URMGROUP

X-ACT HOSPITAL EFFICIENCY

Gain confidence in decisions, deliver the highest quality care at the lowest cost and continually find opportunities for improvement

OVERVIEW

Hospitals today face the extraordinary challenge of balancing competing goals in terms of cost, quality of care and patient capacity. COVID has further widened the gaps in healthcare processes that could not be filled with traditional workflow and capacity management tools. To do more with less and deliver better value, hospitals need reliable information that can be used to continuously adapt to change, identify boundaries, and proactively search for and resolve issues. The X-ACT® Solution as a Service (SolaaS) helps hospitals address a variety of issues that need to be intelligently managed to manage costs, improve patient satisfaction, and gain a competitive advantage.

- Find and remove bottlenecks in complex patient flows
- Remove waste and contain rising patient costs
- Agilely respond to changing patient populations and demands for high quality care
- Improve patient outcomes and satisfaction
- Adapt to new environmental or patient advocacy regulations

With an end-to-end understanding of the complex factors that drive costs, efficiency and patient satisfaction, hospitals can gain confidence in decisions, deliver the highest quality care at the lowest cost and continually find opportunities for improvement.

X-ACT uses advanced mathematics to create a mechanistic digital twin which accurately replicates the outcome of time-dependent behaviors that other tools miss. With an accurate digital representation of real events that could happen under a given set of circumstances–regardless of whether or not those events have occurred previously–hospital stakeholders can make smarter decisions and innovate in a virtual world first.

Hospital use X-ACT to anticipate the real-life outcome of decisions before making any changes that may have significant safety, capacity or cost implications. Unlike static modeling approaches, X-ACT uses advanced algorithms to concurrently analyze time dependent relationships between tens of thousands of healthcare facilities, assets, technologies and related processes in a single model.

This avoids segmentation requirements, drastically reduces time spent on model construction and helps users find answers to more complex questions. For example, "What will happen if service demands increase by 20%?" "Which actions will help offset the risk of staff shortages?" And, "How can we meet patient care standards without passing significant costs on to consumers or taxpayers?"

NTT DaTa
Trusted Global Innovator

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SCENARIO ANALYSIS

By analyzing what-if scenarios, X-ACT clearly identifies issues that can affect the cost-effectiveness, capacity, or quality of healthcare services. To detect waste or plan for the future, X-ACT automatically calculates future model states. This makes it easy for users to change parameters, such as patient load, availability of resources, the functionality of devices, or the age of devices, to find scenarios that cause problems or improvements.

Using the improvement recommendations provided by X ACT, users can create optimization or redesign plans with a clear understanding of the expected results and return on investment. One of the biggest benefits of X-ACT is its ability to discover known and unknown risks that other tools miss.

- X-ACT is able to reproduce the dynamics and identify process, technology or infrastructure risks that can be caused by a change in circumstances

- X-ACT uses a mechanistic model to avoid the drawbacks of big data or heuristic approaches that are data-dependent, time-consuming, and less reliable

Gain Clarity

Discover opportunities and problems that other tools miss with industry's only digital twin that covers all cross domain dynamic interdependencies—including hospital processes, services/patient flows, personnel, equipment and technology—in a single model.

Plan for the Future

Verify the outcome of any planned changes that would be difficult, costly or even impossible to test with other digital twin solutions or under real circumstances.

Make Smarter Decisions

Make fact-based decisions based accurate digital representation of real events that could happen under a given set of circumstances—regardless of whether or not those events have actually occurred.

Measure & Guide Success

Use simple to understand KPI metrics and reports to communicate progress towards meeting efficiency goals and any risks to all stakeholders.
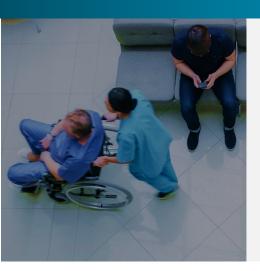
Achieve Fast ROI

Derive value within the first 3 months of use with an iterative methodology and a library containing best in class hospital configurations that make modeling and scenario analysis easy.

Patient Flow Optimization

Hospitals use X-ACT to identify what actions should be taken and when to support the continuous efficiency and cost-effectiveness of operations. X-ACT helps identify the root cause of bottlenecks and waste in all areas of healthcare and find the best way to improve costs, productivity, and patient satisfaction across all environments and processes.

- Validate the best way to balance patient loads in collaboration with regional treatment centers
- Optimize space utilization and scheduling processes to reduce bottlenecks
- Organize integration of risk / prioritization schemas

Capacity Management

X-ACT helps hospital stakeholders achieve better preparedness and transparency to control risks and avoid issues when demand for services surge or patient demographics shift. With X-ACT digital twin technologies and scenario analysis, users can identify potential points of failure, evaluate options for improvements and make decisions with full confidence in the outcome.

- Evaluate risk and controls necessary to manage changing service demands and needs of aging population
- Create a stepwise program to meet new healthcare mandates and regulatory requirements
- ...

Digital Transformation

When considering a disruptive move, X-ACT capabilities help decision makers validate the best course of actions, costs and expected outcomes. As transformation programs evolve, X-ACT exposes any project risks and ensures that the implementation conforms to the promises made during the early stages of project definition.

- Innovate in virtual world to validate the benefits of new technologies or anticipate real-life decision outcomes that may be impossible to apply otherwise due to safety or cost concerns
- Clearly assess the financial, regulatory, operational, environmental or safety risk/reward of any changes

HÔPITAUX DE PARIS

Hospital Facts & Figures

- 39 area hospitals
- 1.2 million hospital beds
- Serving 7 million patients per year

GOALS

- Reduce costs without compromising the quality of care
- Manage growing demands for high quality care and seasonal fluctuations
- Optimize patient queues/eliminate service inefficiencies

SOLUTION

- Create a representative digital twin that covers parameters and interdependencies for 39 hospitals in the area
- Perform stress and sensitivity analyses to uncover inefficiencies
- Conduct a two-step project to consolidate patient record storage and provide access to all healthcare resources

RESULTS

- Consolidate the storage of patient records
- Improve resource utilization and patient experience
- **9% immediate cost reduction** for patient care
- **10% future savings** with improved quality of care

XACT®

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