

# Cure53 Security Assessment of the NEW WORK SE Identeco Integration, Management Summary 12.2022

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Cure53, which is a Berlin-based IT security consultancy, completed a security assessment of the NEW WORK SE Identeco Integration, with a specific focus on how it is implemented within the broader NEW WORK SE infrastructure. The core aim of this July 2022 project was to thoroughly examine the security condition of the Identeco API services regarding their implementations, source code, cryptography and broader cryptographic design.

To be able to issue a reliable verdict about the components in scope, the Cure53 team carried out a penetration test, code audit and security examination. In addition, in the final phase of the project, the testing team verified fixes that the Identeco team crafted in response to the few identified shortcomings and resulting recommendations proposed by Cure53.

As for the precise timeline and specific resources, Cure53 completed the examination in late June and early July of 2022, namely in CWs 26 and 27. A total of twelve days were invested to reach the coverage expected for this assignment, whereas a team of four senior testers has been composed and tasked with this project's preparation, execution and finalization.

For optimal structuring and tracking of tasks, the work was split into three separate work packages (WPs):

- **WP1:** Implementation of the Identeco software within the NEW WORK SE infra (Elixir)
- **WP2:** Implementation and source code of the Identeco API service (Rust)
- **WP3:** Review and audit of the utilized cryptography and cryptographic designs

Following the established best practices of the Cure53 - NEW WORK SE cooperation, this project has benefited from a white-box methodological approach. Cure53 was provided with URLs, sources, documentation, VPN access, as well as all other means of access and information required to complete the tests.

The project progressed effectively on the whole. All preparations were done in June 2022 (CW25) to foster a smooth transition into the testing phase. Over the course of the engagement, the communications were done using a private, dedicated and shared Slack channel, as it is again the standard procedure in tests conducted by Cure53 for the NEW WORK SE entities. The channel could be joined and used by all personnel involved in NW-23.

The discussions throughout the test were very good and productive and not many questions had to be asked. Ongoing interactions positively contributed to the overall outcomes of this project. Ultimately, the scope was well-prepared and clear as usual, greatly contributing to the fact that no noteworthy roadblocks were encountered during the test.

Cure53 offered frequent status updates about the test and the emerging findings. Live-reporting was neither requested by NEW WORK SE, nor seen as necessary in light of the mostly manageable severities ascribed to the spotted findings.

As for the findings, the Cure53 team managed to get very good coverage over the WP1-WP3 scope items. Among eight security-relevant discoveries, one was classified to be security vulnerabilities and the remaining seven should be viewed as general weaknesses with lower exploitation potential. Thus, it can be argued that this breakdown of issues suggests a positive outcome of the assessment.

Finding ID	Work Package	Status	Comment
NW-23-001	WP3 (Crypto)	Fixed	The fix was verified by Cure53
NW-23-002	WP3 (Crypto)	False Alert	
NW-23-003	WP3 (Crypto)	False Alert	
NW-23-004	WP2 (Identeco API)	Fixed	The fix was verified by Cure53
NW-23-005	WP1 (NEW WORK SE Infra)	N/A	
NW-23-006	WP1 (NEW WORK SE Infra)	N/A	
NW-23-007	WP1 (NEW WORK SE Infra)	N/A	
NW-23-008	WP2 (Identeco API)	Addressed	The solution was verified by Cure53

*Table.: Fix status as of December 2022*

As noted, most of the relevant findings have now been tackled by Identeco and were verified as fixed by Cure53 in the weeks following the project.

In conclusion, drawing on the evidence gathered during testing and subsequent fix verification, one can clearly argue that the outcomes highlight the Identeco development team's commitment to maintaining security features with due diligence and adherence to best practices.

This Cure53 project shows that the overall security strength that the NEW WORK SE Identeco Integration delivers, after fix verification having concluded, good impressions, particularly with regard to its cryptographic design, possible information leaks and injection attacks, malicious users and external data access from sources outside of the organization as no relevant security issues were left unfixed.

The NEW WORK SE Identeco Integration is, in Cure53's opinion, currently well-protected against a broad number of attack vectors, as corroborated by the number and quality of the submitted fixes and the subsequent successful fix verification.