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ISHRAE Speaks

Understanding the HVAC & R Industry

Current Challenges & Future Market Growth



Mr. D. Nirmal Ram Chairman, ACREX India 2018 & ISHRAE Presidential Member

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Current Scenario Across HVAC & R Industry

"The boom is ON. And this will lead to large number of developments in commercial and residential sectors, hospitality and industrial applications including high-rise buildings not only in the metros but also in the tier 1 and tier 2 cities. This intensifies the need of 'Specialized Allied Building Services' like Air-conditioning & Ventilation, Fire & Safety and Plumbing; demanding higher level of engineering and well balanced delivery of services. Going forward, energy efficiency and sustainability in buildings has to be the mandate, given the rise in global warming. It is time to be ready and brace the future."

The HVAC & R as an industry in India operates at countrywide scale, making it impossible for any day-to-day application to work smoothly sans its presence. HVAC & R is not a luxury anymore but an essential component of our lives. It claims a high stake, as much as 50%, in overall power consumption.

Current industry numbers indicate a strong figure of Rs. 25,000 Crore for HVAC and Rs. 8,000 Crore worth of the Refrigeration industry. The latter, also called the Sleeping Giant, has witnessed a poised but exponential growth over the years.

Although there is a huge range of manufacturers for the HVAC equipment in the country itself, the industry still sees vast imports (of equipment as well as products) from overseas, owing to cheaper costs or improved quality.

Confronting Challenges and Attempting Solutions

While many manufacturers in India have developed their own or have acquired the technology from abroad, there is a huge unclaimed space in the local market primarily on account of the economies.

Projects are not initiated properly with the primary concepts being executed right, as the focus has moved from the Life Cycle Cost and Quality assurance.

There is a huge dearth of skilled manpower since both the research for cutting edge technology, as well as training to hone the skilled resources, are not given the due importance.

Moreover, clear and thought-through guidelines and standards tropicalized for India seldom exist.

The solution to all these challenges is to focus on the "Life Cycle Cost" (which is installed cost, plus the operations and maintenance cost) instead of the "First Cost" (the one-time

expenditure). Companies now should only source energy efficient products, despite the marginally higher price to start with. A comprehensive study on the life cycle cost and the return-on-investment will save the country from the current energy crisis as, "ONE unit saved is TWO units produced".

Projects execution has to be supplemented with detailed planning, and precise allocation of right resources at the right time and with due importance as required.

It is also important to lay clear terms of the quality and specifications and execute the same in the final product. The well-executed project will maintain the comfort level without overcooling, thereby reducing the failure rates and enhancing the life of product.

Companies need to have larger budgets allocated for the Research and Training programs. Education is the key and instead of spending time and money on crisis management, a well-planned effort towards these areas will reap higher, long-term benefits and ensure a good work and personal life balance as well.

As more and new multinational companies enter the Indian market, the expectations are high with cutting edge technology equipment, state of the art execution followed by a great piece of commissioning, operation and maintenance.

Standards, codes, guidelines tropicalized and adapted for the Indian scenario need to be available in all possible areas.

It is also utmost important to recognize the certification of engineers, technicians and operators, something that is missing in our widespread industry as of today.

Air-conditioning units and network bear the stigma of being the reason for the spread of fire and mismanaging indoor air quality. A correctly designed and executed project will not only maintain the right design conditions to ensure optimum indoor air quality, it will also help in safe exit for the inhabitants in case of fire emergencies, if substituted with the effective smoke management systems.

As the world environment is threatened with issues of ozone depletion and global warming, studies on alternate refrigerants are in full swing. Unfortunately, there is no single refrigerant that responds to both the conditions; though there are a few refrigerants being used by the manufacturers that strike a fairly good balance.









Integrated approach with all the stakeholders - right from owners, developers, architects, consultants, project managers, manufacturers, contractors, and facility managers - is much required to achieve various objectives. Disintegration is the weakest link today, with lack of trust amongst all parties (of stakeholders) with least synergy existing. HVAC & R engineers have a greater say and the day is not far when they would be in a position to impose and deliver this *Integrated Approach* to project delivery.

