



SIARD – The Swiss Solution for Archiving Relational Databases



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Swiss Federal Archives

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Welcome to the Swiss Federal Archives > Archiving > Tools

< Archiving

Tools

Package Handler

SIARD Suite

Tools



The Swiss Federal Archives offer tools and aids to assist you with digital archiving.

Creating, examining and validating digital packages: Package Handler

At the Swiss Federal Archives (SFA), digital documents are archived as information packages. With the Package Handler, the tool developed by the SFA, these digital packages can be viewed, created, edited and validated.

Archiving of Databases: SIARD Suite

Information about how the SIARD Suite digital database archiving software works and how to order it.

Last modification 30.11.2015

[^ Top of page](#)





Digital Archiving at the SFA

The background of the slide is a composite image. On the left, there are rows of server racks in a data center, with some cables visible. On the right, there is a stylized graphic of binary code (0s and 1s) with glowing nodes and connecting lines, suggesting a digital network or data flow.

The SFA have 18 TB of digital data. Now the digital archive grows 0.5 TB per year.



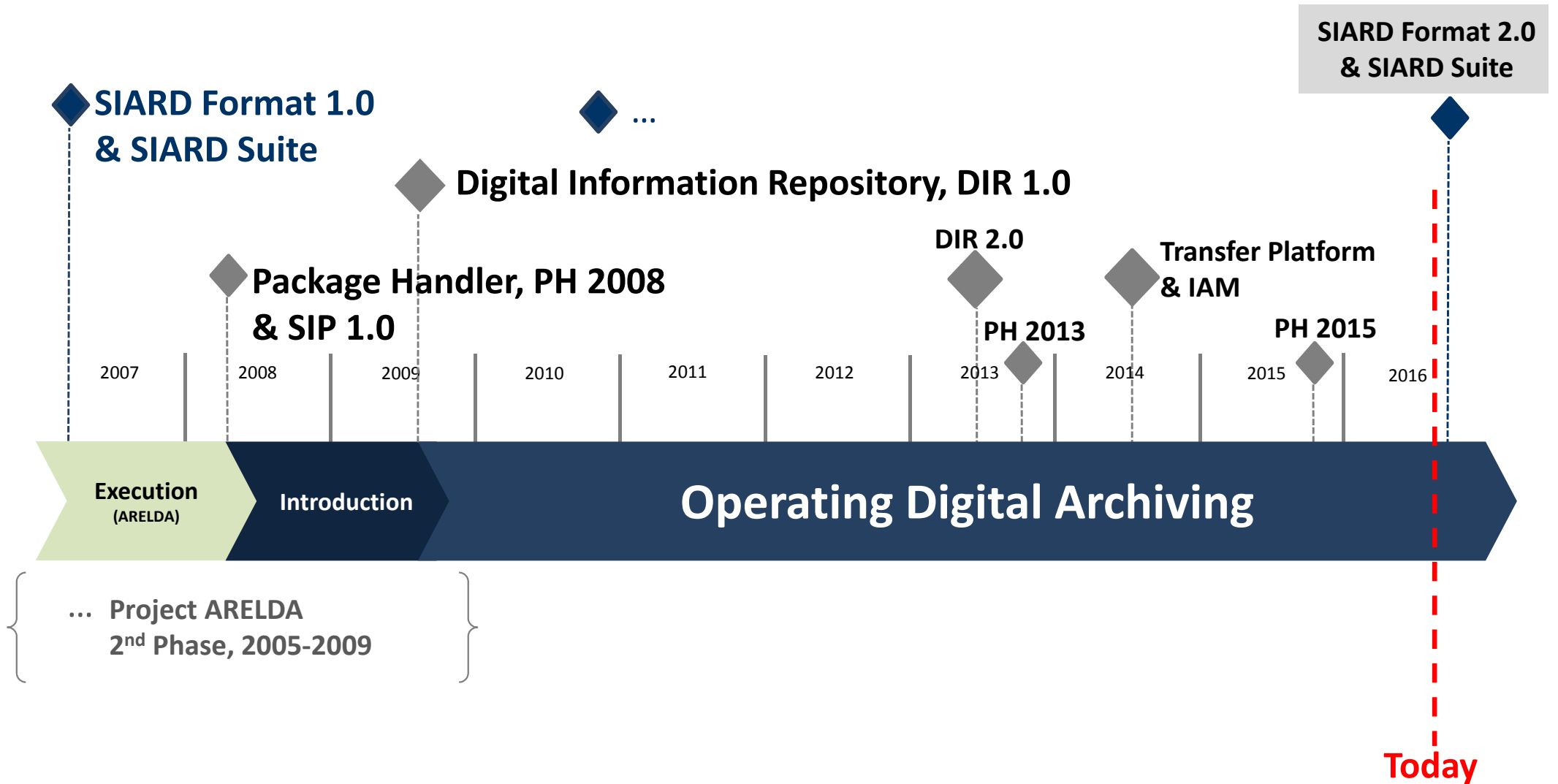
Digital Archiving at the SFA



Since 2009, the SFA have standardised processes and interfaces for digital archiving!



