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Drive india

The SEW-EURODRIVE Customer Magazine

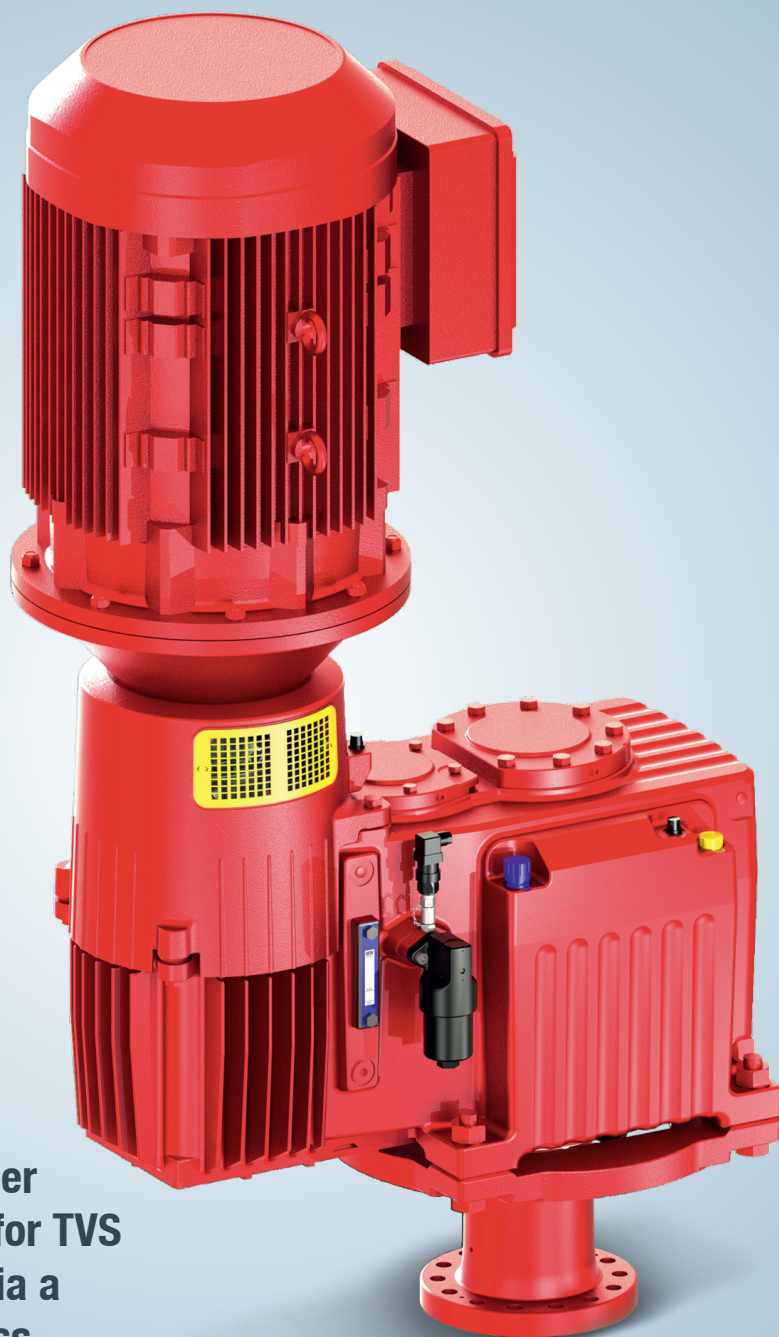
**Automation, Industry 4.0
great opportunities for
India – *interview with
Oliver Bollian.***

Read more on Page 4.



**First 2 wheeler
AGV project for TVS
and SEW India a
grand success.**

Page 1.



Dear Reader

Two quarters of reviving GDP growth, lead indicators of a recovery in private sector investment and for us in SEW a strong increase in sales and an even stronger increase in order flow, all point to better times ahead. We are happy to have maintained the capacity in our three plants and the strong supply chain capabilities and relationships that will ensure that this increased load on us will not affect our best-in-class delivery performance to you, our customers, in any way.

