

Worldwide Implementation of Current Research Information Systems (CRIS): A Case Study for Asia and China

Pablo de Castro
euroCRIS Secretary

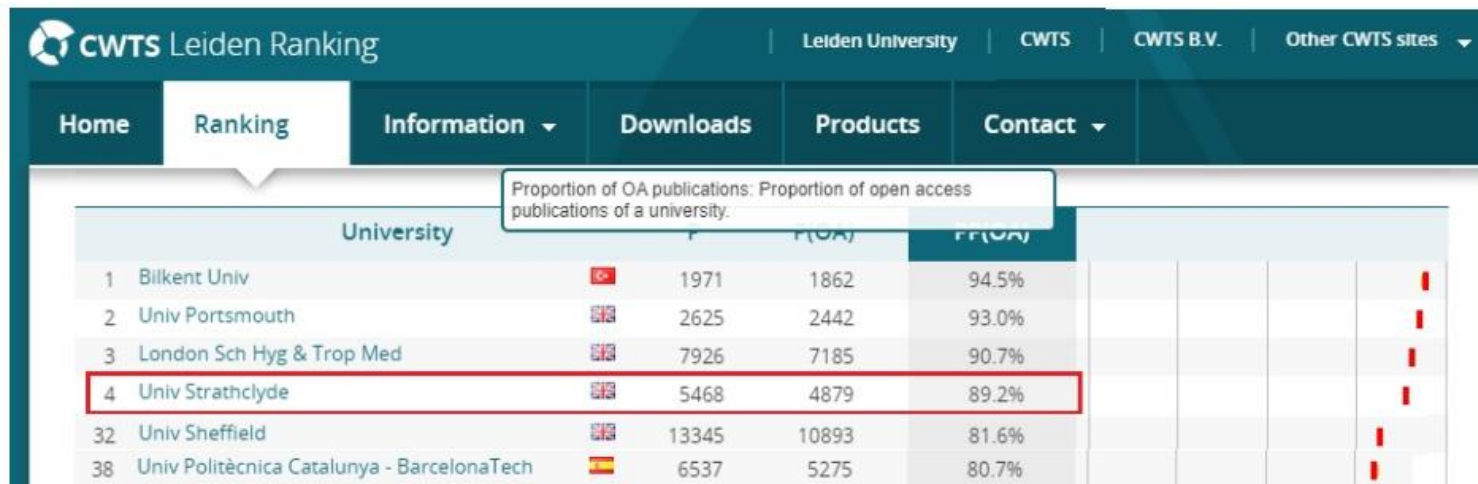
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Speaker's academic affiliation

University of Strathclyde Glasgow



- Founded 1796 as “the place for useful learning”
- 22,295 FTE Students and 3,200 staff (2017/18)
- Research: research grants and contracts income of £65.6m in 2017*
- Among the 20 top research-intensive universities in the UK

A screenshot of the CWTS Leiden Ranking website. The header shows the CWTS Leiden Ranking logo and navigation links: Leiden University, CWTS, CWTS B.V., and Other CWTS sites. The main navigation bar includes Home, Ranking (selected), Information, Downloads, Products, and Contact. A table displays the top universities in the ranking. The fourth row, for the University of Strathclyde, is highlighted with a red border. A tooltip explains the 'Proportion of OA publications' column.

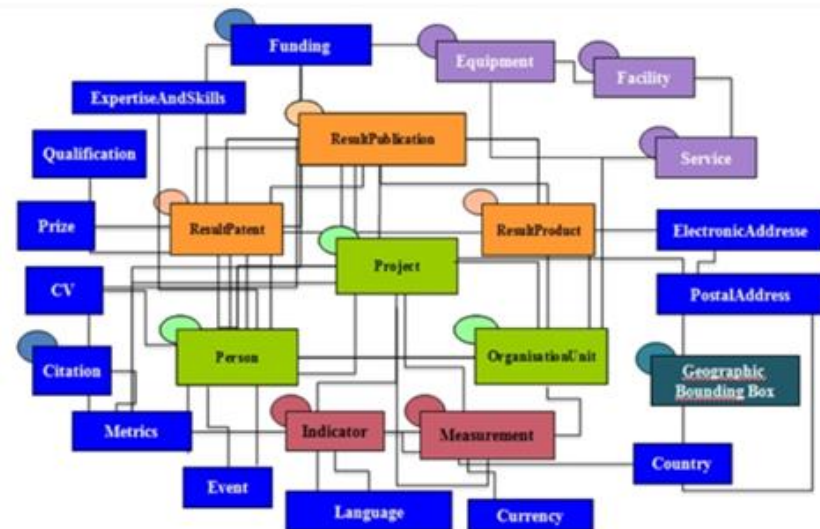
	University		P	P(OA)	P(OA)				
1	Bilkent Univ		1971	1862	94.5%				
2	Univ Portsmouth		2625	2442	93.0%				
3	London Sch Hyg & Trop Med		7926	7185	90.7%				
4	Univ Strathclyde		5468	4879	89.2%				
32	Univ Sheffield		13345	10893	81.6%				
38	Univ Politècnica Catalunya - BarcelonaTech		6537	5275	80.7%				

