



Pressure to go Lean and Innovate

“ENGAGED” MANUFACTURING

Success in today’s globalised economy can be achieved through “engaged” manufacturers, who are masters of complexity, developing capabilities to improve market response through production flexibility and organizational fluidity, and overcoming the talent shortfall.

FIVE ENABLERS

IT-driven manufacturing organizations will make foundational investments in the “five enablers” like **Connectivity, Mobility, Analytics, Cloud and Social Media** that delivers speed, integration, improved visibility, controlled productivity and business value.

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SPECIAL POINTS OF INTEREST

- Sustainable Manufacturing
- Heat process insulation

Green Fact:

In 2008, the United States consumed 99 Quadrillion Btus (British thermal units) of energy, mostly in the form of fossil fuels such as coal, natural gas, and oil. One Btu is equivalent to the energy released by burning one match. So, the United State's annual energy consumption adds up to a mind boggling 99,000,000,000,000 matches. That's 271 trillion each day, or roughly 1 million matches per person per day.



Application of Nansulate® High Heat on factory heat exchanger to reduce energy use and increase longevity of equipment.

Source : <http://www.foodmanufacturing.com/articles/2010/02/new-technology-helps-manage-energy-costs>

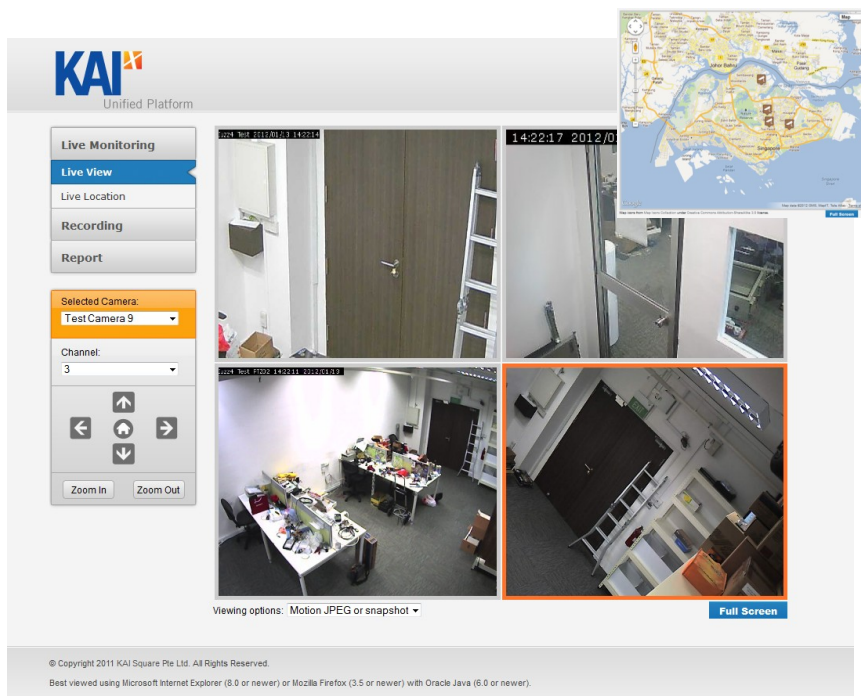
NEW TECHNOLOGY HELPS MANAGE ENERGY

A new technology that is **making changes in the food manufacturing industry** is a family of nanotechnology based insulation coatings by Industrial Nanotech, Inc. under the brand name of Nansulate®. The coatings are based upon a patented technology which incorporates a safe microsized particle with nano-sized internal architecture into a low VOC water-based acrylic latex coating. The nanocomposite has extremely low thermal conduction and a hydrophobic nature. **What this offers to manufacturers in any industry is the ability to easily insulate heat process and cooling equipment, while also protecting it from corrosion and mold growth.**

One early adopter from the dairy industry knows the benefits of this new technology well. Ultraspin Technology in Australia used the coating to insulate a 5m² outdoor stainless steel tank which was used for melting butterfat. David Morabito, Process Engineer explained, “We achieved a measurable difference in the contents of this tank...The outside was previously too hot to touch. With three coats applied, the touch was now warm to touch and there was a visual improvement to the melting efficiency of the product inside.”