Digital Archiving at the SFA





Digital Archiving Principles at the SFA

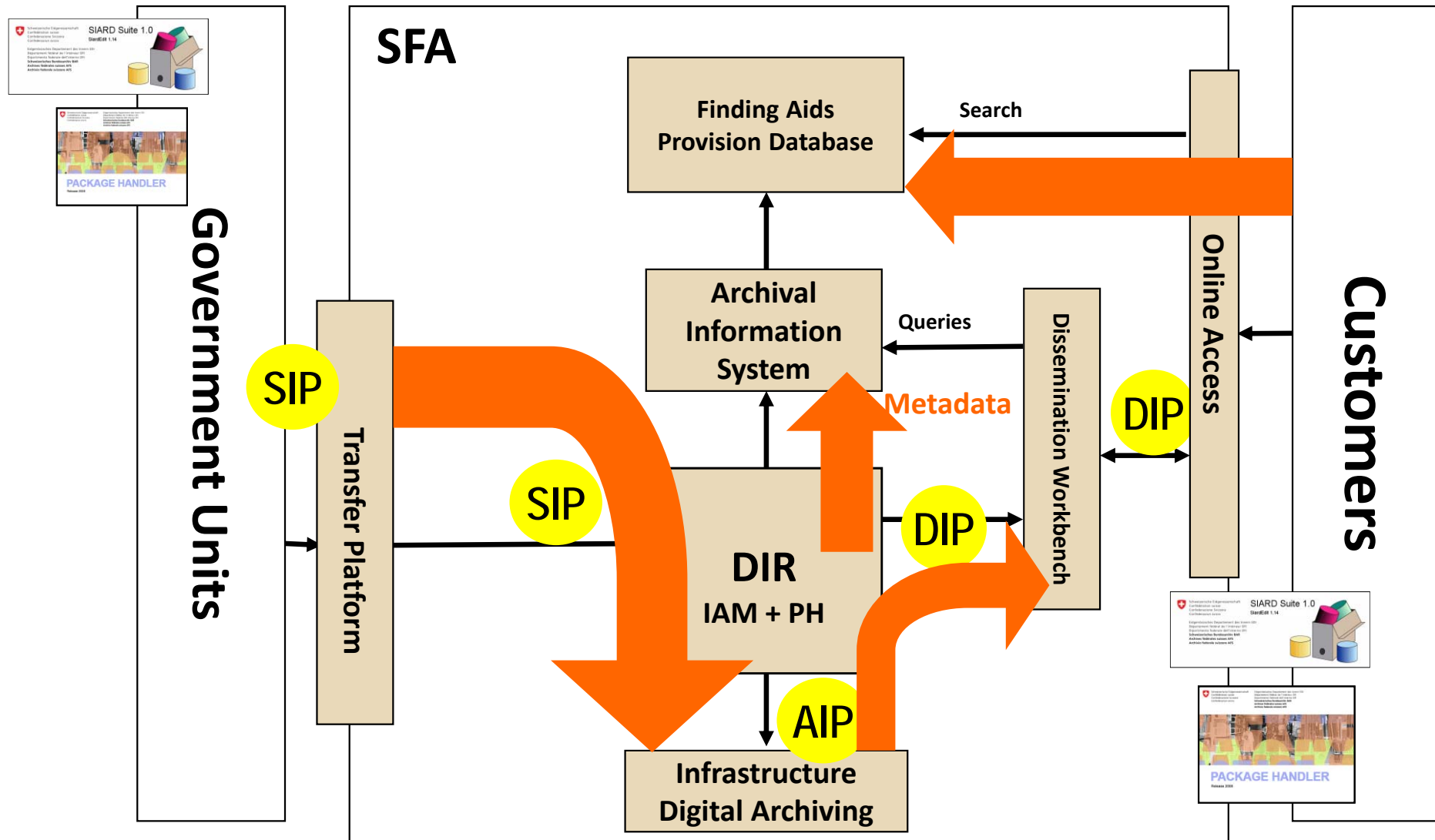
- Application of a **standardised Archiving Process**

- **Migration strategy:**
 - **Decoupling** data from specific IT-Systems (Applications, Database- and Operating- Systems, Hardware)
 - Use of the **archivable file formats** – Reduction of number of file formats

- **Use of** international / national standards: **Standards** guarantee Stability, Sustainability and Continuity

