

**SEW**  
**EURODRIVE**

# *Drive* *India*

*The SEW-EURODRIVE Customer Magazine*



**Mechatronic Industrial  
Gear unit: The intelligent  
gearbox of the future.**

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**HANNOVER MESSE 2015**





### Dear Reader

The Hannover Messe, the world's largest industrial fair, was held in Hannover in mid-April with 6500 exhibitors from 70 countries and with 'Industrie 4.0' as the main theme and India as the partner country. India as partner country needs no introduction of course, but what on earth is Industry 4.0? Well, it's a German concept to understand and lead the next stage of evolution of industry after the mechanization of industry using water and steam power (Industry 1.0), mass production using electric power (Industry 2.0) and automation of production using electronics and IT (Industry 3.0). So, conceptually at least, it's as big as it gets! What is the concept? Essentially the concept is to lift automation from the level of the machine, the production process and the material flow to the level of the value chain system itself to create intelligent networks that can communicate and control each other autonomously. To give a real life example, this would mean moving from an automated conditioning monitoring and fault diagnosis scenario on an individual machine to a self-learning and self-predictive system that processes real time data from all similar machines that move towards just-in-time maintenance at near zero downtime. As the leading drive technology solution provider, SEW showcased Industry 4.0 technologies in our area of expertise for the adaptable factory of the future.

Back in today's world, in India we offer you the full range of technologies, engineering support and maintenance solutions for our engineering challenges that are still mostly in the Industry 3.0 scenario at best. In this issue we feature an FFS (form, fill, seal) machine for the food industry developed by Catalis, a machine manufacturer from Gujarat, whom we have been proud to support to match the reliability and output rates of imported machines. The product story features a really out-of-the-box product, a multi-servo driven industrial gearbox that has proved itself in the toughest field conditions and delivered significant cost savings for the customer over a traditional gearbox solution. And in our final feature, we have a story on the full range of our service and training capabilities in India.

I wish you happy reading!

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

## SEW and CATALIS unwrap a high-speed Food Packaging Machine.

In January 2014, SEW's Baroda branch began working with Catalis Packaging, an upcoming Baroda-based company. SEW's high-speed packaging machines for Catalis are a great example of working in close partnership with the customer to develop customized solutions.

After going over the application requirements in thorough detail, engineers at SEW-EURODRIVE had a complete understanding of just what Catalis Packaging required. Besides the key technical mandates of speed and accuracy, Catalis needed an automation partner with a local presence; one who could provide the complete product range and was staffed with a strong commissioning and application team. SEW was the just-right partner on all counts.

### What the FFS technology is about.

Form Fill Seal (FFS) machines, as the name suggests, are packaging machines that form fill and seal a package on the same machine. These are used to package the wide variety of potato wafers and snacks in the market today. An FFS machine constructs plastic bags out of a flat roll of plastic film, while simultaneously filling the bags with the product and sealing them.

A pre-printed holographic flat roll of plastic film is loaded into the machine. Material feeding and then cutting of the bag is decided by the length of the pouch or by indexing to a photo registration mark, which is detected by a photo sensor.



[Click here to view video](#)

### The installation.

The first installation was a three-axis machine with SEALER, PULLER AND UNWIND axis. The four-axis machine has an additional axis of correction nip. Each axis has a SEW-make Servo Geared Motor / Servo Motor along with an AC drive – a MOVIDRIVE® with resolver cards and other accessories. The package also includes pre-fabricated encoder and power cables and a central HMI for controls along with the SEW PLC.

### Advantages of the hi-speed SEW Automation Package.

- Line speed of **100 bags per minute** with an accuracy of plus/minus 1 mm.
- Additional advantage of change-of-line speed (number of pouches per minute) without stopping the machine.
- Flexibility of changeovers between bag sizes, and flexibility to run multiple bag sizes on a single machine.

### Yet another success story.

All the above parameters were successfully catered to by the SEW team, and today these machines are satisfactorily running at various end-user locations in Gujarat, especially Rajkot.

SEW has been able to extend similar support and emerge the automation partner to other similar customers, because of three unique advantages – the offer of complete product range from a single supplier, a locally available application and commissioning team, and reliable delivery thanks to its local assembly plant.

### The key challenges

#### The precise motion control solution from SEW had to deliver on 3 key parameters:

1. Performance and speed: The maximum number of bags should be manufactured and filled to increase productivity. Typical requirement is for **60 to 100 pouches per minute**.
2. Accuracy: All the pouches should be of the same size, with only negligible deviation.
3. Wastage control: The horizontal and vertical sealing operation, even at high speeds, should be firm and accurate at the required length.

# The intelligent gearbox of the future.

Of all the products that SEW-EURODRIVE offers, industrial gearboxes are the most traditional, having been around in their current form for well over a century. However we have always believed that we maintain our position as the leader for end-to-end drive systems that go beyond just the hardware by developing futuristic solutions that translate into tangible customer benefit. This eight-decade long practice of setting trends and standards has continued, with the new Mechatronic Industrial Gear Unit – another first from SEW, with its combination of Drive and Intelligence within a single system.

## Leading the way.

SEW is the first supplier to deliver industrial gear units, motors and decentralized frequency

inverters in a standard package. This path-breaking new system solution ensures practical benefits and profitability for the customer across every stage, from the initial inquiry right through to maintenance. And all this has the added benefit of coming from a single source.

## Innovation for greater value.

The factory-assembled Mechatronic Industrial Gear Unit is the first inverter-controlled plug & play solution of its kind in the world. With its system intelligence, it is set to revolutionize the industry and give customers the full functionality and flexibility of frequency-controlled drive technology in a simple, hassle-free way.

- Combining optimally-matched components into one product reduces project planning to a minimum of interfaces.
- Pre-prepared system information and

optimized logistics ensure smooth plant planning and fast delivery times.

