



ACTILOG SUCCESS STORY: An electronics solution to prevent tax scams

It's just the way things are: scamming takes place wherever taxes are paid. On both large and small scales. Now, the federal fiscal authorities in Germany have come up with something to counteract it. In future, a new fiscal memory for tills will make manipulations impossible. A challenge for the leading manufacturers of tills and payment systems and the perfect job for Iftest and its development customer Actilog.

Digital progress never stops. Not even for the revenue service. Because there ultimately has to be a digital solution for everything these days – even for the centuries old problem of tax evasion. And there is one! The Physikalisch-Technischen Bundesanstalt (PTB), the National Metrology Institute of Germany, has developed INSIKA. Derived from the German acronym for 'integrated security solution for measured data processing till systems' (INtegrierte Sicherheitslösung für messwertverarbeitende KAssensysteme), INSIKA is the digital response to the temptation and often commonplace practice of cheating a little at the till. This smart card issued by the authorities generates a digital signature of all movements at the till, whether legal or illegal. Concurrent with this development, a law went into effect in 2017 that requires business owners to collect till data in accordance with this system and make it accessible during an audit.

Leading manufacturers of till systems are prepared

But what does this mean for the manufacturers of till and accounting systems? The fact is: this fiscal memory is just the beginning. Starting as early as 2020, only till systems that also have a corresponding interface for exporting the data can be used. Additional requirements may follow depending on the federal government's tax and fiscal policy. This is great news for those who can accommodate this development and the associated customer requirements and offer corresponding products in a timely manner at a good price. A system that is compatible with the INSIKA fiscal memory and is also secure and fast is needed.

A global market leader chooses Iftest customer Actilog

In Actilog Solutions, an internationally leading manufacturer of till and accounting systems has found an electronics partner that – together with Iftest – is capable of developing the corresponding software and hardware as well as implementing, inspecting and, ultimately, manufacturing an end product that meets all requirements for data storage and encryption.

The key to the solution: a smart card in accordance with ISO7816 and two redundant flash memories (SD cards) for data storage that connect the till system to the fiscal memory. One of the many challenges is to ensure quick data flow between the fiscal memory and the till so that till receipts can be printed as quickly as before. This was achieved through extremely high-performance electronic components and a corresponding Ethernet connection.



Iftest Loxbox: electronics solution to prevent tax scams

There is also a demand for flexibility because, when the contract is awarded, the legal requirements will not yet have final approval. Gerhard Obrist, Co-CEO at Iftest AG, is not worried about uncertainties of this kind: 'We have developed the system to be flexible enough to comply with any conceivable requirements concerning data protection.' Prior to this, meticulous preparatory work took place that included accurately determining the processes of a till and the data to be saved and deleted. This was done to determine storage capacity, data transfer and basic security-related parameters precisely. Today's end product makes it possible to digitise transactions over a time period of more than a year. Stored data in good hands. The data encryption in the software programming by the development engineers at Iftest was in accordance with AES256 and TLS (SSL).

Maximum security – both inside and out

After finding a satisfactory solution to internal security, a fixed housing was created for protecting against the removal or destruction of memory cards. The housing – which resembles a plug – makes attempted break-ins and manipulations easy to detect. And this might also please the revenue service: the till system detects and indexes even a purposeful removal of the SIM card or an interruption of the power supply. Accounting procedures cannot be carried out at all if there are particularly severe interferences. Iftest electronics developer Simon Wildy: 'The beginnings of our company go back to a highly adept test laboratory. To this day, we can inspect and validate our developments as well as the fiscal memory system under all possible simulated conditions.' The contracting till manufacturer was also convinced and gave the go-ahead for series production.

A development project that represents the overall technical expertise of the companies Iftest and Actilog:

- + Design and development of assembly groups
- + Embedded software development
- + Implementation of quick and encrypted data communication
- + Guaranteed data security
- + Tests up to product acceptance and production

The result is an end product that makes it virtually impossible to manipulate tills and gives the internationally leading till manufacturer a considerable market advantage. And all of this at a price that makes the till system appealing for trade and promises good profits for the manufacturer. Before and after taxes.

Iftest AG

- + System partner for industrial and medical electronics
- + Services
 - Consulting
 - Hardware development
 - Embedded software development
 - PCB design
 - Fast prototyping
 - PCB Assembly: SMT and THT
 - Module and device assembly

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