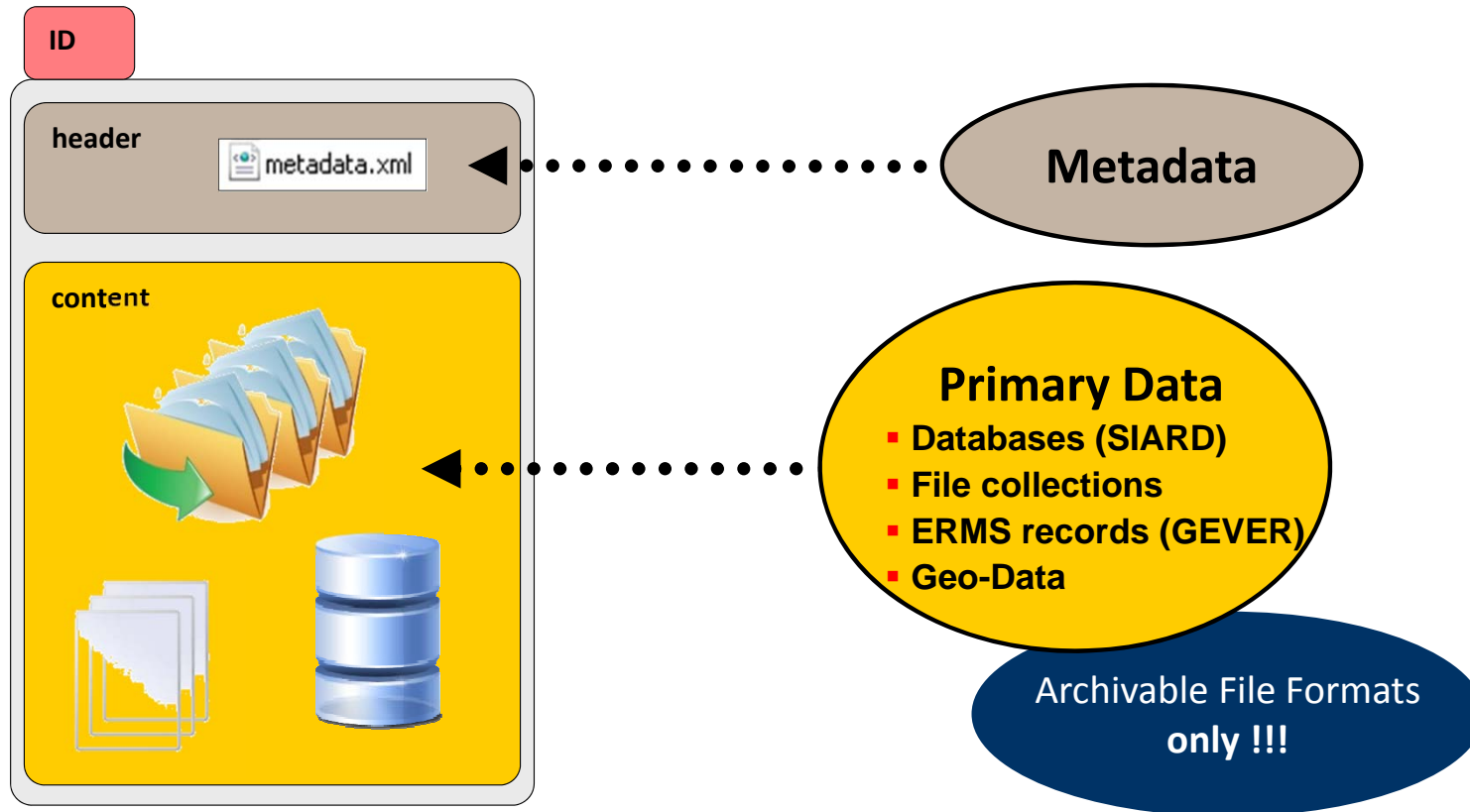


Digital Archiving at the SFA



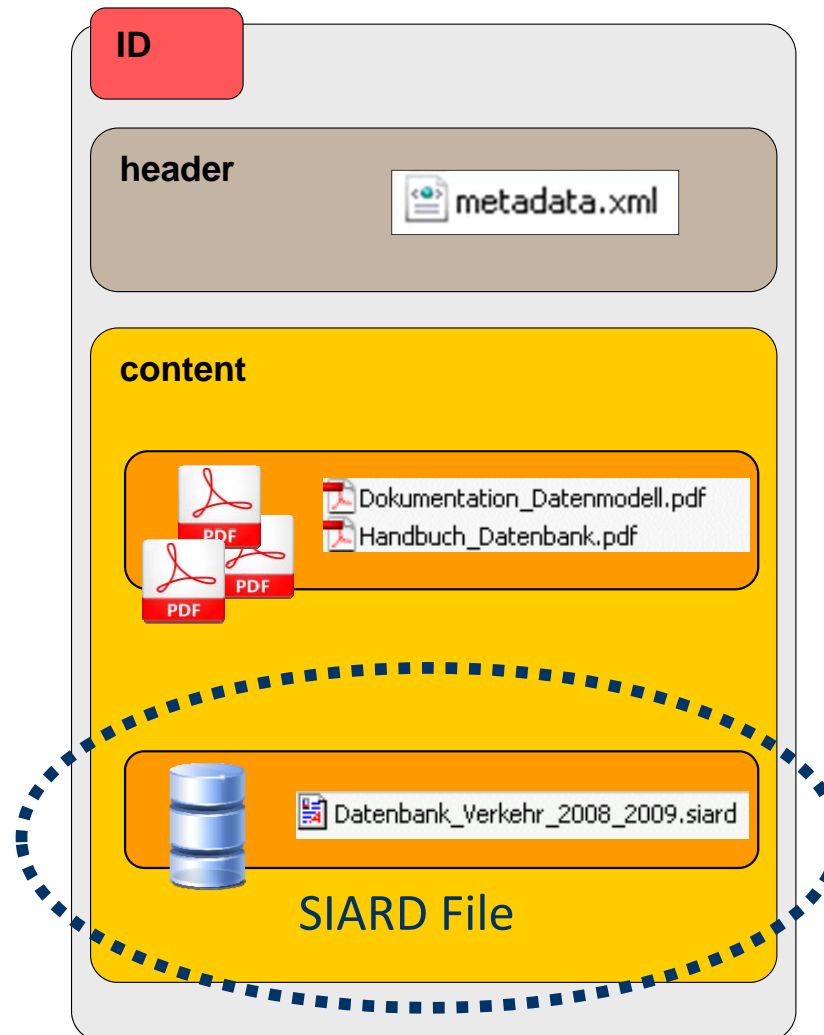


Submission Information Package, SIP





SIP and SIARD File





Archivable File Formats

Scope	Archivable Formats	Remarks
Text (unstructured)	“plain text”	UTF-8, UTF-16 ISO-8859-1, ISO-8859-15 US-ASCII
“Office” documents	PDF/A-1	PDF1.4 with restrictions
Tables	CSV	Comma separated values
Relational databases	SIARD	
Raster images	TIFF	
Audio	WAVE	LPCM Codec
Video	MPEG-4	ITU H.264 / AAC
...		



