



PROFIT OPTIMISED OMNI RETAIL SOLUTIONS: OVERVIEW

Maximise Profit. Improve Customer Experience

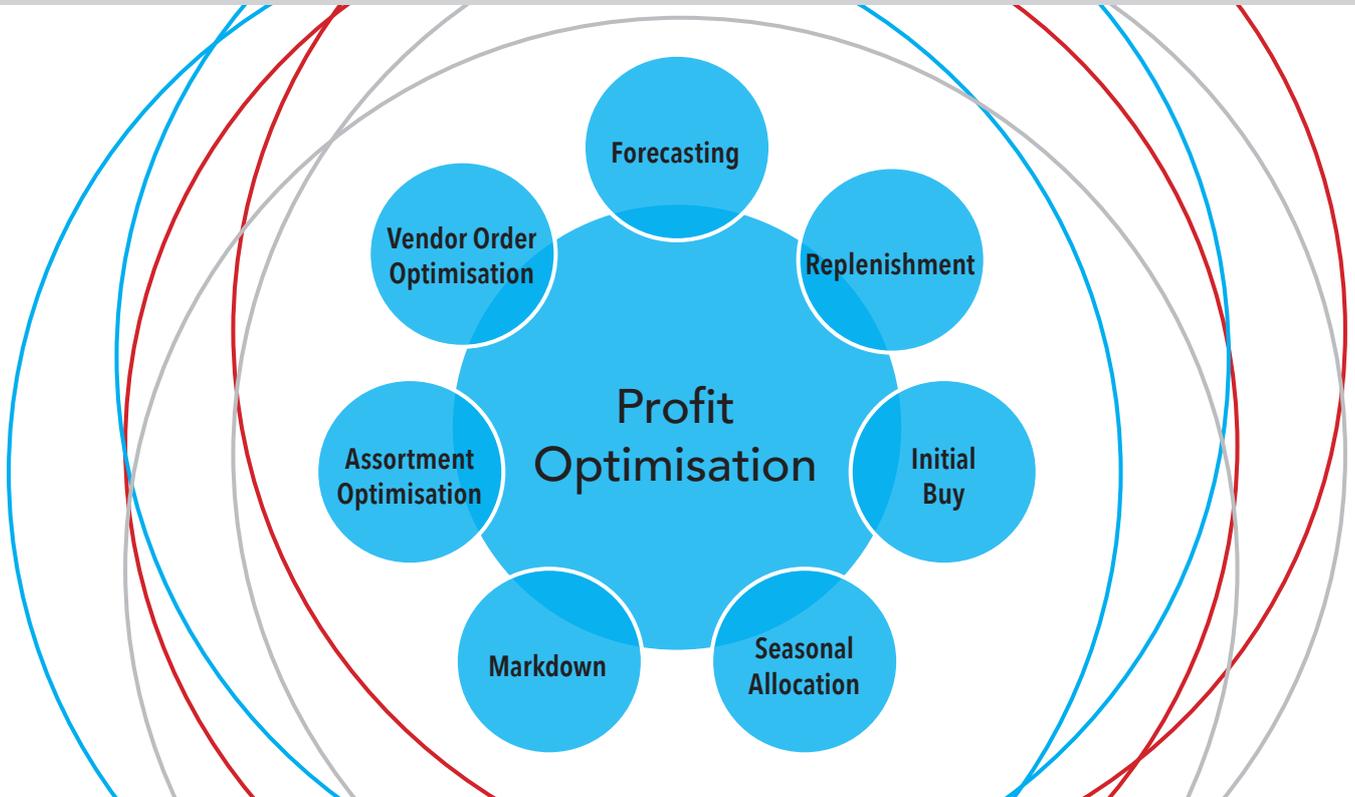
At 4R Systems, we look at retail inventory management differently. Replenishment, seasonal allocation, assortment and buying decisions are all designed to achieve maximised profits.

We use advanced analytics based on statistical and machine learning techniques developed from profit optimisation algorithms.



