



# Folio China Updates

Lucy Liu, Lei Zhou, Sha Jiang, Gang Zhou  
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## **The Community**

Lucy Liu, PO of Folio China

2

## **The Product**

Lei Zhou, Manager, Jiatu Network Technology Ltd., Co

3

## **The Technology**

Sha Jiang, Chief Architect, Folio China;  
Technical Director, Jiatu Network Technology Ltd., Co

4

## **The Implementation**

Gang Zhou, Member of Product Council;  
Project Manager, Shanghai Library

# 1 FOLIO China Community



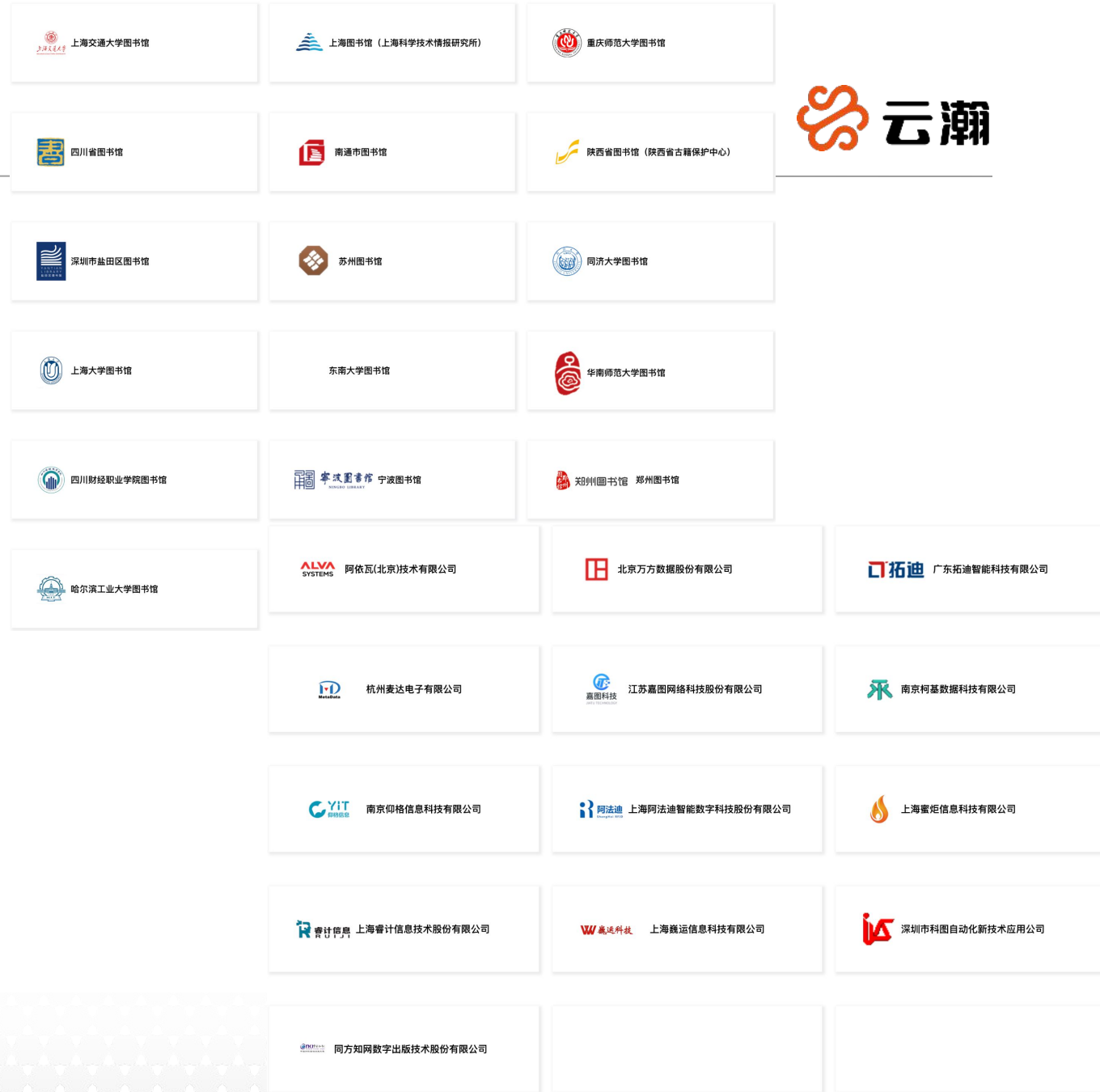
# FOLIO China Community

- [The Chinese Alliance for Library Service Platform \(CALSP\)](#)
- CALSP = Yunhan Community = FOLIO China Community
- The logo
- The co-founders
  - [Shanghai Library \(Institute of Science&Technical Information of Shanghai\)](#)
    - Public & Academic
    - 2nd largest library in China (after the National Library of China)
    - 1st library in CALSP that has been officially live on FOLIO
    - Keven Liu, Deputy Director of SHL/CALSP leader/OLF board member/Community Council member
  - [Jiangsu Jiayu Network Technology Co.,Ltd.](#)
    - A high-tech company that has been working on FOLIO since 2018
    - A team of 80 people have dedicated to the dev/testing/deployment/support services for Yunhan/FOLIO
    - The general contractor of Shanghai Library's FOLIO project
  - [Shanghai Jiao Tong University Library](#)
    - A member of the International Association of University Libraries
    - Serves as centers and secretariats in many national and regional library alliances
    - The Library is actively preparing to launch ERM



# FOLIO China Community

- [The members](#)
  - 16 libraries (9 academic + 7 public)
  - 13 vendors
- The Expert Committee (46 members)
  - 36 appointed in October 2021
  - 9 appointed in July 2022
  - 1 and more to be appointed
- Working groups
  - Yunhan Demo
  - ERM
  - Smart Space
  - LDP
  - Acquisition
  - Circulation
  - Online Circulation
  - and more



# FOLIO China Community - Vision & Goals



- The broad coverage
  - 1000+ academic libraries
  - 3000+ public libraries (province-level, city-level and county-level)
  - 3300+ cultural centers (branches of county libraries)
  - 200,000 school libraries
  - 240,000 corporate libraries
- The localization of software
- The development of forward-looking features
- The promotion of open source
- The exploration of self-governing and sustainable community
- The establishment of big ecology

# FOLIO China Community - Website

- Website: <https://www.calsp.cn>
- Launched July 2021
- Statistics (2021/7-present)

Visits	About 42,000
Registered Users	Over 90
Articles	About 120
Uploads	About 70
Downloads	Over 10,000



云瀚平台建设构想



**WOLFcon 2022**  
Aug. 31 – Sept. 2  
Hamburg, Germany

2022年世界开放图书馆基金会会议（WOLFcon）即将召开



如何申请加入智慧图书馆技术应用联盟（筹）？

# FOLIO China Community - [Demo Site](#)



云瀚智享 图界华章!



# FOLIO China Community - Events & Activities



Social media (WeChat, QQ, etc.)	<ul style="list-style-type: none"><li>• 414 members</li></ul>
Weekly meetings	<ul style="list-style-type: none"><li>• Weekly on Saturday morning since July 24, 2021</li><li>• Over 50 meetings so far</li><li>• Off-line communications in the “CALSP Brainstorming Group” on Fish</li><li>• 65 people in the Group</li></ul>
Monthly newsletters	<ul style="list-style-type: none"><li>• Issued monthly on the 15th since July 2021</li><li>• 14 issues so far, including 85 articles</li><li>• Average 1050 views per issue</li><li>• About 14,700 views of the articles in total</li></ul>
Monthly webinars	<ul style="list-style-type: none"><li>• 12 webinars so far</li><li>• 4223 registrations, 3,336 actual participants</li><li>• Over 17,000 visits to the previews and reviews</li><li>• About 24,000 access to audio/video recordings</li><li>• Q &amp; A: over 80 threads</li></ul>

