

## **Big Gains With Big Data: Efficient energy markets and predictive analytics**

Mark DeSantis (CEO of kWantera, United States)

The US and EU deregulated markets offer a new opportunity for optimal energy prices for buyers and sellers of energy. The main challenge is the capability to continuously find the opportune time to bid, price to bid (whether to buy or sell) and quantity to bid in the wholesale markets. Countless factors, weather, congestion, market conditions, demand to name a few, impact the pricing of energy. The effort to get the best price is made more complicated by additional factors including the dynamic nature of real-time spot markets and the need to continuously monitor and process vast amounts of disparate information.

Pricing the spot sale of energy in particular is very acute for renewable energy providers, given the variability of their ultimate source. In fact, renewables have the dual challenge accommodating the variability of weather directly in to their bid prices while having the simultaneous need to bid in to the market to purchase energy (for later resale) at a moments notice should they not be able to meet their commitment due to sudden weather changes (i.e., cloud cover or lack of wind).

Fortunately, 'Big Data' technologies such as machine learning and ensemble analytics, which are well developed in the fields of social media and predictive data analytics, are now available to buyers and sellers of energy alike. These tools will not only optimize the purchase and sale price of energy but create much more efficient markets across the deregulated markets around the globe.