Short Public Report

1. Name and version of the IT product:

   Deep Natural Anonymization (DNAT)

   As a feature of brighter Redact Enterprise v3

2. Manufacturer or vendor of the IT product:

Company Name:	Brighter AI Technologies GmbH
Address:	Litfaß-Platz 2 10178 Berlin
Contact Person:	Marian Gläser
E-Mail:	glaeser@brighter.ai
Phone:	+49 30 12087629

3. Time frame of evaluation:

   October 23rd, 2020 to March 28th, 2022

4. EuroPriSe Experts who evaluated the IT product or IT-based service:

Name of the Legal Expert:	Prof. Dr. Ralf B. Abel
Address:	Oktaviostr. 129 22043 Hamburg Germany
eMail:	prof.abel@t-online.de
Name of the Technical Expert:	Marc Neumann

Address:	IBS data protection services and consulting GmbH Zirkusweg 1 20359 Hamburg Germany
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5. Certification Authority:

Name:	EuroPriSe GmbH
Address:	Joseph-Schumpeter-Allee 25 53227 Bonn (Germany)
eMail:	CA@euprivacyseal.com

6. Specification of Target of Evaluation (ToE):

Deep Natural Anonymization Technology (DNAT), which is a feature of the software brighter Redact Enterprise v3, providing AI-based image and video anonymization capabilities, is specified as **the ToE** and **includes** the following

Microservices

» Face / license plate detection (deep learning model)
» Face / license plate tracking
» Face attributes (deep learning model)
» Face position map (deep learning model)
» License plate landmarks (deep learning model)
» Face / license plate filter
» Face occlusion (deep learning model)
» Face / license plate landmarks smoothing
» Face / license plate generator
» License plate optical reconstruction
» Image composer
» Video aggregator
» Data deletion (garbage collector)

Interfaces

» Mounted drive to docker container (API - input file)

» Internal between the DNAT microservices (Kafka)
» Docker container to mounted drive (API - output file, analytics file)

The **ToE does not include** the following

Hard- and software components

» Video splitter in brighter Redact Enterprise
» NVIDIA Toolkit (processing data from a docker container with GPU)
» Numpy (library to process data with GPU)
» Host machine, Ubuntu operating system, mounted drive and GPU
» Data storage outside brighter Redact Enterprise
» Job related meta data
» Original video system (original video / image file production)
» Data storage outside the host machine
» Analytics software
» Network and transport components outside brighter Redact Enterprise
» License Management
» Other functionalities than DNAT forming part of brighter Redact Online

Services

» Other services than DNAT
» DNAT provided as SaaS

Interfaces

» Docker to external elastic search server (https - frame-based billing)
» GUI (BAI, Flassger)

The ToE qualifies as an IT product.

7. General description of the IT product:

The Deep Natural Anonymization (DNAT) is a redaction feature, provided with brighter Redact Enterprise, hosted on customer's premise. DNAT automatically detects a personal identifier such as a face or a license plate and generates a synthetic replacement that reflects the original attributes. Therefore, the solution protects identities while keeping necessary information for analytics or machine learning.

The software brighter Redact Enterprise is shipped in a docker container and supports various input file formats, which can be processed with several custom-made

configurations. In case the customer chooses DNAT as redaction service, the Deep Learning Model will generate artificial replacements for faces and license plates by regarding the original attributes. The processing will result in an output file with anonymized faces or license plates. Additionally, the customer will receive an analytics report in JSON-format, to get the parameters of the attributes without keeping the original face or license plate.

DNAT is capable of anonymizing faces and license plates for the further use with analytics software and especially for software development purposes to train deep learning models, e.g. AI face recognition software without processing real human faces or existing license plates.

DNAT targets the enhancement of data protection and privacy, especially in cases, where the original data has been obtained for different purposes than software development, as the customer is able to anonymize faces and license plates in images and videos.

As the ToE is a specific redaction service of the software brighter Redact Enterprise, which is deployed on the customer's own host machine (on premise), it is qualified as an **IT product**.

8. Transnational issues:

Brighter AI Technologies GmbH as the software manufacturer is located in Germany, but the software suite brighter Redact Enterprise including DNAT is offered to customers worldwide.

As the software runs on the customer's own host machine, the location of data depends on the customer's establishment, the data center location and the origin and type of the input files. The customer, either as a controller or as a processor on behalf of a third person, determines the final location of processing, which may be globally.

9. Tools used by the manufacturer of the IT product:

None, except those listed in No. 6 (Specification of ToE).