The huge market in India allows manufacturers the scale to consider globally cutting-edge automation solutions, and nowhere is this truer than in the two-wheeler industry. Our cover story in this issue is on a shop-floor project we did with TVS Motors in Hosur for their hugely anticipated, top-of-the-line Apache RR310 model. The main vehicle assembly line was designed with 15 AGVs using SEW-EURODRIVE's patented contactless energy transfer technology instead of the normal skid conveyor, thus providing a completely free floor space and no requirement for batteries or down time for charging. The system is running satisfactorily now under full load and the global market requirement is so good that we have been asked by TVS to accommodate

another 10 AGVs on the same assembly line to meet demand.

Mixing and agitating are processes that place unique application challenges on a gearbox and for our product story we cover our special variants of the X series gearbox designed specifically to deliver under these conditions.

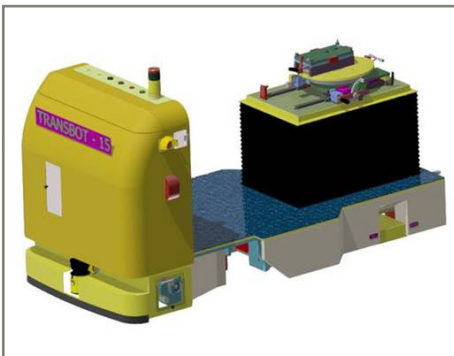
Our feature story continues the interview with Olive Bollian from our previous issue. Oliver handles Europe, Africa, ME and India for SEW and has a really interesting perspective on life and work.

I wish you happy reading!



M J Abraham
Managing Director
SEW-EURODRIVE India

SEW puts world-class bikes on the fast track at TVS Hosur facility.



SEW-EURODRIVE recently partnered with TVS Motors to set up a Vehicle Assembly Line using AGV technology, at their Hosur facility. A total of 14 stations and 16 AGVs have been installed. This is the first two-wheeler AGV project for SEW India, and a first for TVS as well. Excellent teamwork and collaboration between experts from both companies was the key to the project's success.

TVS Motor Company is the third largest two-wheeler manufacturer in India, with an annual production capacity of 3.2 million two-wheelers and 1.2 lakh three-wheelers. The Hosur facility manufactures two- and three-wheelers for the domestic and export markets. The Vehicle Assembly Line starts with mounting the engine from the initial station to the final assembled two-wheeler output at the final station.

Departure from convention.

Conventional skid conveyors come with a host of drawbacks, like the requirement for regular maintenance, high maintenance costs and the need for more space. Since this is an assembly line for a series of world-class bikes, the challenge was to come up with an optimized solution that did away with these drawbacks and offered significant improvements like:

- Flexibility in terms of assemblage.
- Solution to accommodate multiple variants.
- Option for height adjustment by assembly technician.

Partnership par excellence.

Being the first project of its kind for both SEW and TVS, the project expectedly threw up several challenges, right from civil engineering requirements for making the grooves for the cables, to safety and production concerns (since work had to be executed in a running production area). Seamless coordination between SEW's D&A team, TVS's PED team and a collaborative approach was the key to resolving all of these.

A high-end, world-class solution.

The line uses SEW-EURODRIVE's patented contactless energy transfer technology, where the



complete assembly line is available for inside trolley movement since there is no fixed mechanical system installed in the line. The floor space is completely free and there is no requirement for batteries or down time for charging.

An added advantage is that whenever there is demand for increase in production, one can simply add an AGV based on the capacity of the line.

Throughout the project, the team from SEW had to keep in mind all aspects like safety, positioning and navigation:

- Each AGV has a scanner in front for protection against collision and even human intervention.
- Absolute position is achieved through a transponder, and wireless communication is used for navigation of each AGV and accuracy of stoppage at each station.
- Discussions for SAP integration are also underway.

Key benefits of the AGV installation.

- Flexibility of assembling different variants in the same line.
- Scalability that allows increase in number of AGVs as per production demand.
- Maintenance-free line, with no down-time.

A very successful execution.

The Vehicle Assembly Line has been operational at the TVS Hosur facility since May 2015 and is running satisfactorily under full load. TVS has requested SEW to accommodate another 10 AGVs on the same assembly line in order to meet rising demand.

"Flexibility, scalability and ergonomics are the key differentiators compared to conventional assembly lines."

-- Titus P, Member - PED

Custom solutions for mixing and agitating processes.