Estimated Future Market Growth

A developing country like India is reputed for the intellect and that attracts investors from every corner of the world. The residential sector is poised for a quantum leap. Infrastructure and Hospitality Industry, IT and ITES sectors' growth is appearing positive and this will propel the HVAC & R Industry and the growth rate could be as high as 20%. Refrigeration of Essential Commodities which is the lifeline for our industry's survival has to be given importance and can surpass the HVAC industry in a decade or so

Demand Drivers

The recession mood is on the receding phase and with light at the end of the tunnel brought by the stable government, the country will attract a lot of investments. This should call for a surge in the requirement of HVAC & R. With more energy saving certifications supported by interactions within the industry, with various societies and with Government, the BIS, ECBC, BEE - it would surely call for a great time for the Infrastructure Industry, particularly the HVAC & R Industry!

To sum up, all of us should pledge to work with utmost sincerity and quality standards to ensure that India witnesses an excellent, never-before growth with stronger and healthier foundation that comes along with greater sustenance.

ISHRAE, Indian Society of Heating, Refrigerating and Air-Conditioning Engineers with its prime objective of dissemination of knowledge is working with full force towards the same. ACREX India 2018 (February 22-24, 2018 in Bengaluru) will showcase cutting edge technology products and services of HVAC & R with multiple industry interactions through seminars and workshops. Under the umbrella of Build Fair Alliance, the Fire, Safety and Plumbing related services will be showcased - adding much value to the visiting and participating stakeholders and decision makers.

Partner Preview

Friends and Fanfare at the Industry Meet in Delhi & Mumbai

Highlights of the evening when the HVAC & R industry interacted to celebrate the preparations for ACREX 2018

ACREX India 2018 created buzz in New Delhi and Mumbai with two successful Industry Meets. On May 18, 2017, a business and social evening was organized at Le Meridian in New Delhi. This was followed by another fantastic pre-show at The Leela in Mumbai. Both the events had participants from across the industry and from various zones in the country. A presentation

on the forthcoming ACREX was shared and senior ISHRAE members spoke with the audience as they urged everyone to gear up and look forward to ACREX'18 as it takes the industry to the next level. The audience cheered as Mr. Vishal Kapur, the President of ISHRAE said, "Let's have a great ACREX!".















NürnbergMesse Speaks

The Space to Watch for

ACREX'18 aims to create a mark in the HVAC Industry

ACREX 2018 on February 22-24 in Bengaluru, India, is an event that exhibitors across the globe are following. We are very excited to create a revolutionary event by showcasing the best innovation, technology, range and business solutions under a huge 40,000 sq. meters exhibition space. There are going to be



Kavita Sharma Project Director, ACREX India NuernbergMesse India Pvt. Ltd.

dedicated pavilions and show-spaces for each line of products and services. As the preparations are on in full swing, the list of exhibitors is very promising already and is filling up fast. Indeed a space to watch for!

ACRONEWS

Sneak Peak

Sustainability through Quality and Innovation

The Air-Conditioning, Heating and Refrigeration Institute

Mr. Francis Dietz Vice President of Public Affairs, AHRI

This year at ACREX'18, we have the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) as one of the International partners. AHRI is the trade association that represents manufacturers of residential and commercial air conditioning, space heating, water heating, and commercial refrigeration equipment and components for sale in North America and around the world. An internationally recognized advocate for the industry, AHRI develops standards for and certifies the performance of many of these products. With its 300+ member companies manufacturing quality, efficient, and innovative products, they contribute to AHRI's global effort to improve efficiency and sustainability.

AHRI's globally recognized and industry respected certification program helps equipment and component manufacturers differentiate themselves from competitors, and comply with government Minimum Efficiency Performance Standard (MEPS) requirements. Governments in Australia, Canada, and Saudi Arabia have officially recognized AHRI's certification programs as an official path of compliance in their respective countries. When specifiers and other decision makers see that equipment bears the AHRI Certified® mark, it provides them with the assurance that it will perform accurately and consistently.

Regulators at the federal, state, and local levels in the U.S., and around the world, are increasingly motivated to depend upon AHRI for the accurate and unbiased evaluation of HVACR equipment. AHRI's certification programs demonstrate to the government that performance claims have been independently measured and verified. Upon verification, the AHRI Certified® mark is applied to the product to serve as a visual statement of conformance.

In order to test and certify the equipment, it requires a performance standard. AHRI and its committees serve as a forum for the development of technical performance standards for industry equipment. AHRI standards establish rating criteria and procedures for measuring and certifying HVACR manufacturers' efficiency and performance claims for their equipment.

