

# Activities in The Netherlands to mitigate spoofing and smishing

**In the European context**

## **STIR/SHAKEN VIRTUAL SUMMIT** **Keynote Session**

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# About Vereniging COIN

## COIN IS THE DUTCH ASSOCIATION OF TELECOM PROVIDERS

- COIN-members -



- Founded in 1999
  - To support end-to-end interoperability of telecommunications services
  - To contribute to an open telecommunications market in which consumers and businesses can switch telecommunications service provider in an efficient and customer-friendly way
  - To contribute as a sector to secure and reliable digital infrastructure
- Look into future developments with members
- Further evolvement of services with members

# An association of Dutch telecommunications service providers

## About COIN

- COIN engages the industry and stakeholders on common topics and provides a joint platform to set-up and facilitate common business processes with respect to
  - Legal obligations, regulation, self-regulation
  - Cyber security
  - Fraud prevention
- COIN facilitates common business processes
  - Number Portability
  - Operator Switching
  - Emergency services and Directory Services
  - Identity Management
- COIN provides a common high-available infrastructure
  - Central reference database for Dutch telephone numbers
  - Number Portability and Operator switching infrastructure
  - Identity and anti-fraud lookups
  - 112 and Subscriber Information

## Services Provided

- Central Reference Database NL (+31)
- Number portability
- Bundle Switching
- 112 and Subscriber Information
- Access
- Identity Management (Mobile Connect)
- 3rd party access to CRDB
- Number shielding
- Routingcodes
- Fraud covenant
- Regional Roaming





# The Netherlands and STIR/SHAKEN Call Authentication Framework?

- Robocalls are extremely rare in The Netherlands
- Dutch people still do pick up calls from unknown phone numbers anytime
  - Ban on calling while cycling
- Trust in integrity of numbering high, although
  - SMS phishing
  - Banknumber spoofing



# Numbering in The Netherlands

- Ministry of Economic Affairs is legislator for
  - [Dutch Telecommunication Act](#)
  - [Telephone and ISDN Services Numbering Plan](#)
- The Authority for Consumers & Markets (ACM)
  - assigns and withdraws numbers and
  - supervises the usage of numbers
- Numbers in Numbering
  - At year-end 2020 COIN platform Number Portability 155,761,879 contained phone numbers,
  - active on 157 network operator codes of COIN members
    - 69 Million geographical numbers for 141 area codes
    - 54 Million mobile telephony numbers
    - 32 Million IoT/M2M numbers
    - 4 Million corporate nomadic numbers



Government of the Netherlands

Autoriteit  
Consument & Markt



# Dutch smishing mitigation actions

## Cyber criminals are sending phishing SMS pretending to come from organizations

- Criminals send SMS, SIM based and alphanumeric (spoofing), with phishing links
  - Banks, Ministry of Economic Affairs, ACM, police, tax authority and message brokers
- Taskforce Smishing COIN and Dutch Payments Association
  - Common action plan and as result, the concerned parties more easily
    - recognize fraud, share information about this with each other
    - move more quickly to interventions, such as
      - blocking websites and phone numbers or
      - tracking by the Police.
    - measuring modus operandi
- Public Private Partnership
  - Public-private cooperation will be set up against fraud by Dutch government, banks, telco's and other entities

Bericht  
Vandaag 07:08

[NL-ALERT] In verband met het corona (COVID-19) virus biedt het RIVM nu een beperkt aantal zorgpakketten aan. Wij raden u aan zo spoedig mogelijk deze aan te schaffen via: <http://corona-rivm.nl/coronavirus/zorgpakket-covid-19>

### Rabobank Alert

Uw Rabobank betaalpas is verouderd en zal overmorgen komen te vervallen.

Vraag uw betaalpas gratis aan en voorkom blokkade van uw bankrekening via: <https://2-rabo-bankpas.com/bankpas>

# SMS Protection list reduces impact of fraud

- Further steps for smishing mitigation
  - Piloting Sender ID list Subscribers (banks) request to block their number as outgoing A number
    - National permit listing alphanumeric sender ID banks – the sending source operator
    - Typosquatted alphanumeric sender ID's –list
  - Exploration detection tooling based on pattern recognition
    - Duty of care, privacy and interconnection/interoperability considerations
  - Plans for further development to a registry
- STIR/SHAKEN does not cover SMS/text messaging
  - For smishing similar interest and regulatory environments
  - SMS non-SIP Inter-Carrier technology
  - best authentication method for SMS / text messaging?



# Spoofing

## Bank helpdesk fraude

- Criminals misuse bank's phone number
  - causing consumer to think receiving a call from the bank
  - consumers are told that there is suspicious activity with their bank account
  - consumers get "support" to "secure" their money
- COIN joined forces with banks and the government
  - Telephone calls with spoofed +31 numbers mainly originate from abroad
  - Operators and banks have taken measures to prevent spoofing of specific telephone numbers
  - Operators and banks work together to signal new routes of spoofed traffic to the Netherlands in an early stage





