

Abstract geometric lines in black on a white background, forming various overlapping polygons and shapes, primarily concentrated in the upper left and center of the slide.

# ACCIDENTAL CLOUD DATA DISCLOSURE

Zwischenpräsentation von Anna Hamberger

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## Hackers exposed 2.6 million Duolingo users, more available for scraping

Updated on: 01 September 2023



Ernestas Naprys, Senior Journalist

## Cloud misconfiguration causes massive data breach at Toyota Motor

News

Jun 06, 2023 • 4 mins

Cloud Security

Data Breach

DATA BREACH

## PSNI confirms major data breach as Assistant Chief Constable apologises

PSNI Assistant Chief Constable Chris Todd apologised to officers, saying: 'This is unacceptable.'

## Nearly one billion people in China had their personal data leaked, and it's been online for more than a year



By Yong Xiong, Hannah Ritchie and Nectar Gan, CNN

6 minute read • Updated 11:31 PM EDT, Tue July 5, 2022

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Öffentliche API

Updated on: 01 September 2023



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Öffentliche Datenbank

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Versehenliches  
Veröffentlichen

PSNI Assistant Chief Constable Chris Todd apologised to officers, saying: 'This is unacceptable.'

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Öffentliches DB-  
Management Dashboard

# STAND DER TECHNIK

## ANGRIFFE

### LEAK DURCH INTERN

- Social Engineering, Phishing
- Daten öffentlich teilen
- Verlust von schlecht geschützten Geräten
- Unwissen bzgl. Konfigurationen

### SCHWACHSTELLEN IM ZIELSYSTEM

- Versehentliche Fehlkonfigurationen
- Schwache Passwörter
- Keine Authentifizierung (DB, API, ...)
- Öffentliches Netzwerk
- Unverschlüsselte/öffentlich erreichbare Anmeldeseiten
- Ungeschlossene Sicherheitslücken

# STAND DER TECHNIK

## ABWEHRMAßNAHMEN

### IDENTITY ACCESS MANAGEMENT

- Access Control
- starke Passwort Policies
- Password-Manager
- 2FA oder MFA
- Principle of least privilege
- ...

### DATA LOSS/LEAK PROTECTION (DLP)

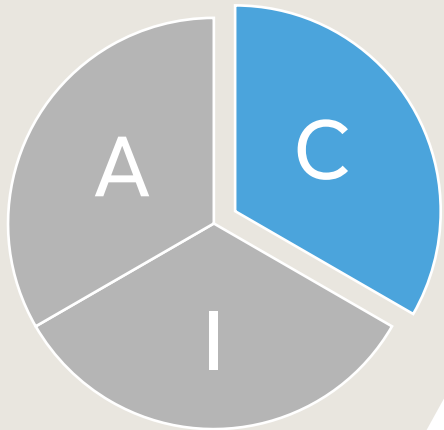
- Data Loss/Leak Protection System
- Sensitive Information Detection
- Verschlüsselung
- Monitoring
- Kontrolle der Informationsnutzung
- ...

### SCHWACHSTELLEN- ÜBERWACHUNG

- Schwachstellen-Scans
- Saubere Cloud-Konfiguration
- Cloud Asset Management
- Software Updates
- Mitarbeiter-Schulung
- ...