PROFIT OPTIMISATION SOLUTIONS

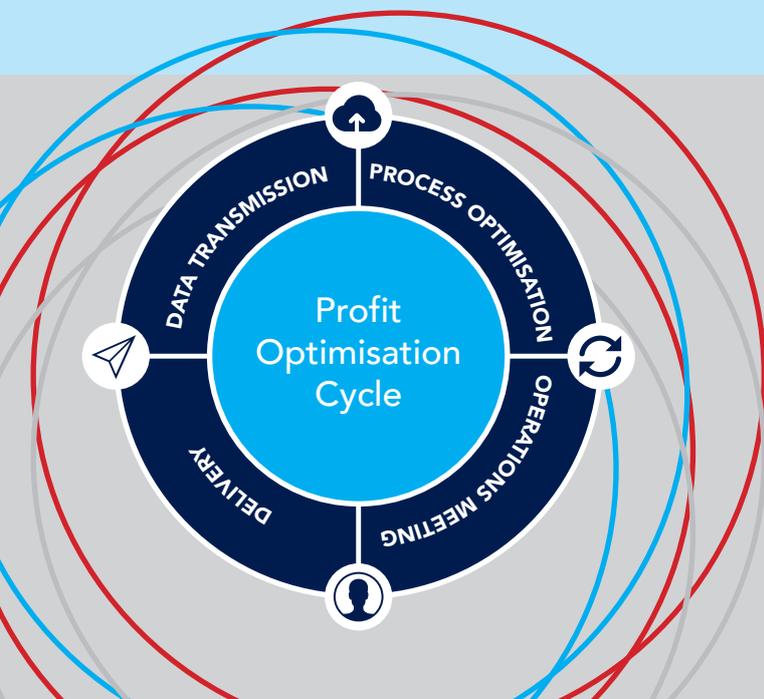
Our solutions take full advantage of advanced prescriptive analytics, which leverage these improved predictions and promise to deliver a profit optimal improvement across your supply chain and merchandising decisions.



THE POWER OF THE CLOUD

All our solutions are delivered to you via the Cloud. That allows a low risk, quick implementation – no need to purchase software, hardware or training.

All you do is set up data exchanges and use our web portal.



PROFIT OPTIMISATION: THE BOTTOM LINE

Traditional approaches to omni retail inventory management rely on substantial input from the user to control the process.

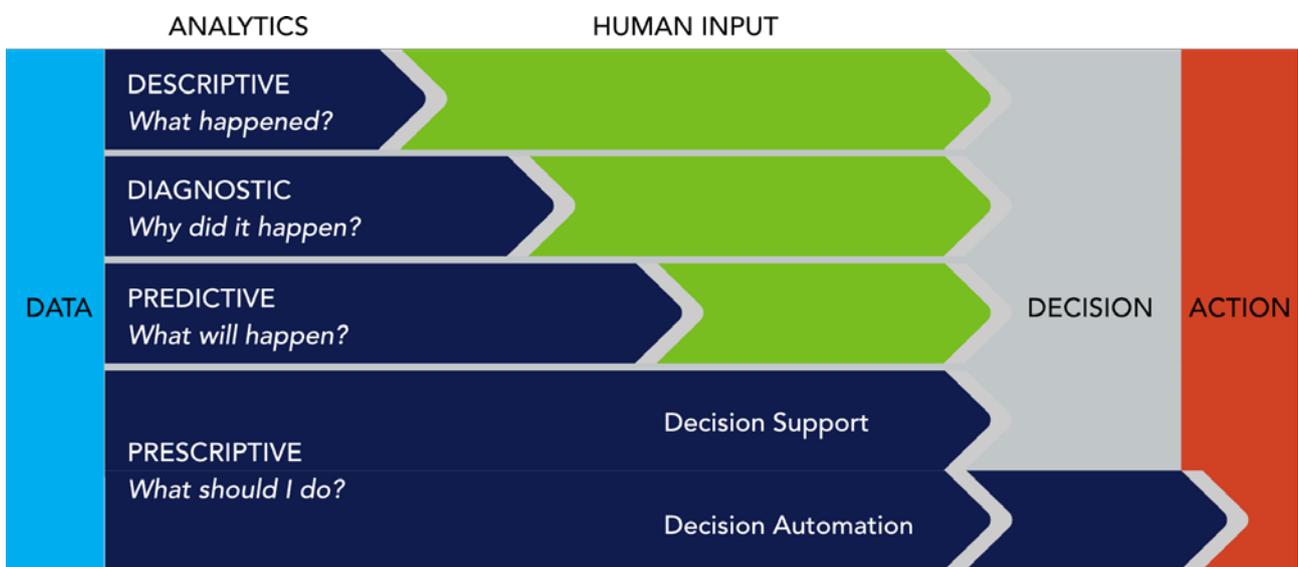
A guiding principle of our approach, on the other hand, is to reduce or eliminate the need for any judgment input, and provide answers that maximise profitability. The result is greater profits with less work.