10. Edition of EuroPriSe Criteria used for the evaluation:

EuroPriSe certification criteria for products and services (version January 2017) as part of the EuroPriSe Commentary (version May 2017).

11. Evaluation results:

Processing Operations; Purpose(s)

DNAT as a redaction feature, provided with brighter Redact Enterprise software is suitable to process videos and single images in such a way as to replace the original appearance with artificial faces and license plates to anonymize that personally identifiable information.

DNAT uses Deep Learning Models, processed with the host machine's GPU to automatically detect human faces and license plates and replace the originals with predicted artificial ones.

Initially, DNAT identifies the landmarks of the faces and license plates on an original image as well as specific attributes and occlusions (e.g. sunglasses). The Deep Learning Models then predict a new face or license plate, which includes all relevant attributes and characteristics but won't be identical to the original pattern.

The Deep Learning Models are trained to understand identity as a n-dimensional vector and to evaluate the difference between the original pattern and the predicted one. The angle between both vectors could be identical or maximum different. The calculated angle between those vectors is the metric for the accuracy of the anonymization process. Based on scientific research the Deep Learning Models are able to regard thresholds which ensure that both identity vectors (original and predicted one) are not recognized as identical by face recognition software.

For the redaction of license plates DNAT additionally provides the option for the customer to use individual and customized output layer. This feature ensures, that a predicted license plate will not exist in reality by accident.

Subsequently, the original face or license plate will be erased from the original image and the predicted one will be placed instead.

The overall purpose of processing personal data with DNAT is the anonymization of faces and license plates to subsequently use the original files without those personal data for additional purposes, like software development, research, analysis or machine learning.

Legitimacy of processing

The processing of personal data with DNAT contains at least the face or the license plate of the data subject, relating to the original files. The purpose of processing is the

redacting of the face or license plate to depersonalize that data to develop software or analyse the image data with regard to machine learning.

As DNAT is qualified as an IT product, the legitimacy of the processing of personal data is the responsibility of the controller. DNAT is nothing more and nothing less than a tool that needs to be used as intended and stipulated in the abovementioned way. The legal basis to process personal data with DNAT is therefore limited to the depersonalization of faces and license plates. Depending on the various content of the original files, the customer must individually assess the lawfulness of their overall intended processing operation.

The customer is informed that DNAT uses Deep Learning Models to predict artificial faces and license plates to redact those on the original images by keeping important attributes for software development and machine learning. The customer is transparently informed, that the depersonalization feature does not include other information, such as hair or way of walk, which can lead to a partial protection only. Detected faces and license plates within image and video data are anonymised in the legal sense of the GDPR.

To facilitate compliance with the General Data Protection Principles, DNAT is technically designed to be used solely for the purpose of anonymization of faces and license plates (purpose limitation). Additionally, DNAT does not provide any technical possibility to process other personal data than the original image and does not require any other personal information to run appropriately (data minimization). The original face and license plate patterns are erased immediately after the anonymization procedure is done (storage limitation).

Brighter AI Technologies GmbH provides an onboarding guide to customers to ensure the acknowledgement of the customer's obligation to comply with the GDPR in applicable scenarios and to foster the principle of accountability.

Technical-Organisational Measures

DNAT is part of the brighter Redact Enterprise software suite which is shipped in a Docker container and runs on the customer's host machine. All necessary measures related to the on-site location, the hardware and the access to the host machine are not in scope of the ToE.

To use DNAT, the customer needs access to brighter Redact Enterprise, which requires nothing more, than a valid license file. The customer is fully in control of

access rights management as well as the original image or video files which are processed with DNAT. The anonymization process is initiated with an API call and runs fully automated. Once started DNAT does not allow any alteration or manipulation of the input files.

The further software development procedure of DNAT includes large-scale tests and quality controls before the traceable release to ensure the accuracy of anonymization.

DNAT provides a real depersonalization of faces and license plates to facilitate anonymization as well as pseudonymisation regarding the original images in a whole.

Brighter AI Technologies GmbH provides a transparent documentation, including an onboarding guide to support the customer's obligations regarding risk analysis and security of processing. The customer is provided with recommended technical measures and organizational measures appropriate to the the risks and freedoms of the data subjects.

Overall result

DNAT as a redaction feature of the brighter Redact Enterprise software suite, meets all relevant EuroPriSe criteria. The principle of data minimization is implemented excellently and the customer, either as the controller or as the processor on behalf of a third party, will be able to comply with the General Data Protection Regulation, if applicable.

