BREAKING BARRIERS

www.arcadsoftware.com
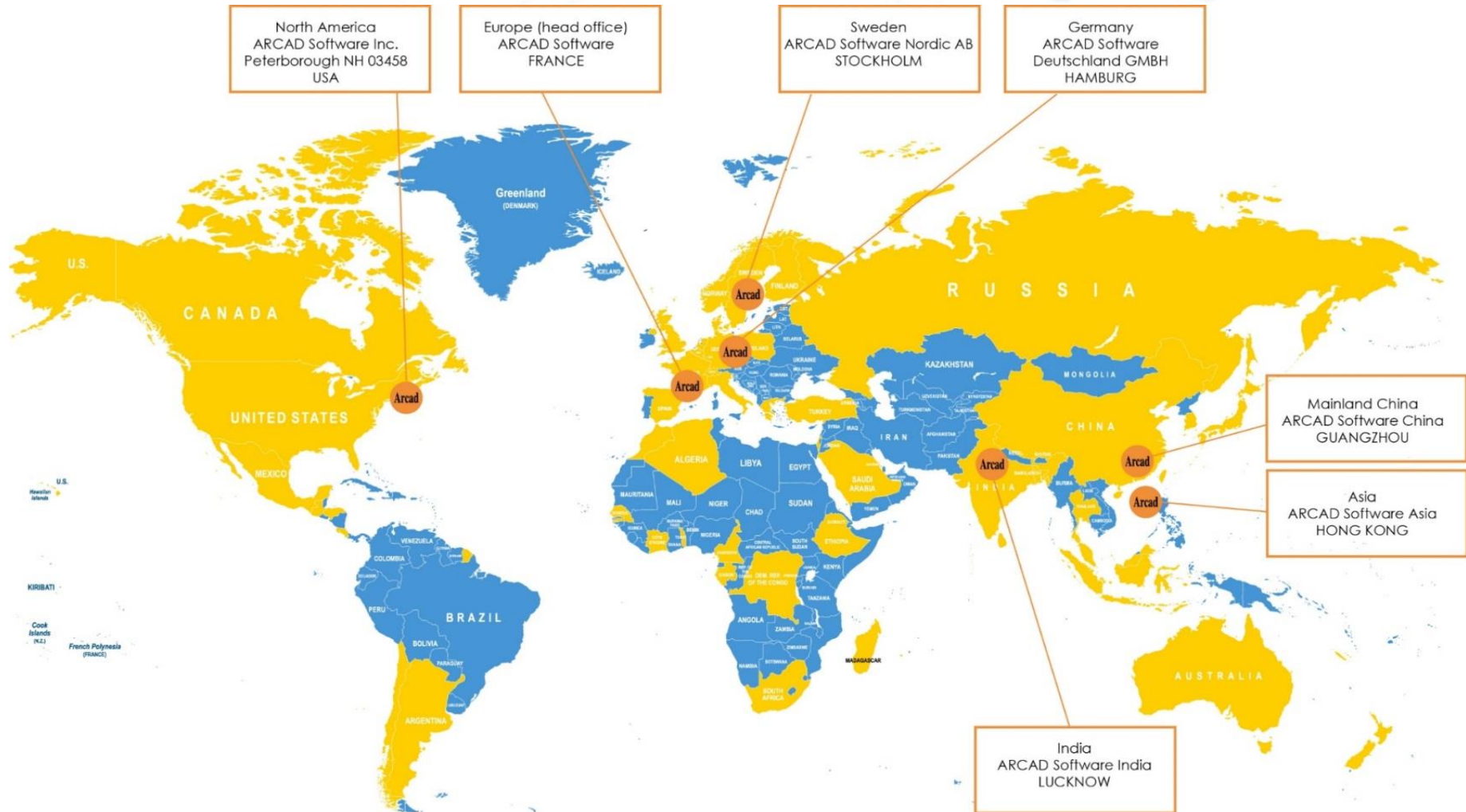
ARCAD
SOFTWARE

D.O.T
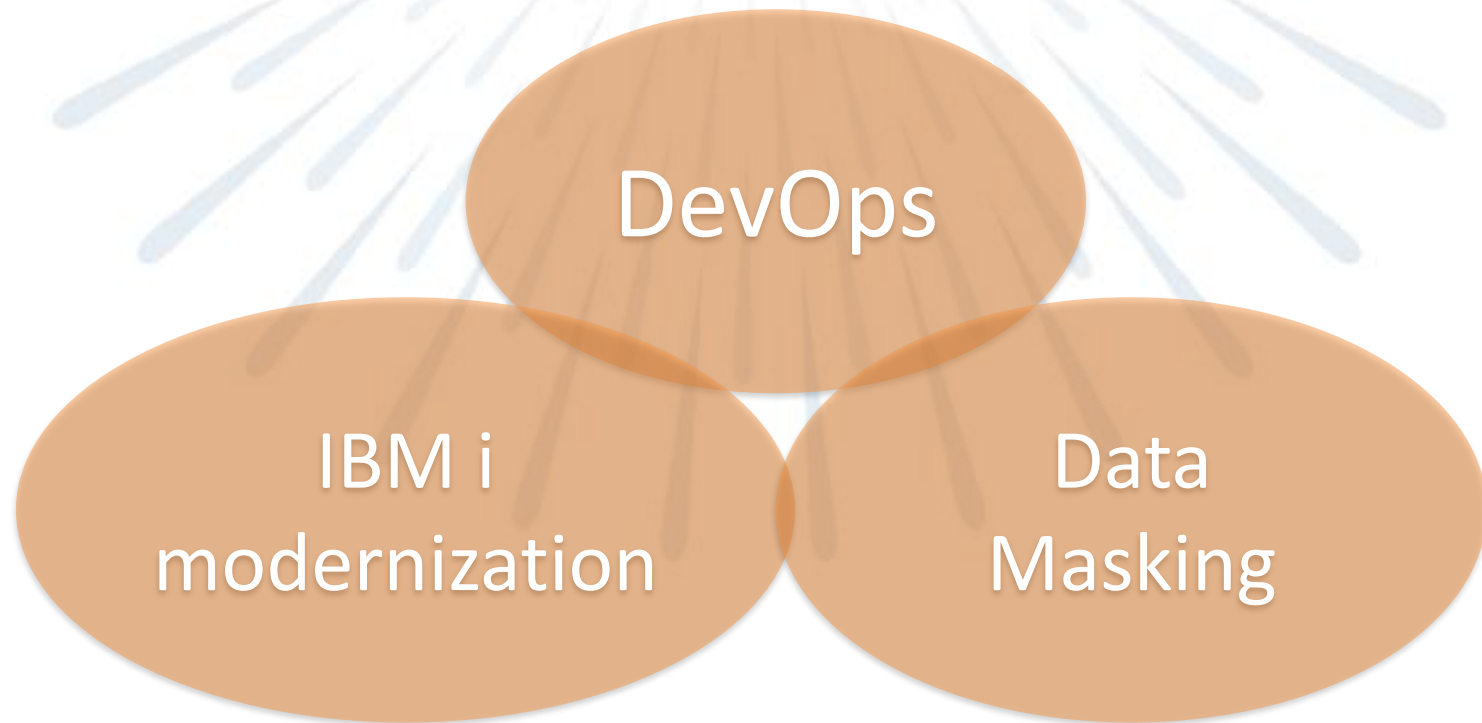
arcad

drops

About the ARCAD group

- **ARCAD Software founded in 1992**
  - Worldwide leader in **Application Lifecycle Management** (ALM) and legacy modernization for the IBM i platform

- **DROPS brand created in 2014**
  - **Application Release Automation**

- **DOT brand created in 2015**
  - **Test automation and Data masking**

- **Born at the esa**
- **80 employees in total**
- 25 years of age
- 24/7 tech support
- IBM technology and business partner

