

rest. Traditional applications include textile, leather, printing ink, paints & coatings, agrochemicals, automotive fluid, paper and pulp, rubber and mining. Emerging segment includes construction, water treatment, plastic, personal care, oilfield, electronics, food, packaging etc. According to Frost & Sullivan, growth rates for performance chemicals in construction, water treatment and printing inks were the highest in 2007.

"India is developing as the global

sourcing hub for certain performance chemicals like dyes, pigments, surfactants, cosmetic chemicals, printing ink ingredients and plastic additives," informed a press note released by Frost & Sullivan.

Performance chemicals are low-volume chemicals, which bring in a value addition that cannot be easily replaced or substituted. They include additives, adhesives & sealants, antifoams, antioxidants, corrosion inhibitors, coupling agents, coagulants, dispersing

agents, elastomers, emulsifiers, dyes, fine fragrances, tanning agents, lubricants, pigments, surfactants, water repellents etc.

According to Frost & Sullivan, performance chemicals accounted for 16.5% of the global chemicals industry sales, estimated at Rs. 100 trillion in 2007. Even as rising crude oil prices push up the raw materials costs for several performance chemicals, the industry is set to grow mainly due to strong demand from developing economies.

THE WAY AHEAD

'Focus on new technology platforms to improve efficiency and reduce costs'

The need of the hour for the performance chemicals industry is to explore new technology platforms to improve efficiency and reduce costs, according to Dr. S. Sivaram, Director, National Chemical Laboratory (NCL), Pune. He spoke at length about the various options being developed in different parts of the world.

He noted that 'clean technology' was a key area of focus, and had managed to attract the largest venture capital fund infusion in the US in 2007-08. Use of unusual media like supercritical carbon dioxide/water and unusual reaction conditions were yet another platform of immense promise. Industrial biotechnology involving biotransformation & biocatalysis and chemical reaction engineering were other emerging concepts to keep track of for performance chemicals players, said Dr. Sivaram.

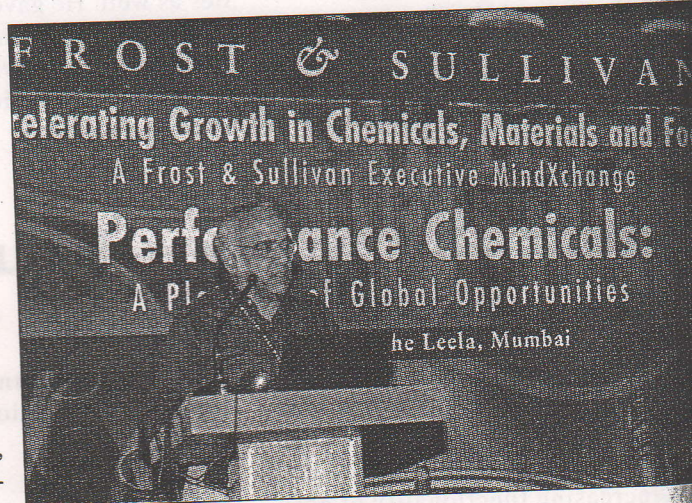
He also spoke about the opportunities in manufacturing of value-added materials from bagasse – an area in which NCL is actively involved. He said that 500-mt of bagasse in India

could translate into 50-mt of alpha cellulose, which could open up new avenues of sustainable chemistries.

'Look at sustainability rather than prices'

Earlier, while commenting on the energy crisis confronting the industry, Dr. Sivaram had an altogether different take on the issue. He welcomed the rise in crude oil prices as he felt that it would force the industry to look at other options, which are sustainable.

"The industry should be looking at the long-term sustainability aspects of using crude oil, rather than discussing oil prices and looking at ways to survive it. It is not the question of price



Dr. S. Sivaram

of US\$100 or US\$150 a barrel of oil, but what price we willing to pay for sustainability," he noted. Dr. Sivaram added that the ability to deal with uncertainty – like the present energy crisis – has become an increasingly key competitive differentiator in the chemical industry.

Investing in innovation

Later, Dr. Sivaram highlighted the importance of innovation for the industry, even though return on innovation

Frost & Sullivan Conference

vation investment has been dismal globally, both for process and product R&D. "Innovation is an extremely risky business, but it is the only hope that

we have and especially in India," he remarked. Referring to barriers for innovation in India, he pointed to inadequate availability of skill-sets and the human re-

source & talent crunch as key issues. "Unless chemical industry participates more effectively in education, there won't be any long term solution," he added.