Agenda: the SIARD Format – past, present, future

- What is SIARD?
- SIARD in the landscape of digital archiving
- The past – from SIARD 1.0 to SIARD 2.2
- The present – SIARD 2.2 and the DILCIS Board
- The future – GitHub format, bitemporal feature

Mr. Anders Bo Nielsen, Senior Adviser, Division of Digital Preservation, Danish National Archives, member of DILCIS Board

Software Independent Archival of Relational Databases

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SIARD-2.1.1-Formatspezifikation

Name	SIARD-2.1.1-Formatspezifikation
Kategorie	Standard
Reifegrad	Implementiert
Version	2.1.1
Status	Stabile Version
Beschluss am	2019-05-15
Ausgabedatum	2019-05-15
Ersetzt Version	eCH-0165 Version 2.1
Voraussetzungen	Keine
Beilagen	metadata.xsd, ech-0165_oe.siard¹
Sprachen	Deutsch (Original), Französisch (Übersetzung), Englisch (Übersetzung)
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¹ Basiert auf der OE Beispieldatenbank von Oracle.

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SIARD-2.1.1 – Spécification de format

Titre	SIARD-2.1.1 – Spécification de format
Type	Norme
Stade	Implémentée
Version	2.1.1
Statut	Approuvé
Validation	2019-05-15
Date de publication	2019-05-15
Remplace	eCH-0165 version 2.1
Dépendances	Aucune
Annexes	metadata.xsd, ech-0165_oe.siard¹
Langues	Allemand (original), français (traduction), anglais (traduction)
Auteurs	Marcel Büchler, Archives fédérales suisses, marcel.buechler@bar.admin.ch Luis Faria, KEEP SOLUTIONS, LDA, lfaria@keep.pt Bruno Ferreira, KEEP SOLUTIONS, LDA, bferreira@keep.pt Anders Bo Nielson, Danish National Archives (Rigsarkivet), abn@sa.dk Krystyna Ohnesorge, Archives fédérales suisses, krystyna.ohnesorge@bar.admin.ch Claire Röthlisberger-Jourdan, CECO, claire.roethlisberger@kost.admin.ch Hartwig Thomas, Enter AG, hartwig.thomas@enterag.ch Andreas Voss †, Archives fédérales suisses

¹ Basé sur la modèle de base de données OE d'Oracle

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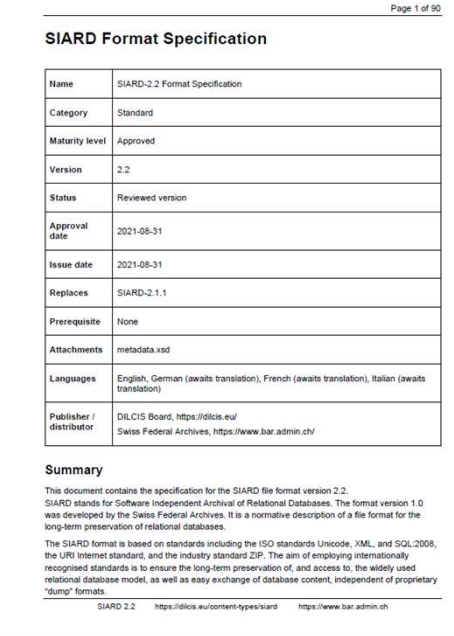

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SIARD Format Specification

Name	SIARD-2.2 Format Specification
Category	Standard
Maturity level	Approved
Version	2.2
Status	Reviewed version
Approval date	2021-08-31
Issue date	2021-08-31
Replaces	SIARD-2.1.1
Prerequisite	None
Attachments	metadata.xsd
Languages	English, German (awaits translation), French (awaits translation), Italian (awaits translation)
Publisher / distributor	DILCIS Board, https://dilcis.eu/ Swiss Federal Archives, https://www.bar.admin.ch/