7 Offices, 75 Countries

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ARCAD Software
FRANCE

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ARCAD Software Nordic AB
STOCKHOLM

Germany
ARCAD Software
Deutschland GMBH
HAMBURG

Mainland China
ARCAD Software China
GUANGZHOU

Asia
ARCAD Software Asia
HONG KONG

India
ARCAD Software India
LUCKNOW

Market Drivers

DevOps

IBM i modernization

Data Masking

GDPR: General Data Protection Regulation

COMMON Europe
iTour November 2017
Maurice MARREL
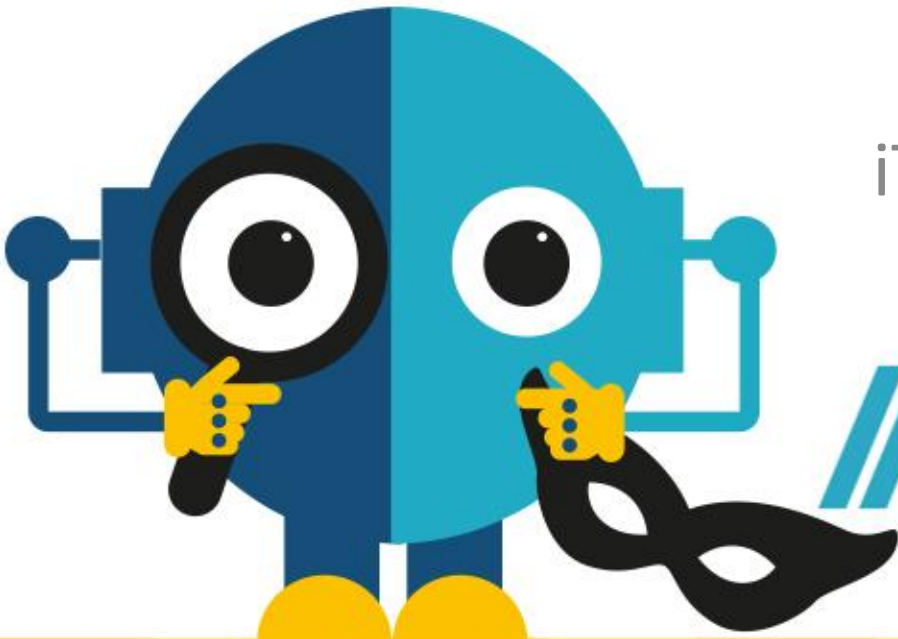
Deadline May 25, 2018 (2 year)