* 14.5% increase from previous year and an overall increase of over 60% over a six year period

Speaker's academic affiliation

Secretary for the euroCRIS Association

- Dutch non-profit founded 2002
- Association of professionals and bodies worldwide in the areas of research information management and CRIS systems
- Custodian for the Common European Research Information Format (CERIF)
- MoUs with various relevant organisations in the RIM field: OpenAIRE, ORCID, COAR...



euroCRIS
Current Research Information Systems

The International Organisation for Research Information

EuroCRIS / DRIS

Browse

Search the Directory of Research Information System (DRIS)

Name: All [dropdown] [input] AND [dropdown]
Country: All [dropdown] [input]

Results 1-10 of 762 (Search time: 0.0 seconds).
Results/Page: 10 [dropdown] | Sorted by Relevance

previous 1 2 3 4 ... 77 next

Acronym	Name	Scope	Organisation
ETIS	Estonian National Research Information System	National	Estonian Research Council
NARCIS		National	Digital Archiving and Networked

Country	Count
India	207
Norway	132
Italy	76
United Kingdom	68
United States	42

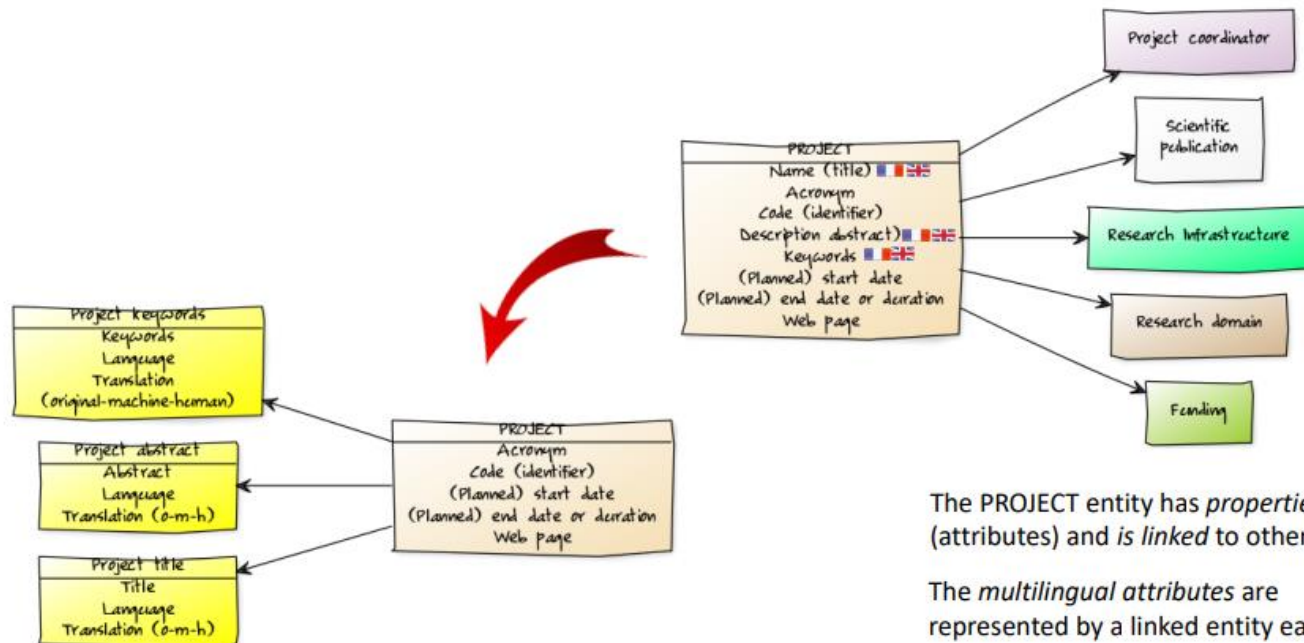
The Common Research Information Format (CERIF)

Main features of CERIF

CERIF (the Common European Research Information Format) is:

