



ACMEE 2018

13th INTERNATIONAL MACHINE TOOLS EXHIBITION

An AIEMA Initiative

21-25 June 2018
Chennai Trade Centre, Chennai, India

SHOW DAILY™

DAY 1
Thursday, 21 June 2018



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CONTENT & DESIGN



Broadening the Horizons

ACMEE 2018: Tooling up for the Future

With the aim to give impetus to the Indian machine tool industry and unveil significant innovations by the manufacturing players from far and wide, Ambattur Industrial Estate Manufacturers Association (AIEMA) has organized ACMEE 2018, the 13th edition of International Machine Tools Exhibition, at Chennai Trade Centre, Chennai from June 21-25, 2018.

The 13th edition of ACMEE, one of India's premier events on machine tools, opens its doors today to the industry enthusiasts keen to explore the latest in manufacturing technologies. The show, for the last twelve editions, has been a perfect platform for the machine tool players, both local and from different parts of the world, to exhibit their finest of innovations. Acting as a converging point for the industry, the show offers a ground ideal to witness the newest global trends, forge and strengthen business bonds, and closely gauge the competition to step up one's own game.

ACMEE 2018, the biggest

The biennial event is playing host to 480 exhibitor companies from 28 countries in a sprawling 10,050 sq mt space of net exhibition area spread over five halls.

Participating countries include India, Australia, Brazil, Canada, China, Czech Republic, Denmark, France, Germany, Italy, Japan, Malaysia, Norway, Poland, Russia, Singapore, South



(L-R) M Balachandran, Advisor, ACMEE; D Ravi, President, AIEMA; K Ayyappan, Chairman, ACMEE; and RSS Satish Babu, Convenor, ACMEE, addressing the press on ACMEE 2018.

th Korea, Spain, Sweden, Switzerland, Taiwan, the Netherlands, Thailand, the UAE, the UK, and the USA. Additionally, Taiwan External Trade Deve-

lopment Council is organizing Taiwan country pavilion.

"The current ACMEE will be the biggest in the series in terms of the num-

ber of exhibitors, visitors and business generation. The number of exhibitors is the highest in the history of the

To be continued on 2 ▶

Source: AIEMA



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Continued from 1 ▶

show. Gauging the visitor registration and the response so far, we estimate more than 50,000 visitors, which again is unprecedented," shares K Ayyappan, Chairman, ACMEE 2018.

Smart Technologies take the center stage

The current edition has its focus on the latest in machine tools technology from different parts of the world with emphasis on Energy Saving Solutions, Improving Productivity and Industrial Automation.

New at ACMEE 2018:

- Exclusive Pavilion for Industrial Robotics and Automation in tune with the theme of ACMEE 2018
- Live demonstration of Robots
- B2B events

ACMEE over the years

YEAR	EXHIBITION AREA (SQ MT)	NO. OF PARTICIPANT COMPANIES	ESTIMATED BUSINESS GENERATED (₹ CR)
1994	1,850	171	4
2004	3,780	300	29
2014	7,349	440	350
2016	8,450	486	450

A warm welcome from AIEMA

Welcome to ACMEE 2018, India's Premier Machine Tools Exhibition. I am delighted to note the excellent participation and visitor registration response to ACMEE 2018. With 480 participants covering more than 10,000 sq mt area, ACMEE 2018 is poised to be the biggest in the series.

Ambattur Industrial Estate Manufacturers Association (AIEMA) is the representative body of the manufacturing units in Ambattur Industrial Estate, Chennai, and has been in the forefront in development of the Industrial Estate, particularly infrastructure, skill development of workers, technical upgradation of the units etc.

AIEMA has been organizing ACMEE series of International Machine Tools Exhibitions in Chennai since 1994 with a view to highlight the latest in machine tools available all over the world so that the local industry gets a first-hand opportunity to evaluate the options they have for upgrading their manufacturing process.

The list of exhibitors in ACMEE 2018 reads who is who of the machine tools industry and they are all presenting the latest and innovative technology. A notable addition is the Industrial and Robotics Pavilion where the visitors can witness Robots in action.

I would also like to record my appreciation for the great efforts put in by the ACMEE 2018 Organizing Team led by Mr K. Ayyappan in organizing this event.

Wishing the exhibitors and the visitors all success.

D. RAVI
President
Ambattur Industrial Estate Manufacturers Association

Against this backdrop, ACMEE 2018 is featuring an exclusive Industrial Robotics and Automation Pavilion. "We have kept in view the latest indus-

trial trends – particularly Industry 4.0 – that offer excellent solutions for cost reduction, perfection, time and energy saving in the present competitive environment," shares Ayyappan.

"Industrial Internet of things (IIoT) or Industry 4.0 is the order of the day. It is revolutionizing manufacturing by enabling acquisition of and accessibility to far greater amounts of data, at far greater speeds, far more efficiently. Many exhibitors are presenting their innovations in this regard as well," he adds.

The show endeavors to significantly help the local entrepreneurs witness the latest in machine tools and production technology from all over the world and facilitate their move towards Smart Manufacturing. This will contribute directly to the 'Make in India' initiative.