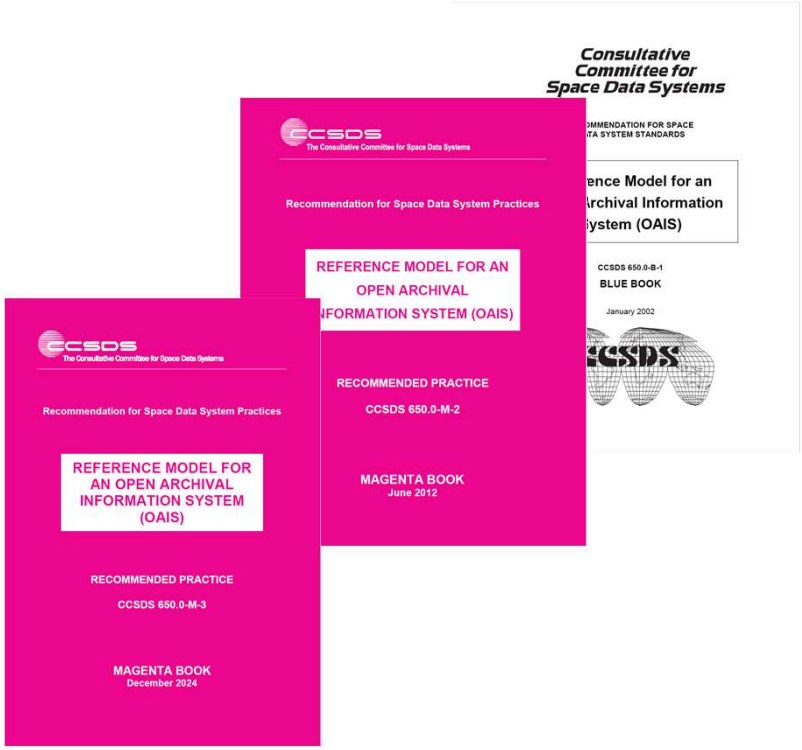
Summary

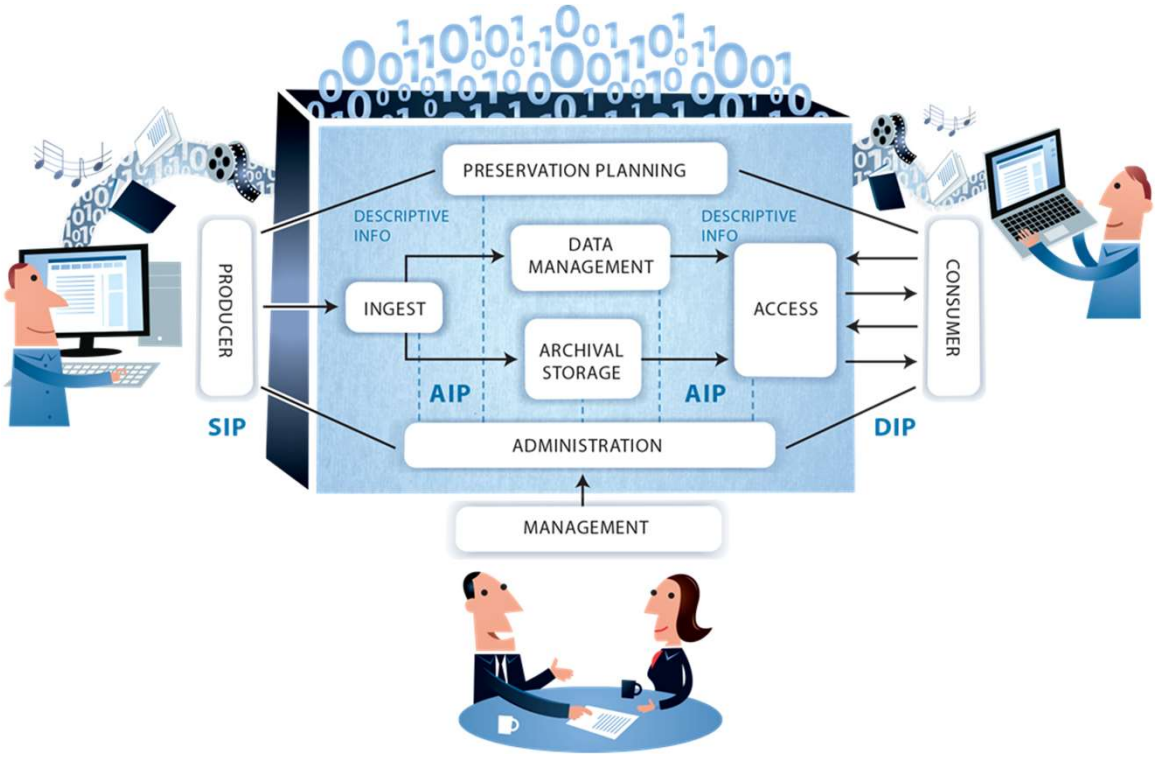
This document contains the specification for the SIARD file format version 2.2.
SIARD stands for Software Independent Archival of Relational Databases. The format version 1.0 was developed by the Swiss Federal Archives. It is a normative description of a file format for the long-term preservation of relational databases.