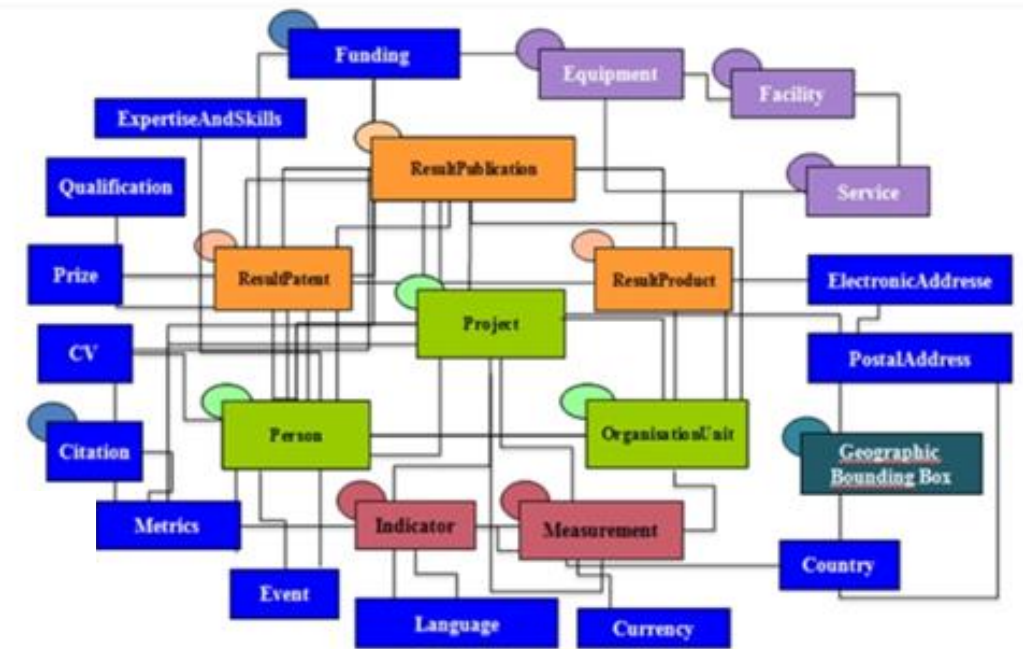
- A concept about research entities and their relationships – Specification (Conceptual Level)
- A description of research entities and their relationships – Model (Logical Level)
- A formalization of research entities and their relationships – Database Scripts (Physical Level)

Metadata for a Research Project



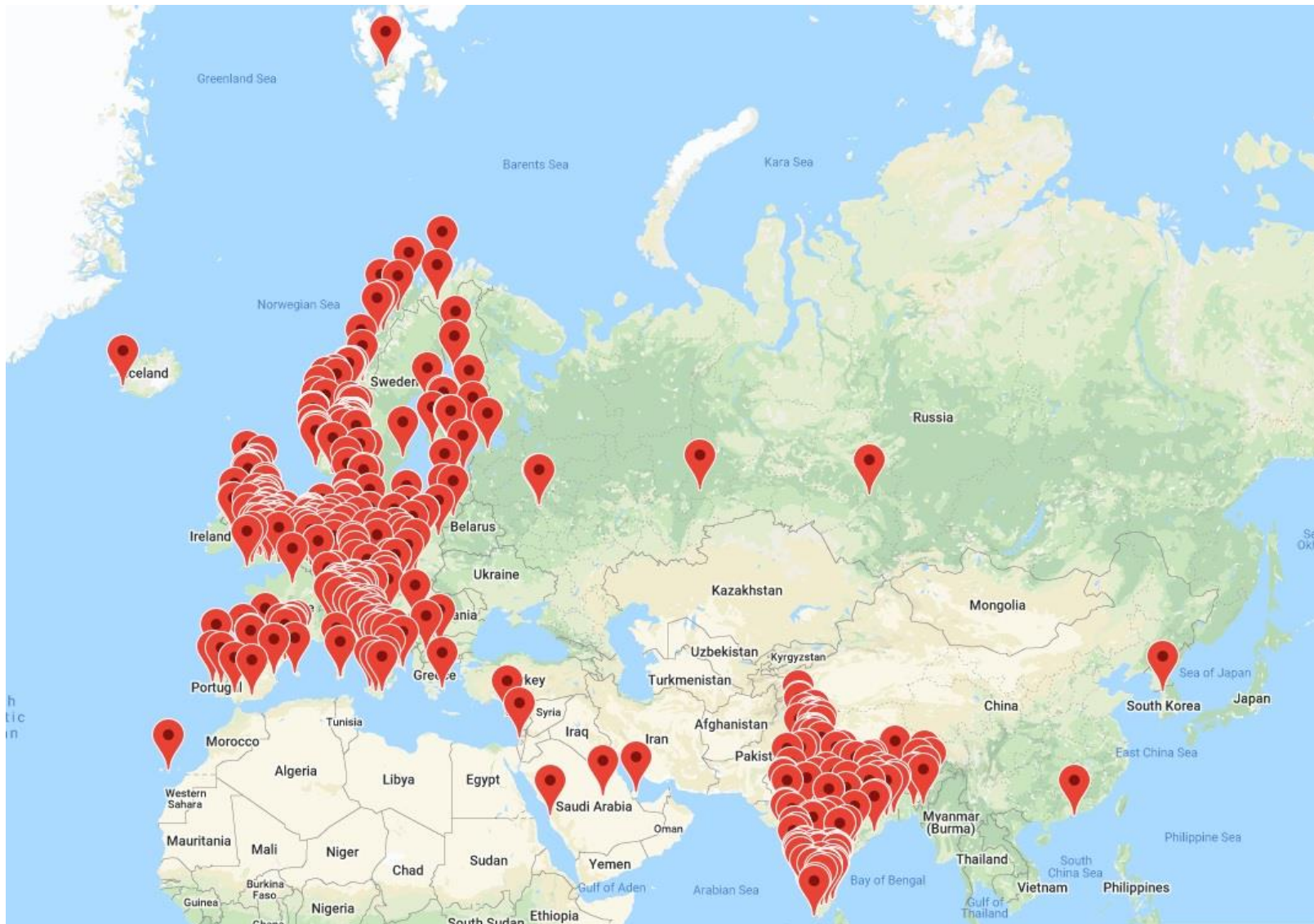
The PROJECT entity has *properties* (attributes) and *is linked* to other entities.

