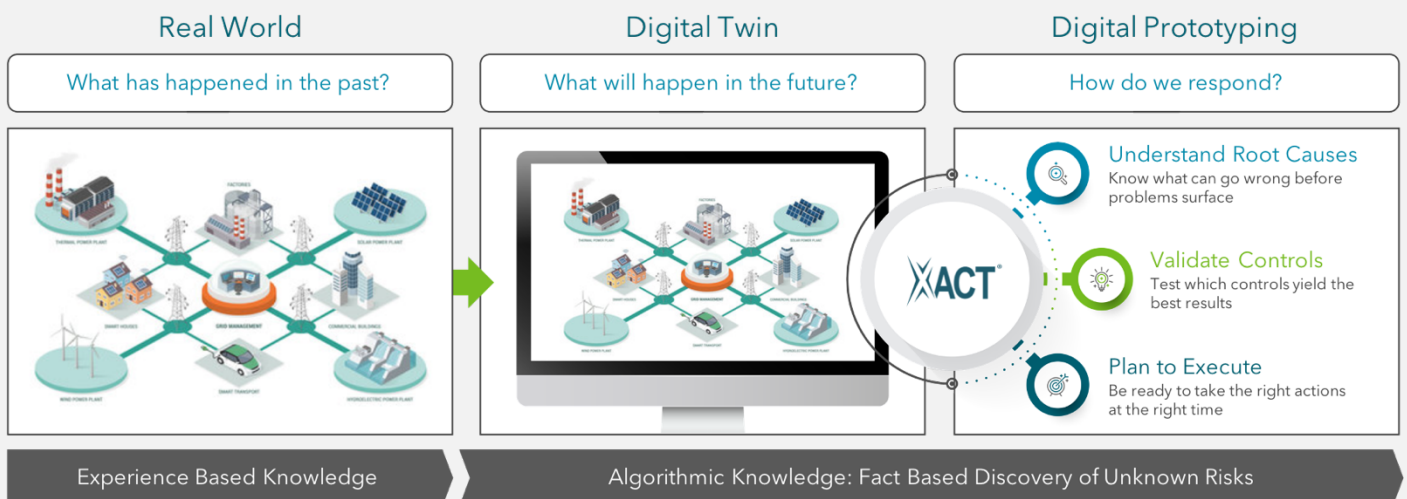
### UPENDING OUTDATED TRADITIONS

Past experience can be useful when analyzing the probability and impact of risks that have happened before and may happen again under the same set of circumstances. The bigger challenge is managing unknown risks.

Obvious examples of risks that were missed by outdated risk practices include Covid-19, the economic meltdown of 2007-2008, and the Fukushima nuclear accident.

- Risks form through complex interdependencies and dynamics that may be difficult for people to understand until the event happens.
- Consequently, neither historical data nor experience can help decision makers anticipate or control risks when they haven't happened before.
- Even as evidence of problems begin to surface, humans have a tendency to downplay the possibility of an outlier event and underestimate its impacts.

## X-ACT Extends Risk Knowledge to Include Unknowns



At every turn, unanticipated global or localized risks can upend an organization. Even as the economic events of 2007-2008 were unfolding, the US Federal Reserve risk model did not predict the scope or severity of the resulting recession. Years before Covid-19 hit, scientists warned people to prepare for the possibility of a coronavirus pandemic. When it hit full-bore in spring of 2020, plans to contain the health and economic impacts of the virus were still lacking. The translation of uncertainty into unpreparedness highlights the fundamental flaw in traditional risk management practices.

## A SMARTER WAY TO ANALYZE RISK

Many executives and operational teams have become complacent, believing it is not possible to expand risk intelligence to include events that are difficult to imagine or have never happened before. Still, critical industries, like aerospace and chemical engineering, have proven that risk management practices can be improved through the use of digital twin and digital prototyping technologies. These advanced risk analysis capabilities are made ready for executive and operational teams through X-ACT.

## HOW X-ACT WORKS

To start, X-ACT software builds a digital twin that captures a mechanistic representation of the real-world processes, systems and/or assets that define the scope of the assessment. Then through sensitivity and stress testing, X-ACT uses artificial intelligence (AI) to expose problems that already exist or circumstances that might lead to a new risk. The twin reveals future risks by finding any conditions that might cause its real-world counterpart to deviate from its expected behavior.

Risk knowledge is derived independent of historical cases or the conceived probability of such an event happening. In this way, the algorithmic intelligence is generative. Meaning it encompasses both the historical knowledge commonly used in AI decisioning as well as new knowledge that covers the unknowns. This solves the partiality and uncertainty problems of traditional risk practices that allow risks to grow undetected or be dismissed as outlier events.

- The risk reporting in X-ACT provides clear metrics that replace the guesswork of risk rating exercises with fact-based knowledge of the exact conditions, which lead to a risk and the resulting business economic, performance and quality consequences.
- As risks are revealed, fixes or controls can be identified using digital prototyping and implemented as needed.
- Users can gain confidence in decisions and see how different choices play out under various conditions. This is particularly useful to predict the outcome of scenarios that would be difficult, costly or even impossible to test in the real world.

## X-ACT DRIVES BETTER OUTCOMES

Businesses and governments worldwide trust the risk analysis capabilities delivered by X-ACT to know what can go wrong and how to fix it under any known or new circumstances.

### \$170M IN COST AVOIDANCE

A fast-food franchise with more than 36,000 outlets worldwide was undertaking a \$250M project to create a unified customer relationship management (CRM) and supply chain management (SCM) system. Part way into the project, they began using X-ACT and discovered that the project would not deliver as planned. X-ACT digital prototyping helped the business justify the decision to abandon the failed project. This resulted in \$170M in cost avoidance and provided the risk analysis capabilities they needed to verify that the new project would meet the requirements of the business from the outset.

### \$120M IN COST SAVINGS

Based on traditional risk analysis, a postal service provider thought it needed 75 sorting centers to service its customer base. X-ACT digital prototyping proved that 22 sorting centers would be sufficient. Using this new risk intelligence, management was able to prove its case to the board and confidently take action. As a result, the consolidation of sorting centers saved the business \$120M without altering the service quality or volume capacity in any way.

### \$20M IN COST SAVINGS

A metropolitan hospital network used X-ACT to manage cost escalation and service quality degradation risks. With the digital twin, they were able to identify the root cause of service conflicts and measure the direct impact on cost, quality and patient volume metrics. Using X-ACT digital prototyping, the hospital network was able to streamline patient services to deliver a better standard of care and realize \$20M in cost savings.

### REDUCED EXPENSES BY 20%

Following a merger with a market competitor, a major European airline used X-ACT to manage its migration risks and guide plane maintenance optimization decisions. With the insights gained from X-ACT, the airline was able to reduce plane maintenance service times, gain better control of operational risks, meet performance and quality targets and cut operating expenses by 20%.