SIARD Format and SIARD Suite – The SFA's twofold Solution for Archiving Relational Databases

Software Independent Archiving of Relational Databases

- Nature of data: databases
- Type: relational databases
- Convert content into archivable format
- Detachment of data from concrete applications





Proprietary database management systems cannot be preserved for the long term



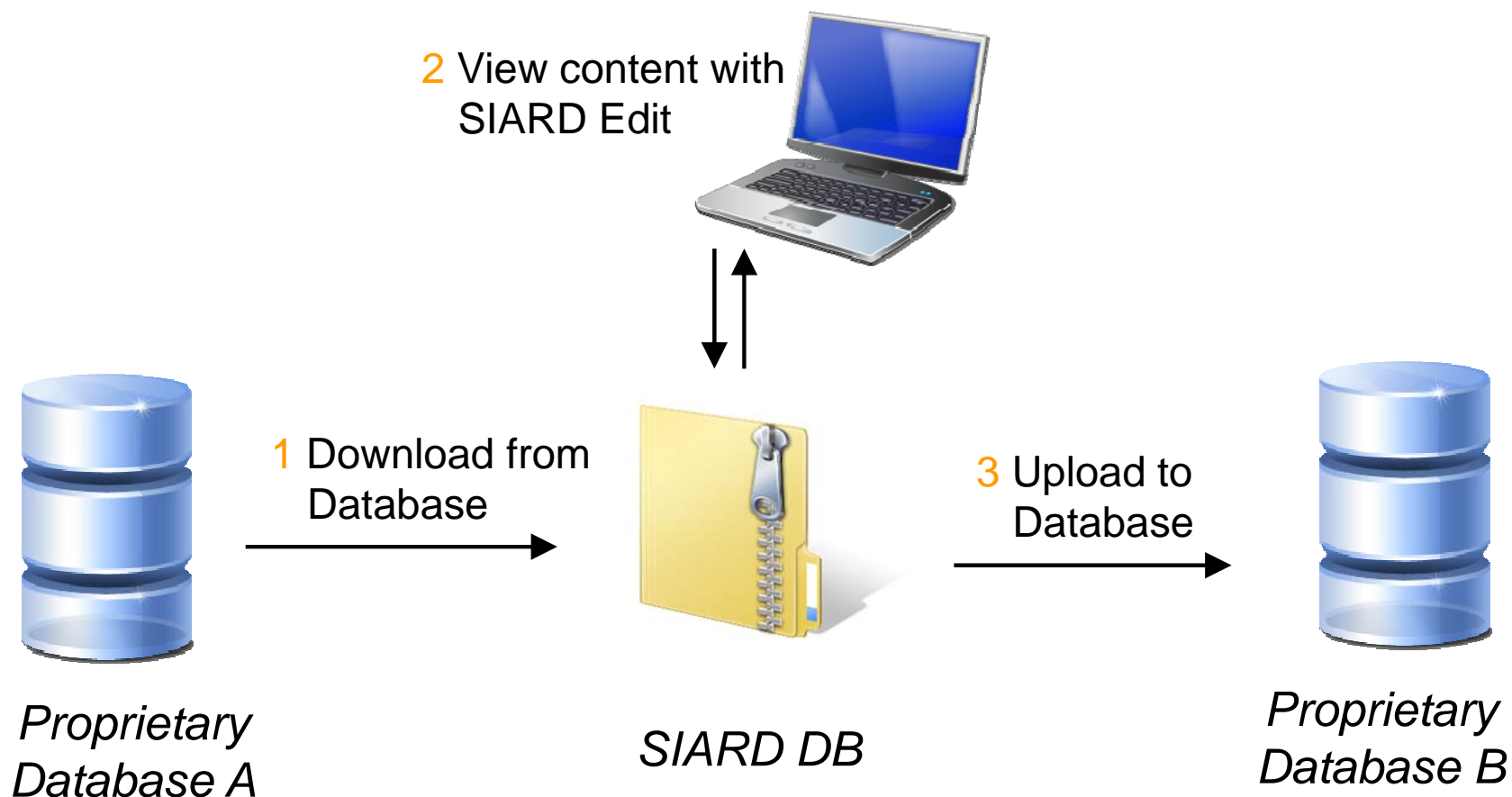


The SFA developed the format **SIARD** for archiving the contents of relational databases