Fines-20 Million Euro or 4% of Annual Income – Prior Year

Automatically Binding-EU

Further, the GDPR does not simply apply to EU domestic business, *but to companies worldwide that "Target"their goods and services to European citizens.*

Regardless of the nature of your industry or deployment, on premise, in the cloud or hybrid Cloud

Continuous Delivery Pipeline

AGILE RELEASE TRAIN

Continuous Exploration — Continuous Integration — Continuous Deployment — Release on Demand

Data Subjects – Data Objects

Data Subjects-Independent Owners of their data, they can determine how the data is used.

Data Objects- Metrics, History, Patterns, Software Design

1# Data Subjects have a right to be informed

GDPR Articles 12, 13, 14

How data is collected, processed and stored

You can ….

Create easy-to-read policies

Ensure all data collection processes have policy informing the user

2# Data Subjects have a right to access

GDPR Articles 12, 15

After data is collected, processed and stored

What data exists on the data subject and for what purpose

You can…. Implement Process and Technical

Track all data

Vet right to access request

Provide the information requested

3# Right to Correction (Rectification)

GDPR Articles 12, 16

After data is collected, processed and stored

Data Subject can correct missing or incorrect data

You can…. Implement Process and Technical

Vet right to correct and confirm data

Provide process automation and managed file transfer

4# Right to Erasure (Remove/Forgotten)

GDPR Articles 12, 17

Data Subject has the right to have personal data permanently deleted.

You can…. Implement Process and Technical

Track all data, vet request, erase all data and confirm deletion(automatic 60 days)

Provide process automation and managed file transfer

5# Right to Restriction of Processing

GDPR Articles 12, 18

Data Subject has right to block or restrict personal data being collected and used.

You can…. Implement Process and Technical

Track all data, vet request, pause processing without erase all data and confirm restriction

Provide process automation and managed file transfer

6# Right to Data Portability

GDPR Articles 12, 20

Data Subject has right to move, copy or transfer data machine-readable format

You can…. Implement Process and Technical

Track all data, vet request, transfer data automated or Data Subject can initiate
Confirm transfer

Provide process automation and managed file transfer

7# Right to Object to Processing

GDPR Articles 12, 21

Data Subject has right to object companies or public authorities from using data without explicit consent. No direct marketing databases

You can…. Implement Process and Technical Capabilities for restriction, limitation, and erasure

Provide process automation and managed file transfer

8# Right to not be subject to Automated Decision Making

GDPR Articles 12, 22

Data Subject has right to demand human intervention, no algorithm.

You can…. Implement Process and Technical

Inform algorithm decision-making, opt out, revert the algorithm decision.

1)Process Automation 2) Access Logging 3) Secure File Transfer

Data Objects
How Machine Data Can Supports
GDPR Compliance

With great power

Software developed with security in mind (privacy by design and by default)

Pseudonymisation or encryption of personal data - Anonymization

Secure processing of data

1# Security Management and Breach Notification

GDPR Articles 32

Early detection, Insight from Machine Leaning provide early warning of threats. 72 Hour

Case Study- HR Manager Logon/VPN activity when on vacation, leave etc....

New mobile device enrolled

2# Data Protection Audits-Due Diligence

GDPR Articles 58

Case Study- Breach, scope attack, data exposed, take remedial measures

Data protection audit to see if your security "took into account state of the art" technologies to secure your processing activities.

Article 82 gives any person who has suffered material or non-material damages the right to receive compensation.

3# Reports on Personal Data Processing

GDPR Articles 15, 17, 18, 28

Case Study- You do payroll-you customer has a breach

Reports/Documentation on data

Proof you removed when business relationship ended. Finger Pointing.

90% Data Leak Internal

GDPR Articles 32

Detailed analysis on when and how an attacker came in to the environment

How many systems, data accessed and how many people affected.