NIST Cybersecurity Framework



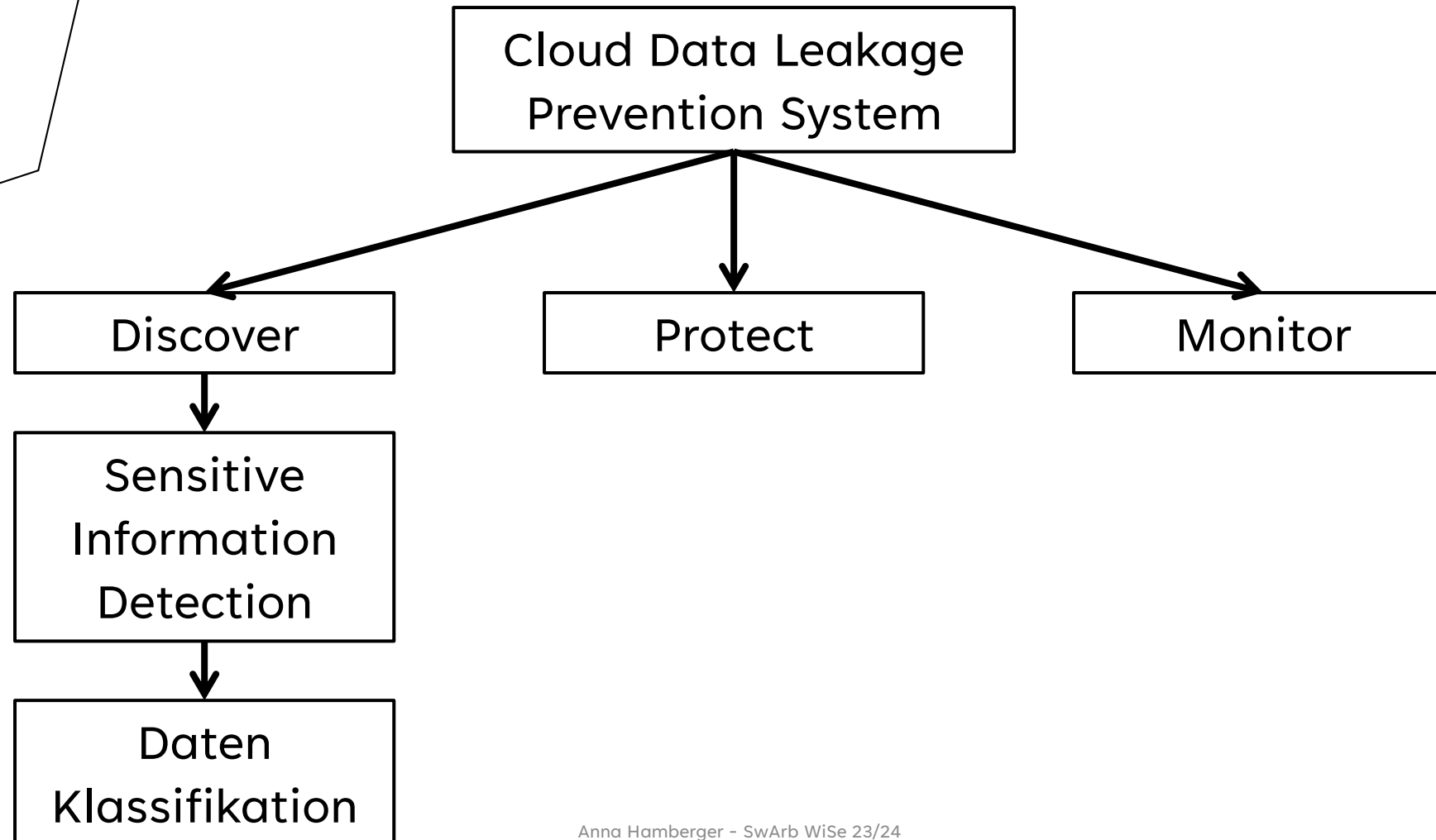
Schutzziele

# WAHL DER METHODE

Data Leak Prevention durch  
Sensitive Information Detection

- Erster Schritt: Wissen über schützenswerte Daten
- ISO/IEC 27001:2022 → Aufnahme Data Leakage Prevention
- Unterstützt internen und externen Schutz:
  - Intern: Verhinderung von Offenlegung
  - Extern: Auswahl der geeigneten Schutzmaßnahmen
- Einsatz von Machine Learning und KI

# DATA LEAK PREVENTION DURCH SENSITIVE INFORMATION DETECTION





# GLIEDERUNG

## **1. Einleitung**

## **2. Accidental Cloud Data Disclosure**

## **3. Sensitive Information Detection**

3.1 Cloud Data Leakage Prevention System

3.2 Ansätze der Daten Klassifikation

3.2.1 Manuelle Daten Klassifikation

3.2.2 Automatische Daten Klassifikation

3.2.2.1 Rule-based Classification

3.2.2.2 Model-based Classification

3.2.2.3 Context-Aware Classification

3.3 Anwendung in Cloud Security

3.3.1 Labeling für andere Maßnahmen

3.3.2 BrowserFlow

## **4. Ausblick**



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**VIELEN DANK FÜR EURE  
AUFMERKSAMKEIT!**

Fragen & Diskussion

# QUELLEN

- <https://cybernews.com/security/hackers-exposed-duolingo-users-more-available-scraping/>
- <https://www.csoononline.com/article/575483/cloud-misconfiguration-causes-massive-data-breach-at-toyota-motor.html>
- <https://www.cyberdaily.au/commercial/9515-freecycle-admits-to-data-breach-affecting-more-than-seven-million-users>
- <https://www.thejournal.ie/psni-staff-impacted-by-major-data-breach-6139039-Aug2023/>
- <https://edition.cnn.com/2022/07/05/china/china-billion-people-data-leak-intl-hnk/index.html>
- <https://www.nist.gov/itl/smallbusinesscyber/planning-guides/nist-cybersecurity-framework>