The latest and the finest on display

"The list of the exhibitors comprise the who's who of the industry and they are all presenting their state-of-the-art technologies, designed to improve efficiency, productivity, and volume turnover," states Ayyappan. The products that are displayed at the event include: CNC Machines, CNC & PLC Controls, Cutting Tools and Accessories, Special Purpose Machines, Pneumatics, Hydraulics, Industrial Robotics & Automation, Instrumentation, Machinery & Machine Tools, Welding, Material Handling Systems, Energy Saving Solutions, Sheet Metal Press, Laser Cutting, Cleaning Systems, Cold Forging Machines, Co-ordinate Measuring Machines, Control Devices, Power Tools, Testing & Measurement Equipment, Related IT & Consultancy Services.

Along with showcasing their products, exhibitors are also providing live demonstrations and technical presentations on their offerings. Some exhibitors are launching their new machine tools and services, tailored to the needs of the sub-continent, all designed to improve the production process, energy saving, cost cutting and productivity.

What else to look forward to

As a new initiative, the organizers have invited buyers from neighboring countries and depending on the buyers' needs and exhibitors' interests, different types of supports are being extended to overseas buyers. With a view to bridge the gap between the industry and the academia, a platform has been extended to the students of select engineering academic institutions. Booth space



Source: AIEMA

» The current ACMEE will be the biggest in the series in terms of the number of exhibitors, visitors and business generation. Gauging the visitor registration and the response so far, we estimate more than 50,000 visitors, which again is unprecedented..«

K Ayyappan, Chairman, ACMEE 2018

What's unique about ACMEE 2018?

- The second biggest machine tools exhibition in India and the biggest in Chennai
- Exposure to local manufacturers
- Live demonstrations of products and technologies

Focus on Industry 4.0:

- Automation and data exchange in manufacturing
- Cyber-physical systems
- Internet of Things
- Smart solutions in manufacturing

has been allocated to them where they are presenting their innovations. The industry can gain from their fresh perspective and exchange with them their experienced insight.

Concurrent to the show, other events have also been planned for the industry fraternity. Technical sessions and product presentations have been lined up that will shed the much-needed light on the upcoming global trends yet to be understood by local manufacturers. Industry experts have been invited to help solve manufacturing issues faced by the players. Social evenings have also been organized that will aid in making contacts, maintaining relationships and learning from each other.

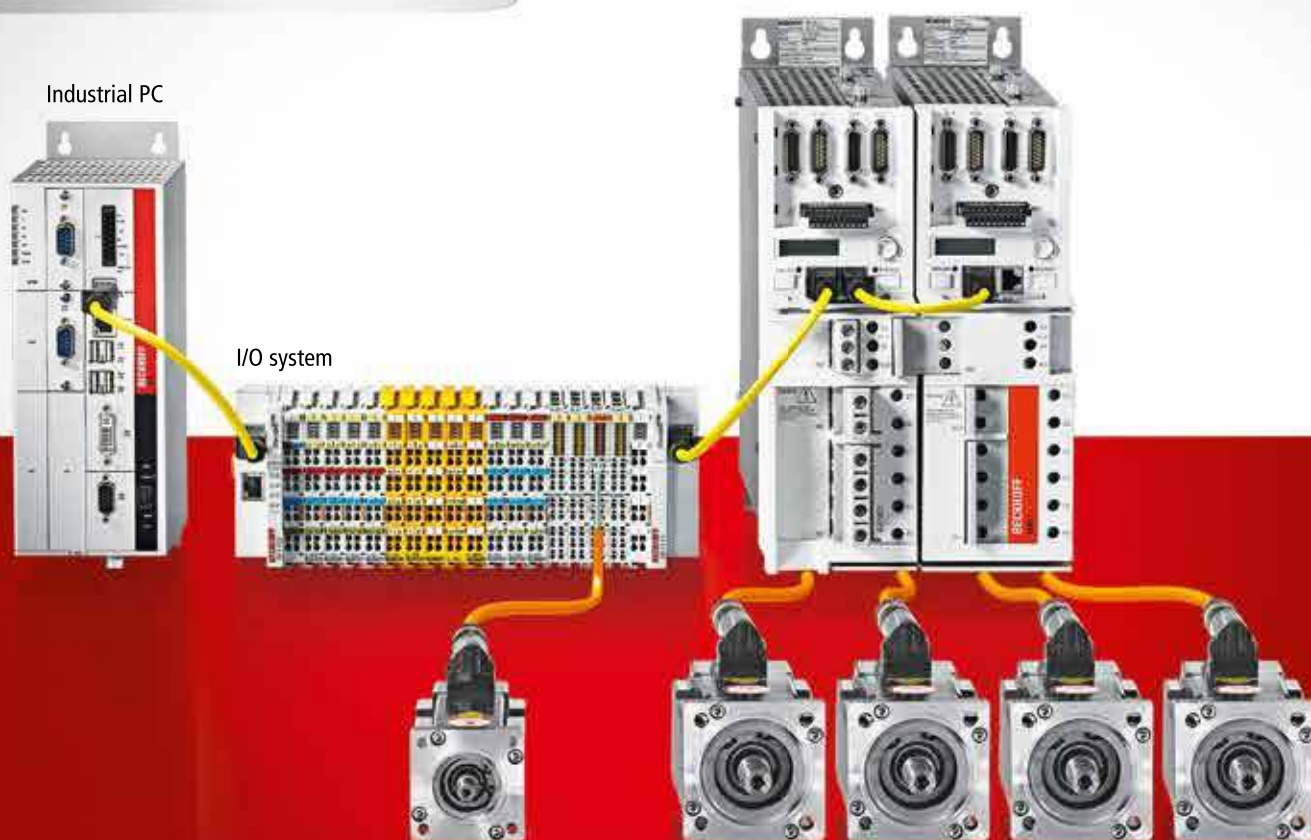
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Unleashing the Untapped Potential

Zavenir Daubert India is highly positive about its success at ACMEE 2018, which is serving as a learning ground for the company to explore recent market trends and opportunities in and around Chennai.