Focus on data… *why?*
Data is…

- Voluminous

- Volatile

- Sensitive

Issue- Test Data Sets

Personal or confidential data,

95% extracted or copied from **production**,

Data often used **outside**

the **secure** context of production.

Solution

- **Mask personal data coming from production**
  for **users unauthorized** to utilize the data
  (testers, developers, trainers)

- **Non-reversible algorithms**
  Data **security**

- **Preserve usability of data**
  - Retain **readability**
  - Maintain the intended **scope of use**
  - Retain values **between successive transformations**
  - Ensure consistency **between different platforms**

- **Customizable**
  - **Custom management** depending on domain of data use

- **What you should consider**

    Platform-agnostic (DOT Software Java Application)

    Multi-database (Oracle, MS-SQL Server, DB2, MySQL, …)

    File system support (.csv .xml)

    Anonymization Rules -Anonymization Engine

    Execution statistics

    Choice of communication channels (TCP/IP, HTTP, DTAQ, …)

    Extensible algorithm libraries

    (scrambling, masking, directory/dictionary,
    programs, scripts, credit card, IBAN, social security data…)

- **Anonymizer** example **– Directory**

   Anonymization of family name, first name, address…

   by a **random** value:

     - picked from a replacement **directory**,

     - or **generated** according to well-defined rules.

   Pronounceability of words, consonants and multiple vowels.

   Preservation of **homonyms** from one field to another, from one database to another, one DBMS to another.

   For the entire **string** or **word** by word.

   Can be applied on all types of data.

- **Aonymizer example – IBAN/BIC/bank details**

  Anonymization of **bank account identifiers**

  Typical use of embedded **groovy script**

  Choice of anonymized data

  - Country, Bank, Branch, Account

  - Recalculation of a **valid key**

  Selection of eligible lines/records (where)

  Complementary use of embedded **SQL client**

  - **Splitting** of anonymized IBAN

  - Data **integrity** (coherence)

  Template for other similar cases (Credit Card, social security data, ...)

- **Anonymizer Last Example – Partner Relationships**

  To **supply** confidential individual data through a **partner**, after anonymization and **blurring**, to allow further analysis such as **statistical** and summary processing.

  Supply anonymized data **on the fly**(**API**)

  - Exchange of digital **messages**

  - Personal data for **outsourced support**

  Processing of **East Asian data** based on **multi-byte characters** with escape characters

  (China, Japan, Korea, …)

Learn more…

Data Protection White Paper

http://data-oriented-testing.com/portfolio-items/dot-anonymizer-white-paper/
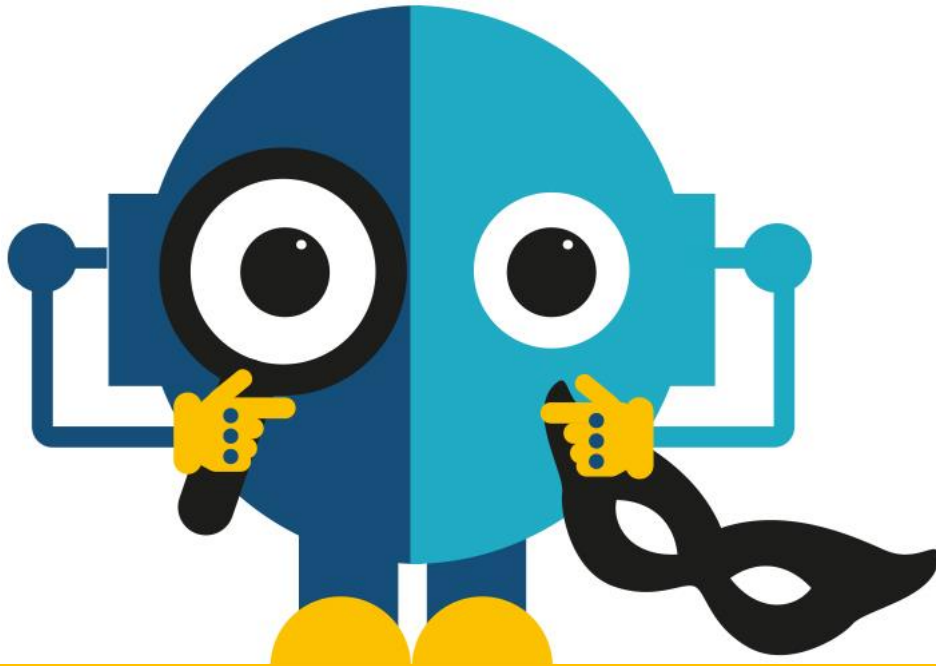
Data Protection - Blog

http://arcadsoftware.com/news-events/blog/data-protection-taste-things-come-world/

DOT Anonymizer Brochure

http://data-oriented-testing.com/portfolio-items/brochure-dot-anonymizer-download-request-form/

Questions ?

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