# FOLIO China Community - Events & Activities



- **Conferences**

<p><a href="#">Next Generation Library Smart Service Platform Discussion and the Yangtze River Delta Smart Reading Round Table</a></p>	<ul style="list-style-type: none"><li>● April 23, 2021</li><li>● About 130 onsite attendees from about 40 libraries and over 10 vendors</li><li>● More than 2,400 people watched the live broadcast</li><li>● Over 1300 access to audio/video recordings</li></ul>
<p><a href="#">Yunhan Smart Sharing - Information Technology for Libraries (IT4L 2021)</a></p>	<ul style="list-style-type: none"><li>● October 22, 2021</li><li>● About 120 onsite attendees from about 40 libraries and over 10 vendors</li><li>● More than 4,000 people watched the live broadcast</li><li>● Over 14,600 access to audio/video recordings</li></ul>
<p><a href="#">New Age. New Forces - 2022 World Open Library Foundation Asia-Pacific Conference and the Annual Conference of Chinese FOLIO Community</a></p>	<ul style="list-style-type: none"><li>● July 15, 2022</li><li>● 12 presentations, 7 from abroad and 5 from China</li><li>● More than 2,400 people watched the live broadcast</li><li>● Over 9200 access to audio/video recordings</li></ul>

- **Research**

- [International Journal of Librarianship \(IJoL\) Special Issue on FOLIO](#)

# Supporting the FOLIO Community

- Joining the FOLIO Community
  - Member institutions
  - Membership fees (Multi-year membership dues payment)
- Involvement in decision-making
  - CC and PC members
  - Surveys
- [Supporting development](#)
  - Reporting errors
  - Proposing features
  - Joining in development teams
  - Taking tasks
  - Sharing code
- Willing to contribute developers and help develop modules/apps
  - Need training and guidance from the community
  - Hope to see clearer direction/roadmap