The *multilingual attributes* are represented by a linked entity each.



Slide from: Valérie Brasse (2019) "CERIF Tutorial: Spring 2019 euroCRIS membership meeting Helsinki", <http://hdl.handle.net/11366/1001>

euroCRIS Directory of Research Information Systems (DRIS)



Country	
India	219
Norway	132
Italy	76
United Kingdom	71
United States	42
Germany	32
Poland	31
Spain	23
Netherlands	18
Finland	15
Australia	12
China	11
Denmark	11

So what is a CRIS?

en.wikipedia.org/wiki/Current_research_information_system

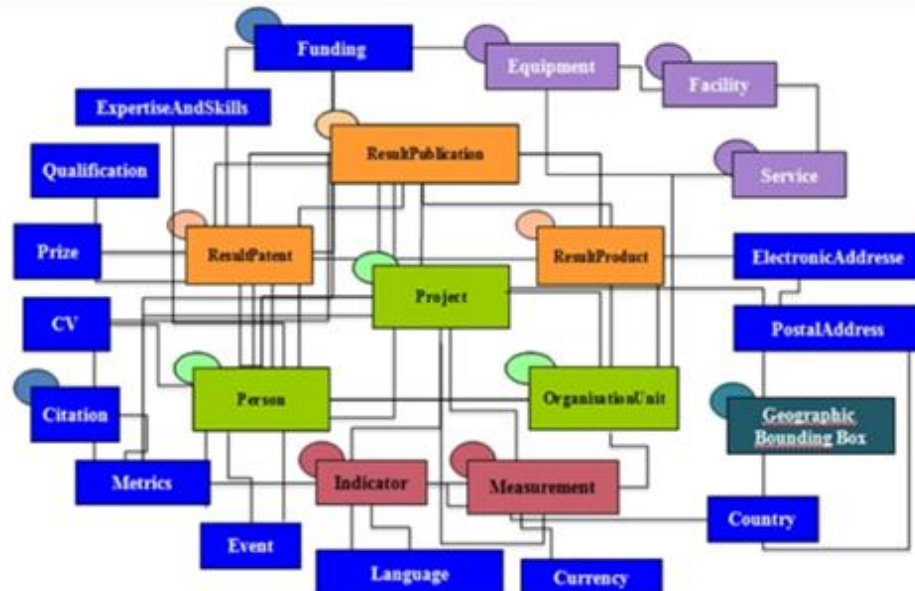


Current research information system

From Wikipedia, the free encyclopedia

A **current research information system (CRIS)** is a [database](#) or other [information system](#) to store, manage and exchange contextual metadata for the research activity funded by a research funder or conducted at a research-performing organisation (or aggregation thereof).^[1]

CRIS systems are also known as Research Information Management or RIM Systems (RIMS).^{[2][3]}



Features [\[edit \]](#)

The data model underpinning a CRIS relies on a set of basic entities as defined by the Common European Research Information Format (CERIF [\[4\]](#)) model maintained by the non-profit organisation euroCRIS.