- Minimized connection outlay and preset control electronics enable exceptionally fast production startup.
- Straightforward setting options, maximized flexibility and full transparency during operation lead to optimal conveying processes.
- Minimized maintenance and servicing ensure maximized availability.

The intelligent integration of all components allows linked-up sensor technology to be used to monitor, evaluate and control both the Drive status and process status. Quick reaction to changes, redundancy in design and high power density ensure efficient processes, increased productivity and a wider range of options – thus paving the way for a more intelligent industry.

## Mechatronic Industrial Gear Unit

Key facts and figures	
<b>Control connection options</b> <ul style="list-style-type: none"> <li>• Ethernet x 2 (fieldbus)</li> <li>• Terminal interface</li> </ul>	<b>Specific functions</b> <ul style="list-style-type: none"> <li>• Startup</li> <li>• Braking</li> <li>• Change direction of rotation</li> <li>• Variable speed</li> <li>• Self-diagnosis</li> <li>• Remote control</li> <li>• Condition monitoring</li> <li>• Process monitoring</li> </ul>
<b>Power</b> <ul style="list-style-type: none"> <li>• 50, 75, 100 KW available</li> <li>• Overload capacity up to 200%</li> </ul>	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Turnkey Drive system</li> <li>• Plug &amp; Play</li> <li>• Simple operation</li> <li>• Compact design and low weight</li> <li>• Standardized solution</li> <li>• High system efficiency</li> <li>• High reliability</li> <li>• High degree of protection</li> </ul>
<b>Options</b> <ul style="list-style-type: none"> <li>• Low temperature package</li> <li>• Stop/emergency brake</li> <li>• Hand-held terminal (various options)</li> <li>• Torque arm</li> <li>• Hollow, solid or pinion shaft</li> <li>• Surface protection, colour (gear units, housing) and many more</li> </ul>	



**The Mechatronic Industrial Gear Unit keeps it simple with:**

**ONE** Solution  
Contact  
Delivery time  
Price

**Lo!**

The optimist sees a glass as half full.  
The pessimist sees it as half empty.  
The engineer sees a glass that is twice as big as it needs to be.



## SEW's specialized business unit brings service to end-users' doorsteps.

As part of its on-going endeavor to provide added value to its customers, SEW India has set up a separate team called SEU-Support under the global CDS brand, which focuses on End-User requirement of Spares and Services. This team of dedicated, trained engineers has developed a deep understanding of what End-users need, and are set-up to cover all of India geographically. Till date the team has worked closely with hun-

dreds of customers across industries like Food & Beverage, Tyres, Automobile, Cement and Petroleum.

The team believes that proactive, pre-emptive service is the key to smooth functioning at the customer end, with no downtime and increased productivity. To this end, the following products and services have been developed and are well appreciated by customers everywhere.

### Complete Drive Service (CDS)

"SEW-EURODRIVE has been our prime service business partner. We are very pleased with the quality of service the company provides. We sincerely appreciate their responsiveness and the way in which they conduct business. We have recommended SEW to others because of our satisfaction with their service. We thank the SEW team for their tremendous support at the times we need them."

-- Amit Arora, Manager, Volkswagen Academy

"The SEW team has played a vital role at our Blast Furnace # 3 & 4 Tripper car drive self movement, and resolved the challenges on a permanent basis. The team is working in the right direction, perfectly in line with our requirements in services, training and technological up-gradation in the drive system. Our heartfelt thanks to the whole SEW team for rendering valuable service to JSW so far, both in projects and operational plants."

-- K. Muniswamy, AGM, JSW Steel Ltd.

**Health Checkup:** Regular health checkups from SEW's trained engineers proactively ensures smooth functioning of SEW products, whether purchased from OEMs in India or abroad, thus preventing sudden break-down and failure.

**Training:** SEW India's team of highly qualified engineers develop and deliver customized training programs keeping in mind the needs of individual customers. In just the last year, SEW has trained over 30 customer teams.

**Condition Monitoring:** SEW has designed vibration analysis, oil analysis and brake analysis, offering end-users online monitoring and support to avoid failures.

### Better reach for faster service.

SEW places special emphasis on being geographically close to its customers. It currently has three assembly plants, in Vadodara, Pune and Chennai, each fully equipped for repair services.

These are supported by 2 service vehicles operational out of Delhi and Chennai.

The SEW India Service team repaired over 700 products among the three plants in 2014-15, out of which around 200 cases were

dispatched on the same day, saving customers significant production losses.



"Your work in coordination with us is highly appreciated. We are thankful for the quality time you have given us for listing the various motor spares, planning for our preventive maintenance and proper regular maintenance of our motors. Keep it up. It will be our pleasure to continue our association with you."

-- Vineet, Assistant Manager (PCMO), Panipat Petrochemicals Marketing Complex, Polymer Terminal, Indian Oil Corporation Ltd.

"We use the Movi Axis® Drive for our Semi-automatic Pouring System. With inbuilt safety features, the SEW Drive operates with high accuracy. Its easy and convenient operational functions have significantly reduced operator fatigue and improved the safety of our work environment. Thank you Team SEW for your timely service and spares backup support!"

-- Mangesh Deshpande, Manager – Maintenance, Maval Foundry, Tata Motors Ltd.

"I am very happy to be associated with SEW-EURODRIVE for the last fifteen years. We have been using SEW products for long without any trouble. Of course, equipment problems are sometimes an issue, but the whole SEW team is highly qualified, committed and co-operative, so that the right outcomes are guaranteed, each time. Whenever the customer faces any problems, they provide quick response and 100% technical support. As a SEW customer I am more than satisfied with the whole team."

-- Naveenkumar, Senior Manager, Bhagwati Auto Cast Ltd.