After having received a rave response at ACMEE 2016, the leading manufacturer and supplier of corrosion preventive industrial metal cleaners, VCI films packaging and rust removal products for industrial metals, Zavenir Daubert India, is back again at the 2018 edition of the show with its new range of solutions.

"The participation at ACMEE 2016 helped us enter many untapped areas. Also, the footfall at the 2016 edition was beyond expectation. We believe ACMEE 2018 will also be a great success for us," notes Balwant Bains, GM – Product Management & Marketing, Zavenir Daubert India.

Bains considers the show an ideal opportunity to meet the company's existing customers and prospects, especially sub-contractors and vendors of its existing OEM customers. "Also, we look forward to meeting potential cooperation partners, agents, distributors and employees. We are expecting audience from automotive OEMs, automotive component manufacturers and light engineering sector," he adds.

Testing the waters at ACMEE 2018

Through the expo, the company is aiming to gain an insight into the recent market trends and emerging opportunities in metal working in Chennai and the areas around it.

"Chennai is a focus market for Zavenir Daubert's Cut, Clean, Protect & Pack proposition. We are showcasing our strength – Chemical Process Optimization with superior economics," says Bains. He feels it is a receptive environment to introduce company's next generation



Source: Zavenir Daubert India Pvt Ltd

»Chennai is a focus market for our Cut, Clean, Protect & Pack proposition. We are showcasing our strength – Chemical Process Optimization with superior economics.«

Balwant Bains
GM – Product Management & Marketing
Zavenir Daubert India Pvt Ltd



HAKUFLUID application

technologies like HAKUFORM L series neat oils which are fully synthetic base oils (natural gas-to-liquid). Premium performance additives HAKUFLUID is yet another new series from the company's product stable.

HAKUFLUID

They are a new generation of cooling lubricants for the Indian market which combines the benefits of neat oils with those of water soluble cutting fluids. HAKUFLUID products are water-based, fully synthetic (oil-free) viscous metal working fluids in which

the viscosity is variable to get optimized process conditions for a wide variety of applications – from grinding to broaching and in metallurgy. Their features include:

- Better lubrication and tool life than neat oils
- Water-based – 100 percent oil-free and non-flammable
- Clean parts and machines to get rid of oils, dust and mist
- Extremely low consumption.

Zavenir Daubert India Pvt Ltd
Hall & Stall: C – 71
www.zavenir.com

Schedule

Concurrent Programs at ACMEE 2018

DATE & TIME	TECHNICAL SESSIONS	VENUE
June 22, 2018 11.30 AM	'SAP S/4HANA Cloud for Manufacturers' by SAP, Germany	Meeting Room A, Hall C, Chennai Trade Centre
June 22, 2018 03:00 PM	'Present & Future of Industry 4.0' by METI	Meeting Room A, Hall C, Chennai Trade Centre

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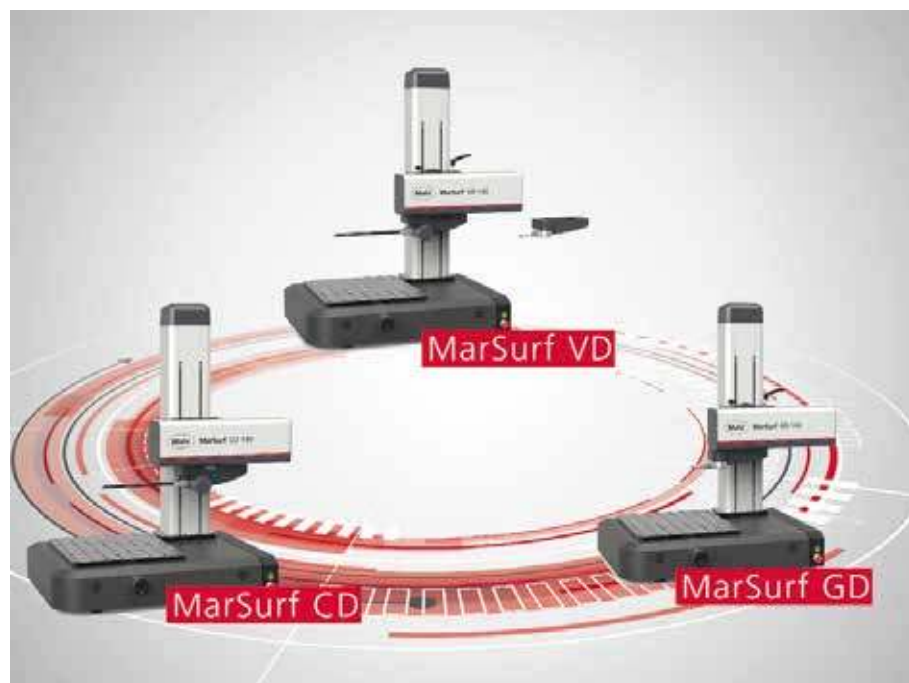


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Mahr is a world leader in many areas of metrology. Our products stand for accuracy, quality and innovation. Mahr constantly exceeds the limits of what is possible and ensures your lead in

metrology. As a partner for the future, we will make your quality assurance more reliable, more automatic, faster, more wireless and even more user-friendly.