The links connecting these entities provide a standardised semantic layer that provides consistency to the data model. The basic CERIF entities are **people, organisations, projects and outputs** (publications, research data, patents). Further second-level entities in the comprehensive snapshot of research provided by CERIF are for instance funding, research facilities and equipment or skills.

What is a CRIS useful for?

There are multiple reasons why these CRIS systems have seen such a significant growth in the past few years, some of which are:

- increased awareness for the need for **transparency and accountability for the public funding** that supports the vast majority of the research activity carried out at universities and research centres (De-Castro 2017);
- need for **accurate and comprehensive data on research activity** for evidence-based decision-making by the relevant stakeholders (governments, research funders);
- subsequent **reporting requirements by research funders** – for their funding programmes – **and by governments** via national-level research assessment exercises used to support the funding distribution to universities and research centres;
- **internal reporting requirements** at such institutions for decision-making processes including promotion;



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The Rise of Current Research Information Systems (CRIS): The Case of the Indian Research Information Network System (IRINS)

AUTHORS

Pablo de Castro, Siva Shankar Kimidi, Nalan Kannan

<https://indiarxiv.org/uv5pg/>

What is a CRIS useful for? (II)

- via their front-end platforms, often called research portals, these systems allow research-performing organisations to **showcase the research activity they conduct** as well as its results. This is important for attracting talent and students, for promoting research collaborations and for highlighting their contribution to society;
- **increased discoverability of research work and experts** helps research funders identify suitable reviewers for the project proposals they receive and allows interested stakeholders (often Industry) to identify possible collaborators for public-private partnerships;
- CRIS systems are proving critical pieces of the distributed e-infrastructure required for the **implementation of open science**.



The rise of Current Research Information Systems (CRIS): the case of the Indian Research Information Network System (IRINS)

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<https://indiarxiv.org/uv5pg/>

CRIS systems and Research Assessment Exercises

Research

The New Research Assessment Reform in China and Its Implementation

Authors: Lin Zhang, Gunnar Sivertsen 

Abstract

A radical reform of research assessment was recently launched in China. It seeks to replace a focus on Web of Science-based indicators with a balanced combination of qualitative and quantitative research evaluation, and to strengthen the local relevance of research in China. It trusts the institutions to implement the policy within a few months but does not provide the necessary national platforms for coordination, influence and collaboration on developing shared tools and information resources and for agreement on definitions, criteria and protocols for the procedures. Based on international experiences, this article provides constructive ideas for the implementation of the new policy.

The new policy demands a broader perspective in research assessment on novelty, scientific value, research integrity, innovation potential and societal outcomes. How will panels be informed about and be able to compare such achievements? There is need for more comprehensive sources of information to supplement Web of Science. These sources could be integrated in a national Current Research Information System (CRIS). We will shortly describe the idea, based on Sivertsen (2019), and the potentials and challenges for its implementation in China.

With an integrated CRIS providing data that are structured and quality assured for statistical purposes, research performing and funding organizations may also use CRIS for monitoring and evaluating research activities and outputs, allocating funding, supporting decision making on their policies and strategies, tracking researchers' careers, and describing their systemic role to policy-makers, stakeholders, and the public.

Are Institutional Repositories and CRIS systems the same thing?

Not necessarily: IRs tend to focus on *publications, Open Access and full-text files*, while CRIS systems collect *all sorts of metadata describing the institutional research activity*, mostly for reporting purposes

This said, IR and CRIS solutions are increasingly *interoperable* and even *integrated*.



Procedia Computer Science

Volume 33, 2014, Pages 39-46



The Gradual Merging of Repository and CRIS Solutions to Meet Institutional Research Information Management Requirements ☆

Pablo de Castro ^a  , Kathleen Shearer ^b, Friedrich Summann ^c

<http://dx.doi.org/10.1016/j.procs.2014.06.007>

Are Institutional Repositories and CRIS systems the same thing?

7 things you should know about Institutional Repositories, CRIS Systems, and their Interoperability

System interoperability between institutional repositories (IRs) and research information management systems (CRISs) is a well-explored but scarcely documented topic that has been around for a number of years [1] in countries where a consistent reporting activity is required on research outputs. The UK is perhaps the best example for such countries, with research assessment exercises being periodically carried out

The CRIS Landscape in Asia and China

Research

The New Research Assessment Reform in China and Its Implementation

Authors: Lin Zhang, Gunnar Sivertsen

CRIS are now widespread in the world, but most of them operate at the institutional level only and are closed systems. The existing commercial solutions, e.g. Converis from Clarivate and Pure from Elsevier, are designed for such local use only. It seems to be a challenge, mainly in the larger countries, to agree on an integrated and open national solution. However, a few countries, e.g. Brazil, Czech Republic, Finland, New Zealand, and Norway, have managed to integrate a CRIS nationally with the help of non-commercial solutions.

