



WhitePaper

Managing Through Transition

Turning Market Volatility into Profits for the European Meat Industry

Our Point of View

In its simplest form, the meat processing business can be broken down into three critical processes: Buy (purchasing the animals), Make (processing the animals into individual product skus) and Sell (selling the finished product). Of these three components, the greatest opportunity for business performance improvement lies in a processor's ability to sell the right product to the right customer at the right price.

SignalDemand has spent the last six years helping growers, processors and retailers of all major animal species improve the consistency and profitability of the selling (and buying) process. By applying advanced mathematics that link demand (current and forecasted) with market supply and the processors' status (sold position, available inventory, production capacity, and fabrication options), SignalDemand provides daily recommendations for product prices and product mix, for all products, countries and channels. In addition to its expertise in the US commodity markets, SignalDemand has developed a thorough understanding of market dynamics in Europe. This whitepaper examines how SignalDemand's software solutions, using patent-pending mathematical models, can help the European meat industry increase margins and grow profits through greater alignment of supply and demand in the constantly shifting and highly volatile markets in which you operate.



Global Industry Challenge: Many complex decisions are made every day that must be coordinated to maximize margin

To achieve the goal of margin optimisation, meat processors in Europe must balance buy, make and sell decisions in a complex and rapidly changing world. Using beef as our example, purchasing decisions must be made across multiple cattle types whose prices and availabilities are influenced by weather, exchange rates, feed prices, and other factors. Production plans may comprise thousands of finished goods and account for line capacities, alternative fabrication options, and order commitments. Sales opportunities must be compared across markets, considering exchange rates, competition from other countries, and shifting trade rules and restrictions. Through the buy, make and sell decisions meat processors must reconcile movements in the cattle and beef markets, neither of which they control, while at the same time operating their plants at profitable levels.

Pricing managers play an important role in this process since product prices relate to each of the buy, make, and sell decisions. They will typically collect information from a broad array of sources, combine the data into spreadsheets or other systems, and perform analyses to establish product prices. This is a time-intensive process that must be continually repeated as market conditions change. Here we highlight several of the market dynamics that are of concern to pricers as they affect the supply/demand balance:

- Market shocks, such as those caused by recent outbreaks of BSE in the UK and Bluetongue in France, can fundamentally alter the dynamics of complex and interlinked markets.
- Market expansion, as the EU continues expand to include new countries, has important consequences in the market structure. For example, in 2004, ten new countries including Poland were added to the EU25 (now EU27). Poland represented the largest addition with two million small-hold farmers and its entrance led to the increased availability of competitively priced Polish meat within the EU and increased competition for beef manufacturers.
- Economic and political factors also impact the markets. The Common Agricultural Policy (CAP) is a system of agricultural subsidies and programs, among them programs to rebalance supply and demand. Public interventions such as establishing elevated internal market prices and the purchase of surplus product which is set aside in public stocks for export are two examples of such programs that affect the EU market supply/demand balance. Changes in the way that farmers obtain subsidies can also trigger drastic changes in production. For example, it was decided in 2003 to change the support scheme so as to “decouple” direct payments from levels of output. As a result, the beef sector in Ireland saw an abnormal disposal pattern preceding the decoupling. Other examples include trade regulations such as import tariffs and export refunds used to regulate or promote trade with extra-EU partners.

Most pricing managers' current pricing processes require that they gather information from a series of different sources and then intuitively consider this spectrum of market factors to optimise margins. Adding to the already complex analysis, pricers must also consider balancing the amount and mix of product sold to export markets while still meeting domestic demand.

How SignalDemand Helps: Setting the right price, for every product, for every customer, channel, and market, each and every day

Patent-pending mathematical models lie at the heart of the SignalDemand application and help you to “crack” the pricing challenge. SignalDemand’s science removes the burden of manual data collection and analysis and allows you to focus on more quickly identifying and responding to market opportunities. The models consider prices across all products and customers simultaneously, so recommendations are coordinated and no opportunities are overlooked. Furthermore, SignalDemand allows you to address increasing market volatility and the corresponding need to generate prices which incorporate and respond to this volatility more frequently. This is especially critical in the EU, where market shocks are systemic. SignalDemand’s EU models place special emphasis on the supply/demand balance when generating pricing recommendations.

SignalDemand’s pricing models were developed in partnership with our customers in the context of real business problems. Our customers tell us that our application gives them “pricing courage,” especially when quoting out front. Over the past six years we’ve helped our customers institutionalise their pricing processes leading to the achievement of over €122 million in additional profits.

Forecasting

SignalDemand Forecaster™ presents a comprehensive picture of conditions your organization will face in the future. For each combination of product, channel and geographic market, the forecasting engine projects prices and demand and estimates volatility. Price and quantity forecasts are based on sales transaction history, which is updated daily.