The purpose of processing personal data with DNAT is the anonymization of faces and license plates, limited to those objects, but enhancing privacy for the data subjects in an excellent manner. Although the original attributes and layouts are kept for the output file, the face or license plate will not be relatable to a data subject anymore. The anonymization accuracy is proven with metrics of research benchmarks.

The software itself is built with a focus on privacy by design and supports important security measures, like transport encryption and license-based access. The automated deletion of the original files and splitted images of video files pose another feature to comply with the general principles of the GDPR.

12. Data flow:

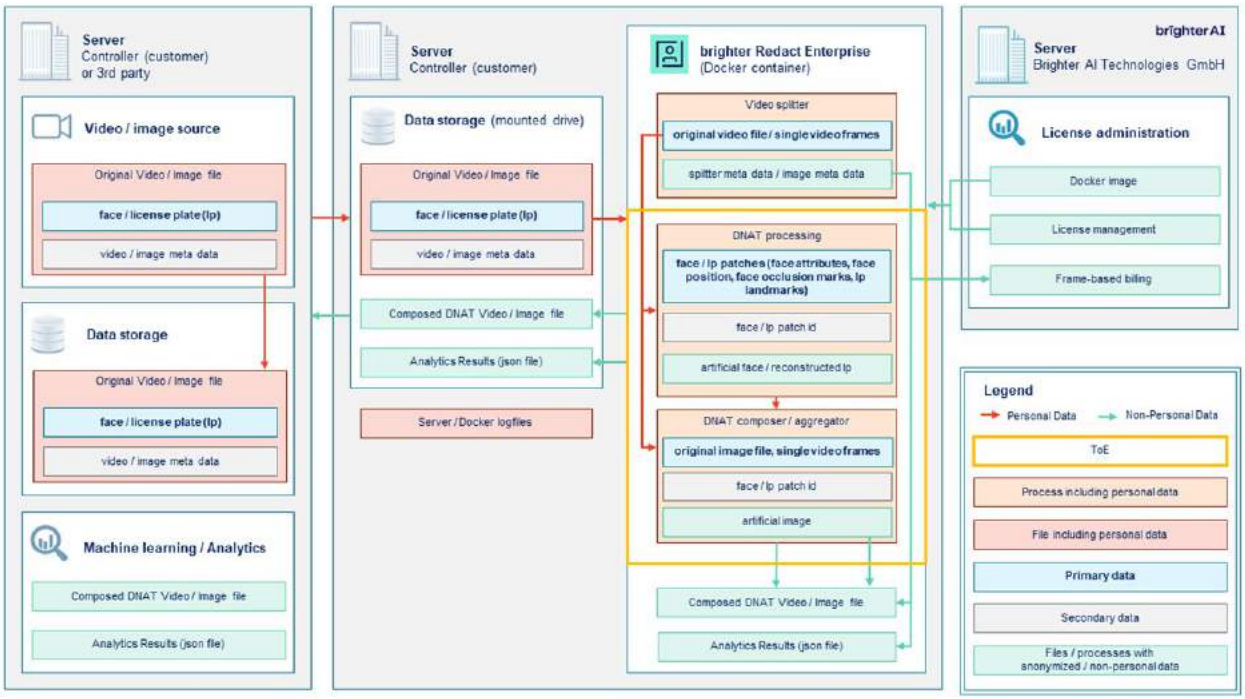

fig. 1 Data Flow - System Overview

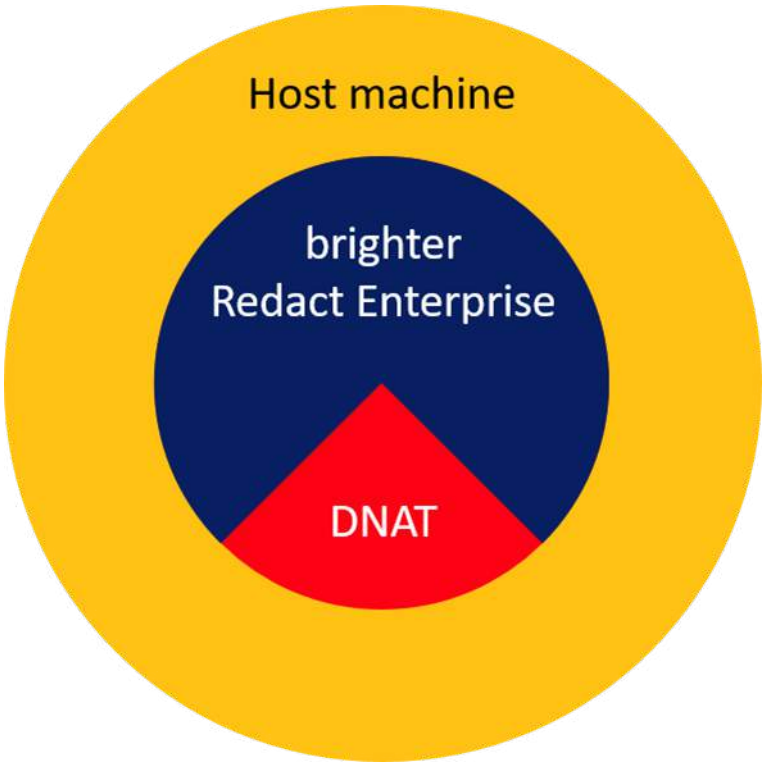

fig. 2 Data Flow - Components Overview

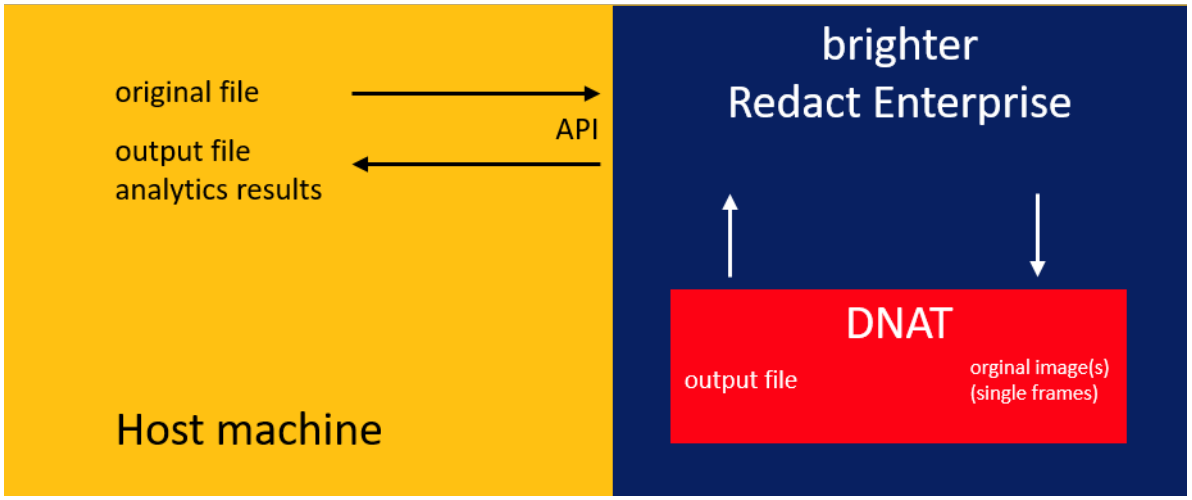

fig. 3 Data Flow - Simple Overview

13. Privacy-enhancing functionalities:

DNAT is solely used for the purpose of anonymization of faces and license plates so that industry-leading recognition algorithms are not able to identify the original face or license plate. In cases where realistic human face attributes and license plate layouts are necessary for analytical or software development purposes and machine learning, the quality of the images remains, but the data subjects could be excluded of the processing. At least, where the original files do not contain other personal data, the further processing will be possible without personal data at all.

14. Issues demanding special user attention:

Not applicable.

15. Compensation of weaknesses:

Not applicable.

16. Decision table on relevant requirements:

EuroPriSe Requirement	***Decision***	***Remarks***
Data Minimisation	*excellent*	*Product makes use of pseudonymisation / anonymisation and requires the minimum of personal data as possible.*
Transparency	*adequate*	*Documentation and Onboarding Guide are informative, up-to date and understandable.*
Technical-Organisational Measures	adequate	*Product supports appropriate technical and organizational measures and documentation supports the implementation*
Data Subjects' Rights	not applicable	

Experts' Statement

We affirm that the above-named IT product has been evaluated according to the EuroPriSe Criteria, Rules and Principles and that the findings as described above are the result of this evaluation.

Hamburg, 31.03.2022	Abel, Prof. Ralf B.	
Place, Date	Name of Legal Expert	Signature of Legal Expert

Hamburg, 31.03.2022	Neumann, Marc	
Place, Date	Name of Technical Expert	Signature of Technical Expert

Certification Result

The above-named IT product passed the EuroPriSe evaluation.

It is certified that the above-named IT product facilitates the use of that product or service in a way compliant with European regulations on privacy and data protection.

Place, Date	Name of Certification Authority	Signature