In China, most Chinese universities and other research organizations already have their own local systems. An example is Shanghai Tech University with one of the most advanced technical CRIS solutions worldwide, but only for local use (kms.shanghaitech.edu.cn). At the national level, the Ministry of Education (MoE), the Ministry of Science and Technology (MOST), and the National Natural Science Foundation of China (NSFC) have built databases for research and education information (with different focuses, strengths and coverages), but they are mainly used as internal sources.

<https://www.scholarlyassessmentreports.org/articles/10.29024/sar.15/>

DRIS Entries			
Acronym	Name	Scope	Organisation
	ShanghaiTech University Knowledge Management System	Institutional	Shanghai Tech University
	The HKU Scholars Hub	Institutional	The University of Hong Kong
CUHK Research Portal	Chinese University of Hong Kong Research Portal	Institutional	Chinese University of Hong Kong

dspacecris.eurocris.org/cris/dris/dris01717



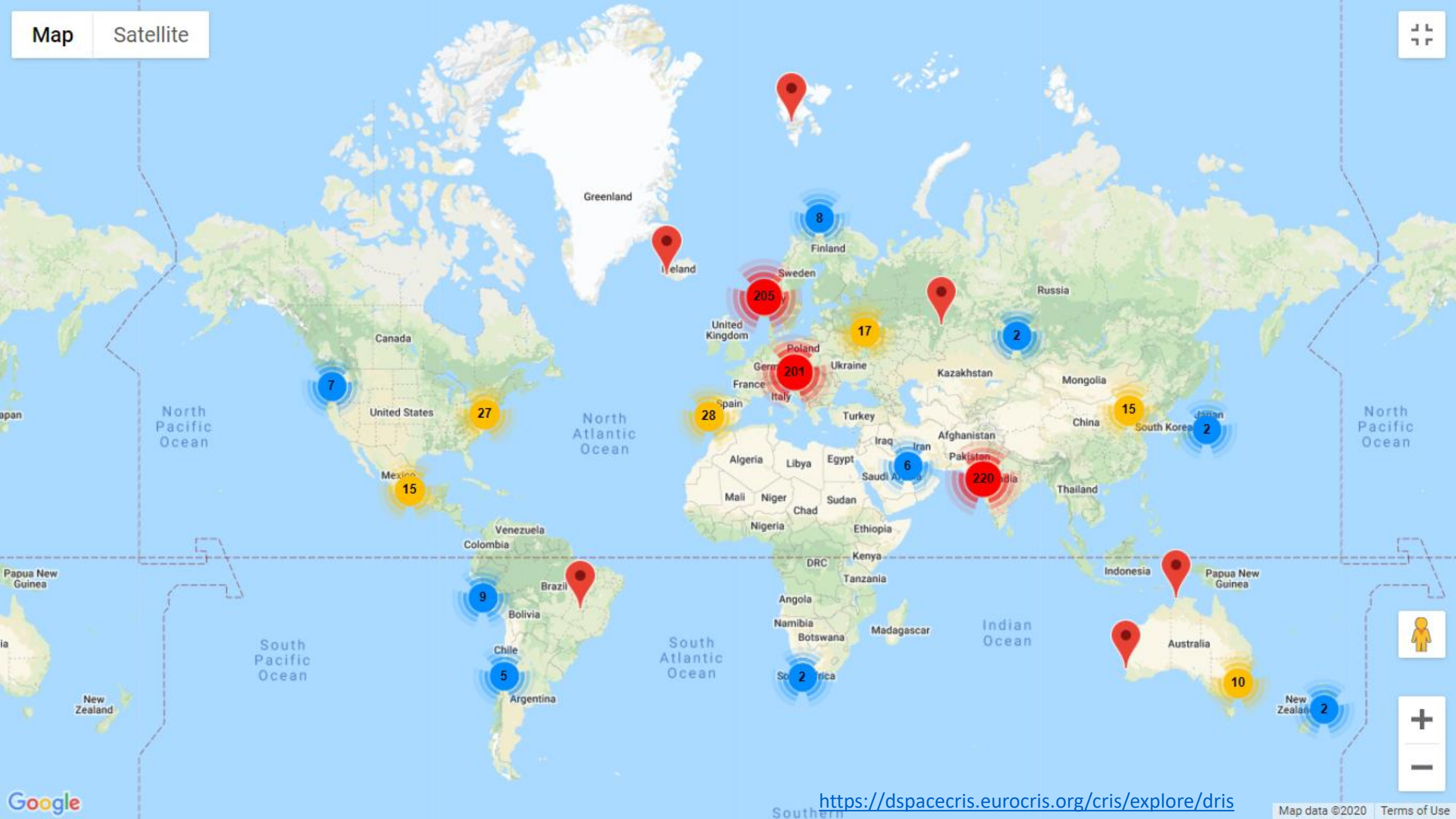
DRIS Details

Name of the CRIS ShanghaiTech University Knowledge Management System **Status** Operational
Scope Institutional **URI** <https://kms.shanghaitech.edu.cn/>
Institution/organization Shanghai Tech University **Country** China **Software** CSpace

