Kapp Niles

CELEBRATES 18 YOUNG INVENTORS

In the middle of the "Theme Week of Education," 18 students from Coburg and Neustadt received the Dr.-Ing. E. h. Bernhard Kapp Prize, endowed with 6,900 €.

On his 80th birthday in 2001, Dr. Bernhard Kapp, founder of today's Kapp Niles group and founder of the prize, sent a clear signal to strengthen engineering by launching this competition with a generous donation. A total of 200,000 € was paid into the foundation, so that we can look forward to many more inventions from the students.

After a brief introduction to the Kapp Niles Group by managing partner Martin Kapp, Thomas Engel from Rotary Gemeindedienst e.V. described the importance Dr. Bernhard Kapp attached to engineering. "In order to strengthen the valuable reputation of the globally recognized seal of quality 'Made in Germany,' our country must be at the forefront in the race for the 'best minds.' For this reason, it is important to promote young people's interest in the engineering professions during their school years. A holistic approach should be pursued, because nothing is worse than to construct something that the world does not need," says Thomas Engel.

Following this approach, the pupils have dealt with the following points within the framework of an independent project: Problem recognition — idea — solution — sensible application — marketing.

Dr. Jan Ungelenk was already awarded the Dr.-Ing. E. h. Bernhard Kapp Prize in 2002 and described his life in an exciting and entertaining presentation.

Climate change and the associated problems of energy supply were already an important topic 17 years ago. In order to find an answer to this social question, Dr. Ungelenk looked for a replacement for conventional energy storage in his work. His idea was to use the fuel cell as an accumulator replacement for "portable small devices," today better known as "smartphones." After graduating from high school, Dr. Ungelenk studied nanostructural sciences in Kassel, did his doctorate at the Karlsruhe Institute of Technology and is currently working for BASF. His wife, with whom he has two children, was also awarded the Dr.-Ing. E. h. Bernhard Kapp Prize in 2002, which gave the couple additional importance to the effectiveness of promoting young talent.

The second highlight of the event was the students' presentations, in which they presented the essential aspects of their work.

The first prize was awarded twice this year. Florian Zosig from the Regiomontanus School received one of them for the development and production of a Bluetooth hands-free kit for a motorcycle helmet. In his presentation, he demonstrated numerous advantages of his system compared to existing solutions. On the one hand his development is completely integrated into the motorcycle helmet, whereby no disturbing wind noises occur during the telephone call. On the other hand, it offers a price advantage of 497 € compared to a commercially available branded device.

Another first prize went to Viktor Neumaier, Fabian Beck and Leopold Franz from the Ernestinum Gymnasium for examining 3D-printed objects for their suitability for high-vacuum applications. The vacuum chamber produced by additive manufacturing was tested for vacuum suitability using various methods. The object showed properties similar to those of conventional models made of steel or aluminum. Such vacuum chambers must be able to withstand extreme temperature differences and are used, among other things, in space research to simulate the real conditions of space.

The second prize was awarded six times. Jonas Göbel, Erik Harmgarth and Jonathan Romankiewicz from Ernestinum High School started a series of tests in which conventional sealants in a piston compressor were replaced by magnetofluids in order to minimize the friction forces and thus the wear intensity.

At the same time as the first-mentioned project, Harmgarth and Leon Migge were working on the development of an artificial neural network to classify physical objects.

The work of Tobias Birk, Dominik Edel and Paul Weber dealt with a currently important topic in the field of energy saving in buildings. The students of the Gymnasium Casimirianum developed a system which regulates the heating operation by means of sensor monitoring.

David Preßel, Lukas Scheler and Philipp Wetstein from the Gymnasium Casimirianum showed that the subject of "electricity generation through pressure or movement" has not yet been exhausted. In their project, they researched the possibilities of generating electricity using fitness equipment.

Elisabeth Dittrich from Arnold Gymnasium reported on her work on the determination of colorants in food using various commercially available beverages.

Maja Bernhard, also from Arnold Gymnasium, dedicated her project to the food additive riboflavin, which helps regulate the energy balance in the human body during the breakdown of carbohydrates.

The third prize was awarded twice to students of the Arnold Gymnasium. Niklas Forkel carried out a long-term study of the relationships between weather and bee activity and made concrete suggestions on how bees can be protected through preventive action.

Anton Römhild focused on to the production of lacquers from polystyrene waste. He succeeded in producing a varnish for wooden surfaces that proved to be durable and resistant to acids and bases.

Following the exciting presentations, the event coordinator, Prof. Dr. Gerhard Lindner, announced the awarding of next year's prize and explained two changes of the framework conditions. In view of the sophisticated technical equipment required to support the student projects, the schools will receive an expense allowance of 100 € for each project with a first to third placement, limited to 500 € per school and year.

