

# IDEAS IN ACTION: A Case Study

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## AIT Business Process Model for Procter & Gamble:

*Forecasts Opportunities and ROI*

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### Background

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XIO Strategies, together with its partners from The RFID Solutions Center (RSC) and EDaptive Computing, recently completed a supply chain process analysis for Procter & Gamble (P&G). The goal of the project was to model a discrete set of supply chain operations within P&G in order to identify the benefits and investment required to integrate two Automatic Identification Technology (AIT) alternatives, Passive UHF Radio Frequency Identification (RFID) and 2D Barcode. XIO served as the supply chain subject matter experts (“SME”) to support the development of this supply chain analysis. In this role, XIO developed the initial process map to support the process modeling within the EDaptive software, and worked with P&G to gather the necessary process data and validate the process flow, assumptions, and metrics.

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Kim Zimmer, Associate Director,  
Global Operations for P&G

By building a simulated model that captured key supply chain metrics, including order cycle times and average process times, the team was able to illustrate current operations and provide strategic insights through simulated potential improvement programs. In addition to the process improvements captured in the models, a number of other processes were identified as providing opportunity for benefit, including scrap count and annual inventory. This case study provides an overview of the project.

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### Approach

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P&G recognizes the importance of developments in the pharmaceutical industry establishing the electronic tracking of controlled prescription pharmaceutical products. What it needed to understand was the supply chain optimization cost benefits and investment required to implement AIT ahead of these developments. Moreover, it looked to identify competitive strategic advantages from deploying Passive RFID and 2D Barcode technologies across its pharmaceutical supply chain operations.

Modeling a complex supply chain environment is no small undertaking, so P&G engaged a team of subject matter experts led by the RSC. Working with P&G stakeholders, the project team set out to develop a process and simulation model for a subset of the existing pharmaceutical supply chain, from packaging through warehouse/ distribution.

The RSC helps organizations in the evaluation and adoption of RFID through education, partner collaboration, and professional services. To address the unique challenges and opportunities offered by this project, the RSC called upon XIO’s supply chain expertise and breakthrough technology offered by EDaptive Computing Inc. (EDaptive) - EDaptive® Syscape™.

“Using EDaptive® Syscape™”, said Bob Weston, P&G Pharmaceutical Customer Service & Logistics, “we were able to incorporate historical company data into an accurate business process model resulting in a key baseline metrics for order cycle time, average process time, and overages, shortages, and damages (OSD).”

With a solid baseline model in place, various AIT implementation scenarios were tested for tagging at the item, case, and pallet levels. With extreme accuracy, these models were used to quantifiably analyze each scenario, including their related costs and benefits. The predictions provided tremendous insight.

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## Results

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Implementing AIT in the pharmaceutical supply chain would have tremendous benefit according to the process models, with the greatest results coming from process improvements. For example, when RFID was implemented labor was reduced by 26% and OSD was reduced by 67% after only a modest fixed capital investment. Even after factoring the ongoing costs of consumables and expenses, the model illustrated a simulated first year ROI of around 100%, with a low case cost.

The model was also used to evaluate alternative AIT technologies, such as 2D Barcode. By implementing 2D Barcode technology, for example, labor was reduced 8% and OSD again showed a 26% reduction. In the long run, RFID proved to be the most advantageous.

Beyond evaluating process improvements, the simulation model helped P&G and the project team to identify other benefits derived from implanting AIT. Scrap count and inventory procedures were each enhanced through AIT. Additionally, increased asset visibility led to an improved returns process, recalls, and decreased cycle times which in turn reduced safety stock levels and holding costs. Each of these identified efficiencies allows P&G the ability to be more responsive to supply and demand alignment, more responsive to customer's needs, and to further evaluate opportunities for process improvement.

"Through modeling, simulation, and analysis of these AIT technologies," said Kim Zimmer, Associate Director, Global Operations for P&G, "it is clear that there are opportunities for benefit. Based on these state-of-the-art simulation modeling tools, RFID yields the most promise in the near term."

P&G is now poised to leverage the quantitative analysis gained from the simulation models. It knows where to invest time and effort for the greatest return, and thanks to the EDaptive Syscape models it understands the expected returns on its efforts. And as the pharmaceutical supply chain evolves, P&G will be prepared to implement a proven AIT model.

**According to the process model, a modest fixed capital investment in RFID could bring labor reductions of up to 26% and overages, shortages, and damages could be reduced by as much as 67%.**

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**About XIO Strategies, Inc.:** *XIO Strategies specializes in providing end-to-end supply chain management and change management consulting services to government, military and commercial organizations. XIO works with organizations both large and small to effectively support technology deployment, conduct research and training, create marketing materials, and manage communications programs during periods of change. Through work in policy planning, process analysis and deployment of the next generation of AIT tools, the XIO team strives to optimize supply chain processes so they are poised to propel our clients forward. For more information, please visit us on the Web at [www.xiostrategies.com](http://www.xiostrategies.com).*