# Introducing FOLIO -
# An Open Source Library Management System

Openness and open source in library systems: a DE-UK dialogue
A collaborative VBD-RLUK meeting

July 23, 2021
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GBV | VZG

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# Who we are ...

- VZG = Headquarter of the Common Library Network GBV (https://www.gbv.de/) in Göttingen, Lower Saxony
- One of six regional library service networks in Germany



Quelle: Wikipedia

# VZG - Headquarter of the GBV

- Service provider / host (public-service)
  - 72 academic libraries, 400 research libraries

- K10plus = regional union catalogue "OCLC CBS" since 1993, incl. ILL

- LMS "OCLC LBS" since 1993
  - 204 tenants at 30 sites (27 hosted in VZG, 92 SaaS, 3 local)

- LMS "FOLIO" since 2016 (live since 2020)
  - FOLIO platform hosted in VZG for GBV network
  - FOLIO ERM first: 2 live, 4 started, more tbd
  - FOLIO full implementation in evaluation process
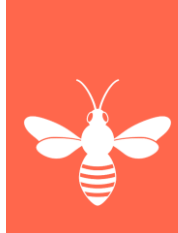
- Discovery and digital services

# FOLIO - Introduction

- The FOLIO project started in 2016 and is ongoing

- FOLIO is both: software and a community

- Latest international release is Iris (May 3, 2021)

- VZG started it's first development project
  (FOLIO ERM) in March  2018

# FOLIO - Introduction

- Goal
  - Development of a Library Service Platform (LSP) to serve as library management system and more ….
  - Open source, sustainable, innovative, flexible, enhanceable

- Target group
  - Academic and research libraries
  - Public libraries and special institutions
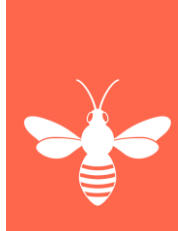
# FOLIO - Governance

- **Open Library Foundation** (OLF)
  - Serves as roof organization since 2016
  - Each project has its own governance structure: FOLIO, GOKb, ReShare, VuFind, ARC, …

- FOLIO Project
  - New governance structure since 2021

    https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model

  - Based on membership model

    https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model#FOLIOGovernanceModel-Membership.3

# FOLIO - Governance

- Elected committees

  – Community Council: strategy, finances, membership, FOLIO SMLLC

  – Product Council: functionality, roadmap, special interest groups

  – Technical Council: technical architecture + development

- Decision making is based on „lazy consensus" concept

*"Lazy Consensus" is a form of decision-making that assumes that a stated path forward is acceptable to all in the group unless objections are raised (also known as "yes becomes the default"). Typically this means that someone will state a decision and a plan to act on that decision unless someone objects in a timely fashion (usually 72 hours). Assume best intent. See a description of how Lazy Consensus is used in the [Apache OpenOffice project](#) and how it has been [applied to library operations](#)." (Quelle: [https://wiki.folio.org/display/PC/FOLIO+Product+Council+Charge](#) )*
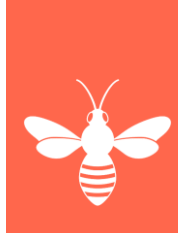
# FOLIO – How we work

- Special Interests Groups (SIGs) + Subgroups

  – Subject matter experts (SMEs)

  – Resource Access, Acquisitions, ERM, Metadata Management, App Interaction, Reporting, Support, SysOps, User Management, Consortia, Privacy, Accessbility, Internationalization, Implementers