Many AHRI Standards are recognized both as American National and Canadian National standards through accreditation from ANSI and the Standards Council of Canada. In addition, AHRI works continuously with partners across the globe to establish

 $agreements\ working\ toward\ standards\ harmonization.$

Because the government often regulates the performance of HVAC & R and water heating equipment, AHRI actively monitors federal, state, and international legislative and regulatory activities related to energy efficiency and global competitiveness. AHRI works tirelessly to ensure that regulators have the technical information they need to issue practical, enforceable rules that will improve product efficiency and support homeowners, while allowing manufacturers to continue producing products that make life better and employing hundreds of thousands of individuals across the country.

AHRI remains a knowledgeable resource for regulators thanks to its research arm, the Air-Conditioning, Heating, Refrigeration Technology Institute, Inc. (AHRTI), which conducts scientific research in the public interest. While it conducts research projects to support all types of products, its largest project is the Low-GWP Alternative Refrigerants Evaluation Program, which concluded in 2015 and led to further research on the safe use of mildly flammable and flammable refrigerants, which were identified as climate-friendly alternatives. AHRI is collaborating with ASHRAE, the U.S. Department of Energy, and others, on the research program.





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ACREX'18 Special Feature

Showcasing Cold Chain Development & Management

Refrigeration & Cold Chain Pavilion at ACREX'18

Mr. K. K. Mitra
President, ASHRAE India Chapter



Cold Chain Development in India has evolved to become a very important part of society and human life. With the development of the country and society, quality in food is also of a huge importance now. India is one of the world's largest producers of

fresh fruits and vegetables, dairy products which need to be preserved in proper temperature and hygenic conditions for long term. Concentrated efforts in this direction would ensure upliftment of the farmers as well as the consumers.



refrigerated vans.

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Sadly, a vast amount of the fresh produce is destroyed at the ground level after harvesting because of inadequate or minimal storage infrastructure in the country. There is a huge shortage of cold stores in India. For specialised fruits like apples, there is a requirement of control atmosphere storage. Further, the produce needs to be transported in cold environment refrigerated vans. Looking into the present scenario, there is a dire need to add significant infrastructure of cold stores and

Pharma Industries also require proper storage of medicines, and there again is a shortage of the same.

ACREX is an event that combines product exhibition and technical know-how in the field for the development of cold chains in India. To the Cold Chain Entrepreneurs, ACREX brings together the cold store infra-structure companies, cold chain

equipment manufacturers, consultants, cold chain refrigeration and refrigerated van technocrats, contractors and users - all under a single large umbrella.

This year, ACREX will showcase an exclusive pavilion for Cold Chain and Food Sector. This special pavilion aims to provide a platform where the entrepreneurs get turn-key solutions for their investment in developing of a Cold Chain / Cold Storage. Professionals who are concerned with the food industry get a chance to deliver and exhibit their products in ACREX and present their expertise to consultants, users and entrepreneurs. With focussed audiences comprising of prospective cold chain developers, entrepreneurs, consultants, food technologists etc., the ACREX Cold Chain Pavilion will surely be a great place for all exhibitors to be at.

ACREX'18 Special Feature

Building Intelligent Building Automation

Building Automation Pavilion at ACREX 2018

Mr. C. Subramaniam

The Building Automation Industry carries a very special place in the building construction industry; the reason is that it integrates and runs through the core of all the disciplines and cannot be segregated from any one of them. Also, it contributes to meeting the objectives and dreams of every owner and end user in ensuring that the building's performance measurements can be taken continuously and compared with the design intent data. These are possible only from a fully functional and automated HVAC and other systems in the building.

In meeting the above key objectives of every single owner today we, from ISHRAE, have made it a point that we have a DEDICATED Pavilion that provides a platform for every manufacturer and service provider in the Intelligent Building Automation segment to exhibit their state of the art technology and display the superior

values that it brings to every owner and end user.

The success of this exclusive and dedicated pavilion in our previous editions of ACREX and the response from the industry is what has always given us the energy to take that extra mile in ensuring that we make it bigger and better every year.

Hence, we have the exclusive Pavilion for the Intelligent Building Automation Systems in ACREX India 2018 that occupies its prime and prestigious place of importance. We excitedly look forward to all the manufacturers, system integrators and service providers in this segment to come and showcase their products, systems and services for the owners and end users to discover and evaluate.

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