SIARD Suite – Features

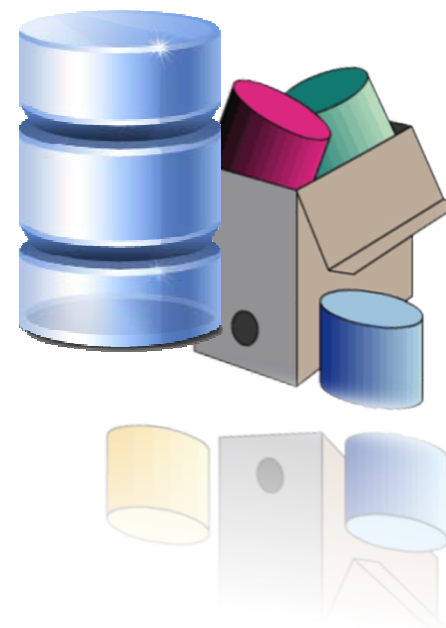




SIARD Suite – Supported DBs

- (Excel)
- **Microsoft Access**
- **Oracle**
- **Microsoft SQL Server**
- **MySQL**
- **IBM DB2**
- Sybase
- Postgresql
- SQLite

SIARD Suite



SIARD download:

<https://www.bar.admin.ch/bar/en/home/archiving/tools/siard-suite.html>



SIARD Format and SIARD Suite – Objectives

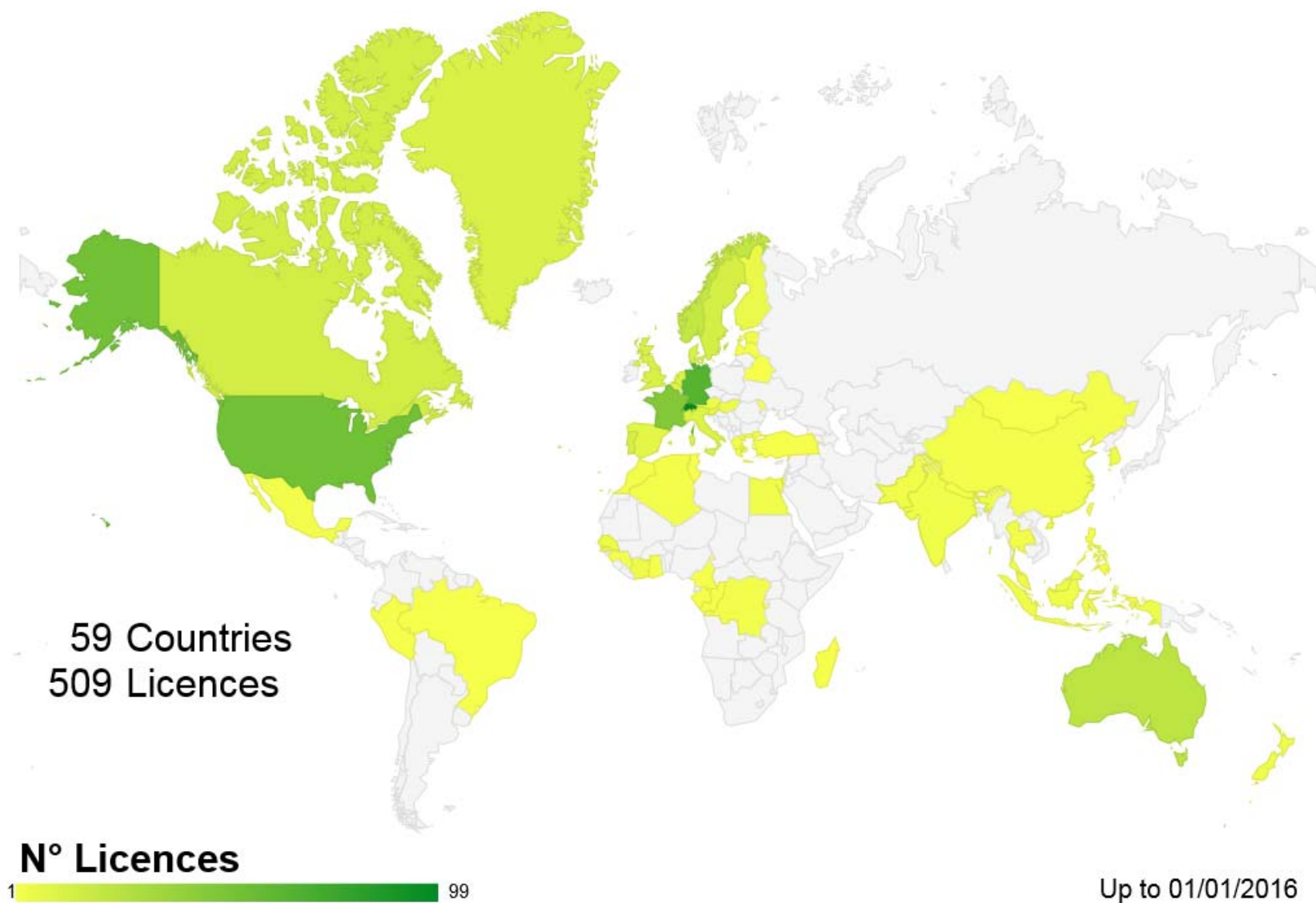
Long term
preservation
of the
CONTENT
of relational
databases