The second change will allow students to take advantage of help from external companies. For example, they can use the companies' resources or ask for ideas about possible problems. Of course, the extensive equipment of the Creapolis "Makerspace" in the Coburg director's villa is also available to the students.

In addition to the six prize winners, the Casimirianum Gymnasium sent two other students to the awards ceremony: Nathanael Illies (piano) and Jannis Bock (saxophone) provided the perfect musical setting.

Martin Kapp thanked all the lecturers for their challenging work and encouraged the young pupils to sometimes push themselves into the unknown in future research projects without being sure of the outcome of their work. (*www.kapp-niles.com*)

Solar Atmospheres

CONSTRUCTS NEW BRAZING/ASSEMBLY ROOM

Solar Atmospheres of Western PA has completed construction of a new brazing and assembly room. Though built primarily to accommodate a large aluminum brazing project for a specific customer, the room will be used for other brazing and assembly work, as well.

The temperature- and humidity-controlled room provides a clean environment for the critical assembly and alloying methods employed by Solar. All inventories of the clean components for final assemblies will be safely stored within the new space.

Bob Hill, president of Solar Atmospheres of Western PA, states: "During successful development and prototype runs, our customer, along with Solar management, understood that in order to bring this critical aluminum brazing project to full production a separate braze/assembly room would be needed. We worked together with our customer to develop the best space that is in close proximity to the vacuum furnace being utilized." (*www.solaratm.com*)

Klingelnberg

ADDS DATES TO 2020 TRAINING PROGRAM

As a system provider, Klingelnberg provides a wealth of knowledge to its customers through a wide array of seminars that are subdivided into practical and theoretical courses. The practical courses are designed to get operators and setters "up to speed" with various production technologies; the theoretical courses, aimed at technologists and developers, cover fundamental principles and in-depth knowledge with a focus on bevel gears and the KIMoS (Klingelnberg Integrated Manufacturing of Spiral Bevel Gears) calculation software. The technical expertise in all courses comes directly from real-world experience: The instructors are experienced application engineers from the Klingelnberg Technology Center, who give their best every day to develop trendsetting machine designs and who pass this knowledge directly on to customers.

Dates and registration

The four-day seminars are offered in German or English at the Zurich Training Center. Other courses are held upon request — at the customer's premises, if desired. The registration form for scheduled trainings is available on the Klingelnberg website below. (*www.klingelnberg.com/en/news/training*)

Starrett

APPOINTS METROLOGY SYSTEMS VICE PRESIDENT

The L.S. Starrett Company has announced the appointment of **David Allen** as vice president, Starrett Metrology Systems, effective November 18, 2019. In this newly-created role, Allen will be responsible for the strategy, growth and profitability of the advanced metrology systems including Starrett Bytewise, Starrett Tru-Stone Technologies, Starrett-Kinemetric Systems,

[www.geartechnology.com]

metrology software development, force measurement systems and Starrett Special Gage Department.

"We are excited to have found a leader to provide focus on our high-end metrology businesses," said Douglas A. Starrett, president and CEO of Starrett. "David has deep experience with products and channels similar to Starrett, a global perspective and a growth mindset that will help these businesses grow faster and more profitably."

Allen has spent nearly twenty years in commercial and general management of highly engineered product businesses. Most recently, he served as vice president, energy and industrial markets for Mott Corporation, an employee-owned manufacturer of porous metal filtration and flow control products. Prior to that, he spent 13 years with the Danaher Corporation in general management, marketing and engineering leadership roles in the U.S., Europe and China. Early in his career he was a manager with the Boston Consulting Group and an Active Duty U.S. Army officer. Allen has Bachelor's degrees from the University of Pennsylvania and a Master of Business Administration from the Tuck School at Dartmouth. He will be based out of Starrett corporate headquarters in Athol, Massachusetts and reside with his family in central Connecticut. (*www.starrett.com*)

Fives

OPENS CENTER OF COMPETENCY FOR CONTROLS ENGINEERING

At a grand opening ceremony, Fives DyAG Corp. (Smart AutomationSolutions Division) celebrated the inauguration of its new center of competency for controls engineering in Greenville, South Carolina.

The new facility replaces Fives DyAG Corp.'s previous operations in Charlotte, North Carolina, bringing automation support closer to existing customers, while expanding visibility within the region's commercial manufacturing; meeting the growing demand to provide expertise for controls engineering, project management, maintenance and equipment installation support.

A diverse collection of customers and industry partners attended the opening ceremony. Participating exhibitors from Bertelkamp Automation Inc., Wesco, McNaughton-McKay Electric Company and the AddUp Group (Fives and Michelin joint venture in 3D Printing Solutions for metal Additive Manufacturing systems) showcased a variety of innovative products and technology solutions. Guests enjoyed "Tech Talks" exploring various technologies supporting automation such as machine vision systems, the process of laser powder bed fusion for metal additive manufacturing, and a new multi-camera vision solution from Fives DyAG Corp. — TruIVS.

