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PRESS RELEASE

Artificial intelligence for industrial microbiology

vermicon AG: Revolutionary analysis method allows a fast, specific and fully automated analysis of microorganisms.

Munich, Germany, November 22, 2017 – vermicon AG, the specialist for microbiological solutions, is launching the new Scan VIT® system for analysis of microorganisms. It is able to quantify and specifically identify single cells directly and without time-consuming enrichment steps. A fully automated analysis evaluation is provided by the intelligent VIT® Vision software, which is the centerpiece of the new, patented technology. In contrast to conventional rapid test methods, the new Scan VIT® features an extremely high sensitivity of only 1 cell per sample volume.

Right on time for the 20th anniversary of the founding of the company, vermicon AG presents the new Scan VIT® technology. The automated analysis system is based on the VIT® (vermicon identification technology) gene probe technology and has been particularly optimized for fast, highly specific and absolute quantification of living microorganisms in liquid samples. Scan VIT® allows to specifically detect and to quantify single cells in a sample volume of up to 100 mL. Time-consuming cultivation has been eliminated completely. A maximum of four hours passes between sampling and the final quantitative result. This technology can be the basis of a new era of microbiological test kits for the industrial sector.

Dr. Jiri Snaidr, founder and CEO of vermicon AG: "The incentive for this disruptive innovation has been our ambition to provide our customers with a technology that is able to discover contaminations quickly, specifically and without cultivation. The aim was to be able to detect and quantify a single living cell in a large sample volume directly and specifically. The introduction of artificial intelligence has rendered this possible. Therefore, this technology is unique worldwide."

Several years of intensive development work have been invested. In the course of this, the team focused on two key factors: the development of a proprietary control and analysis software, VIT® Vision, which enables specific detection of single cells due to its artificial intelligence-based algorithms, and an extremely high sensitivity of only one cell per sample volume. With around one million learning scans, the system has been trained to detect single microbial cells. The artificial intelligence then decides how the cells are detected specifically.

Scan VIT® can be applied wherever detection of microorganisms in liquid matrices is required and is thus suitable for end product analysis as well as for application throughout the manufacturing chain in the beverage industry and also for drinking and process water. Up to 100 mL, or, depending on the sample material, even larger volumes, can be analyzed.

The first application based on the Scan VIT® technology offers a reliable, fully automated identification and absolute quantification of *Escherichia coli* and coliform bacteria. More products are going to be added to the portfolio very soon.

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About vermicon AG: vermicon AG offers new and innovative solutions for microbiology. The international company develops and markets products and services for specific identification of microorganisms. The focus is on direct and cultivation-independent detection and analysis of microorganisms, in order to provide fast, highly specific and reliable insight into the microbiological composition of samples.