## 2 The Orientation, Ecosystem and Roadmap of FOLIO China



# Outlines



Orientation of FOLIO China



Ecosystem of FOLIO China



Roadmap of FOLIO China

# The advantage of FOLIO

Idea:  
Open



Architecture:  
Microservices, Cloud Native

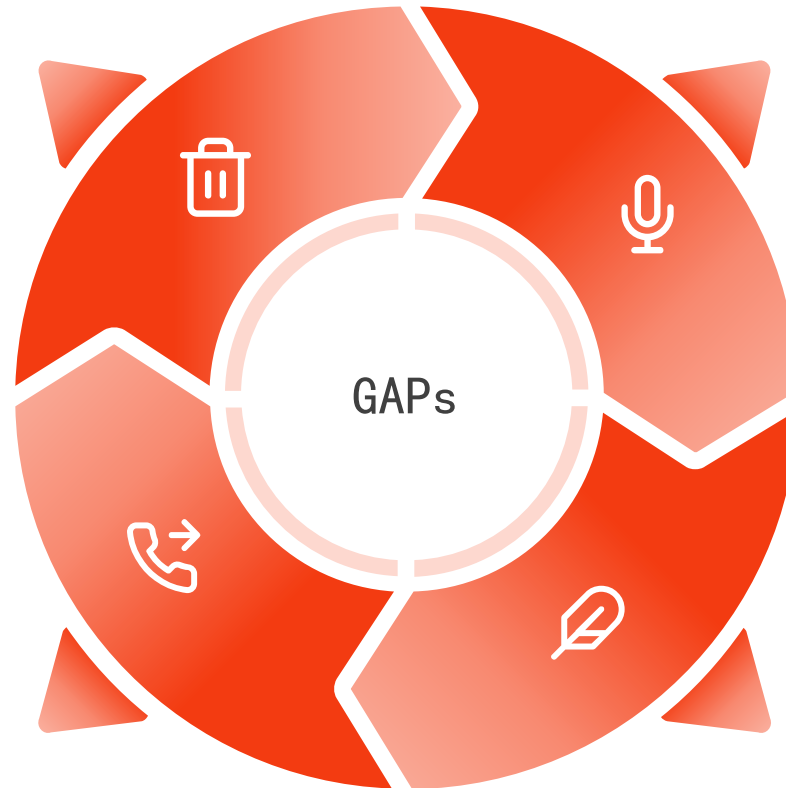
Mode:  
Cooperation

# The gaps between FOLIO and Chinese Libraries



**Functional**  
Basic Vs. Extension  
Management Vs. Services  
Traditional Vs. Emerging  
Single Vs. Consortia

**Technical**  
Vert. x, RAML  
New technique



**Localization**  
Language  
Standard  
Workflow

**Non-functional Requirements**  
Performance  
Integration  
Security  
Privacy

# Orientation

FOLIO is the Solution for Smart Library

● Intelligence

● Innovation

● Inclusive