Significant energy savings have been experienced in many industries, with textile manufacturing being a leader in adoption of the insulation technology. Henateks, a textile customer, coated all their heat producing equipment with the technology. They saved over US\$0.46 million in energy costs in 2008 due to use of the coatings, and reduced their natural gas use by 1,097,447 m³. Their material cost for the project was US\$0.2 million and their payback period was 7 months. **Overall energy costs were reduced by 20%.**

In addition to offering insulation, corrosion prevention and resistance to mold growth, the coatings are also clear, which allows for visual inspection of the substrate surface without costly removal. The company's GP product was awarded NSF nonfood compound registration (formerly USDS registration) under the R2 category, which was done specifically for the food industry.



KAI Square's innovative technology-related surveillance solutions won itself transformational growth from 2009 to 2010.

SINGAPORE TOP IN TECHNOLOGY FAST 500

Singapore emerged with 13 winning companies in the 2011 Deloitte Technology Fast 500 Asia Pacific competition which ranks the region's 500 fastest growing technology firms.

One of the winners is KAI Square, an Interactive Digital Media company providing **innovative technology-related surveillance services and monitoring solutions**. Over three years, KAI Square grew by 777 per cent in revenue. Overall, average revenue of the Top 500 firms achieved 476 per cent, a considerable increase from 2010's 374 per cent and 2009's 361 per cent.

John E Goeres, Industry Leader of Deloitte Southeast Asia's Technology, Media and Telecommunications (TMT) practice said, "**We've seen Singapore rise in the rankings this year, led by break-away growth in the Interactive Digital Media (IDM) subsector**. Two of the top three Singapore ranked winners are IDM companies. The top four Singapore companies represent the Software sector, followed by increasing numbers in Green Technology, Telecommunications/ Networking, and Semiconductor. KAI Square Pte Ltd in particular represents a **growing base of homegrown Singaporean start-ups, further supported by the Singapore Government research & development and industry grant programmes**. The entrepreneurial spirit is alive and well in Singapore," said

Over the past decade, technology industry growth in Singapore has diversified and increasingly been driven by an aggressive push towards a knowledge-based, productivity-gain economy.

Source: Technology Fast500 Asia Pacific 2011 Winners Report and Ranking

ASIA PACIFIC TRENDS

China continued to dominate the Asia Pacific technology industry, not only topping this year's rankings but delivering three of the Top 5 winners, including Tendyron Corporation (No. 3), Jiaxing Mbaobao Network Technology (No. 4).

Taiwan has regained the lead in terms of the number of ranked companies, with 133 contributions versus last year's 86. Taiwan company Giga Solar Materials, which was last year's overall winner, continued its growth, staying in the Top 10 and ranking at No. 5 with a three year revenue growth of 5,560%, while another Taiwanese firm, Brightek Optoelectronic, ranked No.8.

South Korea surged this year, with 96 companies making the ranking and two firms making the Top 10, namely Silicon Mitus Inc. (No. 2) and Sinsung Solar Energy Corp. (No. 10)

Singapore had its best showing in the 10-year history of Deloitte's programme, with a total of 13 ranked Singapore companies, including four that reached the Top 150 this year.

"Singapore has consistently moved up the rankings in the last few years. Since 2008, **Singapore has shown strong technology growth and has weathered the storm of the global financial crisis with resilience and positive momentum, as quantified in our Deloitte programme**," said Shariq Barmaky, Industry Leader of Deloitte Singapore's Technology, Media and Telecommunications (TMT) practice.

Source: Technology Fast500 Asia Pacific 2011 Winners Report and Ranking

For more information on Innovation & Productivity resources, Lean Six Sigma project coaching and implementation, research and benchmarking and seminars, please contact :

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