- Tech Leads Group

  – Lead developers and technical architects

- Product Owner

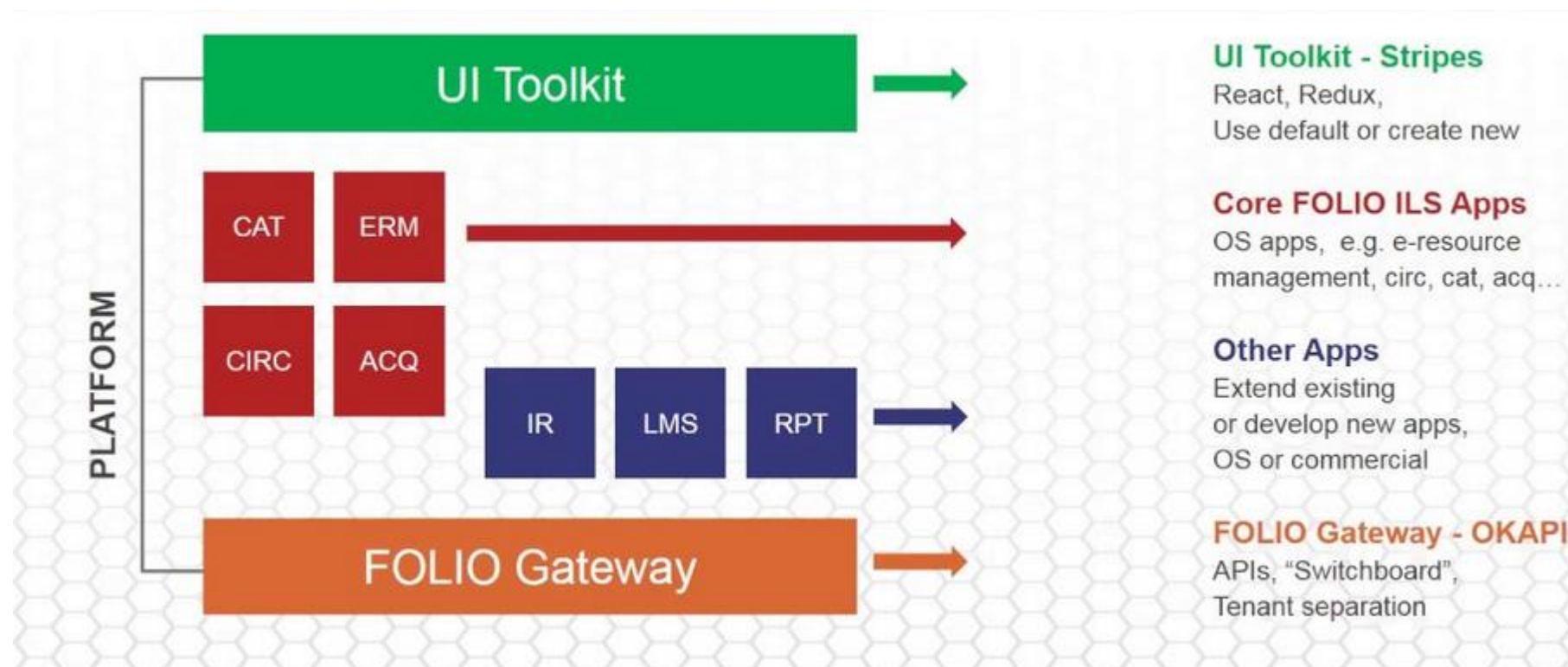  – Responsibility for assigned apps / areas of development

# FOLIO – Development Circle

- SIGs = Special Interest Groups
- UX = User Experience Designer
- DEV = Developer
- PO = Product Owner