SignalDemand responds to the unique characteristics of the European markets in several ways. First, by recognizing that it is a single market with multiple interdependencies within which each country has its own level of agricultural self-sufficiency. Internal trade naturally develops between countries who have a production surplus and those with a deficit. These relationships create a sophisticated network

that must be modelled and when relevant included in the demand or price forecast. Indeed, large variations in the volume imported by a large net importer can greatly affect the price received by their trading partners. SignalDemand responds to this challenge by modelling dependencies between prices and supply/demand variables in each country, thus building a hierarchy of interdependencies between econometric variables.

Secondly, complex demand patterns promote complex commodity classification. For example, the EU has encouraged the meat industry to use carcass classification grid systems whereby carcasses are graded by their conformation and lean meat content. Informative labelling further guarantees that the meat can be traced back through the food chain to the farm. Identification of animals is linked to this and is also a key element of the EU’s strategy to control animal diseases.

Thirdly, the cultural and geographic differences within Europe not only affect levels of production, they also affect demand patterns. Cultural differences throughout the EU have led to stark differences in consumer behaviour from country to country. This heterogeneity has been one of the factors driving the stringent labelling and tracing requirements for products.

Fourthly, the SignalDemand solution captures the great diversity of livestock holdings in the European Union. Each species and conformation is allocated its own price series and forecast. When needed, different types of livestock can be aggregated in a composite to reflect typical manufacturing decisions (e.g., when the raw material for a product is procured from multiple Heifer or Steer types).

All of these factors are considered in SignalDemand’s models, resulting in a set of forecasts that provide a range of insights to processors, allowing them to:

1. Identify market opportunities across Europe by providing forecasted cattle prices across each of their key markets
2. Know the right price to charge for their own products

Optimisation

While SignalDemand Forecaster™ provides a view of future commodity and product prices, SignalDemand Optimizer™ makes specific recommendations for improving your performance. SignalDemand Optimizer™ includes estimates of the price sensitivity of your products and information about your production processes including your latest cost, purchasing, bill of materials, capacity and inventory data. The output of Optimizer™ is a set of profit-maximizing price and mix recommendations.

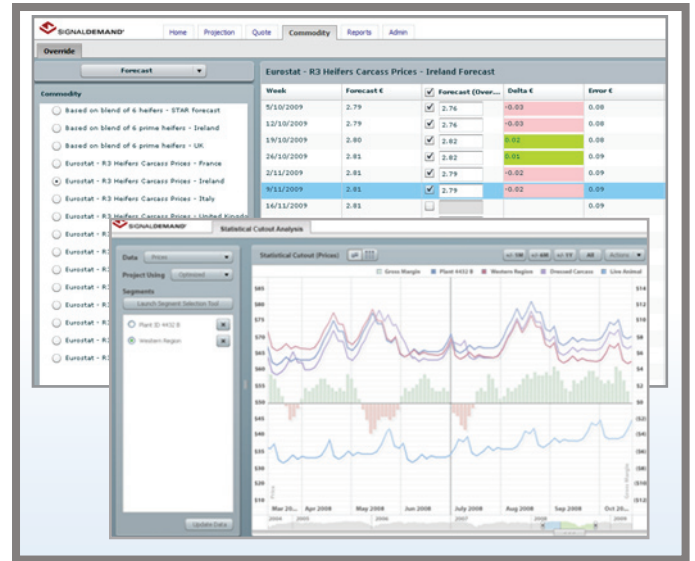
Taken together, SignalDemand’s models and engines take an inherently complex set of interrelated decisions, and reduce them to actionable recommendations that accurately reflect both supply and demand. The underlying problem comprises hundreds of thousands of data components, each of which is updated daily, but the user can see as little or as much data as they like, normally opting to view only recommended prices and product mix.