At ACMEE 2018, Mahr unveiled a new product series for tactile contour and surface measurement. They all have one thing in common: more speed.

Shorter measurement times increase performance - that's what we at Mahr believe. Our new MarSurf devices are therefore optimized to accelerate measurement processes and simplify handling.

Contributing significantly to the shortened measurement times of the new MarSurf devices are:

1. Innovative clamping system

For quality assurance, less handling mean faster measuring procedures. The key to this is the innovative workpiece clamping system of the new MarSurf devices: it combines a large mounting plate with 50 mm bore dimension and the integrated TY adjustment in such a way that no additional XY table is required. The result: workpieces can be positioned flexibly and quickly.

2. Higher axis speeds

The axes of the new MarSurf devices also provide more speed. They move the contour probes along the X-axis about 25 times faster than their predecessors – namely with up to 200 mm/s. Measuring up to 50 mm/s on the Z axis, measurements are now about 5 times faster than other axes on the market. The highly dynamic touch probe also enables measurement speeds of up to 10 mm/s.

3. Intelligent probe arm system

With the new MarSurf devices, you can also quickly mount or change a probe. Because: the probe arms are magnetically attached and can be quickly mounted without tools. The probe arms of the MarSurf CD series are also equipped with a data chip, which is automatically read out after mounting. Within seconds, all relevant information about the probe arm used is available.

Mahr Metrology India Private Limited

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Electrical & Electronic Products

Reaching Out to the Right Customers

Mitsubishi Electric India is participating in the current edition of ACMEE with the agenda to propagate awareness on its products, services and strengths.

Having been an active participant in the previous editions of ACMEE, Mitsubishi Electric India Pvt Ltd (MEI) is yet again taking part in the show to exhibit its wide array of products and introduce its new series to the Indian market.

"In India, our products are famous for die and mould cutting. However, in other countries including Japan, our products are famous for lathes and parts cutting VMCs. There are many automobile and motorcycle

manufacturers in Chennai. We would like to explain our products, services and technical support to them," states Shuhei Matsui, General Manager - CNC Systems, Mitsubishi Electric India. The company is targeting all part cutting users and machine tool builders as its potential audience.

Introducing innovations at ACMEE 2018

MEI is announcing its new NC Series 'E80' for the first time in India at the expo. The product is targeted at parts cutting VMCs and lathes. "The concept of this product is simple and achieves high speed cutting," explains Matsui.

E80 is developed as a successor to E70 CNC. It comes in two models – E80A and E80B.

E80A is for parts cutting VMCs with its highlights such as 'Supports to 4th axis', 'Supports to Synchronization tap using inverter spindle', 'Engraving & Milling Control' and 'Work Measurement functions'.



Source: Mitsubishi Electric India Pvt Ltd

»ACMEE gives us an opportunity to meet end users. By talking directly with many important customers, we can propose our products and support, and also receive their valuable feedback.«

Shuhei Matsui
General Manager –
CNC Systems
Mitsubishi Electric India Pvt Ltd

E80B focuses on the Lathe segment with its attractions such as 'Support for XZCY+Main spindle+Mill spindle', 'Interactive cycles for easy programming', '3D Solid check', 'Inverter synchronized tapping', 'Spindle type servo control' and its simple screen, where volumes of information can be viewed in a single screen.

MEI claims the product is an easy adoption from the previous version E70 since the external dimensions remain the same. The parameters and ladder data are also compatible

with the previous version CNC. Compared to the conventional models, the company has also added new functions such as interactive programming functions.

Making most of the opportunity

MEI believes the expo is an ideal platform to reach a larger number of end users and MTBs who visit the show.

Mitsubishi Electric India Pvt Ltd
Hall & Stall: A - 113
www.mitsubishielectric.in



MEI is announcing its new NC Series 'E80' for the first time in India at ACMEE 2018.

Workpiece Clamping

New Quick-Change Pallet Technology from SCHUNK

SCHUNK, the competence leader for gripping systems and clamping technology, has introduced two premium quick-change pallet modules with unique features: The VERO-S NSE3 138 quick-change pallet module and the VERO-S NSE-T3 138 tombstone module. Their most striking feature is an optional spring-actuated cone seal that automatically locks the module's changing interface as soon as the clamping pin is lifted. In combination with the integrated blow-out function, the quick lock prevents chips or dirt from lodging into the interface. Without

changing the height, it locks the last gateway of the otherwise completely sealed modules.

