

DANMARKS NATIONALBANK

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Danmarks Nationalbank behind measures to increase cyber resilience

Tests are to increase cyber resilience in Denmark

Danmarks Nationalbank and the financial sector have joined forces to establish TIBER-DK, a programme for testing the most important Danish banks and essential parts of the financial infrastructure. The aim is to increase cyber resilience and promote financial stability.

Danmarks Nationalbank will act as the TIBER-DK lead authority and by establishing the programme Danmarks Nationalbank is strengthening its efforts on the cyber ambit. A dedicated team will thus be set up to coordinate and support implementation of the test programme. The test programme is developed by the European Central Bank, ECB, and sets a new stand-

ard for testing the cyber resilience of the financial sector. TIBER-DK is based on experience from similar programmes at the De Nederlandsche Bank and the Bank of England, and Denmark will, along with Belgium, be the first country to implement the ECB programme.

This means that the Danish testing programme will be carried out according to a European framework, and the tasks of Danmarks Nationalbank's test team include adapting the programme to the Danish system while ensuring that it still meets the ECB's high requirements on security and realism.

Danmarks Nationalbank ensures that testing is in line with the TIBER-DK implementation guide

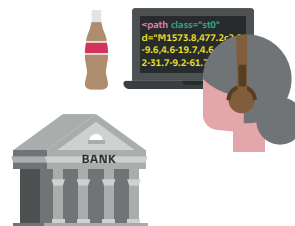


Test based on the actual threat situation

Collection of threats



"Ethical hacking"



Lessons learnt and improvements

The Danish test programme is part of the European framework and Danmarks Nationalbank will share the Danish experiences with its European colleagues in order for the level of the TIBER programme and cyber security in Europe to be increased further.

As part of the initial phase of the programme, an overall threat report will be prepared for the Danish financial sector. Then tailored threat reports will be prepared for each test participant, describing the threats relevant to their specific organisation.

The reports are to be prepared by leading experts in the field to meet the TIBER programme's quality and security requirements.

In the testing phase of the programme, "ethical hackers" will test the resilience of the participants. Ethical hackers will use realistic methods to ensure that the test is as authentic as possible. Only specialist testers with sufficient proven experience and expertise can be used in TIBER-DK.

In the final phase of the programme, a report is prepared describing the results and findings from the test which enables the participant to draw as much learning as possible from the test and consequently enhance its cyber resilience further.

Read more about the TIBER programme in Danmarks Nationalbank's TIBER-DK implementation guide [here \(link\)](#).

TIBER

TIBER is an acronym for Threat Intelligence-based Ethical Red Teaming. This means that participants pressure test their key systems in realistic tests, based on detailed threat reports and with assistance from external consultants.

A red team is the term used about the external consultants who, by agreement with the test participant, try to gain access to selected systems.

ABOUT NEWS



News are news articles based on analyses, working papers or other longer texts from Danmarks Nationalbank. News primarily

address journalists, politicians, government officials, specialists and others who want to be updated on current topics.

The news article consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

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SECRETARIAT AND
COMMUNICATIONS



In 2018, Danmarks Nationalbank will be celebrating its 200th anniversary. Danmarks Nationalbank's overall objective has been more or less unchanged during its 200-year life – to "maintain a safe and secure currency system" and "facilitate and regulate the traffic in money and the extension of credit", as the Danmarks Nationalbank Act says.

One of Danmarks Nationalbank's objectives is thus to contribute to the stability of the financial system. Danmarks Nationalbank began publishing financial stability analyses in 2002. These analyses are part of Danmarks Nationalbank's assessment of the financial system in Denmark.

Danmarks Nationalbank oversees the payment systems

One of Danmarks Nationalbank's most important tasks is to contribute to safe settlement of payments. Danmarks Nationalbank issued its first banknotes 200 years ago, and cash in the form of coins and banknotes was the preferred means of payment for daily purchases well into the 20th century.

Secure banknotes and coins are still important, but they are used less and less. When the Danes pay for goods in stores, only one in five payments is now made in cash. Most people use other solutions such as payment cards or mobile phones. The prevalence of cash payments is notably lower in Denmark than in the euro area.

Irrespective of which solution the Danes choose when paying for their goods, the underlying systems are efficient and secure. Danmarks Nationalbank oversees that the Danish payment systems comply with international standards.

The financial sector uses complex IT systems, and sector participants are linked via data centres and payment and settlement systems to ensure that the many daily transfers within the financial system can be effected correctly and without delays.

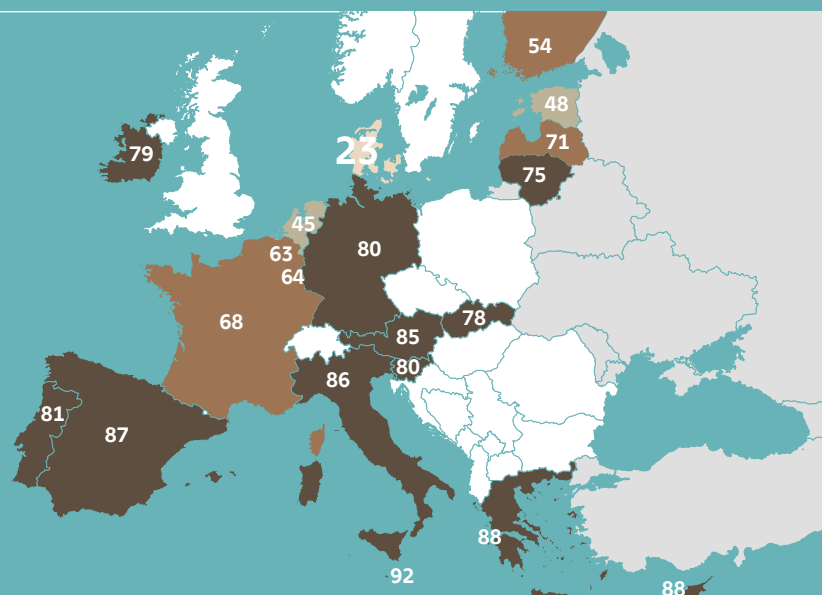
In August 2018, Danmarks Nationalbank upgraded its payment system Kronos, which had been in use since 2001. This system plays an important role in the settlement of payments in Denmark. With the new system, Danmarks Nationalbank has a more contemporary and robust technical solution.

This is important as Danmarks Nationalbank's payment system is at the core of the Danish financial infrastructure and is a prerequisite for settlement of electronic payments in Denmark.

The volume of cash payments is notably lower in Denmark than in the euro area

Cash share of payments by households in physical stores in the period 2014-16

- 75-100 per cent
- 50-74 per cent
- 25-49 per cent
- 0-24 per cent



Source: ECB, Deutsche Bundesbank, De Nederlandsche Bank and Danmarks Nationalbank.