As Head of Technology and Security, Dr. Fabian Kohn has been an employee from the very beginning and is responsible for the heart of Nect: the technology. In particular, the global strategy as well as the back-end/middleware and IT security areas are in his hands. In this interview, he talks about how Nect technology has been further developed this year and what opportunities he sees for the future.

The Nect Technology is the basis of all Nect products. How does the technology work?

With our proprietary and multi-patented Robo-Ident technology, we have the ability to perform fully automated remote identification in around two minutes. In the process, we use machine-assisted algorithms for all the evaluation steps involved in the procedure in the Nect app. The steps required for identification are a video recording of the front of the ID document, a photo of the back (not required for all documents), and a selfie video.

The technology ensures fully automatic recognition of the identity document used (e.g., ID card or passport). Various security checks are performed to detect fraud attempts and prevent fraud. These include validating the security features and integrity of the document in question, matching the facial data („face match") between the ID document and the selfie, detecting and reading and validating the document data. While the ID document is being taken, optically variable security features are detected and verified. The difference to other automated identification methods is that for identification with Nect, a video of the ID document is evaluated. During the video recording of the document, optically variable security features, e.g. holograms, are made visible. The user is prompted to read aloud two randomly displayed words during the selfie recording. Artificial intelligence recognizes from lip and facial movements whether the correct words have been said.

What distinguishes Nect technology from competing technologies?

The biggest difference between us and other identification providers is that we use modern machine learning algorithms (e.g. state of the art face matching) instead of performing manual checks. Since we do not employ service agents for live communication with users, the product can be scaled flexibly at any time.

In addition to recognizing the optically variable security features and proving the live recording, the system automatically recognizes the ID document used in the Nect app - unlike many competitors. Based on this, the user is automatically directed to the appropriate process for them. This automatic document recognition was developed by Nect itself to make the process as smooth and error-free as possible for the user. In addition, our Nect app convinces with a unique user experience. In the App Store and Play Store, users rate our app with 4.9 (≈24,500 ratings) and 4.8(≈23,000 ratings) stars out of 5 stars, respectively.

Another advantage and unique selling point of Nect is that we are not dependent on third parties, rather the development and operation of the technology is completely self-sufficient. This allows us to continuously improve and expand it. In particular, we can add to our machine learning models with an expanded database with every single identity detection performed. This allows us to continuously expand both acceptance rates and fraud detection, and provide our customers with a uniquely secure technology. In addition, Nect uses its own app.

Most other vendors rely on SDK solutions, i.e. integrating their technology into the customer application. Nect thus builds a large user base in the app. This gives Nect a significant edge in the market that other embedded systems cannot offer. In addition because of its own app, Nect is the only provider in the market that can offer a **wallet** for the reuse of digital identity and thus provide a basis for an **ID ecosystem.**

How has the technology been developed over the past year?

In 2020, we were able to significantly improve the scalability of our technology by expanding the redundant infrastructure and optimizing our processes. We have also adapted it to other products, such as eSignature or Selfie-Ident AD HOC. We were also able to further optimize the user guidance in the app, thus improving the user experience for less experienced users. The fact that this is having an effect can be seen in the positive app ratings.

In 2021, we were able to further develop our portfolio with **Nect Sign**, as well as data readout on **NFC-enabled passports,** the integration of **eID,** and the development of new native mobile apps. Many improvements were also launched „behind the scenes," particularly in the capture and evaluation of additional security features of ID documents.

What opportunities do you see for Nect in terms of the entire field of artificial intelligence? What else is possible?

The use of artificial intelligence will also enable us to make our products even better, more secure, and more intuitive in the future. Such optimizations can be used, for example, for even better protection mechanisms against manipulation, e.g. DeepFakes or other machine-assisted attacks. The user experience in the app can also be further improved, for example, through augmented reality (AR). The user can thus be precisely supported in the process with the appropriate assistance.

We are already working successfully on legitimizing further ID documents and additional documents such as driver's licenses with our Nect Ident process. With this and other optimizations that are constantly taking place in-house, we are creating trust services that continuously redefine the current state of the art for our customers.