

## Safe and Sound, Thanks to the Weighing of Aircraft

With over 70 years' experience, SR Technics Switzerland, headquartered in the Zurich-Kloten Airport, is the most important mainstay of the SR Technics Group, the worldwide leading independent supplier of services for aircraft, component and engine maintenance. SR Technics relies on weighing platforms equipped by METTLER TOLEDO with the latest technology for weighing the jumbo jets of its international airline customers.



**Hanspeter Wehrli**  
Production Engineering  
SR Technics

The flight hours completed and the route network of the airlines are only two of many factors that determine the capacity utilisation of an aircraft maintenance operation. Thanks to its commitment to uncompromising safety and quality, SR Technics, which was once the maintenance company for Swissair, was able to remain a successful company even after the long-established Swiss airline went bankrupt. Under new ownership, the company extended its operations over the English Channel in 2004, with 4,700 employees performing maintenance services for approximately 750 airplanes, 300 engines and 78,000 components in 2005 alone.

### Every weighing change recorded

Because safety is a prime necessity in passenger aviation, there are strict regulations on airworthiness, among them those of the Swiss Federal Office of Civil Aviation (BAZL). There are also the manufacturer's recommendations regarding the frequency and scope of maintenance. In addition to small "checks," a plane like an Airbus A330 undergoes a "heavy maintenance visit" every 30,000 flight hours or after five to six years, during which the plane spends about four weeks in the hangar. Thomas Züst, Workload and Capacity Planning, explains: "The plane is partially disassembled: The cladding is removed, the bottoms come out... Most of the time, the plane is re-weighed after heavy maintenance, but also after an entertainment

electronics system or an auxiliary tank is installed."

### Special solution in close cooperation with the customer

For weighing, SR Technics uses 18 special weighing platforms for a maximum load of 30 metric tonnes each. When procurement of spare parts became difficult after the original supplier went out of business, the production engineering department, which is responsible for providing tools, turned to METTLER TOLEDO. Hanspeter Wehrli: "For organisational and financial reasons, we wanted to retain the special aluminum frame, but install state-of-the-art electronics and weighing cells. Because we were already connected with METTLER TOLEDO Switzerland through a



long-standing partnership, we took this assignment to their engineering department. The cooperation was outstanding.”

To keep the operation going, the platforms were retrofitted in several phases. New double ended beam load cells and a completely new electronics system - based on standard components of the METTLER TOLEDO 4-series - were installed in the one-meter square frame. To simplify weighing, only the On/Off, zero-setting and taring functions are available to hangar personnel. Five-kilogram display increments are displayed at an internal resolution of one kilogramme. Newly installed storage batteries guarantee eight-hour operation independent of the network.

To monitor measurement accuracy, the platforms are calibrated once each year by the calibration laboratory of SR Technics using a press system with software specially developed by METTLER TOLEDO. The system itself is regularly inspected by the Swiss Federal Office for Metrology and Accreditation.

Hanspeter Wehrli is satisfied all round: “The retrofitted weighing platforms have proven highly successful in the maintenance of our Airbus and McDonnell-Douglas jetliners.” A total of ten platforms are used for one Airbus A330 - one under each wheel. The hangar mechanics position the platforms and test their functionality using a cornerload test before each measurement. All platforms underneath a wheel system are then connected with each other. The airplane is pulled over a ramp onto the platforms. The individual weight values and the total weight are determined and traceably documented each time as part of the quality management system.

The data is then stored in the airplane's onboard computer, which determines the center of gravity and the starting weight - a maximum of 230 metric tonnes for the A330 - through the balances built into the wheel systems or based on manual entries by the pilots each time before the plane starts. So that air passengers and crew can enjoy their flight in comfort and safety.

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