Pull-down force and rigidity have been upped

SCHUNK has yet again boosted the performance characteristics of the VERO-S NSE3 138 as compared to previous top sellers. An enormous pull-down force of 8,000 N or 28,000 N with activated turbo function as well as increased dimensional stability for the module body have a positive impact on the rigidity of the clamping solutions. Thus, even the

highest tilting moments and transverse forces can be reliably absorbed when parts are clamped at the base and machined on at height, for example. Clamping and positioning also occur via a short taper with a repeat accuracy of < 0.005 mm with the premium modules. This ensures maximum precision even in the most demanding applications. Due to the conical fitting, the clamping pins can also be joined into the modules eccentrically, making this process incredibly easy. The actual clamping is done via spring force without any external energy supply; it is form-fit and self-locking. The workpieces remain safely clamped in case of a sudden pressure drop in the air system. A pneumatic system pressure of 6 bar is sufficient to open the clamping modules.

Convenient monitoring

For maximum process reliability, both clamping slide positions "open" and

"closed" can be queried as standard using dynamic pressure. On option, a position sensor can be used, which additionally detects a locking process without pins. Depending on the thread diameter of the clamping, pins have holding forces of 35,000 N (M10), 50,000 N (M12), or 75,000 N (M16). All components, such as base bodies, clamping pins, and clamping slide, are made of hardened stainless steel, making them absolutely corrosion-resistant and extremely long-lasting. Special support areas facilitate cleaning and ensure a perfectly flat contact surface for the clamping devices and workpieces. The new premium modules are fully compatible with the previous VERO-S modular system, which now consists of more than 1,000 possible combinations for highly efficient workpiece clamping.

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Industry 4.0 and IoT Solutions

Simple, Open and Standardized Cloud Connectivity

Cloud-based data services help implement automation projects, saving machine manufacturers and end customers from providing the corresponding IT expertise. With TwinCAT IoT and the EK9160 cloud bus coupler, Beckhoff provides customers with two new product series for integrating such cloud-based data services quickly and easily into the control project.

As information technology and automation technology continue to converge, cloud-based communication and data services are increasingly used in industrial automation projects. Beyond the scope of conventional control tasks, applications such as big data, data mining and condition or power monitoring enable the implementation of superior, forward-looking automation solutions. New hardware and software products from Beckhoff for Industry 4.0 and IoT ensure the simplest possible implementation of such advanced solutions.

Products for Industry 4.0 and IoT

The IoT products within the TwinCAT 3 automation software platform offer varied functionalities for exchanging process data by means of standardized publish/subscribe-based communication protocols and for accessing special data and communication services of public cloud service providers. Corresponding services can be hosted in public cloud systems, such as Microsoft Azure™ or Amazon Web Services™ (AWS), but can be used just as effectively in private cloud systems.

These IoT functions can be accessed alternatively via special function modules directly from the control program or can be configured via an application called the "TwinCAT IoT

Data Agent" outside of the control program. The data to be transmitted can be selected easily via a graphical configurator and configured for transfer to a specific service. A major advantage here is that the data agent also allows integration of cloud-based services in older, existing TwinCAT systems. The process data can also continue to be exported here using the standardized communication protocol OPC UA, with the result that data can likewise be sent from non-Beckhoff systems. An additionally available smartphone app enables mobile display of a machine's alarm and status messages.

If I/O signals are to be forwarded directly without a control program, then Beckhoff's newly-announced EK9160 IoT Bus Coupler allows I/O



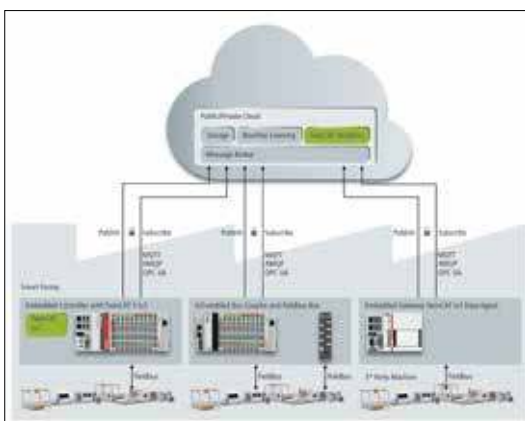
Source: Beckhoff Automation Pvt Ltd

connection, are provided here in the same way as a monitoring function for connected fieldbuses. The I/O signals can therefore not only be collected by means of EtherCAT, but also via other fieldbuses, such as CANopen or PROFIBUS.

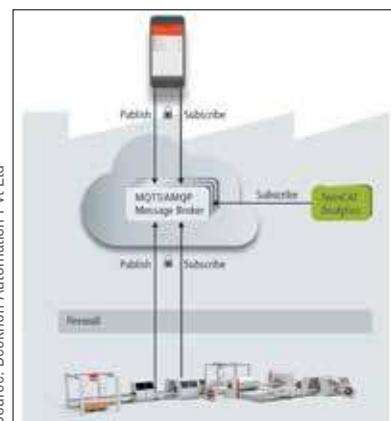
Analytics and machine learning

Beckhoff also has its own analytics platform for users to take advantage of, namely TwinCAT Analytics. This platform provides relevant mechanisms for data analysis, with all process-related machine data being recorded in a precise and cyclical manner. All machine processes can therefore be fully recorded as a result. Depending on requirements, this data can either be stored for evaluation locally on the machine processor, or within a public or private cloud solution. TwinCAT Analytics uses TwinCAT IoT to connect to cloud solutions, ensuring seamless data communication. Generally-speaking, this provides the power to create new business ideas and models for the machine manufacturer and respective end customers to capitalize on.