# FOLIO – Architecture



**UI Toolkit - Stripes**
React, Redux,
Use default or create new

**Core FOLIO ILS Apps**
OS apps, e.g. e-resource
management, circ, cat, acq...

**Other Apps**
Extend existing
or develop new apps,
OS or commercial

**FOLIO Gateway - OKAPI**
APIs, "Switchboard",
Tenant separation
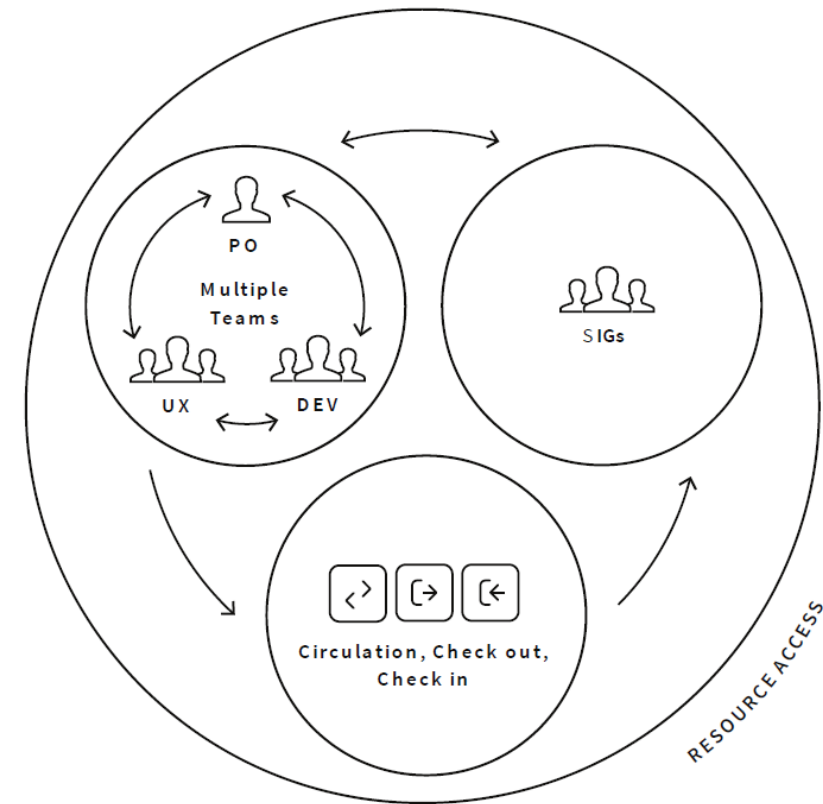
# FOLIO – Plattform (Kubernetes)
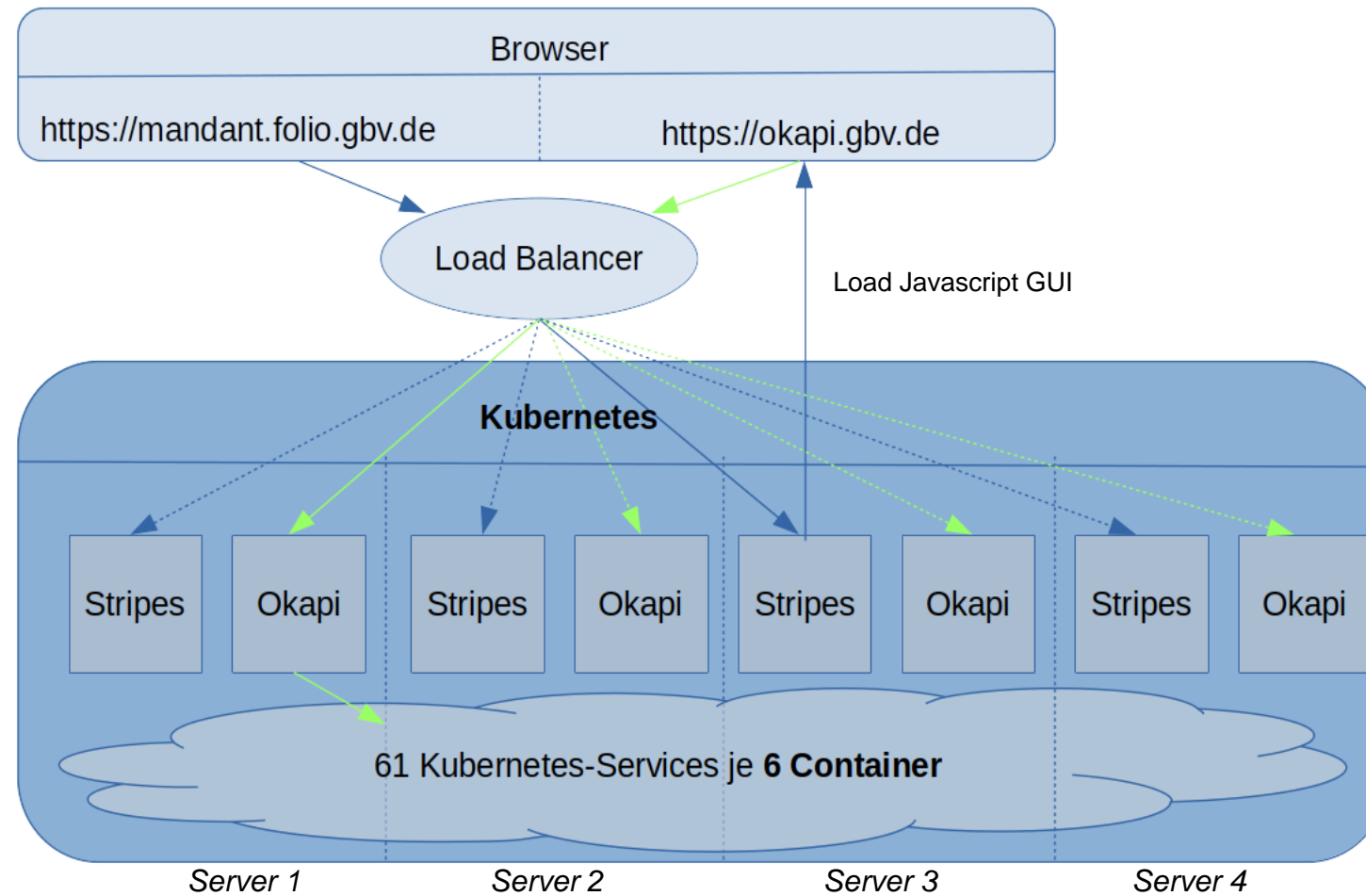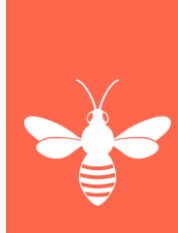
# FOLIO – Technical Concept

- Horizontal scalability and load balancing

- High availability

- Multi-tenancy ability

- Microservice architecture and strictly  API-based development

  – Freedom of choice of programming language

  – Independent development

  – Independent choice of modules

# FOLIO – Functional Scope

# FOLIO – Free choice of business model

- SaaS (Cloud) from commercial service provider

  - Hardware and software by cloud provider (e.g. EBSCO, Index Data, …)