# Outlines



Orientation of FOLIO China

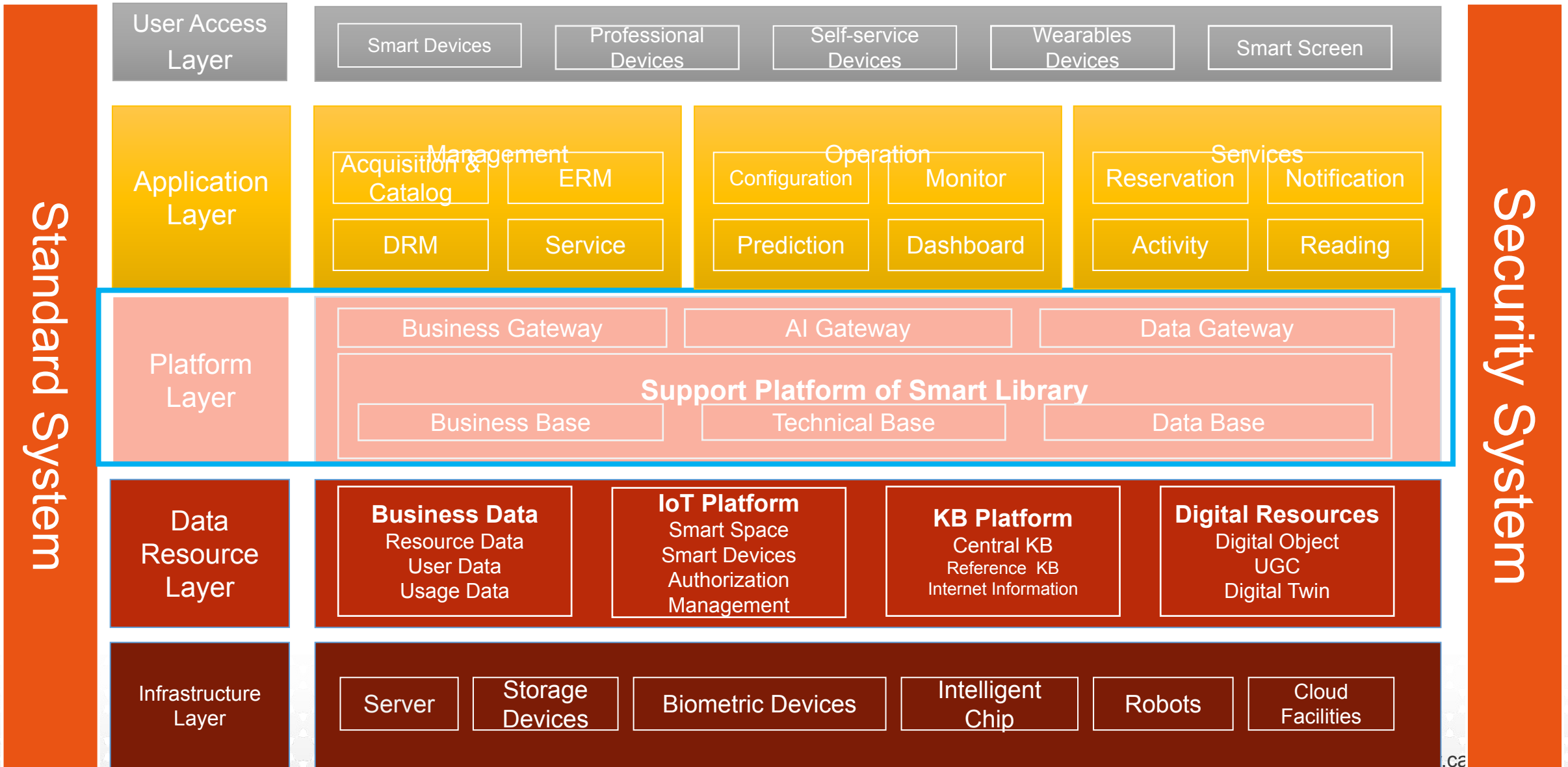


Ecosystem of FOLIO China

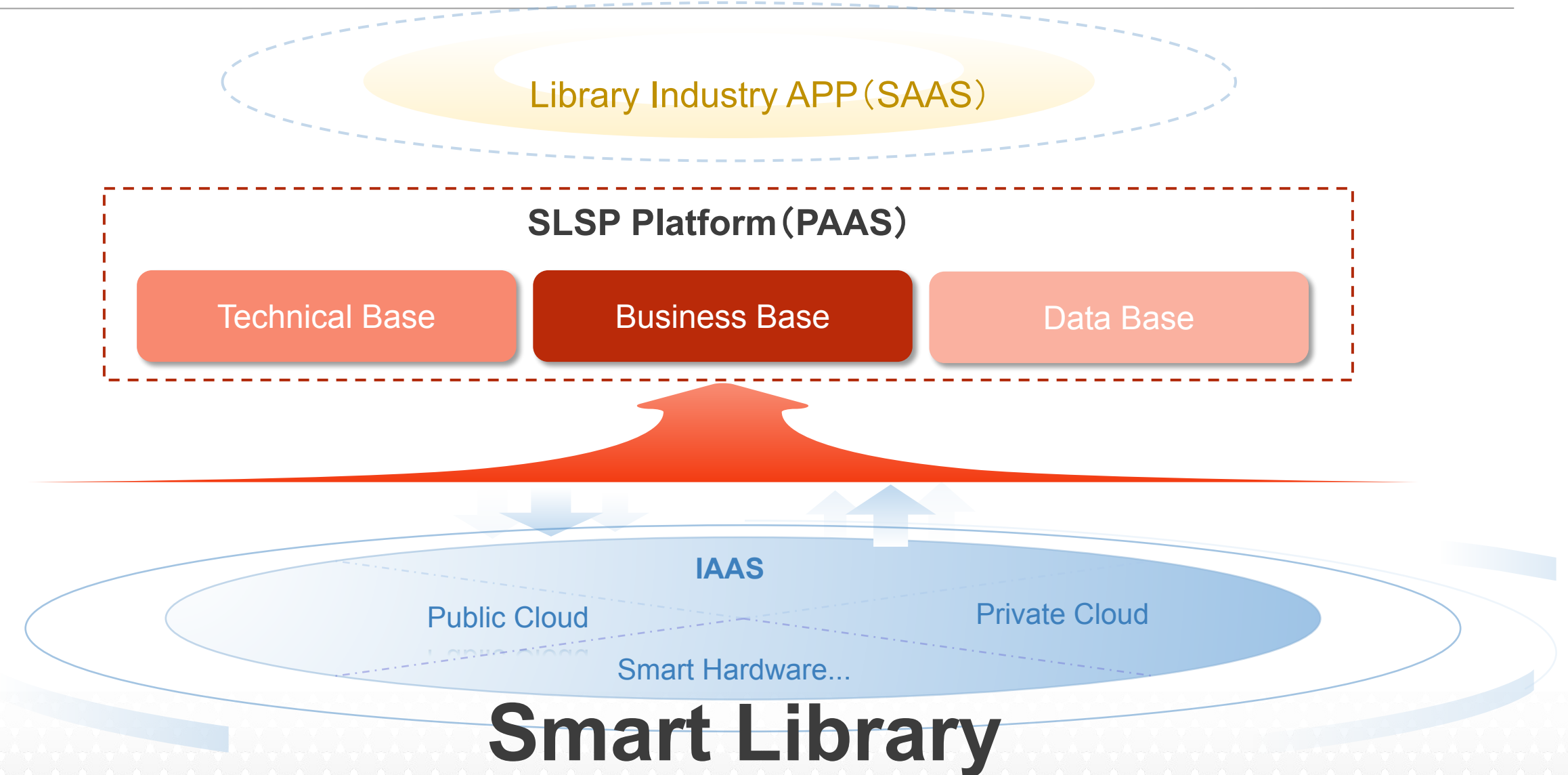


Roadmap of FOLIO China

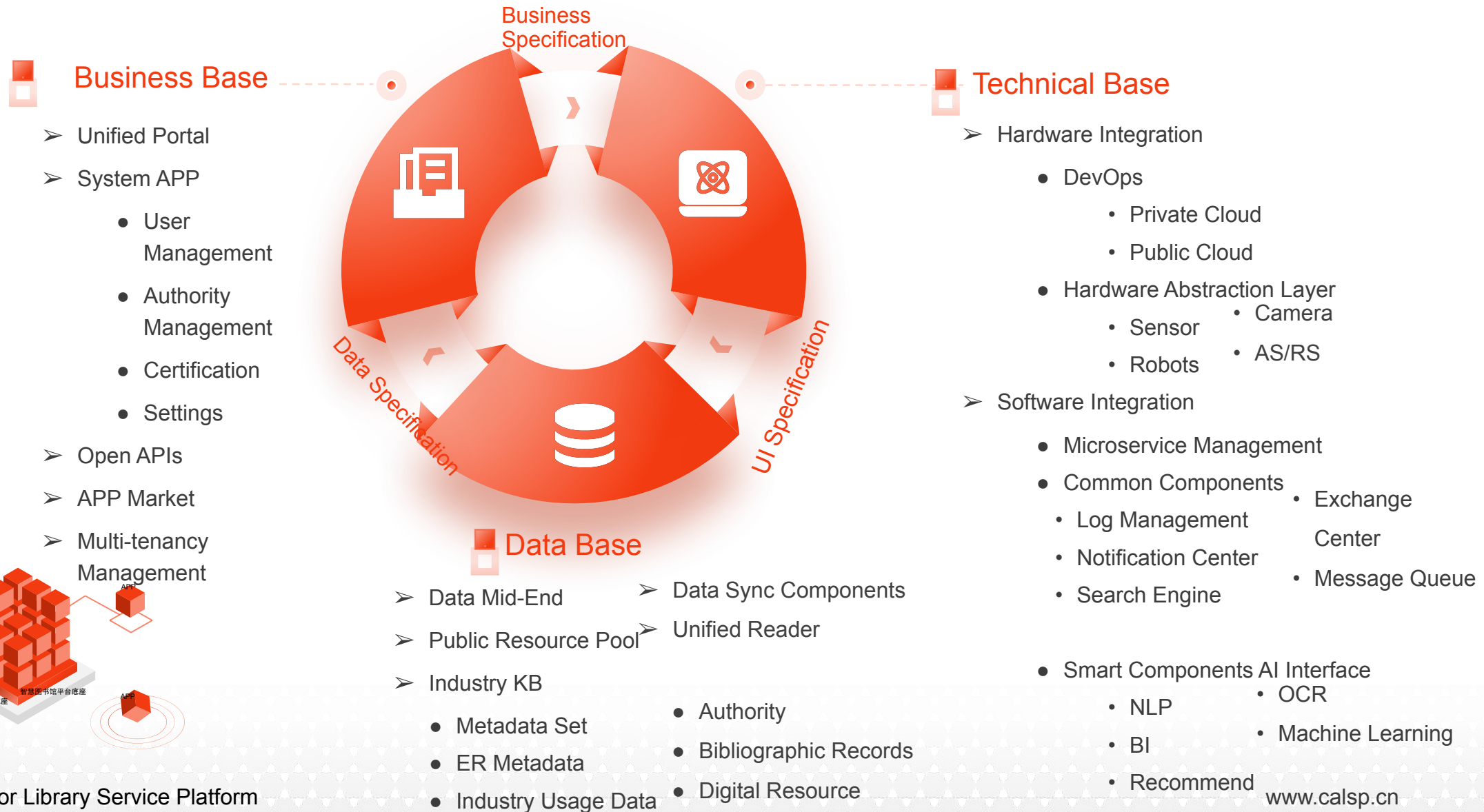
# Architecture of SLSP



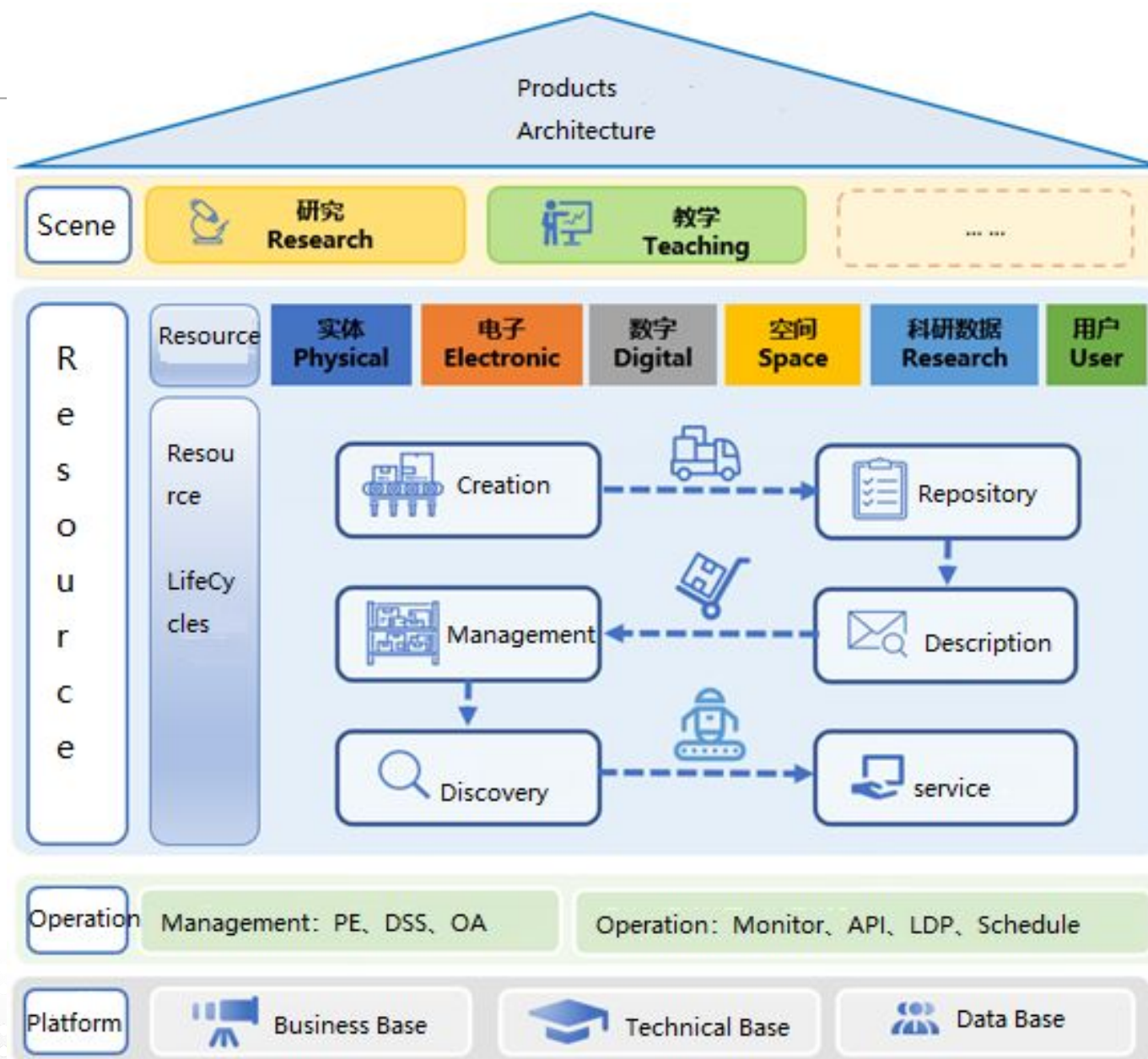
# Platform Layers



# Components of Platform



# Product Architecture



# Outlines



**Orientation of FOLIO China**

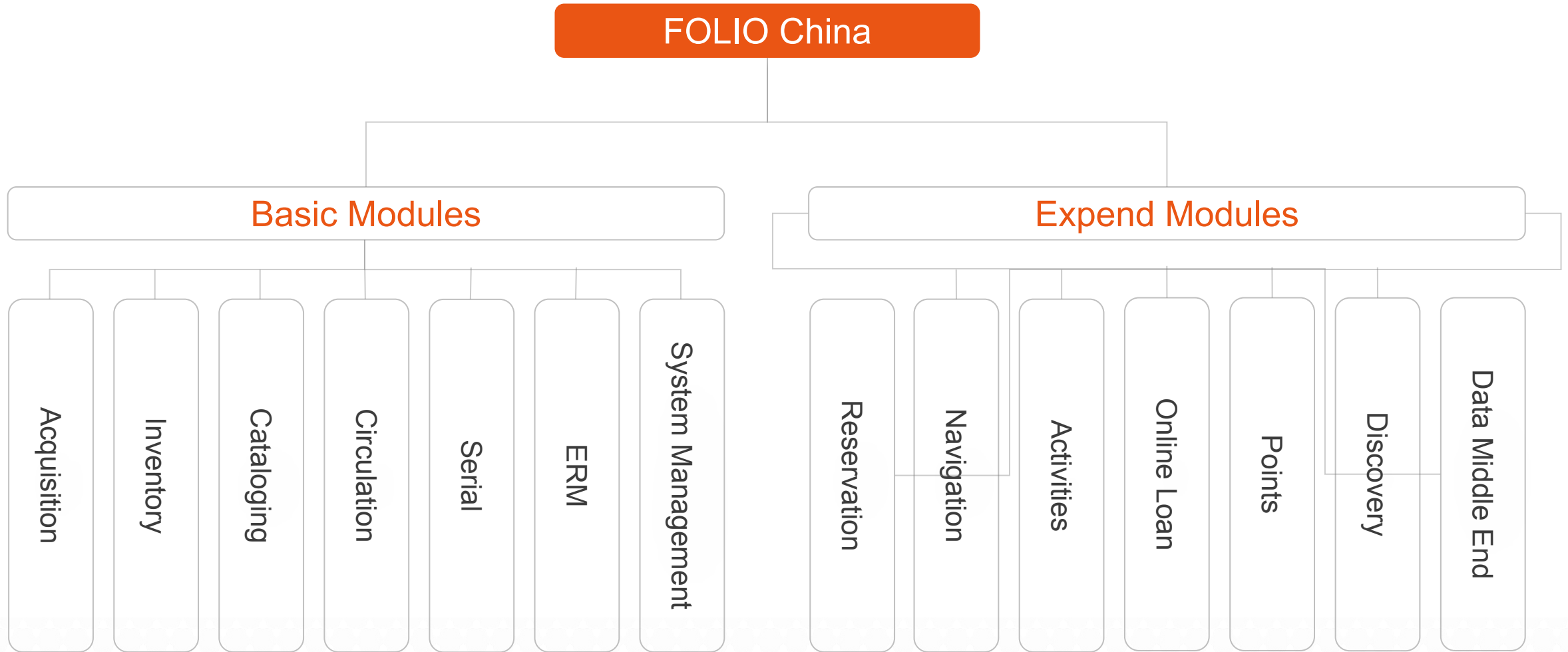


**Ecosystem of FOLIO China**

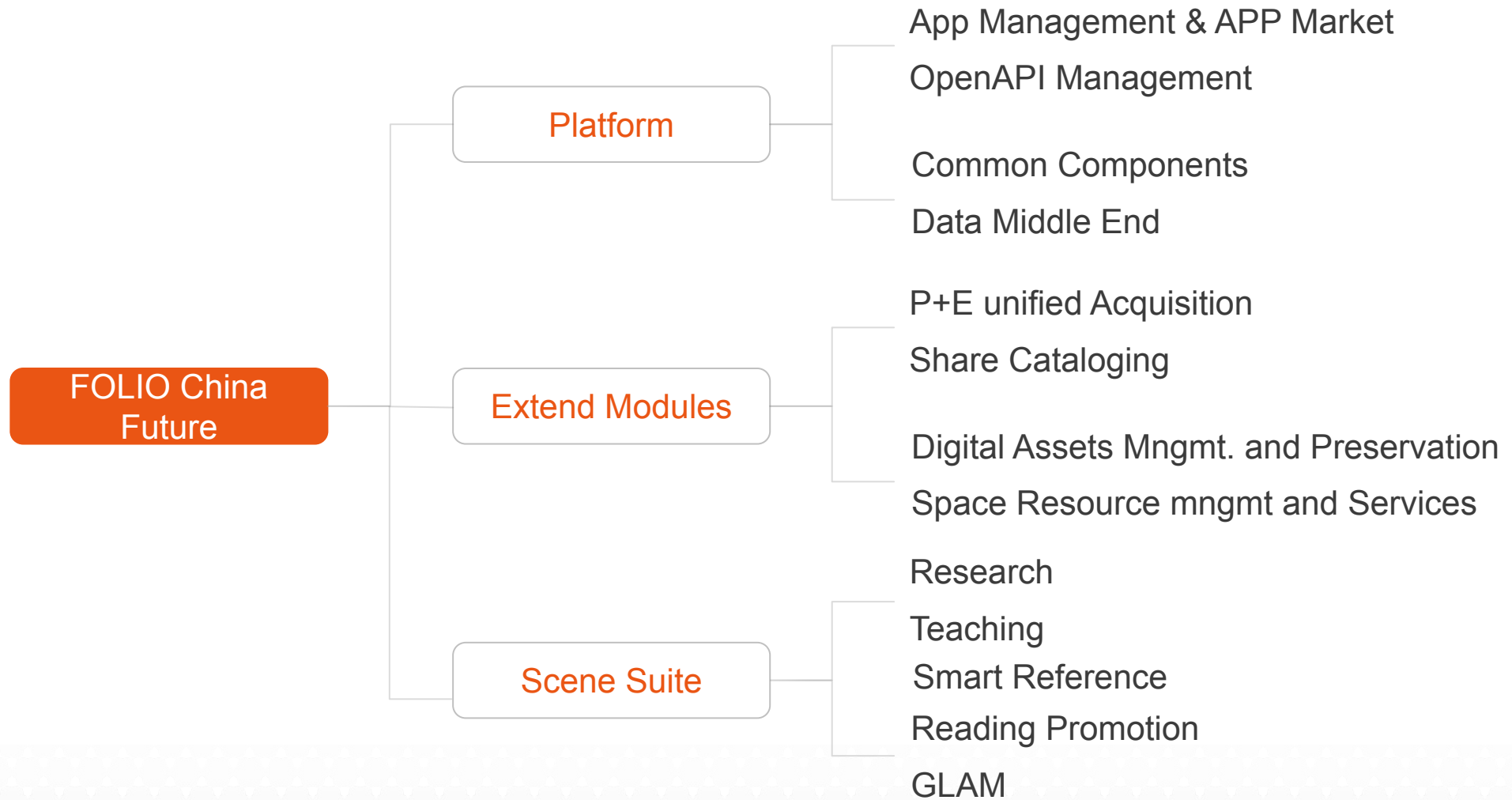


**Roadmap of FOLIO China**

# FOLIO China Now



# The Future of FOLIO China





# RoadMap of FOLIO China



2020

## Preparation

Platform: OKAPI

APP: Circulation, User, Inventory

Data: Data sync

2022

## Exploration

Platform: Fundamental