FORECASTING

STATISTICAL AND MACHINE LEARNING TECHNIQUES

Our **Forecasting Solution** enables retailers to identify pure demand with our proprietary approach to demand decomposition and lost sales estimation. It is totally integrated with all 4R advanced optimisation solutions.

Our solution provides sophisticated machine learning and prescriptive analytics that incorporates the effect of promotions, seasonality, pricing to determine 'pure' demand. Further, it blends influences from multiple selling points including store, online and catalog as examples. Depending on the solution and product characteristics, the solution applies multiple algorithms to ensure maximum profit.



SOURCE: GARTNER | OCTOBER 2014

USING ADVANCED ANALYTICS TO MAXIMISE RETAIL PROFIT



USING ADVANCED ANALYTICS TO MAXIMIZE RETAIL PROFIT

How to Leverage Big Data, Machine Learning, and Optimization in Your Omni Retail Supply Chain



www.4rsystems.com

Descriptive and diagnostic analytics are concerned with explaining what has already happened. Predictive analytics aim to tell us what will happen.

In retail inventory management, the most important use of predictive analytics is in demand forecasting. Traditional forecasting uses some variation of time-series analysis, in v past demand is used to predict future demand. Advanced forecasting uses machine learning (ML) techniques to mine the available data for additional information. That data is then used to adjust for factors not obvious from

the demand data alone. Machine learning eliminates the need for merchants to suggest potential predictors in order to guide the forecasting process; the algorithms let the data speak for itself to find the elements that matter, and how much they matter, at a very granular level.

Predictive analytics is making inroads in the retail world and starting to produce real results, but a better forecast isn't the endgame: you still have to figure out how to use it to achieve the ultimate goal of higher profits.

[Click to read more about advanced analytics](#)

REPLENISHMENT SOLUTIONS

MULTI-ECHELON, OMNI-RETAIL & PROFIT-OPTIMISED

Replenishment Suite

We offer replenishment solutions for online, stores and DCs. When used together, they form a powerful multi-echelon, omni retail, profit optimised solution that makes sure you have the right balance of inventory in the right place. The solutions area highly scalable; we deliver hundreds of millions of reorderpoints to our clients every week.

Our **Omni Replenishment** solution offers automatically determines the level of inventory that will maximise your profitability. This qualitatively different approach automatically targets the answer that maximises profits while freeing up resources to focus on more strategic activities. Our solution also includes full support for a variety of promotional requirements.

Our **DC Replenishment** solution leverages the information generated by Omni Replenishment to form a truly optimised multi-echelon replenishment solution. In addition to supplying DC reorderpoints, it produces vendor order forecasts that can be shared with vendors to improve fulfillment rates and reduce lead times.

Replenishment for your direct marketing channels (online, catalog, wholesale) can be handled as part of either store replenishment or DC replenishment, depending on your inventory holding requirements. Our solution supports every variation of fulfillment.



SEASONAL INVENTORY MANAGEMENT

BUYING, ALLOCATION & MARKDOWN

Seasonal items face three major challenges: how much to buy, where to put it and how to get out of it profitably, at the end of the season.

