Effectively Combating Darknet Crime

EU Project TITANIUM Starts Police Test Phase - KIT Monitors Legal Conformity

Fighting criminal activities on the Internet is the goal of a Europe-wide project in which KIT legal scholars are involved (Photo: Markus Breig, KIT)

With today’s (January 24, 2019) start of the TITANIUM field labs, the practical phase of the EU project TITANIUM begins: For a period of several months, selected European police authorities test new software to better fight Darknet crime. The starting point are the crypto currencies as the common means of payment for anonymous illegal cyber activities. One of the 15 project partners is the Karlsruhe Institute of Technology (KIT); its Center for Applied Legal Studies (ZAR) stands for the legal conformity of the software tools developed in TITANIUM.

The Darknet - that part of the Internet in which users effectively conceal their identity using special browsers and networks - is considered the “seedy underbelly” of the web: on the one hand, where public debates are suppressed, it can be a protective space for the free expression of opinion. On the other hand, it offers virtually ideal conditions for serious criminal activities, such as arms and drug trafficking, child pornography, and contract crime. To disclose such acts is an enormous challenge to the police and the judiciary.
This is where the research and development project TITANIUM (Tools for the Investigation of Transactions in Underground Markets) comes in. In TITA-NIUM, which is launched by the European Commission and coordinated by the Austrian Institute of Technology (AIT), 15 research institutions, IT companies, and police authorities from seven European countries are working on developing new forensic technologies for investigating and researching cybercrime in Darknet. On the German side, the Federal Criminal Police Office, the KIT, and dence GmbH are involved. The aim of the three-year project, which started in May 2017, is to develop software to support police investigations in the Darknet. The focus is on processing criminal transactions using blockchain-based crypto currencies such as Bitcoin, ZCash, or Monero. Here, the TITANIUM partners develop software to support elementary investigation steps, which are to generate evidence for the courts. A second focus is on the analysis of Darknet platforms used for illegal activities.

In the context of TITANIUM, KIT’s Center for Applied Legal Studies (ZAR) ensures that legal and ethical guidelines are adhered to, both in the context of research and development and operationally, i. e. when deployed by the police authorities. "When developing software, it is becoming increasingly important to implement complex legal requirements at an early stage on a technical level, for example in the form of 'privacy by design'. Data protection aspects have to be considered and implemented already during the basic conception of software", says Professor Franziska Boehm, head of ZAR research group “Information Law for Technical Systems and Legal Informatics” and division manager “Intellectual Property Rights” at FIZ Karlsruhe, Leibniz Institute for Information Infrastructure. According to Franziska Boehm, this requires in-depth interdisciplinary cooperation, which needs not only legal expertise but also a comprehensive technical understanding and outstanding English language skills of the legal staff. "At ZAR, these competencies are effectively bundled so that they can be integrated into important international projects such as TITANIUM," Boehm says.

Over the entire span of the project, the ZAR team, in cooperation with the Federal Criminal Police Office, Interpol, Trilateral Research Ltd., and the University of Innsbruck, steers and evaluates the legal-ethical dimension of the new investigation software. ZAR project coordinator Thilo Gottschalk explains that since the processing of Darknet data regularly constitutes an encroachment on the fundamental rights of the data subjects, it is crucial that such encroachment only takes place in justified cases and on a legal basis. "The TITANIUM tools,"
Gottschalk says, "contain a variety of protective measures to guarantee appropriate and lawful data processing." In addition to analyzing the legal requirements, KIT is also in contact with various interest groups as part of a "Privacy Impact Assessment Plus" in order to effectively include external views of risks and concerns in the development process.

First versions of the TITANIUM software will be made available to the police authorities for testing purposes from January 24, 2019. Within the framework of these field labs, around 60 cybercrime experts will be informed about the project’s developments and introduced to the handling of the new tools. The field labs take place in Germany, Finland, Austria, and Spain and are going to last several months. In regards to legally critical areas, the project team also provides synthetic, i.e. artificially generated, data, so that there can be no unjustified interference with the fundamental rights of people affected. The TITANIUM partners hope that the police testing will provide valuable feedback on the usability, functionality, and efficiency of the software. A second field lab phase for testing further software is scheduled for the end of 2019. The ZAR team is also involved in these practical phases in order to monitor compliance with international and country-specific legal requirements and to establish them at technical level.

Read more about TITANIUM:
https://titanium-project.eu/faq/index.html
https://twitter.com/TITANIUM_H2020

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