App: Traditional APPs

Smart Space APPs

Data: Data Middle End

## Building

Platform: Complete

APP: E+D+S      Resource  
Management.

Teaching, Resource, Reading  
Promotion, Reference

2024

## Prosperity

2026

# 3 Brief Introduction of China FOLIO technology



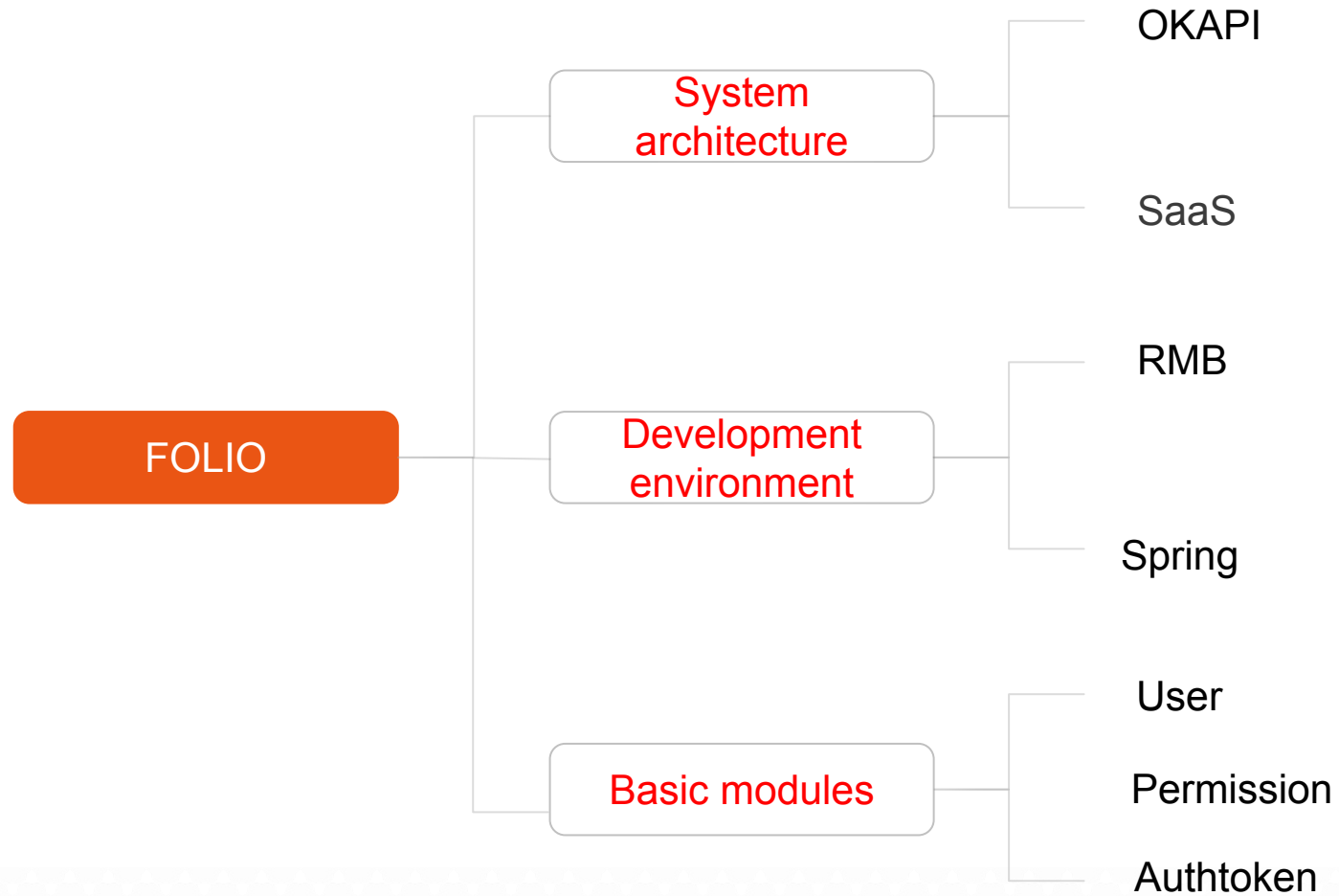


Inheritance from FOLIO project



Expansion of FOLIO project

# Inheritance from FOLIO project



# Expansion of FOLIO project

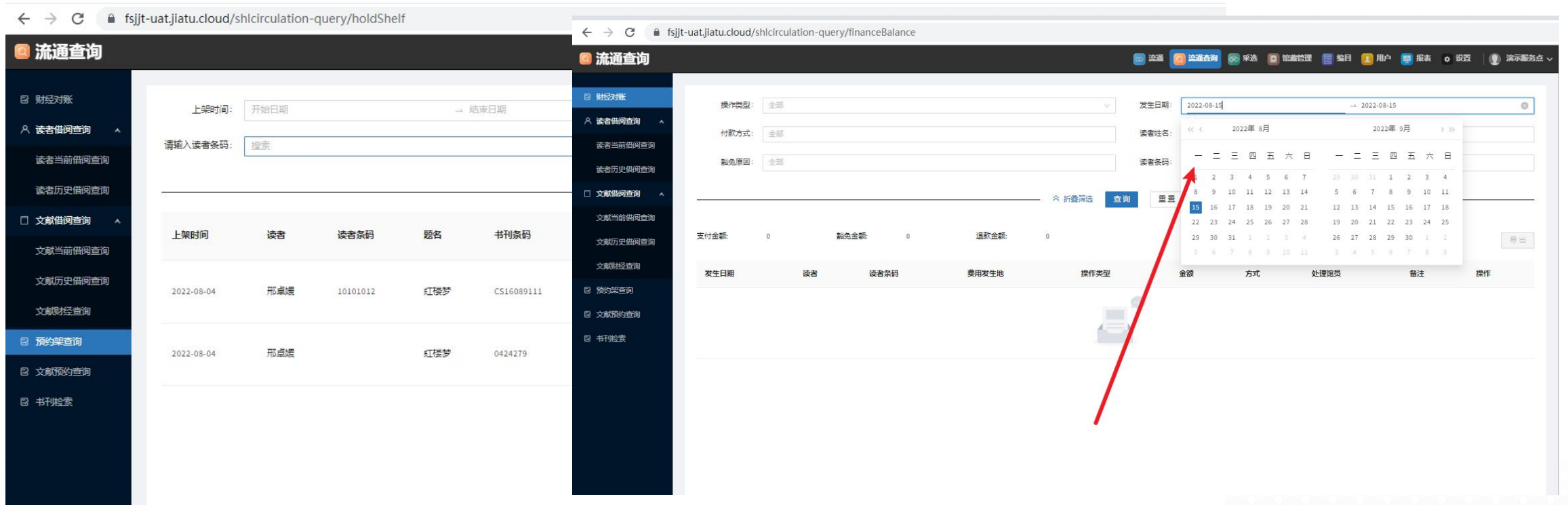
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- Purpose and necessity
  - Cultural reasons
  - Demand of libraries in China
  - Demand of companies in China
- Expansion of common components
- Expansion of basic functions
- Expansion of advance functions