# Improvement of the telecom trust chain

## In order to safeguard the continued safe use of telephone numbers

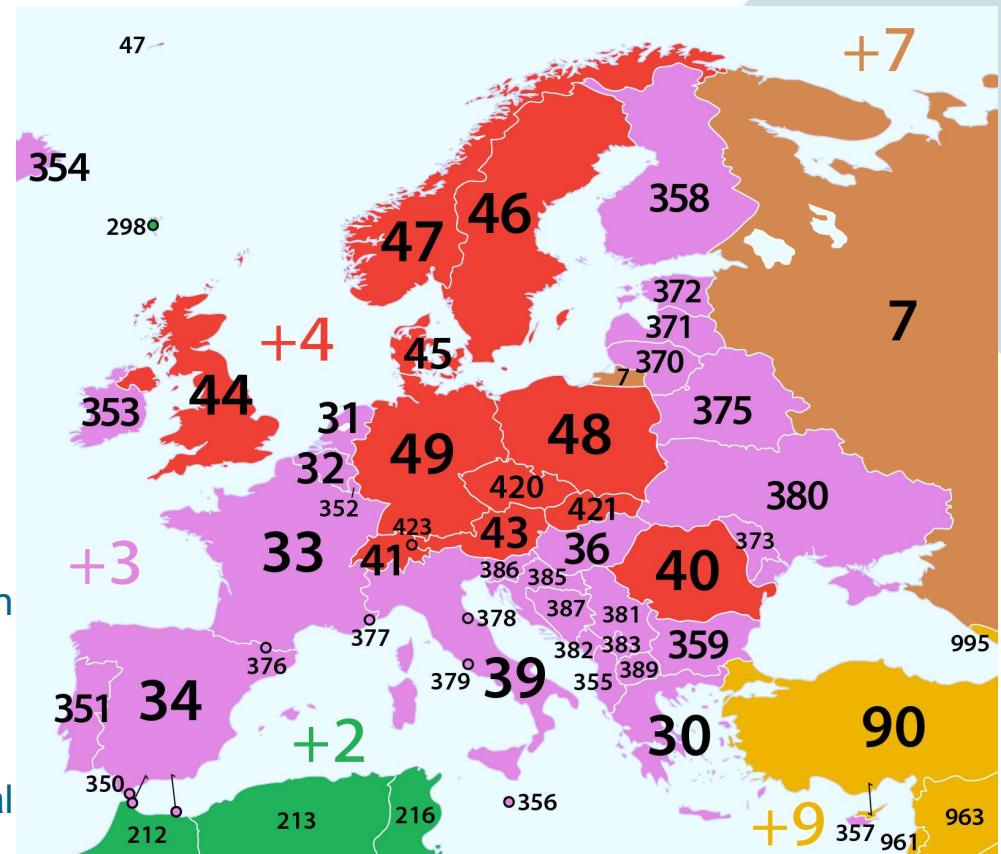
- COIN will facilitate the **telecom trust chain**
  - Facilitating Dutch **interworking and standardization**
  - Reliable data resources around **Central Reference Data Base (CRDB)**
  - Facilitating dialogue about a Dutch telecom bill that aims to improve the effectiveness of policy and supervision for the benefit of consumer protection and competition.
- **Sub-allocation and number hosting:** Rules about making numbers assigned by ACM available to other telecom providers
- **Extraterritorial use E.164:** Possibilities for permanent use of Dutch numbers abroad, while preserving the principle that extraterritorial use of numbers for interpersonal communication is prohibited;
- **CLI rules:** Detailed rules for the use of number identification/ number porting to provide more clarity about possibilities of cases of abuse by falsifying CLI information.



Source: welkomingouda.nl

# Mitigating of spoofing and smishing in the European context

- The European Union and E.164 Country Codes
  - European Digital Single Market
  - 446 million people
  - 27 countries/ numbering plans
- Implementation new regulatory framework European Electronic Communications Code (EECC)
  - General authorization of providers of the electronic communications networks and services
  - Pan European networks
- Only some national initiatives for STIR/SHAKEN
  - Countries focus on interfering on national numbers in international routes from operators that have no national numbers
  - Mechanism defined in ATIS-1000087 standard allow various arrangements (bilateral agreements, regional organization, and industry association) to coexist for the circumstances of the participating countries.



Source: wiki

# Long term measures Telephony Number Spoofing in European perspective

- CEPT EEC NaN (48 countries)
  - Written [ECC Report 275 on the role of E.164 numbers in international fraud and misuse of electronic communications services \(2018\)](#) and [recommendation with measures](#)
  - Writing ECC Report on CLI spoofing (legal aspects, possible technical measures to verify/authenticate CLI, operational impact)
  - Request to ETSI to report on the technical, operational, standardization and cost aspects of the different possible solutions (STIR/SHAKEN, blockchain, Solid, ...)
- BEREC
  - Launched [Database of numbering resources](#) with a right of extraterritorial use within the European Union
  - Workshop on Fraud & Misuse of the E.164 number range
    - Cross border regulatory cooperation in the intervention by the regulators or other relevant national authorities in cases of fraud or misuse



# Long term measures Telephony Number Spoofing in European perspective

- ETSI (Europees Telecommunication and Standaardisatie Instituut )
  - NTECH Work Item on “Calling Line Identity (CLI) Spoofing”
  - directly promoted by ECC WG NaN, a report that will address the technical, operational, standardization and cost aspects of the different possible solutions (STIR/SHAKEN, blockchain, Solid, ...)
    - **4 supporting** ETSI members like regulators, operators, manufactures are lacking
- European Commission
  - Delegated Regulation EU harmonized max. terminating rates, (recital 15); “...Operators not be bound to apply Union-wide termination rates to termination of calls if CLI is missing, invalid or fraudulent.”
  - Actively follows the standardization activities of ETSI and is present as “counsellor” in the ETSI board.
  - Sectorial member of ITU-T and participate in TSAG (Telecommunication Standardization Advisory Group)
- Europol
  - Smishing and Vishing awareness campaigns (supporting European Cybersecurity Month)





# Questions?

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