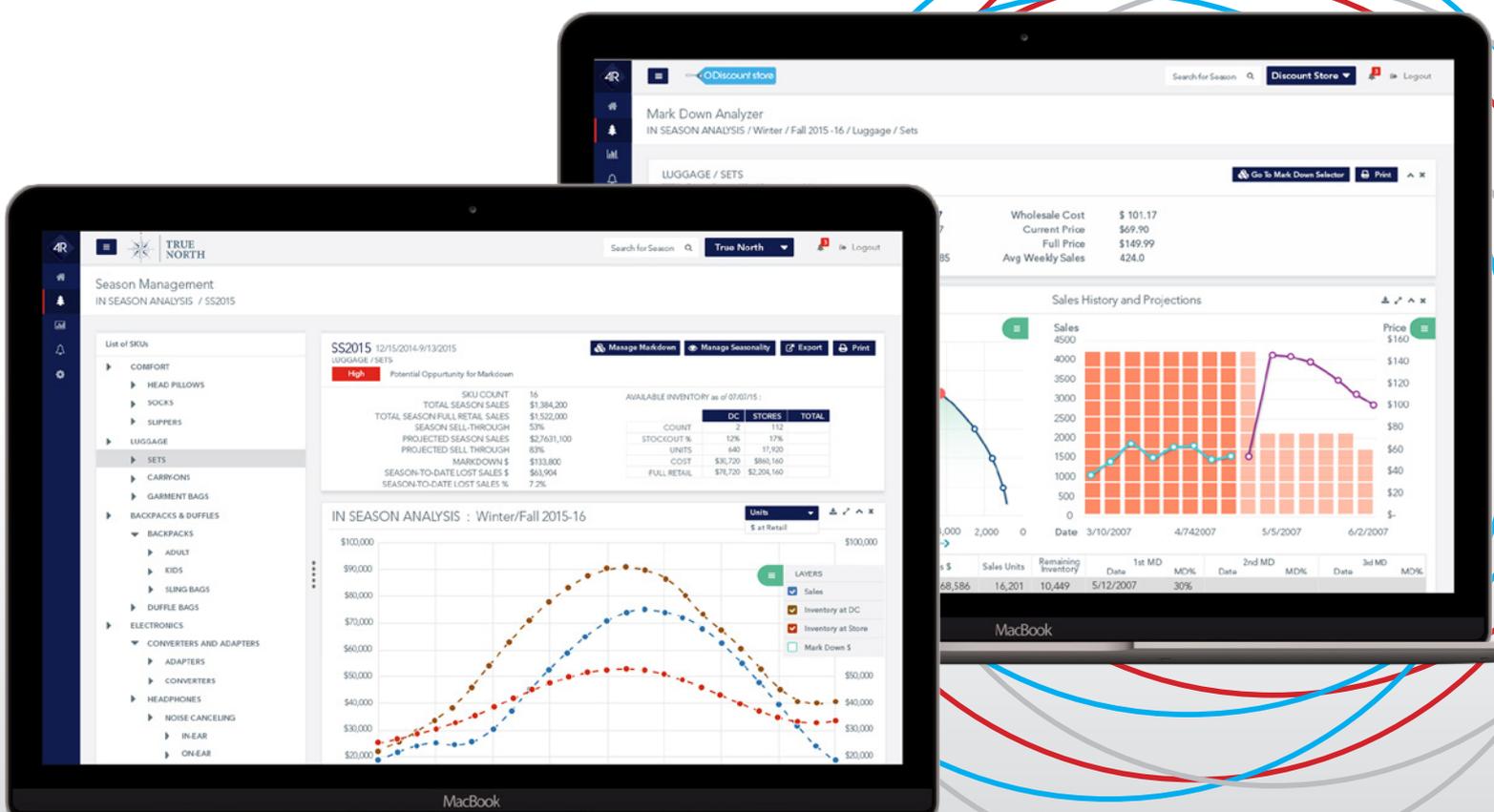
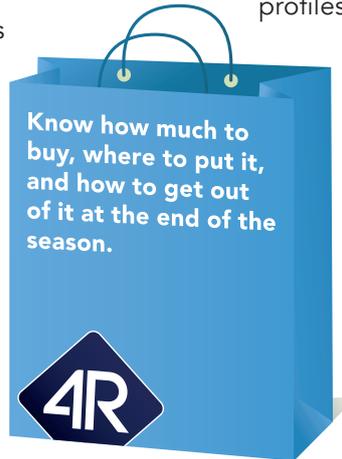
Our **Seasonal Buy Solution** helps buyers determine the quantity they should purchase based on past seasonal buys, sell-through percentage, and forecast uncertainty, considering misallocations and markdowns to get a true read on demand.

Our **Seasonal Allocation Solution** then handles the distribution of inventory to stores as the season progresses, by calculating the location that would yield the highest profit from an additional unit of inventory based on the point in the season,

the store's current inventory position, and sales velocity. Planner can use the web interface to track the seasons progress and manage adjustments to seasonality profiles based on exception management alerts.

Our **Markdown Solution** identifies items that need a lift in sales, determines the optimal timing and depth of markdown to achieve it, and prioritises the recommendations in terms of expected improvement in profitability.

Together these three solutions create a fully optimised and integrated systems for your seasonal goods.



ADVANCED OPTIMISATION SOLUTIONS

ASSORTMENT & VENDOR ORDER OPTIMISATION

Maintaining an optimal item assortment shouldn't be an occasional affair.