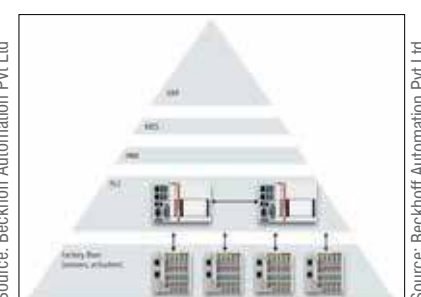
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Source: Beckhoff Automation Pvt Ltd

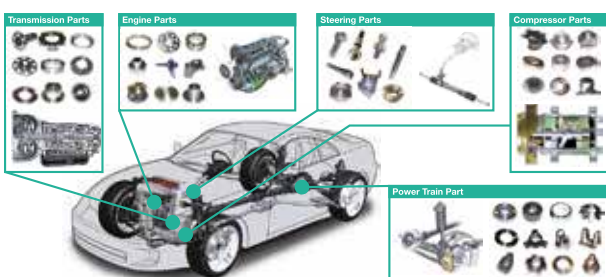


Source: Beckhoff Automation Pvt Ltd



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CNC Machines

Success is all about Consistency

Jyoti CNC is well-versed with ACMEE's ever-growing reach and, hence, is a regular at the show without missing a beat. Here's the new offerings from the company's vast stable and its objective at this edition of the show...

Source: Jyoti CNC Automation Ltd



» This edition of ACMEE is yet again a technological delight for each one connected to the field of metal working.«

Sureshkumar V
Assistant General
Manager – Sales
Jyoti CNC Automation Ltd

Acknowledging ACMEE's scaling appeal that draws participants from various industries, Sureshkumar V, Assistant General Manager – Sales, Jyoti CNC Automation Ltd, says, "The show has been growing from strength to strength with each edition in terms of participation and technology level of the exhibits. It has always provided us with the opportunities to meet quality customers, consultants and decision makers."

"The new bonds amount for growth opportunities, reinforcing our market positioning. The strong presence of both SMEs and large corporate visitors in equal measure on this business platform is an advantage to network," he adds.

Jyoti CNC has had a memorable journey with the ACMEE shows and cherishes the experiences gained in terms of learning, adopting and growing. The company has been consistently innovating and regularly updating the manufacturing world of its manufacturing prowess at the ACMEE shows, edition after edition. Sharing his enthusiasm for the current edition of the show, Sureshkumar says, "ACMEE 2018 is yet again a technological delight for each one connected to the field of metal working. Chennai is a promising engineering market in the southern India. It is a leading technology hub and is an ideal location for ACMEE. It is always in the forefront in

adopting innovative technologies that can bring about improvement in performance standards."

Making the most of ACMEE

"Jyoti CNC will be exhibiting CNC machines with a technological edge with the aim to enhance productivity and efficiency of our customers," shares Sureshkumar. The company is showcasing its upgraded turning centers and machining centers as complete solutions for the vast SME sector to boost its competitiveness. "Through ACMEE we are reaching out to our existing and prospective customers and are focusing on promptly addressing the needs of the regional market," he adds. Auto OEMs, auto component manufacturers, die and mould manufacturers, valve and valve component manufacturers, heavy engineering industries, precision parts manufacturers, tool rooms and commercial job shops are some of the industrial segments that Jyoti CNC is looking forward to meet in the show.

New technologies/products to be showcased

In this edition of ACMEE, Jyoti is showcasing its technological advancements in turning and VMC segments.

Tachyon 5: The company has developed high-speed drill-tap centers known as Tachyon Series to meet the demands of fast drilling-tapping operations in automobile, surgical and telecom industries. The series is equipped with fast electro-mechanical type integral pallet changer, fast tool changer and dynamic rapid of 60 m/min for axis. These moving column drill-tap centers are ideal for small- and mid-sized components and continuous drilling-tapping operations.

AX 200: AX series can deliver higher level of accuracy and precision for sophisticated machining of bar, shaft and chucking components for automotive, instruments, hydraulic or electronics and aerospace industries etc. Frame sizes with different variants and customized solutions

Jyoti CNC's Display

In Turning series: ATM 160:

Inverted Turning Lathe

AX 200:

High-Performance Center

VTL 500:

Heavy-Duty Vertical Turning Lathe.

In VMC series:

RAX 20:

C Frame High-Speed VMC with APC

VMC 850 nvu:

High-Performance VMC

Tachyon 5:

High-Speed Drill Tap Center.

are made possible to meet varying demands of the market. Multitasking is made possible with a combination of two electro-spindle and live tool turret with Y-Axis. Single piece slat bed rigid structure takes minimum floor space, reduces the effect of vibration, increases machined surface quality and provides excellent precision, stability and accuracy even for hard part turning.