Ensures
**UNDERSTAND-
ABILITY**

As well as
INDEPENDENCY
from a specific
product

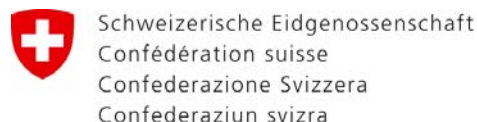


SIARD Suite Usage Distribution Map





From SIARD Format Version 1 to Version 2



Swiss Federal Archives SFA



eCH-0165

SIARD specification as a
Swiss national standard, 2013

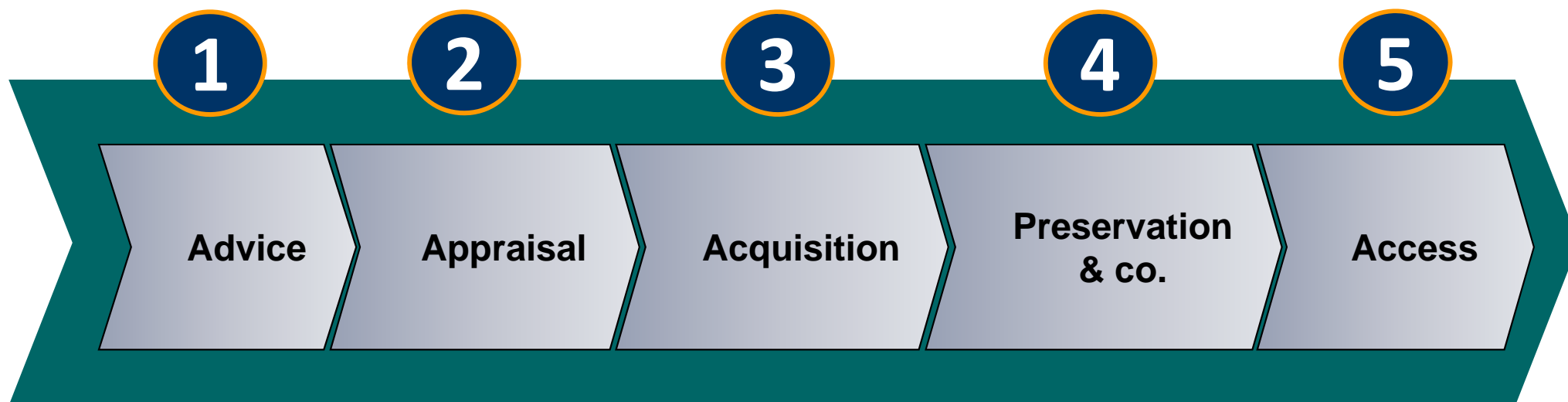


SIARD Format 2.0

- SIARD specification as a
E-ARK standard
- eCH-0165, 2016



Archiving Process of DBs – Overview





Archiving Process – Advice



- Often federal offices are not familiar with database preservation and need advice on how to archive them
- SFA provides individualized workshops regarding the agencies' needs
- Discussion of relevance of primary data, taking into account the technical and legal framework



Archiving Process – Advice

Ensure the understandability of the DB content for the future!

- System Specification
- Description of performed Schema-Migrations (if any)
- Entity-Relationship-Diagrams
- Data descriptions, Code-lists
- Screenshots, User Documentation and so on.



Archiving Process – Appraisal

The same procedure as for the appraisal of any other data!



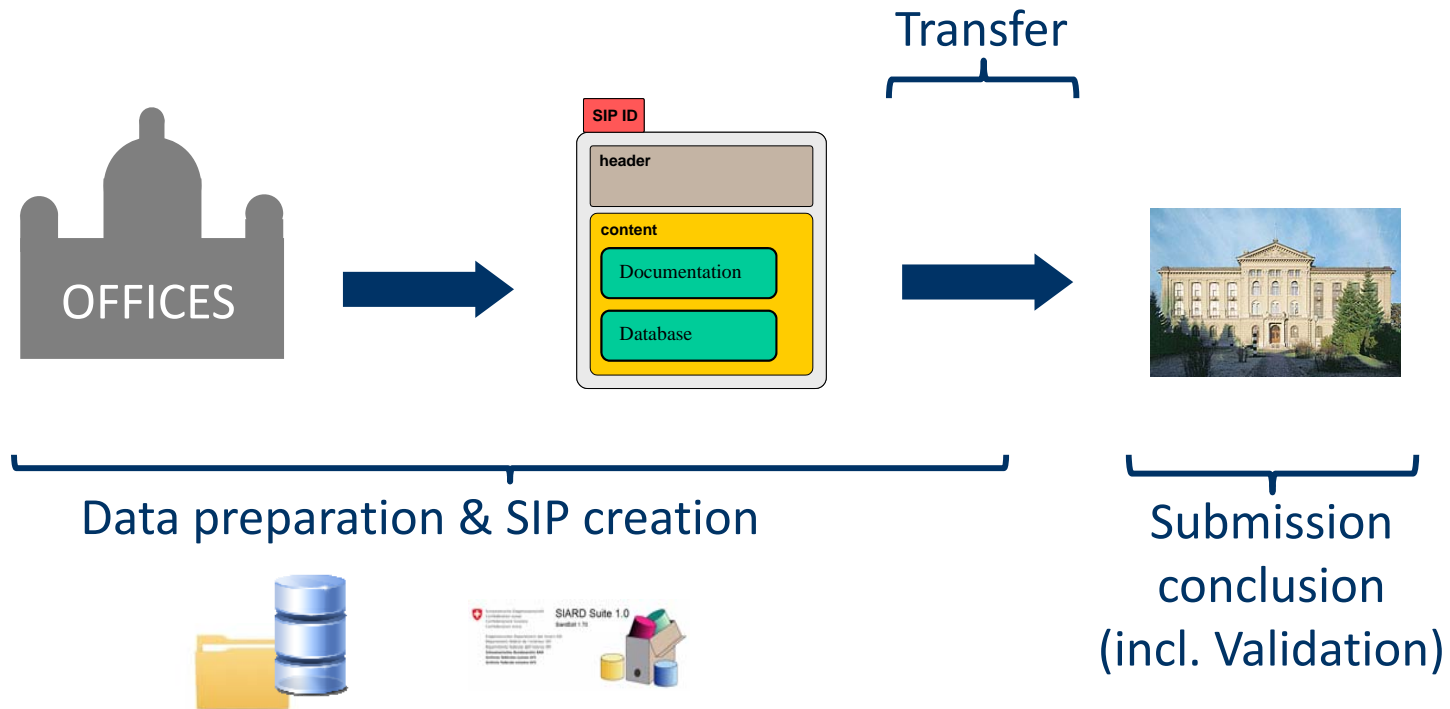
Considering the needs of users of DBs in appraisal process