Getting Results: Actionable insight to help drive your business

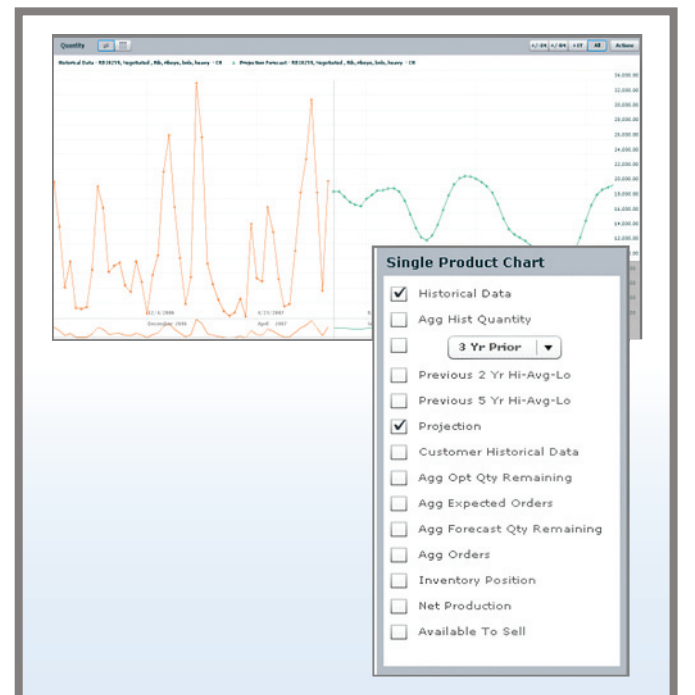
SignalDemand provides you with actionable information in one central repository to help you maximize margin across markets, products and customers. With SignalDemand, you can:

Estimate Gross Margin by Cattle Type: Maximizing cutout margins while balancing existing sold commitments (by country and by customer) is a challenge for processors around the globe. With SignalDemand, cutout can be calculated for different product/market segments which represent the various ways to analyse revenue. For example, SignalDemand allows you to see the cutout generated for different types of cattle, understand the spread (revenue difference from one type to another) and make more informed decisions about which cattle to purchase for maximizing margin.

SignalDemand Forecaster™ provides you with forecasts of cattle prices by country and type. The application then allows you to layer your own market experience and intuition on top of these projections, creating a “consensus” view of the live animal market prices. This gives you the ability to adjust margin expectations (cutout) across all products based on a consensus view of price trends for the live animal.



Project Sales Volumes: SignalDemand provides you with access to mathematical volume forecasts which are updated daily for all your products 52 weeks out for every country/market. You have a view of historical volume data



for all products and customers (up to 5 years of history) to understand demand and seasonality. Side-by-side volume forecast comparisons of the same product in different countries/markets helps you understand the volume you can expect to sell without flooding certain markets. This combination of mathematical quantity forecasts for each product and country and historical contextual information makes the decision of where to sell more analytical and helps you proactively identify opportunities to clear supply at the best price.

Product Margin Data						
	Product	Price	Inc. Margin		R. B.	By-Prod. Credit
I..	Name	€/kg	€/100kg	€/Hd	€.. €..	€/100kg
11	RE Rib, ribeye, bnls, light	€6.37	€1,531.31	€123.45	€1 €-	€147.68
11	RE Rib, ribeye, bnls, heavy	€6.21	€1,338.69	€123.45	€1 €-	€142.49
11	RE Rib Standard Make	€2.13	€212.85	€123.45	€1 €-	€0.00
11	RE Rib, ribeye, lip-on, bn-in	€4.99	€1,120.27	€123.45	€1 €-	€142.50

Detail By-product Information						
Product: Rib, ribeye, bnls, light - CH:RB10002						
Product	Pro...	Value Add Cost			Yield	
Name	€/kg	Package ...	Labor ...	Marketing ...	%	
FA Fat & Bone	€0.00	€0.20	€0.10	€0.00	15%	€-0.04
GE Ground Beef 81%	€0.00	€0.20	€0.10	€0.00	28%	€-0.09
RE Rib, roast-ready	€4.76	€40.00	€90.00	€0.30	43%	€147.81

Estimate Price By Country: SignalDemand provides you with a single application in which you can see price forecasts for all your products 52 weeks out for every country/market; providing an analytical “reference” price and fact-based context for all pricing decisions. The mathematical models run each night, producing updated prices and also provides historical prices for all products (up to 5 years). You can also compare like products and view the average, high and low price realized to understand trends.

With SignalDemand, you have fact-based analytical support for customer negotiations, providing access to:

- Historical customer and related market behaviour
- Insight into the customers who have recently bought the same product from you, the volume purchased and the price paid

- Commodity price data in a format that is actionable for day to day decision making

Identify Market Opportunities: SignalDemand measures the margin differences between various cuts of meat produced from the same material. Several factors are used in this calculation (by-product credit, yield, packaging costs and labour costs, etc) which all impact the profitability of a cut of meat. This helps you determine the right product mix from all fabrication options for each country/market.

The application also provides you with the ability to perform what-if analyses on where to sell the meat when presented with reference prices from customers. For example, Italy just paid €4.34 for a cut – using this price as a baseline, what prices could we sell similar cuts to other countries to make more margin? With SignalDemand you have a view into where price can be pushed and where price movement will affect volume, enabling you to understand the true profitability for a given product. Over time this will enable shifting volume to the most profitable countries.