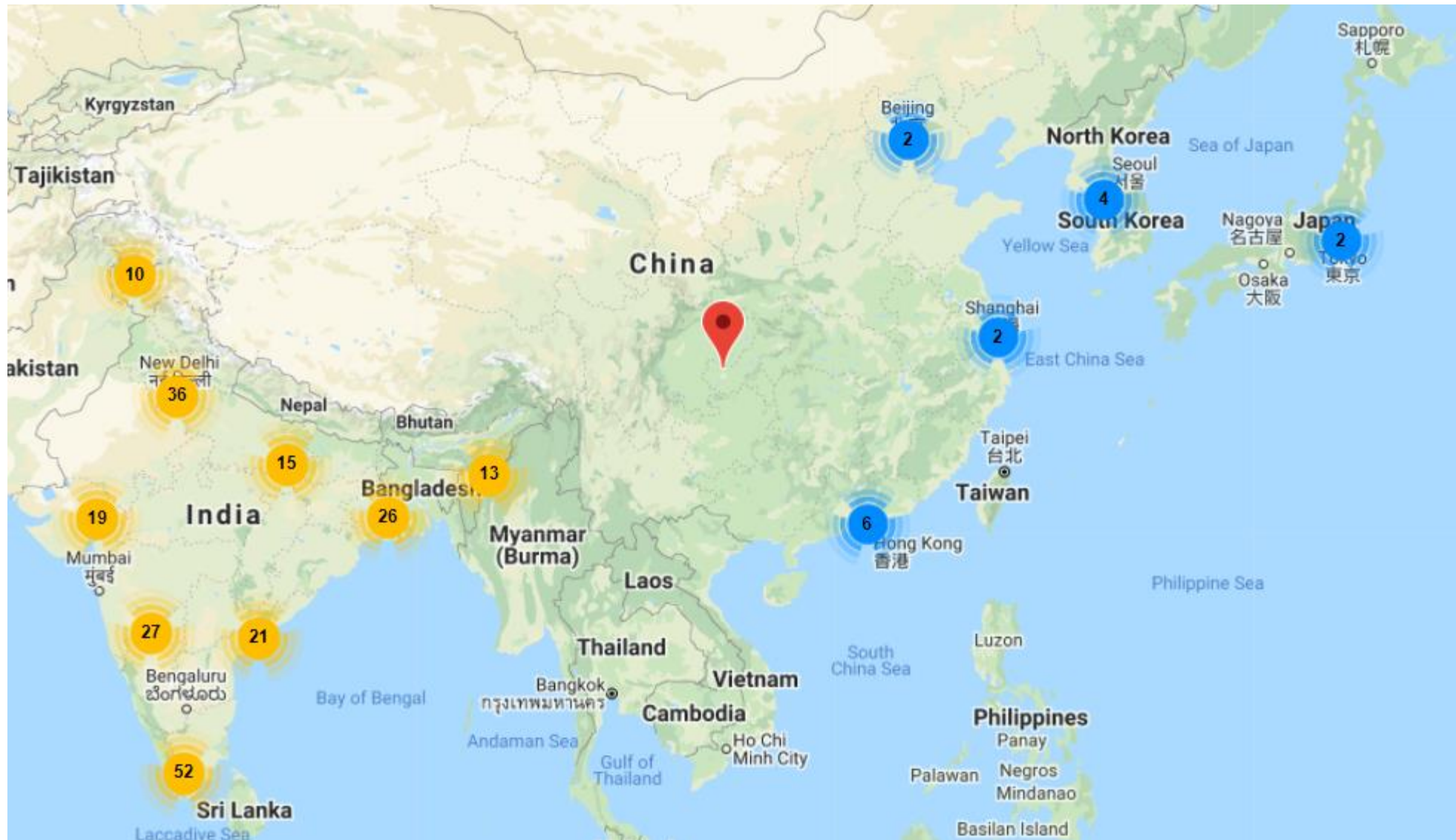
<https://dspacecris.eurocris.org/cris/dris/dris01717>