"Within Fives Group, Smart Automation Solutions Division is committed to helping industry's rapidly increasing demand for engineering and technology services, supporting a dynamically growing manufacturing environment" said Luigi Russo, deputy chief executive officer, Fives Smart Automation Solution division. (*www.fivesgroup.com*)

Big Kaiser

RAMPS UP GREEN INITIATIVES

As part of an ongoing effort to make processes and products more environmentally friendly, Big Kaiser is making modifications to production materials and packaging. Specifically, they have switched to unleaded steel and recyclable packaging. The new steel uses a Bismuth composite instead of lead. Additionally, new boring head packaging will use cardboard or recyclable PET instead of current Quadro packs with polypropylene.

"These adjustments to our materials and packaging will go a long way toward reducing the environmental footprint of our business and, more importantly, our customers," said Jack Burley, vice president of sales and engineering. "It's part of company-wide commitment to care for our customers without sacrificing quality or performance."

Big Kaiser was recently recognized by the Village of Hoffman Estates for the green efforts at its U.S. headquarters; these include recycling, reducing paper usage, energy and water efficiency, and HVAC monitoring. (*www.bigkaiser.com*)

Liebherr

CELEBRATES 50 YEARS IN THE UNITED STATES

Liebherr in the United States is celebrating 50 years of success as a leading manufacturer in North America this year. With its 50th anniversary theme "United by Success," the manufacturer remains focused on its commitment to U.S. customers. Liebherr has been producing in the U.S. since 1970. The company is one of the leading North American suppliers of construction machinery and other technically advanced, user-oriented products and services. The manufacturer sells and distributes products throughout its own locations and through an independent distribution network.

Liebherr has built its U.S. business on a foundation of trust, innovation and engagement with customers. Five decades later, Liebherr's growth, diversity and stability are evidence of how the company is united by success with customers as they work on the challenges of tomorrow and focus on the future together.

Throughout 2020, Liebherr will focus on 10 innovative product divisions across the U.S. in addition to its commitment to the success of customers, business partners and employees.

"The 'United by Success' campaign shows that our customers and our company are one through each other's successes and are stronger together," said Torben Reher, managing director of Liebherr USA, Co.

Plans for 2020 include Liebherr completing the expansion of its Newport News, Virginia campus, introducing new technologies and equipment, and having a major presence with customers during industry trade shows.

The anniversary campaign will engage with customers on web, social media and industry events, including a dedicated U.S. anniversary landing page and video. Liebherr will also unveil special anniversary exhibits and host VIP events to thank customers for their loyalty throughout the last five decades.

The exhibits and VIP events will be held at CONEXPO-CON/AGG (Las Vegas, March 10–14) and MINExpo (Las Vegas, September 28–October 1).

To keep pace with its growth, a new $60 million state of the art expansion will be completed in spring 2020 in Newport News, Virginia, which will be home to Liebherr USA, Co. The new site is adjacent to the company's current facilities, where Liebherr has operated for its first 50 years. The new buildings will add more than 251,000 sq. ft. to the existing 560,000 sq. ft. campus. Additionally, Liebherr has 13 other locations across the U.S. (*www.liebherr.com*)

Timken

EXPANDS MANUFACTURING CAPABILITY OF SOUTHEAST REGIONAL GEAR REPAIR FACILITY

The Timken Company has announced that renovations are complete and new services operational at the Philadelphia Gear Southeast Regional gear repair facility in Birmingham, Ala. The project includes an isolated assembly bay, the addition of a retractable paint booth and a large industrial parts washer, all designed to facilitate a "clean assembly" environment. "We evaluated our operation from the ground up," said Jay Alexander, manager of the Philadelphia Gear manufacturing and service center. "Our renovated facility is streamlined to simplify production and improve efficiency, and more importantly, expand our service offering."

The newly renovated assembly bay features 3,500 square feet of isolated assembly space, new floors and a crane system capable of handling up to 5-tons. The portable, retractable paint booth includes an integrated air filtration system that can expand to 400 square feet to accommodate all sizes of gearboxes. The paint booth addition is an environmental and quality improvement in the painting process. The other major investment was a large industrial parts washer that can hold gearboxes and components up to 7,000 lbs. It

features a 72-inch turntable, 150 psi of washing pressure and 180 degree washing temperature. This unit will reduce cleaning time by four hours per gearbox over manual methods and eliminate the need for outsourced sand or bead blasting. "We're excited about the improvements in our Birmingham location," said Alexander. "This upgrade will fill a niche in the paper mill industry and provide even better, "cleaner" services for customers across all markets. We are committed to our goal of becoming the trusted, full-service advisor for gearbox repair and service in the Southeast." (*www.timken.com*)