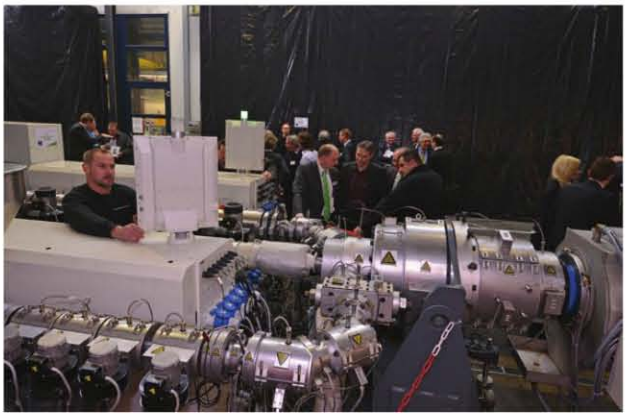

At its recent open house, Battenfeld-Cincinnati displayed a line that saves 30% energy

Battenfeld-Cincinnati has revised its helix VSI-T pipe dies, with a special focus on energy consumption. The core component is a cooling basket installed between the spiral mandrel and the lattice basket. The EAC internal cooling system blows in cold air for internal pipe cooling and subsequently transfers the heated air to the Labotek material drying system. This internal pipe cooling system also improves pipe quality; the sagging effect (uneven wall thickness distribution) is significantly reduced especially in large-diameter pipes, says the firm.

The third component contributing to the overall energy savings is the Green Pipe downstream equipment with its "green cooling" system. It operates with frequency-controlled vacuum and water pumps. This cooling system also operates with a water volume flow cut by almost 90%. This is achieved by pumping the cooling water into the last tank and then passing it on from one tank to the next in the opposite direction to the extrusion process.

Meanwhile Labotek, jointly with Battenfeld-Cincinnati, has developed an EAC variant of its combination dryer, which was shown with the line. The drying system operates with two separate drying zones. The hot air drawn from the pipe die is blown into the top zone. The bottom zone is laid out as a conventional drying zone with a dry air drying system to ensure the necessary degree of dryness for the material. The dryer is said to consume 11 kW for drying 1,500 kg/hour of granulate, compared to conventional dryers that need 92 kW, resulting in energy savings of up to 89%, according to the firm.

SABIC has developed a new PE compound Vestolen A-Rely 5924 R 10.000, which it says, compared to a conventional type of PE-100, requires less energy for melting and processing in an extruder.

Meanwhile, at the K2013, Battenfeld-Cincinnati will introduce the gearless GL version of its solEX extruder series. It features a new drive system that consists of a high-torque motor, with claimed higher energy efficiency compared to the motor-drive combination used so far. Other benefits are a low noise operation and vibration levels and a compact footprint (with no gearbox).

Sandip Bhuva, CEO of Rajoo Bausano Extrusion

Indian extrusion machinery maker **Rajoo Engineers** entered into an equal equity joint venture with Italy-based pipe machinery maker **Bausano** in 2010 to manufacture and market pipe/profile extrusion lines in India, with special emphasis on the African, Gulf and SAARC markets. PRA spoke to Sandip Bhuva, CEO of **Rajoo-Bausano Extrusion** (**RBE**) to get an update of the firm's progress in the market.

PRA: Provide an update on RBE.

Sandip: We recently successfully commissioned CPVC and RPVC pipe lines both in the Indian and overseas markets. Some of the features of the supplied lines are parallel screw, 30 L/D, multi-drive, screw thermocontrol unit, load cell for back pressure and many more. The lines are targeted for SWR pipes, column pipes, sewage & drainage pipes, pressure pipes and hot & cold water pipes.

We also had a live demonstration of a CPVC pipe plant, high output RPVC pipe plant and round drip irrigation line in India's first ever multi-product open house held in February 2013 in Rajkot. Over 180 professionals from 90-plus companies, both within and outside India, attended this.

Some of the major breakthroughs achieved this year: We exported India's first ever RPVC pipe line (with an outer diameter of 500 mm and 1,100 kg/hour output) to Africa; exported a high output CPVC pipe plant to Bangladesh and launched machinery for PVC granulation/compounding, UPVC and WPC profiles.

PRA: In an interview in 2011, RBE forecast a growth in demand for pipes in the Indian industry.

Sandip: The pipe and agriculture markets in India are growing at a healthy rate. The government continues to give a boost to the infrastructure sector, which is the major end segment for pipes.

The growth in the pipe sector for the financial year 2012/2013 was 14%, which is more than double the GDP of the country and thus is encouraging. In an economy of 1.2 billion people, water distribution, irrigation and the housing sectors are going to increase exponentially as the country progresses.

PRA: Early this year, RBE launched a machine that produces the widest PVC pipe in India. Has it taken off in the Indian market?

Sandip: More than 100 Indian prospects witnessed the first ever live demonstration of India's widest PVC pipe

plant at RBE, thus firmly establishing RBE's foothold and technological superiority. It was sold to South Africa.

The major applications of such pipes are in sewage, drainage, gravity and pressure water mains, irrigation and industrial pipeline systems and we expect it to take off in India since PVC pipes in sewage and drainage sector are growing rapidly.

PRA: Provide an update on the new flat pipe manufacturing unit for drip irrigation line.

Sandip: Three flat drip irrigation lines are already in production based on the confirmed orders from yet un-named Indian customers. They will be ready for trials at the end of September. The maximum line speed of the machine is 150 mpm and output is 270 kg/hour, which once again will be the first time in the country.

PRA: How is the market for the wood plastic composites in India?

Sandip: Wood plastic composite boards/panels/sheets find uses in doors, kitchen cabinets and other furniture and are replacing MDF, plywood, solid wood and particle boards in India.

WPC decking and profiles are upcoming markets in India. RBE is ready for this market since our partner, Bausano of Italy, is already well established in this business.

PRA: What are the features of RBE's machines?

Sandip: RBE machines are fully built with Bausano's design technologies. The lines are incorporated with a multi-drive system, longer L/D ratio, screw thermocontrol unit, load cell to measure back pressure, safety system, touch screen control panel for complete plant with PLC, unique die design for single and double exit, vacuum sizing tank with calibrator, double chamber vacuum tank, multi-track haul-off with long contact length. Other features like online power measuring system, special coating on screw, automatic diameter and thickness control system, online belling system can also be incorporated. Basically, its world class technological products at affordable price levels.

PRA: What is RBE's future outlook for the industry?

Sandip: We expect the growth in PVC pipe and profiles will continue; the increase in the acceptance of UPVC profile and WPC products by Indian builders/ architects will boost the market.

The building and construction sector has a demand potential of 730 kilotonnes/year for PVC products and there is a huge potential in water, irrigation sector and housing sectors. Furthermore, Bausano has a strong presence in Asia, which will be beneficial for RBE.