The SIARD format is based on standards including the ISO standards Unicode, XML, and SQL:2008, the URI Internet standard, and the industry standard ZIP. The aim of employing internationally recognised standards is to ensure the long-term preservation of, and access to, the widely used relational database model, as well as easy exchange of database content, independent of proprietary "dump" formats.

SIARD 2.2 https://dilcis.eu/content-types/siard https://www.bar.admin.ch

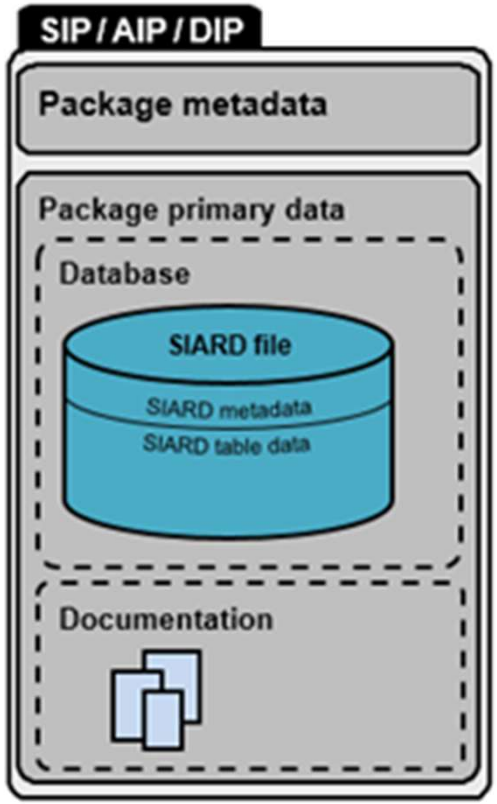
SIARD in the landscape of digital archiving





Packaging a SIARD file is outside the SIARD File Format Spec.

- A SIARD file is assumed to be archived as part of an IP
  - *How* it is packaged is deliberately not specified in the SIARD File Format Specification, but left to packing specifications like the CITS SIARD – it specifies how to package it in an E-ARK IP.



CITS SIARD DILCIS Board

CITS SIARD

E-ARK Content Information Type Specification for Relational Databases using SIARD

The European Commission eArchiving procurement recognizes the E-ARK specifications as the eArchiving specifications which are funded under the eArchiving Common Services Platform Agreement No. LC-01905904-CNECT/LUX/2021/OP/0077.