Context documentation is always important!



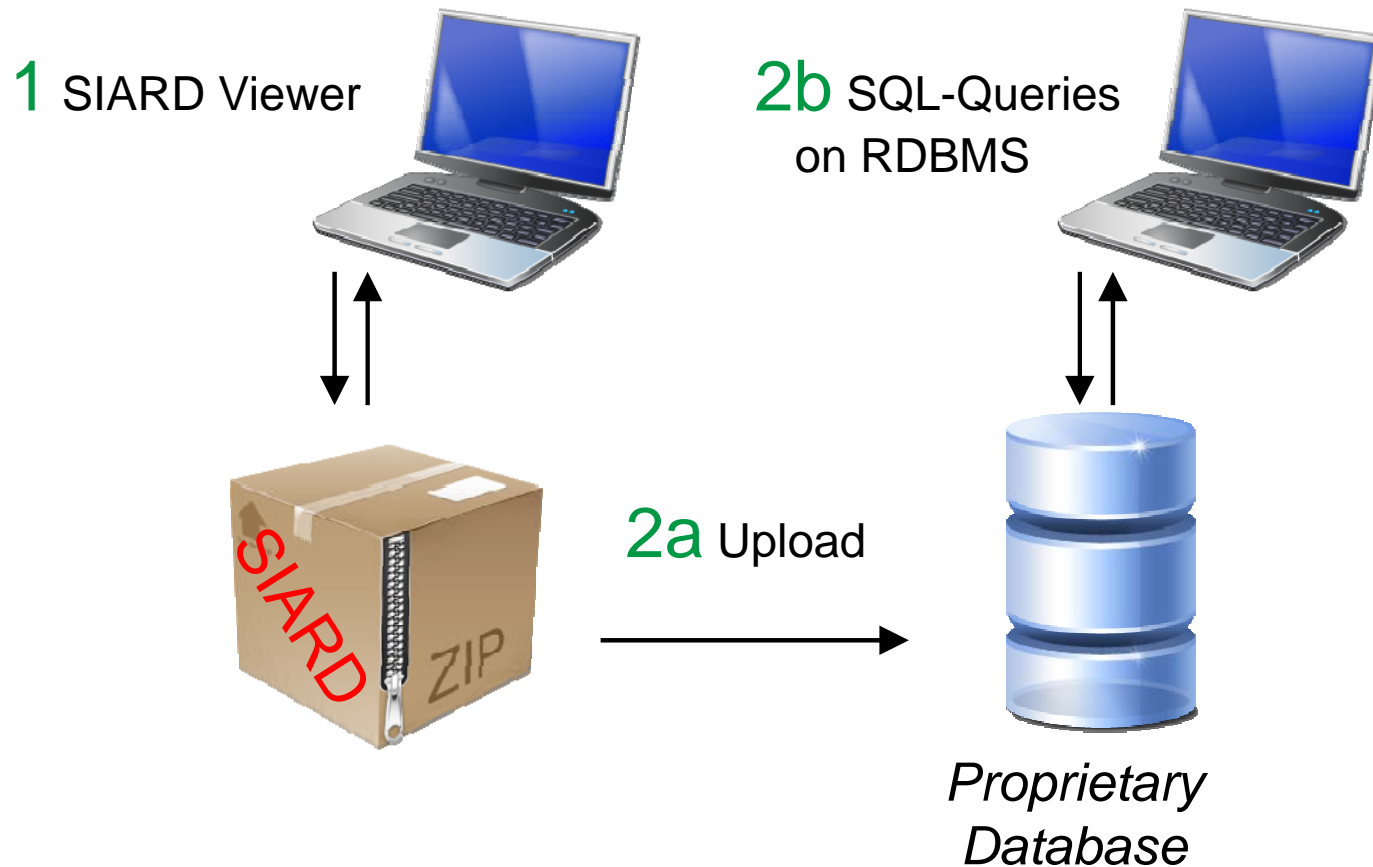
Archiving Process – Acquisition



- Federal Offices must transfer their data as a SIP (OAIS)
- SFA validates all incoming SIP