# Expansion of FOLIO project



- Expansion of common components
  - Expansion of StripesUI

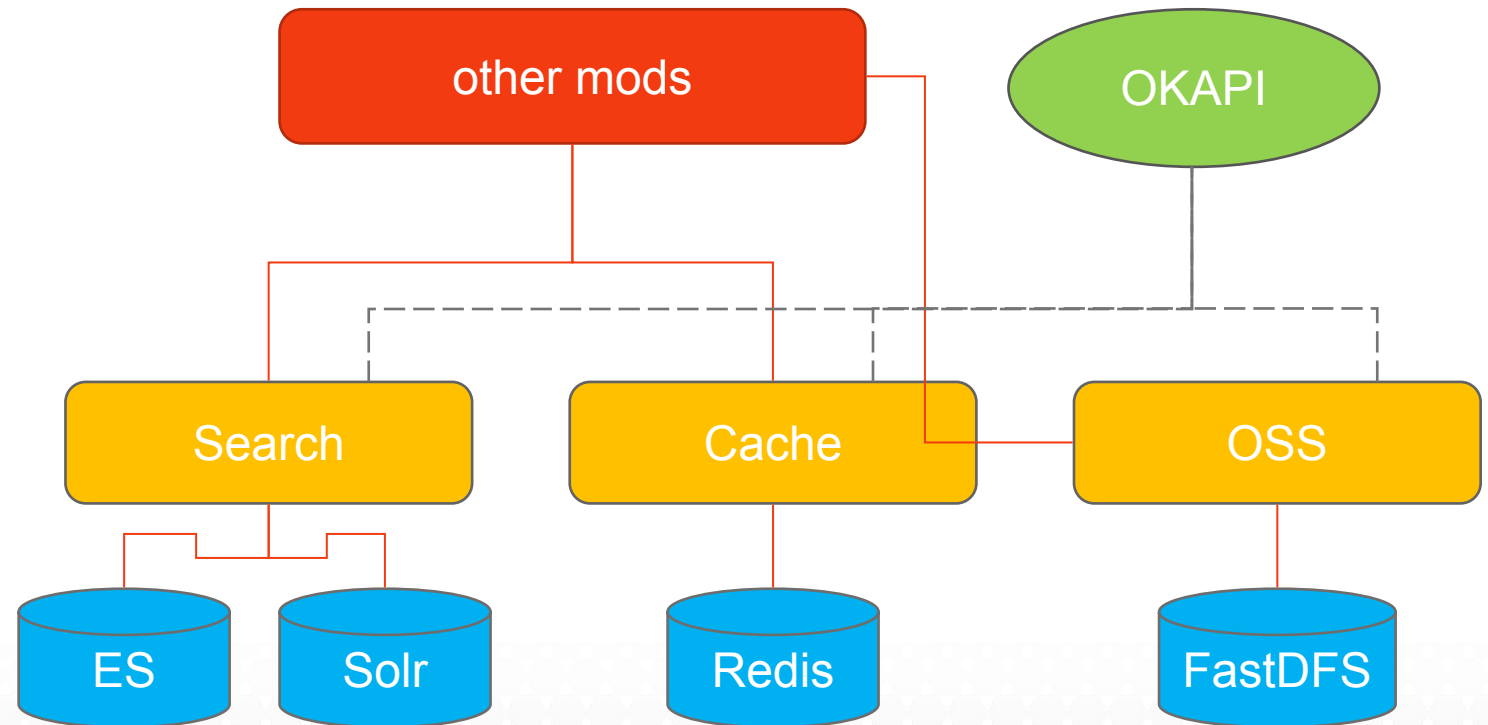


# Expansion of FOLIO project

- Expansion of common components
  - Cache component
  - OSS component
  - Search component

Request

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Validation



# Expansion of FOLIO project



- Expansion of basic functions
- Expansion of circulation

The screenshot displays the FOLIO system interface for journal management. The top navigation bar includes options like '流通' (Circulation), '用户' (User), '编目规则' (Cataloging Rules), '编目查询' (Cataloging Search), '采选' (Acquisition), '馆藏管理' (Collection Management), '编目' (Cataloging), '期刊' (Journals), and '设置' (Settings). The main interface is divided into several sections:

- 期刊管理 (Journal Management):** Includes '期刊登到' (Journal Arrival), '合订本管理' (Combined Volume Management), '出版频率' (Publication Frequency), and '登到批次管理' (Arrival Batch Management).
- 快速登到 (Quick Arrival):** Features a search for 'CNMARC|中文期刊' (CNMARC|Chinese Journals) with a title '小马宝莉' (My Little Pony) and a search for 'Z3950'.
- 书目库 (Bibliography):** Shows a table with columns for '序号' (Serial Number), 'ISSN', 'CN', '邮发号' (Postage Number), '题名' (Title), '责任人' (Responsible Person), '索书号/分类号' (Call Number/Classification Number), '审核状态' (Review Status), and '书目' (Bibliography). The table contains one entry for '小马宝莉' (My Little Pony) with ISSN 1834-1092 and CN 12-1345.
- 订购记录 (Ordering Record):** Shows a table with columns for '序号' (Serial Number), '订购年' (Ordering Year), '总期数' (Total Number of Issues), '复本数' (Number of Copies), '定价' (List Price), '实洋' (Actual Price), '备注' (Remarks), and '供货商' (Supplier). The table contains 14 entries, with the first entry being for the year 2030, 12 issues, 4 copies, and a price of 30CNY.
- 期刊信息 (Journal Information):** Shows a table with columns for '序号' (Serial Number), '状态' (Status), '期次信息' (Issue Information), '分版' (Edition), '定价' (List Price), '期次类型' (Issue Type), '出版日期' (Publication Date), '预计登到日期' (Expected Arrival Date), '实际登到日期' (Actual Arrival Date), '备注' (Remarks), and '操作' (Action). The table contains 13 entries, with the first entry being for the year 2030, issue 1, and a status of '装订' (Binding).



