

**SEW**  
**EURODRIVE**

# *Drive* *India*

*The SEW-EURODRIVE Customer Magazine*



Energy efficient solutions for  
the fibre cement industries.

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### Dear Reader

Benchmarked at 100 in 2002, Indian capital goods spending in real terms hit a high of 252 in 2010 (152% growth over 8 years). These were the boom years of private and public sector investment growth, standing in stark contrast to the 5 years that have followed that peak achieved in 2010. In 2015 we still spent 8% less on capital goods (in real terms) as a country than we did 5 years ago, and to make matters even worse the sale of capital goods for the most recent 3 months for which numbers are available is a stunning 21% drop on the same period last year.

India has never seen such a long period of investment stagnation since economic liberalization in 1991. There is no shortage of explanations and things to blame for this state of affairs, but the important thing for all of us in the capital goods industry, including the majority of SEW's OE customers, is to come to terms with what to do about it. New geographies, new industry segments and new product and service offerings sums up our approach, as I am sure is the case for most of you. As a silver lining, there is a good case to be made for claiming that one never understands one's markets as well as one does in times like these!

In this issue of DriveIndia we look at 2K Technologies, our OE customer based in Hyderabad, who we are proud to support to drive the change from hydraulic to electromechanical solutions in stacker and de-stacker applications, primarily used in the corrugated roofing industry. This is one of the elements helping 2K Technologies to address the emerging markets outside India with a more contemporary, energy efficient and environmentally friendly solution. In our product story we feature our segmented girth gear solution for kilns and other large rotating equipment, already successfully running at many sites in India and other countries. And finally we have a story on Tejas and Sandeep, our two senior-most engineers proactively supporting End Users with the full range of our service offerings in Gujarat and North India respectively.

I wish you happy reading!

**M J Abraham**  
Managing Director  
SEW-EURODRIVE India

## An energy-efficient solution for the fibre cement and building products industry.

SEW-EURODRIVE recently partnered with 2K Technologies, a company that offers technology to the fibre cement and building products industry, to supply energy-efficient, hassle-free solutions.

2K Technologies was established in the year 2000 by a group of expert promoters. The SEW solutions were installed for the company's corrugated fibre cement sheets handling applications, such as Piler, Stacker and De-stacker. These applications are used chiefly to transfer or separate the wet fibre cement sheets and boards.

### What is the application?

#### Piler.



- Two-axis machine to collect empty templates from conveyor and stack it on trolley.
- One travel drive and two hoods (vertical drive).
- 2K replaced the hydraulic system with a Servo drive system from SEW.
- Travel drive with two independent Servo motors, their motions synchronized through MoviPLC with MoviAxis controller.

#### Stacker.



- Two-axis machine to pick up wet sheets from the conveyor and corrugate it using a Vacuum box, then place it on a template.
- 2K replaced the hydraulic system with a Servo drive solution for long travel, of stacker.
- Travel drive with two independent Servo motors, their motions synchronized through MoviDrive.

#### De-stacker.



- Two-axis machine to separate sheets from templates.
- Two hoods pick up the fibre cement sheets and place it on the trolley; the other two hoods pick up templates and place it on a roller conveyor.
- 2K replaced the long travel system with Servo drive solution for travel.

### Challenges with existing systems.

Conventional hydraulic systems at 2K Technologies posed some routine challenges:

- More maintenance needed due to nature of hydraulic systems.
- Low efficiency because driving each axis requires more power (50HP Motor).
- Lower productivity as cycle times are higher using hydraulic systems.

### A winning partnership.

In partnership with the engineers at 2K Technologies, SEW came up with tailor-made solutions. Problems like excessive power consumption and requirement for greater maintenance were addressed by installing Servo drive systems. The big challenge was in optimizing the drive selection, achieving the required cycle time, and operating heavy loads with the reduced cycle time with optimized power. These challenges were addressed and resolved.

### Key benefits of the solution

- Greater energy saving.
- Less maintenance.
- Simplicity of mechanism and operation.
- Neatness of machine surface.

### Tangible difference.

Prior to the SEW installation, the complete system used to run on hydraulics and was set to run continuously irrespective of the axis movement. But with the motorized solution, power is consumed only during the acceleration phase. Eliminating the use of hydraulic power makes the machine mechanics significantly simpler and more efficient.

2K Technologies has found the installation very satisfactory. The complete machine has been installed and set to production, its performance exceeding expectations.



# More than the sum of the individual segments.

Girth gears drive large, rotating systems like dryers, rotary kilns or horizontal mills. They are installed around the circumference of these systems and transfer the drive torque from the gear motor to the rotary

## SEGMENTED GIRTH GEARS

cylinder. SEW EURO-DRIVE has developed a flexible concept for this which simplifies manufacture, transport and installation.

### Conventional manufacturing

Conventional girth gears usually comprise two to four segments and are assembled together for processing. This necessitates extremely large and expensive machines for production, handling and heat treatment. Furthermore, the size of component parts is under-optimized with regard to casting and heat treatment.

### SEW's Segmented Girth Gears

SEW's Segmented Girth Gears are split into several identical segments, keeping the component parts short and handy. Only Austempered Ductile Iron (ADI) is used, because its tensile strength achieves a level unmatched by traditional materials. In this way the disadvantages of the traditional manufacturing process are avoided.



### Main industry and application areas

- Cement / Mills and Kilns.
- Mining and Minerals / Mills, Kilns, Rotary Dryers.
- Pulp & Paper / Kilns, Debarking Drums, Drum Pulpers.
- Power Plants / Mills (Coal and Limestone Grinding / FGD).
- Chemical / Fertilizer Industry / Kilns, Dryers.
- Environmental Industry / Rotary Incinerators, Dryers.
- Bulk Material Handling / Rotary Wagon Tippers.
- Metal Industry / Converters, Smelters.
- Food Industry / Rotary Ovens, Dryers.

