Record-Breaking WAFIOS Event in Wuppertal

Held at WAFIOS' sales premises in Wuppertal, Germany, every two years, the WAFIOS In-House Exhibition marks a permanent fixture in the calendar of many national and international spring manufacturers as well as wire and tube processors – plus numerous media representatives. This time around, the event took place on May 10–13, 2017.

Each day of the exhibition saw the large crowds of attendees that have become a regular feature of the event. The busy atmosphere was elevated by the fringe event being held in parallel by the Cold Forming division at WAFIOS' forming technology premises, and by the extensive program of specialist lectures being given during the exhibition.
Over the four days, the Reutlingen company welcomed well over 1,000 guests from Europe and beyond.

With the range of exhibits becoming noticeably larger and more varied each time around, the event is no longer showcasing WAFIOS machinery and services alone. This year, other exhibitors included several companies who act as suppliers and partners to WAFIOS, for example. Marking a first, the event also included representatives from research and education, with the University of Siegen's Forming Technology Institute – headed up by Prof. Dr. Ing. Bernd Engel – manning an information booth and delivering a specialist lecture.

The industry specialists who visited the exhibition were afforded insights and perspectives in a way that was unique to this kind of event – relating not only to the trends prevailing in today's technology, but also to the future of spring, wire, and tube processing.

Devoting a central area of the premises to a topic that is set to shape the future, the in-house exhibition used the banner of Smart Factory 4.0 to present WAFIOS' latest developments in the field of Industry 4.0 – just as it had done at the Tube trade fair in Düsseldorf.

The focal points of this year's exhibition were WAFIOS solutions for industrial security as well as data exchange concepts.

Industrial security has been provided for all WAFIOS machines since 2016 thanks to secure VPN connections, ensuring that WAFIOS machinery benefits from a secure link that is protected by industrial routers and firewalls. Not only is this practice essential for securely networking the digitized manufacturing processes that take place within WAFIOS' Smart Factory 4.0 concept, it also creates advantages during

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maintenance and machine optimization work – and in many cases even removes the need for cost-intensive on-site servicing tasks altogether.

Fig. 1 Dashboard interface

OPC UA is a standardized industrial communication protocol from the OPC Foundation, and is designed for data exchange. It enables data to be exchanged using a uniform method, and offers the ability to make all machine data available via the interface.

Finally, this aspect of the exhibition also featured a cross-platform and cross-manufacturer protocol enabling standardized communication across firewalls and providing protection from unauthorized access for all WAFIOS machines. The solution was demonstrated live on a
large touchscreen monitor, displaying several of the machines in the exhibition and their various items of data simultaneously in the form of a dashboard interface (see Fig. 1).

Another highlight of the exhibition was the global premiere of WAFIOS' Performance machines, which feature a complete set of standard equipment (ensuring they are ready to run), a defined selection of options, and a high-end control system.
What they also share in common is the fact that they are all manufactured at WAFIOS' own production site in Zhangjiagang, China, using German engineering expertise and in compliance with WAFIOS quality standards. The G 450 Performance spring end grinding machine was one of the machines that celebrated its launch on the world stage (Fig. 2). The machinery system was showcased with a spring-loading automation solution from affiliated partner Böhm. The RE 30 Performance wire straightening machine for smooth steel was another machine on display. The premiere of the Performance machinery was rounded off by two new cost-optimized pay-off units from China, designed for small (H3) and large (H7) spring, wire, and straightening machines.

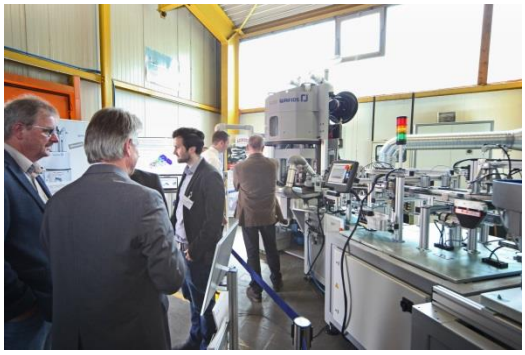

Fig. 2 G 450 Performance

A large number of new features were also found among compression spring and torsion spring machines. In the lower operating range, there was the re-engineered

FUL 16 CNC compression spring machine boasting an increased output plus measuring, sorting, and a new cutting option. With the sorting feature, the machine is able to produce up to 1,000 springs per minute and can even reach as many as 1,200 springs per minute without the use of a sorting chute. The FUL 76 CNC compression spring machine represented a new addition to the FUL X.6 range, offering a higher feed speed and output.
In the area of tools, the new rotatable coiling insert for WAFIOS compression spring machines was introduced as a solution for cutting down on costs – thanks to its ability to increase operating life significantly – and for manufacturing smaller coiling ratios compared with conventional inserts.