# Expansion of FOLIO project



- Expansion of basic functions
- Expansion of acquiring & cataloging

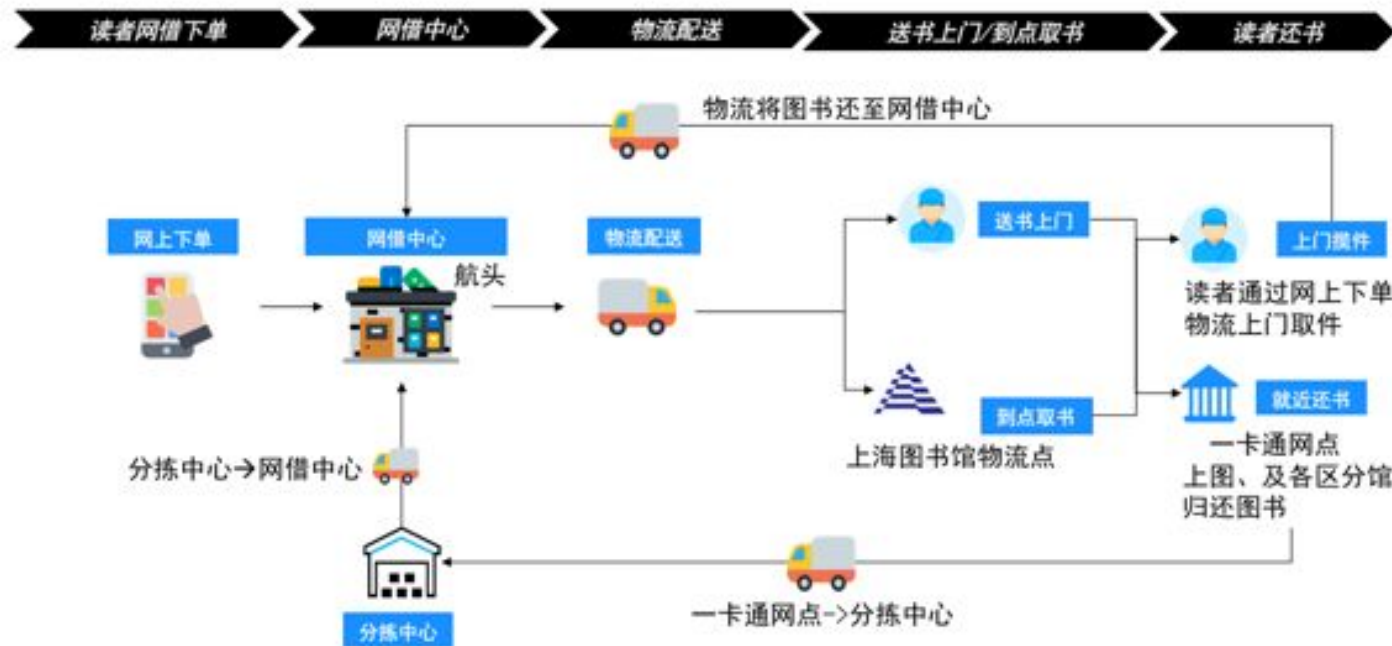
The screenshot displays the FOLIO cataloging interface. At the top, there is a navigation bar with various icons and a search bar. Below the navigation bar, there is a search area with fields for 'CNMARC[中文...]', 'ISBN/ISS...', and '题名'. The main area shows a list of records, with the first record selected. The record details are displayed in a table format, including fields like '头标区', '记录标识号', '记录处理时间标识', '国际标准书号', '通用处理数据', '文献语种', '出版或制作国别', '编目数据字段: 专著性文字资料', '编目数据字段: 文字资料——形态特征', '题名与责任说明', '出版发行等', '载体形态项', '丛编项', '提要或文摘附注', '总集', '论题名称主题', '中国图书馆分类法', '个人名称——等知识责任', and '个人名称——等知识责任'. The '题名与责任说明' field contains the text: 'a新时期乡村治理的路径研究▼f董浩, 李国梁, 刘莹著▼\$xin'shi'qi'xiang'cun'zhi'li'lu'jing'yan'jiu'. The '提要或文摘附注' field contains a detailed description of the book's content.

# Expansion of FOLIO project

- Expansion of advance functions
  - Online circulation



## 网借整体流程



# Expansion of FOLIO project



- Expansion of advance functions
  - Data center



# 4 FOLIO Apps in Shanghai library



# Who we are



## Public library, Research library, Libraries Alliance

- Shanghai library and Shanghai library alliance
- 400 branches and service points in Shanghai libraries alliance
- 6 M readers, 40 M items, 70 M circulations annually
- 365 x 24 service hours

## New building, New service

- Shanghai library East (115,000 square meters, 6000 seats)
- 700 events annually



# Difficulties

## Shanghai library

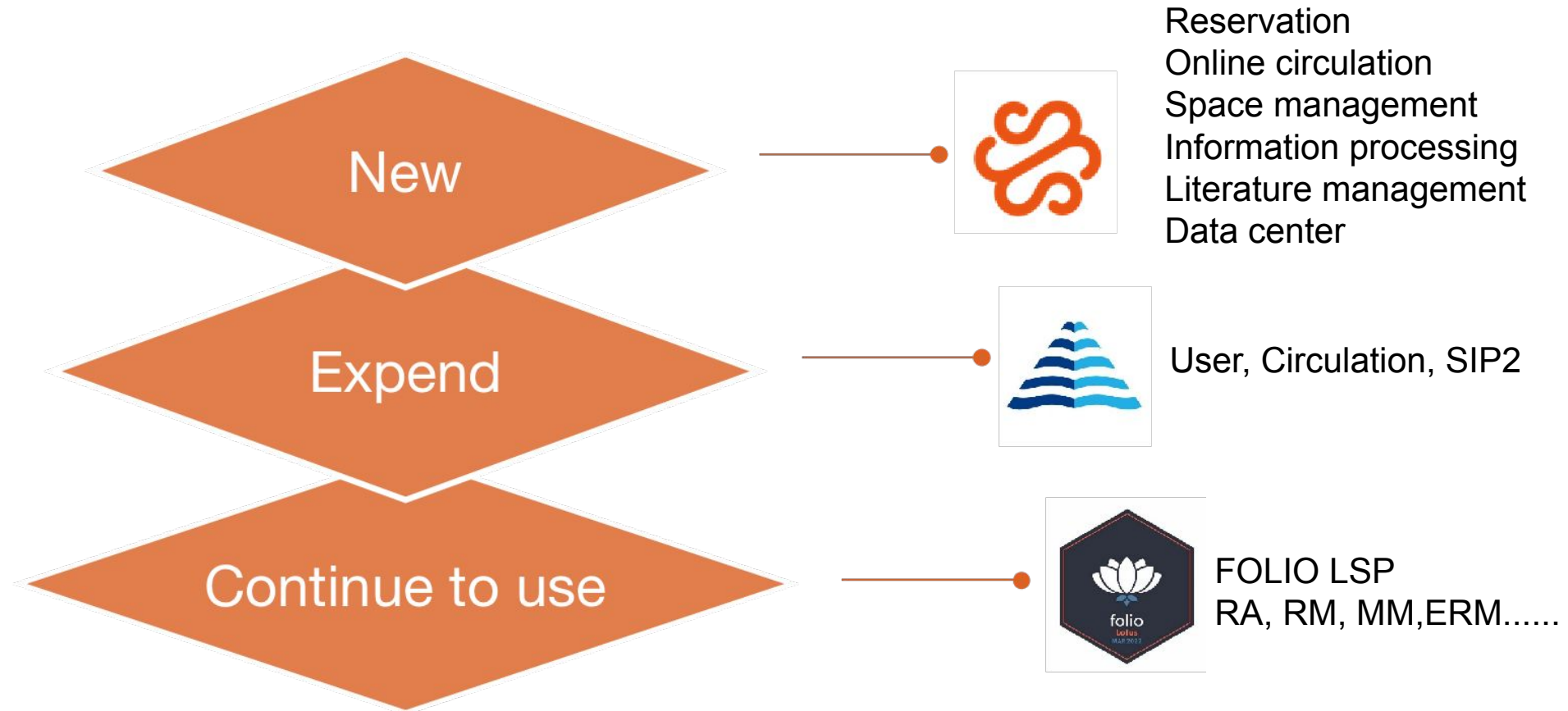
- ILS more than 20 years history
- Stovepipe software application

## Shanghai library alliance

- Can not develop their own applications
- Innovative business needs, online circulation, event management



# Architecture



**Server resource:** hyper-converged server

**Technology middleware:** API platform

**Data governance and analytics:** Data center



# Phased implementation

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- Sept 2020** Item management
- April 2021** Circulation(close stack) , VuFind
- July 2021** Circulation(open stack)
- April 2022** Reservation(Full scenario), Unified portal pilot ran
- July 2022** Smart space applications pilot ran

# New apps: Circulation

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## Circulation

- Customization for Alliance

## User

- OAuth certification

## Synchronization

- Users, inventory, loan, fee
- Grayscale switching
- Push data in real-time data and timing between FOLIO and legacy system

