**Fra:** Reckendorf, Jens [mailto:JReckendorf@vectron.de]
**Sendt:** 19. april 2012 11:30
**Til:** Postmottak Finansdepartementet
**Emne:** Høring - forslag til nytt regelverk for kassasystemer

Dear Madam or Sir,

I am contacting you in two functions: (a) as board member of a cash register manufacturer and (b) as participant of the German INSIKA project that has developed a technical concept for fiscal cash registers.

First I would like to mention that we do not have a significant commercial interest concerning this issue. Our sales in Norway account for about 0,2% of our total sales. We will not get any license fees or any other sort of compensation for an implementation of the INSIKA technology anywhere in the world.

We have been notified of the plans to introduce fiscal cash registers in Norway. Since the documentation does not seem to be available in English and we did not initiate a translation yet we could not analyze the concept. As far as we could see from the documentation the analysis of the INSIKA concept is not correct. We also think that the proposal for a solution is very complicated and might be based on some general misconceptions. We have seen the same thing happen in various countries, mainly Sweden, Belgium, Portugal and Turkey. As a manufacturer selling in those markets and as one of companies involved in the INSIKA project we analyzed all these solutions in detail (including the security architecture, concepts for audits, legal framework, impact on the market etc.) and found many shortcomings, contradictions, technical and security problems.

If there is still a chance to influence the decisions in Norway I would like to offer more information and support. In this case please contact me - the contact information can be found at the bottom of this e-mail.

Here is a brief description of the INSIKA concept:

The whole system is not based on "securing the cash register" (with physically secured hardware, certifications etc.) but on securing the relevant data using cryptography. This is done by generating a digital signature for each transaction in a smart card. The signature is printed on the receipt and stored in the cash register together with the details of the transaction. The printed signature allows to easily check if the cash register user is complying with the law. The printed signature can be encoded in a 2D code which makes a verification very easy - it can be done without access to any data stored in the cash register, thus it could be done by anyone using any smartphone. It is very important to keep in mind that the regular check if the cash register users comply with the law cannot be replaced by any technology - technology can only simplify these regular checks (INSIKA does this by providing the signature on the receipt, preferably as 2D code). Even a system that is 100% secure can be cheated by simply not using it. This typically happens in Italy, Greece and many other countries.

The signature in the data (this data is a kind of audit file) makes any attempt to manipulate the data detectable. In addition to the individual transactions the data also contains signed daily totals which allow "to close gaps in the data" that might occur due to technical failures or manipulations. In addition to that the smart card contains monthly totalizes which also provide data if transaction data is lost (or has been deleted deliberately). The smart cards are issued by the Ministry of Finance or another authorized

institution. It is important to provide a technical and legal framework that makes the whole system trustworthy. The INSIKA concept is published and can be used without any license issues, patent problems, royalty payments etc. Critical technologies (smartcard hardware, cryptographic algorithms, public key infrastructure) are available off-the-shelf.

Working smart cards are available. The PTB has developed demo software (a "cash register simulator" and a "verification module") that makes it very simple to try out the solution on every standard PC. 2008 the system was not introduced in Germany due to political conflicts within the Germany federal structure and within the tax authorities. But in the meantime the system was introduced in taximeters in Hamburg and working well.

The main advantages of the INSIKA system are:

- Works with almost every type of hardware - from cheap low-end cash registers to PC-based POS systems

- Easy to update old systems in the field (requires software update and smart card reader)

- Open standard

- Very high level of security without the need to certify cash registers

- Effective regular checks of correct utilization (using 2D signature code on the receipts and online verification)

We are sure you are looking for a solution that is cost-effective for the owners of the systems and open and fair towards all manufacturers of cash registers. INSIKA fulfills those points perfectly.

I kindly ask you for an acknowledgement of receipt for this email. Thank you.

Kind regards,

Jens Reckendorf

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Member of the Board of Management - R&D

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