SEW-EURODRIVE offers complete drive systems for your agitators and aerators – our gear units can be used wherever a high level of performance is

required for mixing and agitating liquid or paste type substances, such as in the chemical industry, food industry, waste water treatment and mining. Our drive solutions are suitable for extreme conditions, like high ambient temperatures or ATEX.

Application experts from SEW are specially trained to understand requirements, install customized solutions and also deliver dedicated onsite after-sales service.

Answering every requirement.

From project planning to commissioning and operation, SEW takes care of customer requirements end-to-end, while also ensuring that the total cost of ownership of the agitating system is kept as low as possible. We typically work in long-term partnership with our customers, whether the requirement is for technical calculations, specific documentations such as quality certificates, or project-specific operating instructions, condition monitoring or onsite service.

GEAR UNITS FOR AGITATORS & AERATORS

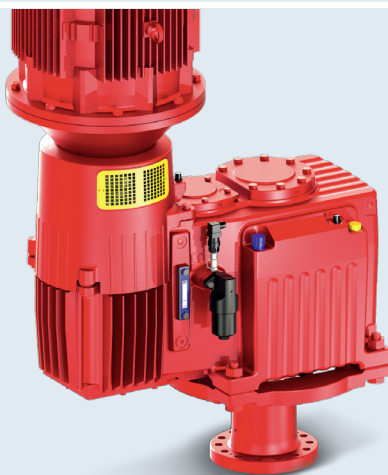
operation, SEW takes care of customer



The X Series.

The X Series caters to torques ranging from 6.8 to 475 kNm, and comes with finely stepped sizes. It has a large number of predefined accessories that enable a high degree of flexibility, making possible adaptation to a broad range of applications with a minimum of components at maximum availability. The Agitator gearbox of the X Series offers many options like Universal & Agitator Housings, Robust Sealing Concepts, Specific Bearing Concepts, Bath & Pressure Lube and more.

The new improved design has internal EBD, i.e., EBD + Agitator housing and no external bearing



cover. It also has fins on the gearbox housing for better thermal rating.

Main advantages.

- Compact design with internal EBD.
- High OHL capacity – special bearing arrangement in EBD to carry high OHL.
- Leakage free – Robust sealing concept with drywell option.
- Good thermal capacity.

Features.

- Reinforced bearing arrangement for increased load capacity of output shaft.
- Drywell / leakage protection.
- Flange and EBD housing split into separate parts.
- Increased axial load capacity as no axial loads are transferred into the gear unit housing.
- Monitoring surface for oil filter, pressure switch, oil dipstick, etc..
- Housing with Fins.

Customer benefits.

- Cost optimisation because the gear unit is not oversized.
- Increased reliability.
- Flexible design and increased availability.
- Cost optimization because no external axial bearing is needed.
- Easy monitoring and maintenance, lower costs.
- Better thermal rating.

DID YOU KNOW?

From four industrial revolutions to Industry 4.0.

The First Industrial Revolution started in Britain in 1760 and ushered in the mechanization of the textile industry with a transition from hand to machine tools and the employment of steam power. The Second Industrial Revolution came in early 20th century with the moving assembly line method of production, popularized by Henry Ford and the Model T. The Third Industrial Revolution is about globalization borne of advanced telecommunications, and the underlining of renewable energy sources, together impacting socioeconomic and political forces worldwide.

With the spurt of the Internet of Things, we are now talking of the Fourth Industrial Revolution. Experts point this out as not one driven by consumers but involving industrial transformation that consumers benefit from. Global management consulting firm McKinsey differentiates this from the concept of Industry 4.0 which they define as: *“the next phase in the digitization of the manufacturing sector, driven by four disruptions: the astonishing rise in data volumes, computational power and connectivity; the emergence of analytics and business-intelligence capabilities; and new forms of human-machine interaction”*.

India rightly placed to seize new opportunities thrown up by Automation & Industry 4.0

In the concluding part of a two-part series with DriveIndia, Oliver Bollian, Head of International Accounts & Markets and Cluster Manager, Central Europe, talks about change and what it entails.



Which Indian industries do you think have what it takes to compete globally?