Map

Satellite



The CRIS Landscape in Asia and China



CRIS Systems in China

DRIS Entries			
Acronym	Name	Scope	Organisation
	ShanghaiTech University Knowledge Management System	<i>Institutional</i>	Shanghai Tech University 
	The HKU Scholars Hub	<i>Institutional</i>	The University of Hong Kong 
<i>CUHK Research Portal</i>	Chinese University of Hong Kong Research Portal	<i>Institutional</i>	Chinese University of Hong Kong 
<i>HK PTU Pure</i>	Pure Hong Kong PTU	<i>Institutional</i>	Hong Kong Polytechnic University 
	EdUHK Research Repository	<i>Institutional</i>	Education University of Hong Kong 
	CityU Scholars	<i>Institutional</i>	City University of Hong Kong 
	Lingnan Scholars	<i>Institutional</i>	Lingnan University 
	KMS Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences	<i>Institutional</i>	Chinese Academy of Sciences, Shanghai Institute of Optics and Fine Mechanics 
	KMS Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences	<i>Institutional</i>	Chinese Academy of Sciences, Tianjin Institute of Industrial Biotechnology 
	KMS Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences	<i>Institutional</i>	Chinese Academy of Sciences, Chongqing Institute of Green and Intelligent Technology 
	KMS Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences	<i>Institutional</i>	Chinese Academy of Sciences, Institute of Geographic Sciences and Natural Resources Research 

Software

CSpace	5
Pure	4
Converis	1
DSpace-CRIS	1

Status

Operational	11
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ShanghaiTech University Knowledge Management System

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- In operando x-ray photoelectron spectroscopy stu.. [期刊论文,2020-12]

Downloads

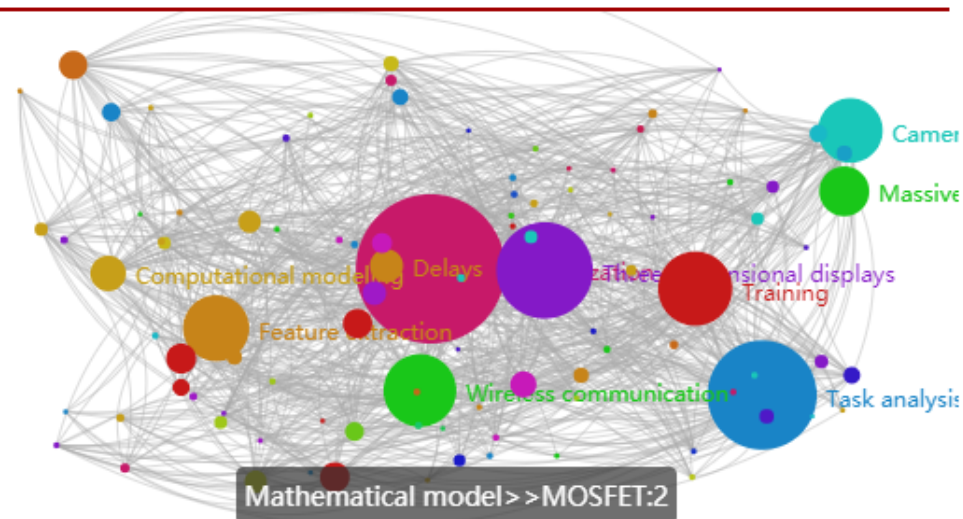
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1. In vitro expression and analysis of the 826 human G protein-c.. ↓[179]
2. Preferential Facet Growth of Methylammonium Lead Halide Singl.. ↓[173]
3. Crystal Structure of the Human Cannabinoid Receptor CB2 ↓[170]

Keywords Co-occurrence Map

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Collaboration network map

More »



CRIS Systems in China: CSpace-based ShanghaiTech KMS

Total Items **9533**

Fulltexts **7177**

Views **1082967**

Downloads **41040**

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Address: 上海市浦东新区华夏中路393号 Tel: 86-21-20685191

- **Fulltexts?** Is this an Institutional Repository then?
- **CSpace** is the Chinese variant for the most popular open source repository software worldwide (DSpace)
- DSpace has now an extension called **DSpace-CRIS** that allows additional metadata to be collected for entities such as research projects, which turns the platform into a **repository/CRIS hybrid**. Cspace also follows this approach
- One of the DRIS entries for China (**HKU Scholars Hub** at <http://hub.hku.hk/>) is based on DSpace-CRIS
- Expanding the data model of an open source institutional repository grid like <http://www.irgrid.ac.cn/> into a network of institutional CRIS systems that can be aggregated to form a **national CRIS platform** is an approach already being applied elsewhere. Please contact eurocris@eurocris.org for more information.

Thanks!

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