

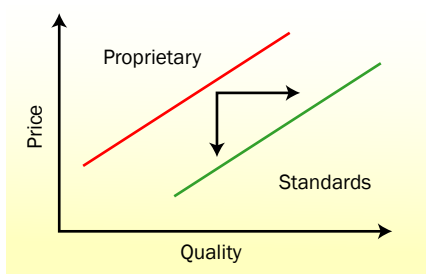
For example, utilities are deploying new methods for environmental control, load management, and dynamic pricing. These methods rely upon embedded systems and wireless data networks for machine-to-machine communication. (Load refers to the amount of power drawn from the utility transmission grid.) In one type of arrangement, a utility may contract with residential customers the right to decrease or interrupt electricity consumption during periods of high demand in exchange for lower overall electric rates. During a heat wave, the utility will send an electronic command to the contracted residences. This electronic command will alter the thermostat in these homes from 70 to 75 degrees, thus lowering power consumption.

## Hypercompetition

Businesses have understood the potential value of machine-to-machine communication since the beginning of the wireless telecom revolution. One area in particular, automatic meter reading (AMR), has become a half a billion dollar industry onto itself and is growing at 17% per year. However, widespread industry deployment has been potentially held back by the use of proprietary wireless networks and network communication protocols.

A standards-based approach, such as the ZigBee networking protocol and IEEE 802.15.4 RF requirements, shifts the paradigm away from proprietary solutions. In the technological solution itself, this standard offers both a reduction in network complexity and a potentially lower cost solution as manufacturing volumes increase. For purchasers, the use of standards also shifts the balance of power as customers are no longer locked into a proprietary, single-vendor solution. Combined, these attributes both improve the price-to-quality ratio in a way that other improvements in machine-to-machine wireless networking cannot.

*Hypercompetition* by Richard D'Aveni, Professor of Strategic Management at Tuck, discusses the effect of the shifting of the value frontier from one paradigm to another and its resulting market disruption. In this market disruption, the market adapts the new technology and loses interest in the old. Many times, the new technology penetrates the market much deeper than its prior generation. The market disruption is created by shifting the value frontier from one technological paradigm to another.



In the machine-to-machine communication market, Helicomm is shifting the value frontier by approaching the market with a standards-based solution rather than a proprietary solution. In the past, the expansion of the price-to-quality frontier was limited to include proprietary

solutions only. The use of a standards-based solution opens the possibility of exploring an entirely new value paradigm.

Helicomm is counting on customers to adopt its standards-based value proposition. If the market adopts the ZigBee standards-based solution, a market disruption will occur in which the competitive landscape will quickly and radically change. Potentially, the current industry leaders will quickly become a footnote in the history books.

## Critical Success?

At this point in the discussion, Helicomm may appear to have assured success. The value of machine-to-machine communication is somewhat understood by the market. The ZigBee new generation of technology shifts the value frontier towards a more compelling position. But this doesn't make for an assured success. We also need to examine Helicomm's strategy for competing in this new paradigm.

ZigBee technology may provide a compelling value proposition, but getting it to market is yet another challenge. While Helicomm desires to work through channel partners in a licensing arrangement, creating channel partner relationships is easier said than done. For the short-term, Helicomm is working with end-customers directly to create whole-problem solutions. The value of this approach is in defining the product and developing the solution with direct end-customer feedback. As the whole-problem solution is implemented, Helicomm also benefits by having a demonstrated market demand for their technology.

Standards-based technology opens the door for cost competition as customers are no longer locked into a single solution provider. Large firms such as TI ([www.ti.com](http://www.ti.com)) and Invensys ([www.invensys.com](http://www.invensys.com)) are also members of the ZigBee alliance, but have not announced standards-based products for the utility market to date. However, George Karayannis, VP Sales & Marketing at Helicomm, is well aware of the potential competitive threat. To prepare for price competition, Helicomm's business model includes a Beijing-based sales and development office for access to high volume markets and low cost development and manufacturing resources.

Will their approach work? Current customers include some of the world's largest manufacturers - from home appliances to parking meters to industrial sensors. Helicomm's wireless solution is also being used for equipment condition monitoring at a nuclear power plant and is being considered for a variety of meter reading and load management applications by utilities. For now, the market appears to be giving them the green light. If so, expect others to join the shifted value line quickly.