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DLM FORUM

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E-ARK Grant No: 620998 CIP-ICT-PSP.2013.2.5
E-ARK4ALL Agreement No. LC-00921441 CEF-TC-2018-15
E-ARK3 Agreement No. LC-01390244 CEF-TC-2019-3

1.0.0

Development of SIARD – the past

2000 - 2004

ARELDA

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

2008

SIARD 1.0

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

planets

2014 - 2017

SIARD 2.0

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

E-ARK

2018

SIARD 2.1

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

2018 - 2019

SIARD 2.1 Review

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

DILCIS BOARD

E-ARK

CEF Digital Connecting Europe

E-ARK4ALL

2019-2021

SIARD 2.2

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

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E-ARK

CEF Digital Connecting Europe

E-ARK3

CITS SIARD

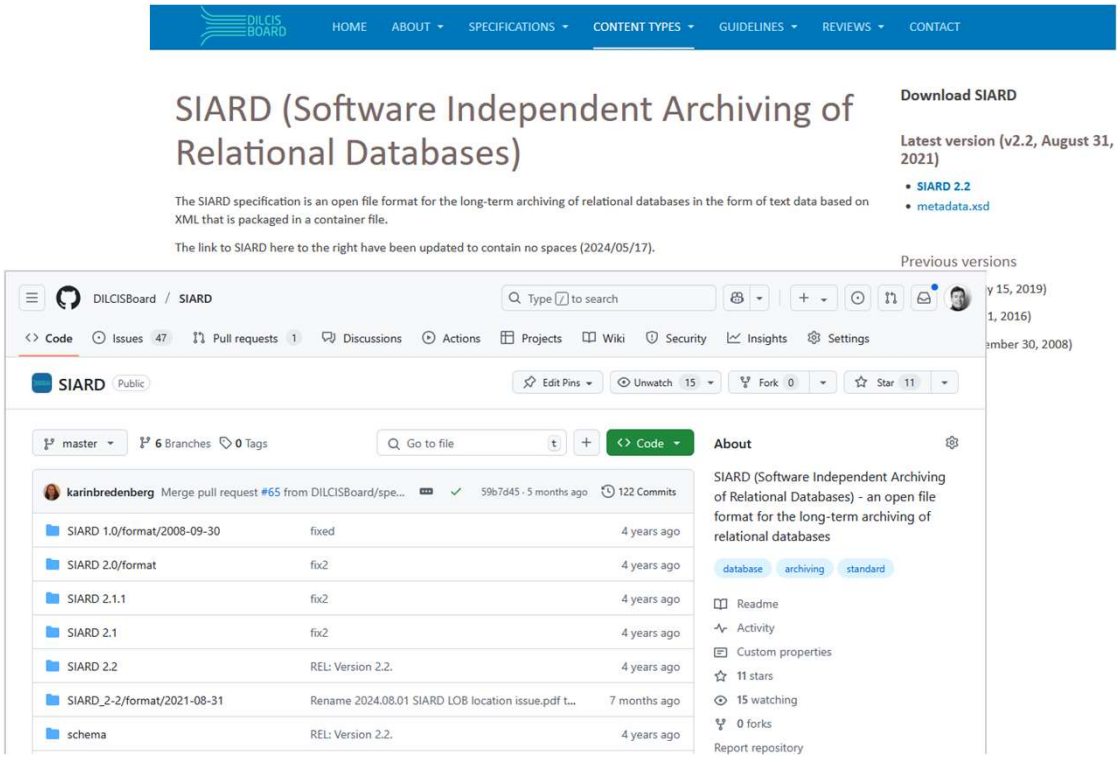
Development of SIARD – the present and the future

Present – why we still need SIARD

- The relational database (RDB) is still the most widespread and dominant form of organising structured digital information
  - in a later presentation we will hear about the challenges of archiving other types of databases
- Limited interoperability of proprietary RDBMS
- Proprietary SQL dialects despite ISO SQL
- Need for persistent data format outside the RDB Management System (RDBMS)

