



### 1. Spray-jet control during the glass bottle coating process in the pharmaceutical industry

During the production of glass bottles for the pharmaceutical industry the inner surface must be coated with a certain chemical film, which makes the bottles diffuse. At this crystals will be sprayed through the bottle neck with a nozzle into the bottle. During this process, the bottles have still a temperature of a few hundred centigrade, which means that the laser transmitter as well as the laser receiver must be mounted a few centimeters away from the nozzle. The laser beam is directed close to the output of the spray nozzle, thus the laser sensor system can detect the crystals immediately after passing the nozzle. For this task a laser through beam sensor type **A-LAS-M12-4x1-C** (transmitter / receiver pair) in connection with an **A-LAS-CON1** controller unit is used. A laser trigger sensor activates the spray nozzle, the trigger signal will also be sent to the **A-LAS-CON1** unit and start the evaluation procedure. At the output of the **A-LAS-CON1** an analogue signal is available, which informs about the amount of spray and furthermore two digital outputs shows whether the amount of spray is in or out of tolerance. As shown in the screenshots a proper evaluation with the A-LAS system is possible.