- Low weight on Mill construction (approx. 50 % reduction in weight compared to conventional girth gear).
- The feeder design, heat sinks and the relatively short segments enable a seamless casting quality.
- An initial pitch accuracy of ISO 8 (AGMA 9) is guaranteed. Vibrations of the girth gears are minimized.
- Less space required on the drum for accommodating girth gear.
- Easy handling during transport and installation.
- Easy shipping especially for OEMs who deliver further to other countries.
- Different connection methods for ring gear available (flange, spring plates).
- Local service support from SEW.
- Supervision for installation available.



### Overview of benefits.

- Complete drive setup from one source including SGG, Pinion, Shaft, Pedestal bearing, Lubrication system, main and auxiliary Gearbox, Drive Motor, Coupling, Base frame and condition monitoring system.
- Long service life due to the use of ADI material which has very good wear resistance.
- Big savings on lubricants.
- Less space required on the drum for accommodating girth gear.

### Technical data

- Girth gear pitch dia of approx. 16m (larger dias are possible as per requirement).
- Maximum width: 600 mm.
- Maximum power: 4000 kW per pinion.
- Maximum pitch line velocity: 6 m/s.
- Girth gear module: 20, 25, 30 and 40 mm.
- Calculation according to standard ISO 6336 (AGMA on request).

The rotation of the kiln can be induced by several drives. This way, the performance is distributed. High torques can be achieved with smaller, more efficient drive units as a result.



"We sincerely appreciate the efforts of the SEW-EURODRIVE team during the Chennai Floods. Not only did the team help us to bring the plant back to normalcy in a short time, but also all our requirements were supported in a quicker turnaround time."

**R. Balasundaram**, Executive Director, Manufacturing, Ford India.

## Two hues of what it means to be at SEU.

Working closely with a diverse set of customers across industries and geographies is one of the most rewarding aspects of a sales engineer's job. DriveIndia spoke to Sandeep and Tejas, two of SEW's most senior SEU engineers to get two different perspectives about various aspects of their job and how the service landscape in India has changed over the years.

### 1. How have your customer-requirements changed over the past few years? What was it like, say, 7-8 years ago and what is it like today?

Earlier, customers were not very aware of the SEW service support; especially our repair service capabilities and our infrastructure facilities in a geographical way. After implementation of the SEU concept, they have begun using our services.

The customer's approach towards Spare & Service Business while selecting the business partner has changed. Previously it wasn't so critical to have a business partner with local support. Criteria were only quality and pricing. But now, choice is made based on local availability of Spares & Service.

### 2. Tell us about an interesting or unusual incident that has happened to you in this role.

I was on personal leave one day and there was a breakdown at a cement plant in a remote area of Gujarat. Before I could understand the problem, within 2.5 hours, I got about 30 to 35 calls from them for urgent delivery of spares. With great team effort and prioritizing, we arranged dispatch on a weekly off, after all internal approvals. When the Material and Service Engineer reached the site and inspected, he saw that one connection was wrong. He changed it and in five minutes the plant started!

It was an unforgettable experience because I realised how important SEW products can be and how they impact the production process.

I had one customer whom I could not convince about the benefits of paying for pro-active Services. They were not seeing any value in putting money on at least the Service part, as they already had a Service agreement with a 3rd party vendor for complete Plant Machinery.

Then they faced a bearing failure issue in one of SEW's Geared Motors. Luckily we had our Service Vehicle by that time and we repaired the unit then and there and the machines began working. After a week I got a call for negotiation on my Service proposal. Now we have a continuous running AMC for the last three years with this customer. I guess if the customer can see value he is happy to pay!

### 3. What are the aspects of your job that you personally like and enjoy?

I had worked earlier in the Maintenance department and so I understand breakdown pressure and the customer's situation. In SEW when I promptly act to support the customers and make them happy after solving their problem, it gives me immense satisfaction and pride. My job is to meet different customers and fortunately we are in different industries like F&B, Tyre, Glass, Cement, Automobile and Foundry. Now, requirements are always different, industry-wise as well as customer-wise, and I really enjoy knowing these different requirements and addressing them specifically.

The most likeable and enjoyable aspect of my job is to interact with whole sets of different customers with different mindsets and perceptions. I get to learn with each and every interaction, which makes me a better individual both personally and professionally.

### 4. Based on your own experience, if you were asked to give three pieces of advice to someone new joining your team today, what would you tell them?

Always understand customer requirement and problems. Put all your efforts into solving that.

- Revert as quickly as possible.
- Keep your eyes and ears open during customer plant visit; you'll understand the customer better.

Research your environment before diving in.

- Smile, ask questions, be interested: SEW is an ocean of knowledge and can really enable your growth in a big way. So be open and always be curious to learn.

- Give your 110%: As a newcomer you need to work harder than everyone else. You need to prove you want to be here, you like to be here, and you'll give it your all.

### 5. What are some of the emerging trends that you see in the service segment? Is there any difference between what is happening in India and what is happening globally?

After the Technology era I think the Service era has started; after automation, every company's maintenance team has downsized gradually and more outsourcing happens for maintenance activities. Expertise on subject matter and suppliers' availability enable customers to get perfect service from suppliers rather than depend on their maintenance teams.

- If we talk about the global scene, especially in the developed countries they have already reached this stage. In India Automation has already begun and professional companies demand more service, but the concept will take some more time to reach the middle and small scale Indian industries.

One sure trend is that customers expect more now-a-days:

- Faster services / minimized breakdowns. This is most important.
- Lower inventory cost.
- Economical service although this less important.

Support online or by phone is a must. Communication with customer is of paramount importance.

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