- Local implementation

  - Institutional self-service

  - With additional services from commercial service providers (Knowledge Integration, Index Data, EBSCO, …)

- Hosting and/or SaaS by public-service service provider

  - „Cloud" in public-service domain

  - With additional services from commercial service providers (Knowledge Integration, Index Data, EBSCO, …)

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# FOLIO – Free Choice of Services

- Hosting (incl. release management and testing)
- Modul-based, individual services
  - Hard- and software maintenance either in public service or commercial cloud
  - Library responsible for settings, browser-based system control and API maintenance
    → active maintenance of the system / in the community
- Full service  (Saas)
  - Library has access to its own part of the system and receives training → system "out of the box" – just usage
  - Full implementation
  - "Modul by modul" implementation
  - Individual modul choice, e. g. ERM → choice of knowledge bases with different workflow options
- tbd - FOLIO is in development
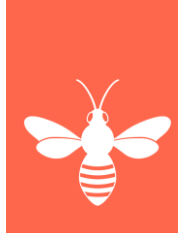
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# FOLIO – External Data Management Options

- Connection of various data sources

  - Standard metadata sources, e. g. union catalogues (GBV K10plus)

  - Knowledge bases

    - commercial (EBSCO KB, 360°)

    - cooperative ( GOKb Global Open Knowledgebase - [www.gokb.org](http://www.gokb.org))

  - …

# FOLIO – Reasons

- Integration in higher education structures, e.g. eLearning, ERP, IDM

- Possibility of „step by step" implementation of single modules
  => less fractions, less risk

- Systems architecture strictly open APIs

  – Platform internal between the apps

  – External to 3rd party systems

- Enhanceable by localization and extra services, e. g. 3rd party services, local developed apps (self check app, open access app, …)

- Integration of future requirements, e.g. APC

# FOLIO … is open!

- Open Source
  - Open APIs: quick, non proprietary add-ons possible
  - No vendor lock-in
- Cooperative, transparent participation and development – community owned
- „Save haven" of code (Apache 2.0 license) under the Open Library Foundation
- Data security, data safety, data ownership => data sovereinity
- Self determination in information supply
  - Public service hosting possible
- Library networks - proven, strong, collaborative partners in international cooperation
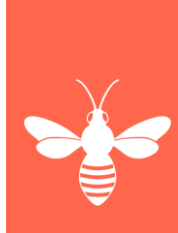
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# FOLIO – Risks

- Achievement and maintenance of implementable version(s)

- Definition, prioritization and realization of requirements

- Reliable and timely delivery of

  - Funding

  - Staff: developer and functional experts

  - Product owner, project manager / leadership

- Planned software in scope and quality

- Consideration and management of increased efforts in coordination and communication

- Security for sustainable development continuation

# FOLIO – Community is key

- ## Cooperative development

  - „from libraries for libraries"

    - Comprehensive functional and technical knowledge

    - Knowledge about recent and future requirements

    - Only a strong, responsible community secures sustainable development and maintenance

      - o FOLIO is time and resource consuming

      - o FOLIO needs people and money

      - o FOLIO needs leadership

- ## In cooperation with commercial partners

  - Financial and management support

  - „Outcome oriented" target settings → Return of Investment

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# FOLIO – Summary

- Openness as well-introduced concept in higher education (Open Data, Open Science, Open Source)

  – Open source software as one aspect of it

  – Academic and research libraires are used to cooperational projects

  – German funding agencies and ministries foster/expect Open … Access/Data/Science

  – Transparency with regard to functional scope, sustainability and funding

  – Innovational potential driven by the libraries themselves

  – Building new services for areas in development now and in future = "more than a library management system", e.g. open access services (APC) and  eUsage App

  – Follow up and realization of libraries requirements independently from commercial interests

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# FOLIO – Summary

- FOLIO is in development ↔ FOLIO is live with broad functionality!
- Development and implementation in parallel is a challenge and a chance
- Self-determined and sustainable access to innovations
- Cooperational options in "public-private partnership"
- Cooperations of networks, institutions and consortia

= Providing libraries sustainable development options for required functionality and services in an innovative, self contained, consolidated environment!

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# FOLIO learn more

- FOLIO Wiki
  https://wiki.folio.org/

- Open Library Foundation
  http://www.openlibraryfoundation.org/

- FOLIO
  https://www.folio.org/

- Code on GitHub
  https://github.com/folio-org

- Demo installation
  https://folio-demo.gbv.de/   (diku_admin / admin)

- German FOLIO web side
  https://www.folio-bib.org/?page_id=63

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# Thank you.

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#RLUKDSF

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