

ACREX, From Page 8

While manufacturing is primarily done in the U.S., Mueller also has multiple divisions, including factories in Europe, China, and Mexico, creating a global supply chain. "At ACREX, we get to meet with many of our customers and future customers by attending one event, as well as staying informed on global industry trends," said Hughes.

The staggering amount of new construction predicted for India is good news for building automation and control system suppliers since installation is easier. India's market for these systems is projected to grow 22% annually during 2014–19 with demand driven by an increasing number of shopping malls, office buildings, educational institutions, hotels and hospitals. Trends in cloud-based energy control and automated demand response will also contribute.

The market is further supported by mandatory regulation in Indian states such as Delhi, incentive programs, and labeling programs such as LEED and the Indian Bureau of Energy Efficiency Star. BEE Star, as it is called, is an energy-efficiency rating scheme that labels equipment and buildings from one star for the least energy efficient to five for the most. BEE Star recognizes five categories of buildings: office buildings, hotels, hospitals, retail malls and IT parks in five climate zones. Buildings are further categorized into those having air conditioning in greater than 50% of their built area and those with less.

Among the players in the segment is Honeywell, which had a large stand at ACREX showing several lines of its equipment, including panels for gas detection and fire alarms. "There are growing conditions for small factories and cities in India," said Vikrant Sharma, senior engineer with Honeywell Life Safety. "We have panel options for the gas industry and the oil industry." In other parts of the Honeywell stand, representatives discussed lighting controls, fire

sensors, security systems, and energy monitoring.

Along with demand for energy, India's population growth will also test output of its agriculture sector. Reports put the crop spoilage rate in India anywhere from 30% to 50%. Anand Joshi thinks greater use of ammonia is an answer. Joshi is from Pune, known as

the "Refrigeration Capital" of India due to the concentration there of manufacturers. "India has a long history of ammonia refrigeration, with the oldest existing ice plant with ammonia dating back to 1914," he says from a display showing equipment used in ammonia applications. "Today more than 3,500

See ACREX, Page 100

**Not just fast.
TRITON™ fast.**

Revolutionary plastic pipe fusion technology

Shave hours and even days off your next plastic piping job with the new TRITON Pipe Fusion system from Watts. The advanced TRITON joining system uses radio frequency (RF) electromagnetic technology to fuse most plastic pipe sizes in under a minute—and pipes are ready for pressure testing immediately. Imagine: Cutting-edge innovation that dramatically increases productivity and job site safety while accelerating your business into a new dimension.

**TRITON™
PIPE FUSION**

JOIN THE FUTURE™

Learn more at TritonPipeFusion.com
or contact your local sales rep for a live demonstration.

WATTS®

www.info.hotims.com/49804-51

ACREX, From Page 89

open-type reciprocating compressors are manufactured every year in India for ammonia, as the new growth of the cold chain and food processing industry has increased."

He says business is booming. "Ammonia refrigeration is very well accepted now. Industrial refrigeration cold storage, process sealing plants, everywhere the application is expanding."

According to Joshi, his firm and other Indian suppliers are providing extensive technical support to their customers prior to installation, after and during commissioning. "We build our customers' plants with them. We also continuously provide training based on ASHRAE standards."

The Indian HVAC&R sector is faced with challenges. Even Joshi said exports have slowed. As the economy struggles with elevated price pressures and rising interest rates, some designers and suppliers spoke of large credit balances.

Then, there is the mounting challenge of energy supply. In January, Indian Prime Minister Manmohan Singh called on the country to increase its energy supply lines three to four times at affordable prices over the next two decades. He announced the government is seeking partnerships

with global companies to improve recovery from mature fields, exploit ultra-deep water energy reserves and explore potential fields in frontier areas. He also hopes that unconventional methods of obtaining energy supplies can be pursued providing there is not environmental degradation. India currently is the world's seventh-largest energy

producer, accounting for about 2.5% of the world's total annual energy production, but is currently the fourth largest energy consumer. It is expected to become the world's third-largest energy consumer by 2020. Singh said India is committed to reducing its carbon footprint as a responsible member of the global community.

Meeting that challenge is no easy task. At an ACREX panel, engineers and architects debated how much comfort was necessary and if expectations of what comfort needed to be aligned with

reduced energy availability. Others looked to ancient buildings in that capitalized on shading and natural ventilation techniques. One senior engineer said, "We must not forget the technologies that have been practiced for centuries. And we must remain authentic to ourselves by being sensitive to nature the way we have always been."

ACREX India 2015 will be in Bangalore Feb. 26–28, 2015. ■



Amit Goel of Edgetech Air Systems, describes the firm's raised floor AHU for underfloor air systems.

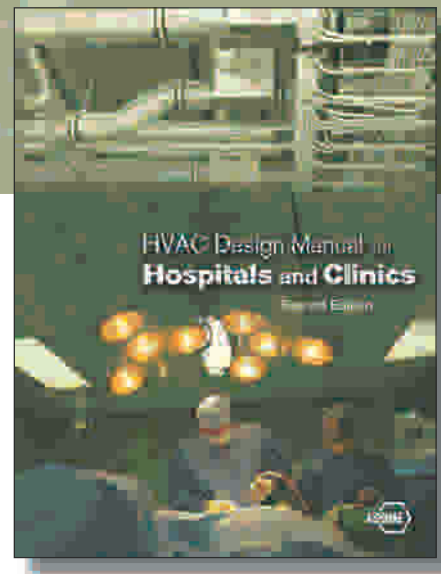
When designing health care HVAC, expert guidance is essential.

HVAC Design Manual for Hospitals and Clinics

Now in a NEW, REVISED and UPDATED second edition.

This second edition provides in-depth design recommendations based on best practices from consulting and hospital engineers with experience in the design, construction, and operation of health care facilities.

It offers low-cost, highly reliable solutions, with a focus on what's different about health care HVAC.



Available in PRINT or DIGITAL Format

www.info.hotims.com/49804-96

Price: \$129 (\$109 ASHRAE Member) • www.ashrae.org/hospitalsandclinics