Archiving Process – Access to SIARD databases





Archiving Process – Access

Customer access to SIARD databases

- Different types of customers:
 - Offices
 - General public (researchers, press, individuals, ...)
- Two possibilities of access to information
 - «full access»:
The SFA delivers a DIP (with SIARD file)
 - «partial access»:
The SFA-staff searches RDB Management System where SIARD-file is loaded, and only answer question (only specific excerpts of the database are delivered to the customer)



Different Applications make use of the SIARD Format

Swiss applications

- **SIARD Suite** (incl. Edit/Viewer)
- KOST-Val
- SIARDexcerpt
- csv2siard

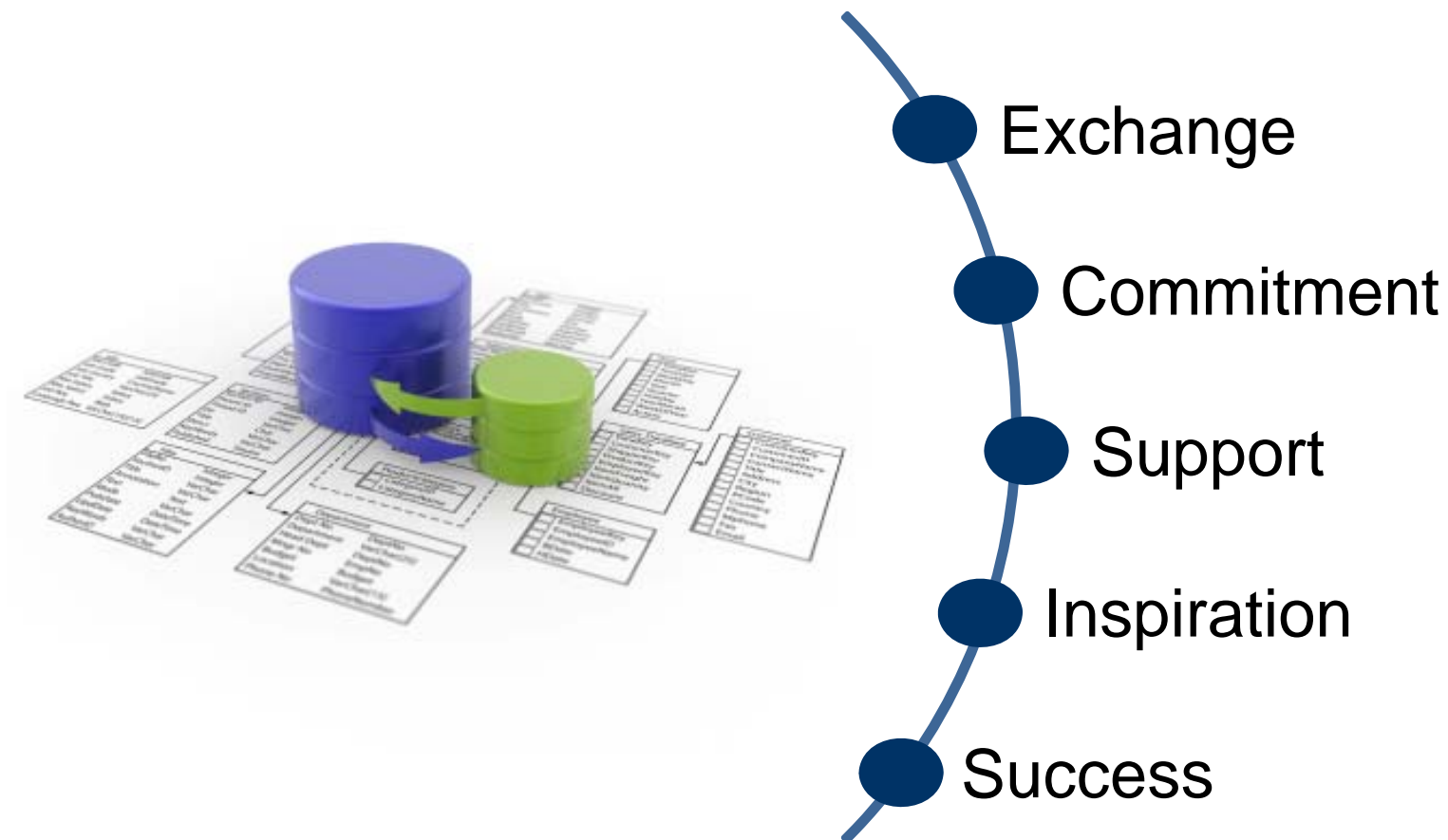
E-ARK applications

- **DBPTK**
- db-visualization-toolkitcsv2siard



SIARD Format and SIARD Solutions

Collaboration is the cornerstone of our success!





Thank you – Merci!

Contact and questions:

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Swiss Federal Archives SFA

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