# New apps: Reservation with all resources

## All entries

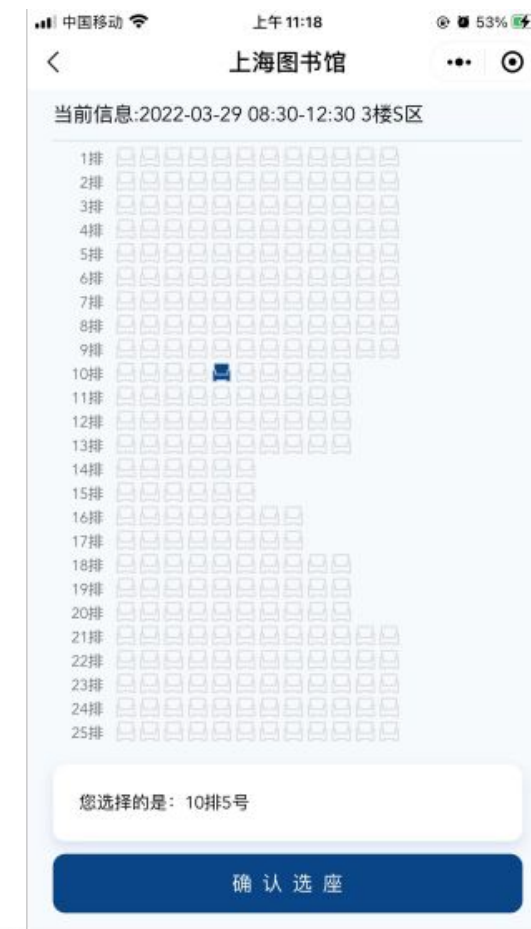
- Portal
- Mobile App
- Mini apps and Official accounts(Wechat)

## All resources and services

- Admission, Book, Event, Seat, Conference, Parking

## Connect to FOLIO LSP of Shanghai library

- Circulation
- Navigation
- Event



# New apps: Navigation

## Scenario

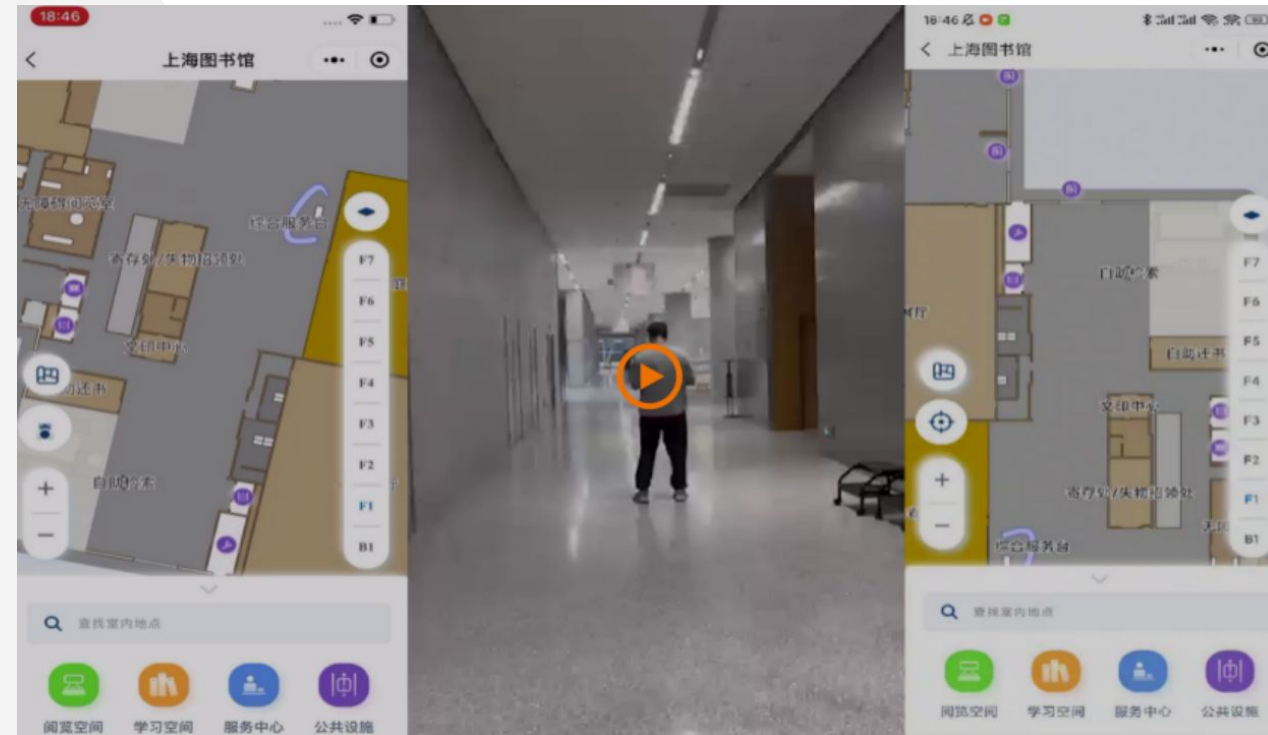
- Locate the book, service, exhibition

## Technology

- Geomagnetic, bluetooth, AOA

## Connect to FOLIO LSP of Shanghai library

- Reservation
- Smart shelves
- Inventory robot



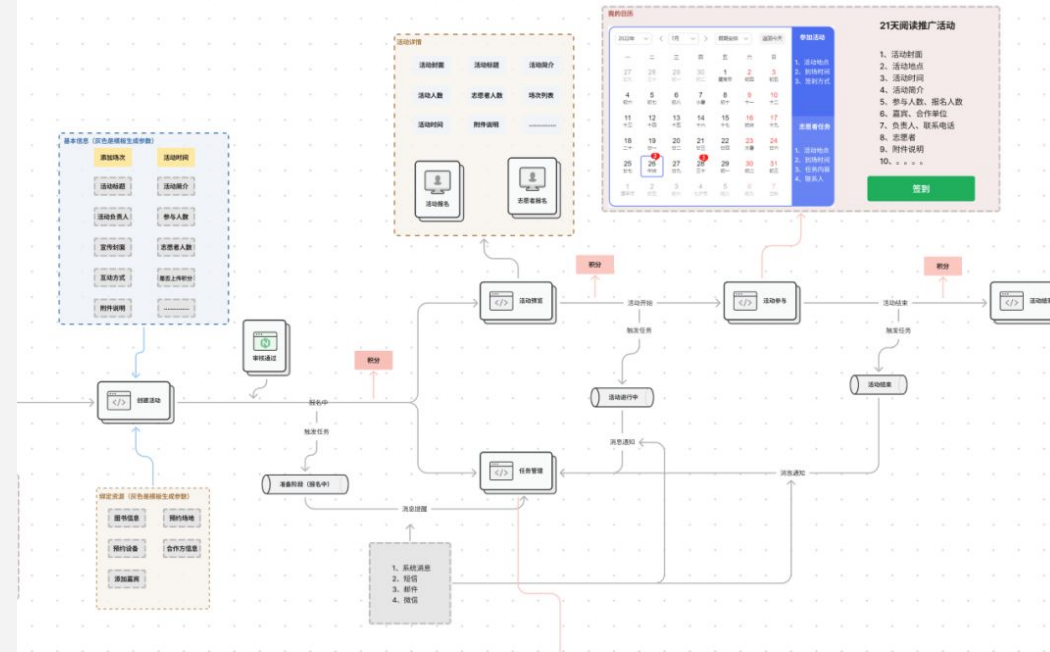
# New apps: Reading promotion



## Full process management of activities

## Virtual workspace that organize space, people, resource

- Open space, conference, exhibition
- Book, microgroove, photo, chorography, genealogy
- Patron, speaker, volunteers



# FOLIO future in Shanghai library Alliance

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## Shanghai library

- FOLIO(yunhan) LSP

## Shanghai library alliance

- Essential service: user, circulation, inventory
- Alliance members' innovative service applications connected to essential service

## Cooperation for Yangtze River Delta Regional library service

- Union cataloging
- Inter-lending

## Shanghai library

- FOLIO(yunhan) LSP

## Shanghai library alliance

- Essential service: user, circulation, inventory
- Alliance members' innovative service applications connected to essential service

## Cooperation for Yangtze River Delta Regional library service

- Union cataloging
- Inter-lending

# References

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- <https://www.calsp.cn>
- Liu, W.(2021). FOLIO and Smart Libraries: Meeting the Future Needs of Chinese Libraries. International Journal of Librarianship,6(2), 73-83.  
<https://doi.org/10.23974/ijol.2021.vol6.2.213>





Thank you!  
Questions?