WAFIOS also presented two new types of CNC winding, coiling, and bending systems, adding to and enhancing its FMU series. The FMU 50 with an automation solution (Fig. 3; robot integration) for removing and placing parts was on show, while the FMU 32 was demonstrated in conjunction with an Aicon measuring cell. These new machines are the results of advancements in ***iQ***inspect, the function for automatic measuring and correction of bent parts – which is now also available for torsion springs.

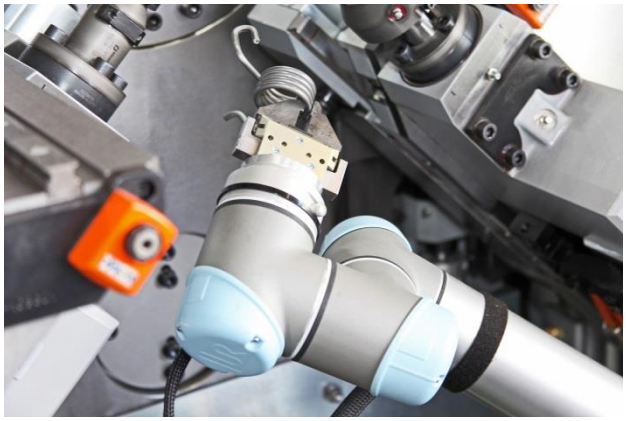

Fig. 3 FMU with robot

Turning to bending applications, the BMS 36 CNC dual-head bending machine (Fig. 4) was presented as a successor to the BMS 31, with enhanced process reliability and improved productivity.

Fig. 4 BMS 36

Another new addition to the WAFIOS range was the R 36 wire straightening machine for smooth steel, featuring an exchangeable turret and start/stop function, and available with the option of a discharge unit for short-length rods. This is designed for transporting cut rods in containers and boxes in specific positions.

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In the area of tools, the event also saw the introduction of two new solutions for straightening machines. Straightening dies reinforced with fiberglass satisfy high standards of wire surface quality and lengthen the operating life of tools during straightening processes.

For years now, it has been impossible to imagine a WAFIOS event taking place without showcasing new process optimization functions from the ***iQ*** range. This year's in-house exhibition was no exception, presenting numerous improvements and new developments in virtually all areas of machinery. One example was the advancement in ***iQ***smartbend for reducing natural oscillations when bending long parts, introduced in 2016: This now covers twin-head wire bending machines and smaller tube bending machines too. ***iQ***torque enables cross-machine comparison of data (torque values) using exports via the OPC UA interface in the case of WAFIOS tube and wire bending machines.
The upgrade from ***iQ***tube to ***iQ***tube2 represents another new feature for tube bending machines. While it was once only possible to simulate tube bending processes, now there is also the option of determining a collision-free bending sequence with optimized axis traversing paths.

Coupled with all this, the in-house exhibition proved a fitting occasion for the live launch of the WAFIOS online tool shop (Fig. 5). Its initial version is available for customers in the EU, Norway, and Switzerland, but it is set to be rolled out gradually across the world over the coming years. Spare parts for machinery will also be incorporated into the shop as its scope expands. The shop now allows WAFIOS customers to take advantage of the availability, prices, delivery times, and other benefits offered by online shops when purchasing tools for compression and torsion spring machines as well as straightening machines.

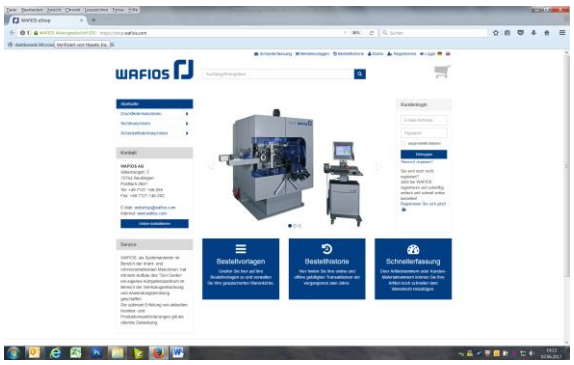

Fig. 5 WAFIOS tool webshop