Well, I guess many. Textile, automotive, pharma, aviation, steel, then the mega transformation called 'Digitalization' which has high potential, engineering for all types of machine building processes (in cooperation with global leading enterprises). Agricultural could also be interesting – but first, India has to solve its own food supply challenges. When I see all the plastic and paper along the road – the recycling industry – re-value of used materials could be immense. Let's take the example of China; they have mastered it and collect and import even recycling materials from all over the world!

You have worked with SEW right from the beginning. How has the organization evolved in all these years? What are some of the big changes?

SEW is a solid family-owned enterprise with clear values and orientation. Customer satisfaction is our main target – independent of mega trends, trends and side-effects. SEW's capital is – next to one of the largest sales and distribution networks for drive technology in the world – innovation. Innovation by listening to our customers, innovation by our own experience and vision as well as strong willingness to 'drive the world', and to bring innovation to people and mankind in a highly social way. This task and philosophy is an anchor point I've learned during the last 25 years. It's a tall order. People don't agree with many ideas initially, but we know that life is an ongoing change process. Industry 4.0 and the contribution from SEW at this point is a big change. The above-mentioned digitalization will bring more.

Where does India fit into SEW-EURODRIVE's global strategy?

India has and provides a huge potential for machine automation, raw materials, consumer products in food, safety, health and lifestyle. Many Indian companies are unknown in the global market, and yet they are huge and highly potent. Next to this I'm overwhelmed by the huge amount of international companies – End-users as well as OEMs – already located and operating in the Indian market. SEW is located with three assembly plants and many sales offices in India. SEW India is able to cover all product and technology levels the SEW Group may provide. The network towards our customers in pre-sales, sales and after-sales and service is unique among all competitors in the Indian market. India is part of the global strategy, and the Indian market is considered to have high potential.

What are some of the new innovations and applications that Indian customers can expect from SEW-EURODRIVE in the next couple of years?

Evaluating the market needs by VoC (Voice of customers), national and international, we do see an increase in the requests. You can find the situation that our product, for example the geared motor, doesn't fit at the first view – maybe it's too expensive, too highly engineered, way too complex? With the second view – more and more industries and customers understand that they need those attributes to be competitive or to fulfill international standards with one reliable partner in their supply chain. We are working intensively to bridge this 'gap' for all of our clients.

Furthermore, Industry 4.0 has already grown in SEW India. We do have excellent Engineering and Expert-Project teams in Baroda, Chennai and Pune to plan, execute and service MAXOLUTION projects with the latest HQ-based German SEW technologies. We are convinced that more and more 'new world automation' will be demanded and installed. We can only invite our customers to see and experience this – SEW India is prepared for all future steps.

What is the work culture in India like, compared to the work culture in Germany? What is the one thing you really like about Indian work culture?

There is quite a big difference in work culture between the two nations. India is very complex and multi-layered. Even in Europe we do have a huge variety across the relatively smaller geographical spreads in each country.

The German managers, project managers, co-workers, etc. at all levels are focused to plan

all steps in detail. Generally without a plan – no action. Discussions are needed to create a plan. The approval and execution steps are clearly defined in milestones. We expect all team members in such an execution plan to be on the same level of understanding and performance. Relationship is needed, yes, but the plan is the plan.

Focusing on India, in my understanding the work culture is way more complex. Relationship has a much higher status. Discussions are, maybe, not so intense as in Germany. There is a clear execution and fulfillment orientation and less cross-management level discussion in India. The country is large and the population has a great variety, educational levels and understanding of work; work-life-planning, work-life-balance are segmented and more different.

What I really like is the strong professionalism in the Indian working culture. Even in this highly complex context that I mentioned above, there is a clear commitment across industries and enterprises to play in the top league of international teams. For example, with an eye on SEW India, I'm really proud of the system solution approach of our group-brand MAXOLUTION, which is perfectly implemented into the global network as well as into the SEW India organization. High-end solutions and installations as turnkey project. Localized by our local team on their own. Perfect.

"Industry 4.0 has already grown in SEW India. We do have excellent Engineering and Expert-Project teams in Baroda, Chennai and Pune to plan, execute and service MAXOLUTION projects with the latest HQ-based German SEW technologies. We are convinced that more and more 'new world automation' will be demanded and installed. We can only invite our customers to see and experience this – SEW India is prepared for all future steps."