Managing Through Transition with SignalDemand

SignalDemand benefits meat processors by providing one central repository for your supply, product, cattle and customer data. The application allows you to perform price/margin analysis without referring to multiple sources and completing numerous manual calculations. Here’s how SignalDemand customers describe the benefits of the application for their business:

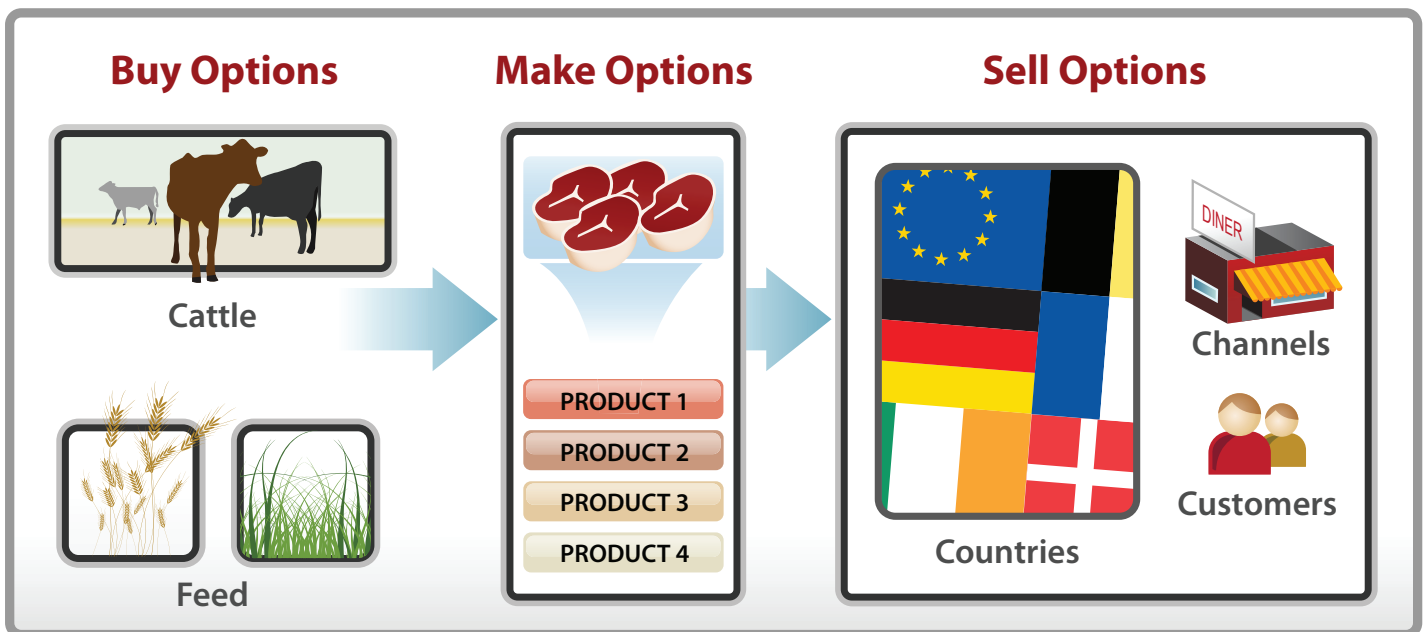
Actionable: “SignalDemand’s software enables us to combine the extensive knowledge of our team with a number of market forces, including customer demand for individual cuts, seasonal product flows, available cattle supplies, and quality characteristics to simplify price discovery with our customers.”

Available: “Nothing’s worse than trying to go out and find information and have to search for it in 15 or 16 different places when this tool brings it altogether right at your fingertips.”

Attainable: “We have a chance to do even more as far as recognizing opportunities and building win-win relationships with customers. It’s allowed us to meet our customers’ expectations in the marketplace. When they need an idea on the marketplace, we’re starting to see them calling us first.”

The result – Better insight and control over the sell process. With SignalDemand you can make more analytical fact-based pricing decisions and quote with confidence further out, enhancing customer relationships and managing volatility to improve the bottom-line for your business.

Industry Challenge: Many complex decisions are made every day that must be coordinated to maximize margin



**100s of Codes x 100s of Price Points =
Hundreds of Thousand Margin Decisions ... Every Day!**

About SignalDemand

SignalDemand provides buyers and sellers of agricultural commodities including growers, manufacturers, grocery retailers, and restaurants with on-demand software and services to achieve maximum profit margins in the face of volatile markets and increasingly complex pricing decisions.

Using patent pending, comprehensive mathematical models to process thousands of variables, SignalDemand delivers real-time price and margin recommendations on a continual basis. By recommending best price, capacity utilization and product mix, SignalDemand enables better day-to-day decision-making.



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