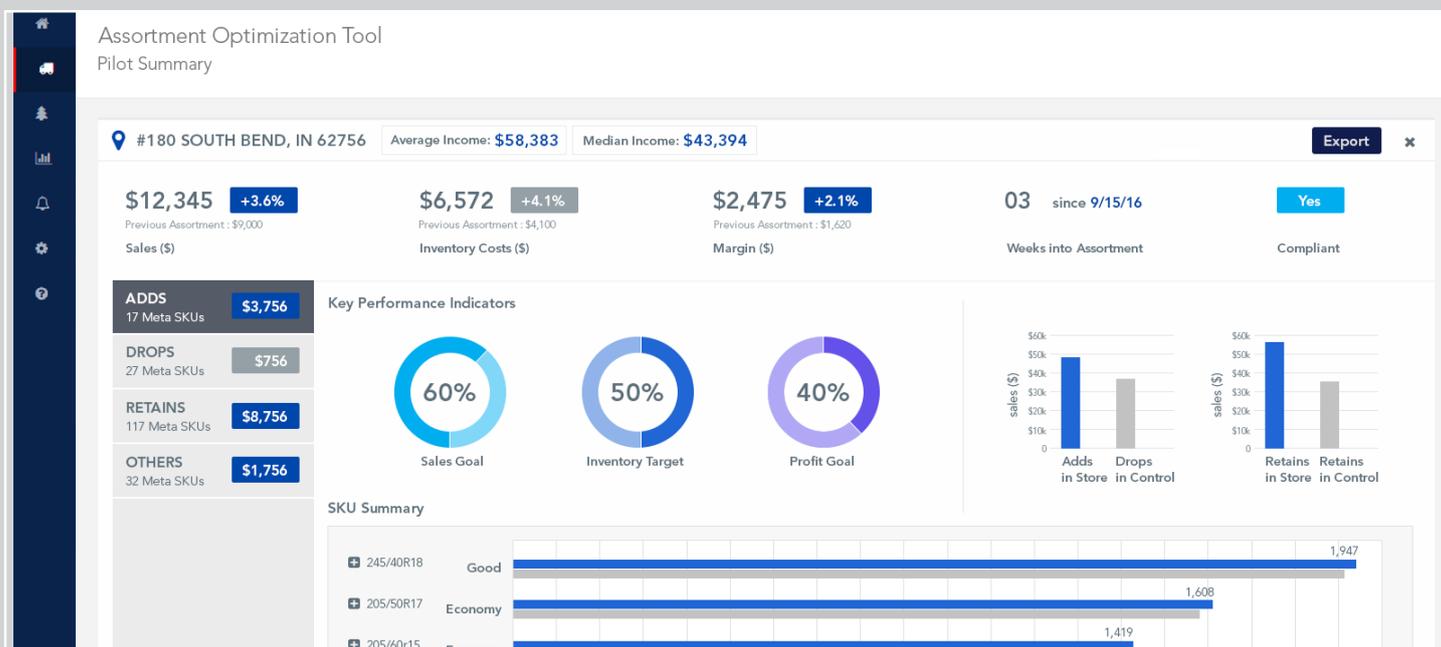
Our Assortment Optimisation Solution

will constantly assess the strength of your offerings and alert you when it's time for adjustments. Our full-cycle solution determines the most profitable assortments, helps you determine how many unique assortments to carry, projects the improvement you can expect once implemented, tracks the rollout of the new assortment and response on the observed benefits. Our analytics optimise based on true demand, not simple sales history, and can identify winning products not in your current offering.



Our Vendor Order Optimisation Solution

leverages our replenishment solution to provide a more sophisticated optimisation of the DC and vendor purchase orders. It produces daily vendor purchase orders based on multi-echelon re-order points and DC inventory position. A user rich web interface provides capabilities for vendor maintenance and DC & SKU information as well as managing open-to-buy and fill rate targets. At the same time enables buyers to review and modify adjusted order to react.



WE
MANAGE

£36
BILLION
IN RETAILERS' REVENUE

8
BILLION
REORDERPOINTS ANNUALLY



4R's *inventory as an investment* approach is designed to maximise the profit opportunity of your number one asset: inventory!

Meet Your 4R Team

We put a premium on developing a collaborative relationship and work hard to be your strategic partner.

Our analytics team is proactive in help you address new challenges in your business. Your Client Delivery team will regularly review our deliverables, provide observations about your business, and learn about upcoming changes or strategic initiatives that might impact your business.

At periodic face-to-face meetings, we review our performance and discuss topics of strategic value. If you are facing a new challenge to inventory management and need guidance, our analytics team is prepared to help sort it out.

We are a true partner. We guarantee your profit. It's simple. Learn more at www.4rsystems.com/uk/.

4R Systems
 801 Cassatt Road, Suite 202
 Berwyn, PA 19312 USA

US: +1 610-644-1234
 UK: +44 (0)1558 668582
 info@4rsystems.com