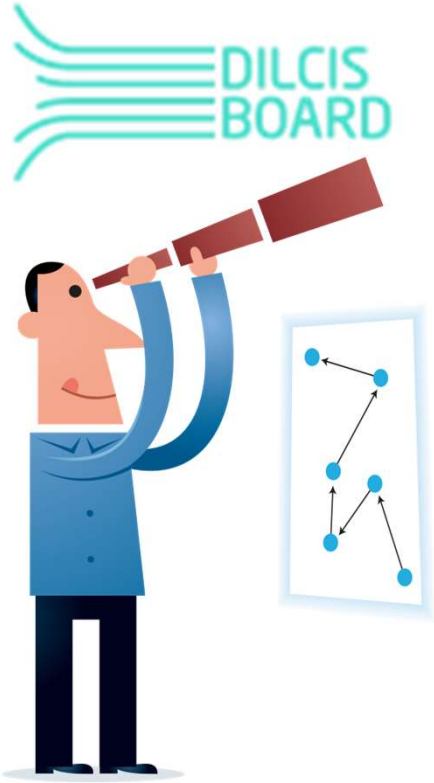
Present – DILCIS Board managing SIARD specifications

- The DILCIS Board has a tiny SIARD Working Group who receive issues regarding the interpretation of the SIARD file format specifications (all versions) and requests for new features – at https://github.com/DILCISBoard/SIARD



Future – SIARD 2.2 towards 2.3

- The SIARD Working Group of the DILCIS Board has the following plans for SIARD in 2025:
  - Solving more issues and faster
  - Reformatting the 2.2 specification from MS Word to GitHub Markdown to prepare for a new version.
  - Improving illustration and samples

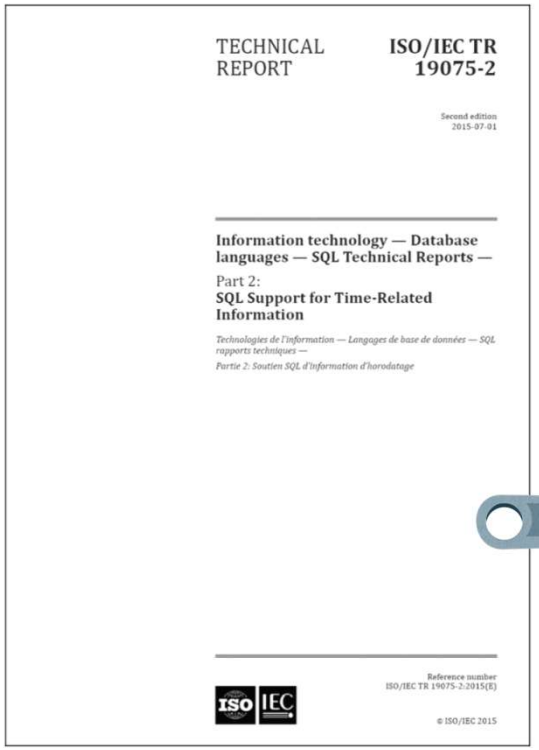


Future – SIARD 2.3

- Seeking funding for creating a new version of SIARD
- Rewritten in English, German, French and Italian
- More samples
- New features, such as:
  - Support for temporal and bitemporal databases

Future – SIARD 2.3 – new features - temporal

- Bitemporal Databases
  - Two time periods:
    - application-time period
      - when something happened, is happening or will happen
    - system-time period
      - when the system *registered* something happened, is happening or will happen


TECHNICAL REPORT

ISO/IEC TR 19075-2

Second edition
2015-07-01

Information technology — Database languages — SQL Technical Reports —

Part 2:
SQL Support for Time-Related Information

Technologies de l'information — Langages de base de données — SQL rapports techniques —
Partie 2: Soutien SQL d'information d'horodatage

Reference number
ISO/IEC TR 19075-2:2015(E)

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Relational Database Archiving Interest Group

- The DILCIS Board and eArchiving Building Block initiated a “Relational Database Archiving Interest Group” which discuss and share best practices on database archiving, the use of the SIARD and SIARD CITS specifications, and related software.
- If you are interested in joining the mailing list, please register at: https://listserv.dilcis.eu/review/rdb-aig
- and join as well the group where most discussions take place, namely the: “International Database-Archiving Working Group” that you will hear about in the next presentation

Questions