Jyoti CNC Automation Ltd
Hall & Stall: B – 72
www.jyoti.co.in

Source: Jyoti CNC Automation Ltd



Source: Jyoti CNC Automation Ltd



Source: Jyoti CNC Automation Ltd



Additive Manufacturing

Improving Patient Outcomes with Smart Implants

Matt Parkes, Senior Medical Development Engineer, Renishaw and currently working on a collaborative project with Western University in Ontario, Canada, discusses how smart implants are changing the way bone diseases and injuries are treated.

Since the early 1900s, surgeons have been using metal implants in healthcare, typically to treat bone diseases including osteoarthritis and inflammatory rheumatoid arthritis, as well as in reconstruction therapy. Though a long-established technology, traditional implants often cause challenges for patients and surgeons. One area currently being developed is smart implants, which improve patient outcomes, bringing the technology into the modern age.

Implants can be smart in two ways, either by being additively manufactured to produce patient specific implants (PSIs) from computed tomography (CT) data, or by incorporating sensors. Still in the early phases of development, inbuilt sensors could collect patient-specific data, enabling surgeons and other healthcare professionals to tailor treatment to the needs of individual patients.

Additive manufacturing

AM has been used as a manufacturing method in the medical field for over ten years, but the technology is yet to reach its full potential in this industry.

Because AM builds an implant layer by layer, it's possible to produce PSIs that are a more accurate fit for the patient. The manufacturing method also has fewer geometric constraints than subtractive manufacturing. PSIs designed and manufactured according to a patient's CT scan encourages the implant to integrate with the patient's bone, reducing the risk of loosening. As a result, patients are less likely to suffer pain or require revision surgeries. As well as being able to manufacture an exact shape, AM enables surgeons to control additional properties of the material. They can design implants that mimic the patient's bone stiffness, density and trabecular structure, which can reduce stress shielding and improve osseointegration and physical function further.

Sensors

Implants can also be made smarter by adding sensors. This allows clinicians to accurately measure patient data — the key to evidence-based medicine. One parameter a sensor could measure is temperature, as a raised temperature can indicate an

infection before symptoms appear. This could benefit both patients and doctors by enabling treatment before the infection becomes complicated and expensive to treat.

Sensors can also be incorporated into bone reinforcement implants, which are used to help fractures heal. In this example, sensors can measure the strain exerted on the implant, which indicates the extent the fracture has healed. From this information, surgeons can determine the best time to progress the patient to the next stage of therapy and could identify healing problems earlier than currently possible. As implant loosening can be affected by non-compliance with physiotherapy, technology has been developed to overcome this issue. Incorporating accelerometers to monitor the movement of patients would allow healthcare professionals to remotely obtain data. These could be used to determine whether a patient is complying with their prescribed physiotherapy and rest regime.

One institute developing technology in this field is a collaboration between Renishaw and Western University in Ontario, Canada, who have set up the Additive Design in Surgical Solutions (ADEISS) Centre to bring together clinicians and academics to generate novel 3D printed medical devices. ADEISS recently showcased the smart hip concept, which uses temperature sensors and accelerometers to collect patient data that can be communicated to a remote device.

By making use of advanced sensor technology, there is now potential for the development of implants that can detect an infection and subsequently secrete the appropriate dose of antibiotic to treat it before it becomes symptomatic. This could reduce the number of patients admitted to hospital.

Changing the face of medicine

The ultimate driving force for developing smart implants is the potential to considerably improve patient outcomes. AM offers several benefits, one major advantage being that the fit time schedule is reduced — a benefit to patients and surgeons. The benefits that smart implants have over traditional metal implants could mean that patients will suffer less pain and discomfort, will be less likely to become seriously ill due to infection and could be at lower risk of needing revision surgeries, critical for younger patients.

The treatment of bone diseases and injuries has come a long way since the days of bone setters and blacksmiths. Patients can now receive metal implants specifically designed to their individual requirements. Pioneering research institutes are overcoming the hurdles and improving the technology, so the uptake of additively manufactured and data-driven implants is set to rise, improving outcomes for patients and hospitals.

Renishaw Metrology Systems Ltd
Hall & Stall: B – 88
www.renishaw.com

Source: Renishaw Metrology Systems Ltd



CNC Machining Centers

Dual Pallet CNC Machining Center



Source: Phillips Machine Tools India Pvt Ltd

Phillips Machine Tools India has introduced a CNC machining center with enhanced feed rates, tremendous rigidity and excellent machining quality. MT-800P is a high-productivity dual pallet (850 x 500) CNC machining center for medium-sized components. Its high-speed swing type pallet change reduces waiting time during pallet change which results in pallet change in only seven seconds, providing high efficiency and automation features. It is equipped with a direct-drive spindle with speeds of 10,000 rpm making it a versatile choice for a variety of industries including automotive and general engineering.

Rapid traverse rates on 3-axes are 36/36/36 m/min which effectively reduce non-cutting time. It is designed with high-speed, high-rigidity and heavy-duty type linear ways for increasing circle cutting rate, feed rate and fine milling quality. A special extension is designed for the APC system in order to avoid non-balance at the outside pallet, which is very different than most manufacturers. This design has increased the rigidity while machining.

Phillips Machine Tools India Pvt Ltd
Hall & Stall: B – 151
www.phillipscorp.in

Power Generation

Gensets from Mahindra Powerol

The range starts from the small 5 kVA unit going up all the way to the higher capacity 625 kVA generators, catering to diverse industry sectors.

Mahindra and Mahindra Ltd entered the field of power generation in 2001 through its engines and gensets under the brand name Mahindra Powerol, catering to the power needs of customers across segments. Powerol manufactures more than 40,000 units per annum for the Indian and international market powering diverse segments like Engineering, Realty, Retail, IT, Telecom, BFSI, Manufacturing, Pharma, Textile, Oil & Gas and Government sectors.

With focus on continuous innovation and a well-laid out corporate strategy it has gained recognition and won honours at different forums. Within a short span of time, Mahindra Powerol has carved a special space in the telecom industry.

Mahindra Powerol was awarded the prestigious Deming Prize in 2014, a global quality award that recognizes businesses that have successfully implemented Total Quality Management (TQM). It also won the influential Frost & Sullivan

Voice of Customer Award for the Most Preferred Genset Brand in the telecom segment and for providing the Best Bang for the Buck in India. The award considers industry penetration, up-time, trouble-free performance, levels of overall satisfaction, the likelihood of buying for future requirements and likely referrals to other customers. Powerol has also earned many accolades – Master Brand, Quality Brand and recently – Superbrands.

Wide range of gensets

With over 4,00,000 gensets manufactured since inception, the company today has a range that starts from the small 5 kVA unit going up all the way to the higher capacity 625 kVA generators.

Recently, Mahindra Powerol launched 250 kVA and 320 kVA gensets with 9.3 L CRD electronic engines which are high on performance and low on fuel consumption. It also launched India's first CPCB II approved 125 kVA Gas genset and 400/500/625



Source: Pioneer Generator Pvt Ltd

Powerol genset with 250 kVA capacity

powerol
by Mahindra

kVA DG powered by Perkins® 2000 series engines which sets with 12.5 L to 18 L Perkins engines.

Mahindra's Digi-SENSE technology in these gensets helps in triggering preventive maintenance, making monitoring critical performance parameters easy anytime from anywhere. Super Shield, a unique concept of shielding diesel generators for five years was recently introduced. It is

an all-inclusive coverage plan which offers zero repair charges, zero service charges and zero spares replacement cost for a whole five years. At ACMEE 2018, you can find Mahindra Powerol's gensets with Pioneer Generator Pvt Ltd, a leading supplier of Power & Air equipment.

Pioneer Generator Pvt Ltd
Hall & Stall: B – 132
www.pioneergenerator.in

Gas Springs

Bestec Nitrogen Cylinders

Deceler Vibrotek Controls offers Bestec Nitrogen Cylinders for Tool, Die and Mould applications. The nitrogen gas springs have a self-designed, high-performance gas holding sealing system and guarantee a longer lifetime of 100 million mm of total strokes.

The fine finished rod surface has Ra<0.01 μm of surface roughness and over 1,200 HV of hardness. The gas springs have a rigid seamless cylinder body and a mechanical latched piston-rod, which is different from the competition. With compact design and powerful spring forces, they ensure space saving and a total cost reduction by 30 percent. A gas filling charging booster is also offered for filling the gas and reusing the cylinder for a long time. With the booster, the gas springs can be charged quickly and safely. They are ISO 9001, ISO 14001, CE, PED and RoHS certified.



Source: Deceler Vibrotek Controls Pvt Ltd

re space saving and a total cost reduction by 30 percent. A gas filling charging booster is also offered for filling the gas and reusing the cylinder for a long time. With the booster, the gas springs can be charged quickly and safely. They are ISO 9001, ISO 14001, CE, PED and RoHS certified.

Deceler Vibrotek Controls Pvt Ltd
Hall & Stall: A – 21
www.decelar.in

Application Software Products

Registration at ACMEE 2018 gets a new 'AVATAR'

AVATAR – a one-stop solution by Yalamanchili is being provided at ACMEE 2018 by implementing Self-Service Registration Terminals and Mobile Applications – Android and iOS.

Visitors have to walk up to the self-service registration terminals placed at various entrance points of the exhibition hall, which enable issuance of personalized entry passes. They have the flexibility to either register themselves on their mobiles/laptops or use the registration terminals on site and collect their passes from the AVATAR Terminal.

Exhibitors and Visitors need to scan each other's QR codes using the Yalamanchili Mobile Application when visiting a stall. Exhibitors can upload organization write-ups, business cards and company brochures for the visitors to view. As the visitor traverses through the exhibition stalls, he can take notes of each meeting for a future follow up. A consolidated list of exhibitor-visitor details with meeting notes and contact information can be generated and shared anytime.

The central repository collects and stores all the exhibitor-visitor transactions. Data collected in the exhibition is analyzed and useful reports and MIS are prepared for the Organizers. The Organizer reports will help understand visitor patterns, stalls a visitor visits, time they spent on each stall, visitor stall preference and overall time spent at the exhibition. Yalamanchili designs and implements customer-centric, flexible and scalable electronic payments solutions. Along with software solutions, the company also provides custom manufacturing, design, assembly and fabrication services. It also delivers skill enhancement and training programs with resource management.

Yalamanchili Software Exports
Hall & Stall: C – 80a
www.yalamanchili.com.sg

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