

National R&D Information Management of NTIS

– Case Study in Costa Rica –

Dec. 2016



NTIS Center

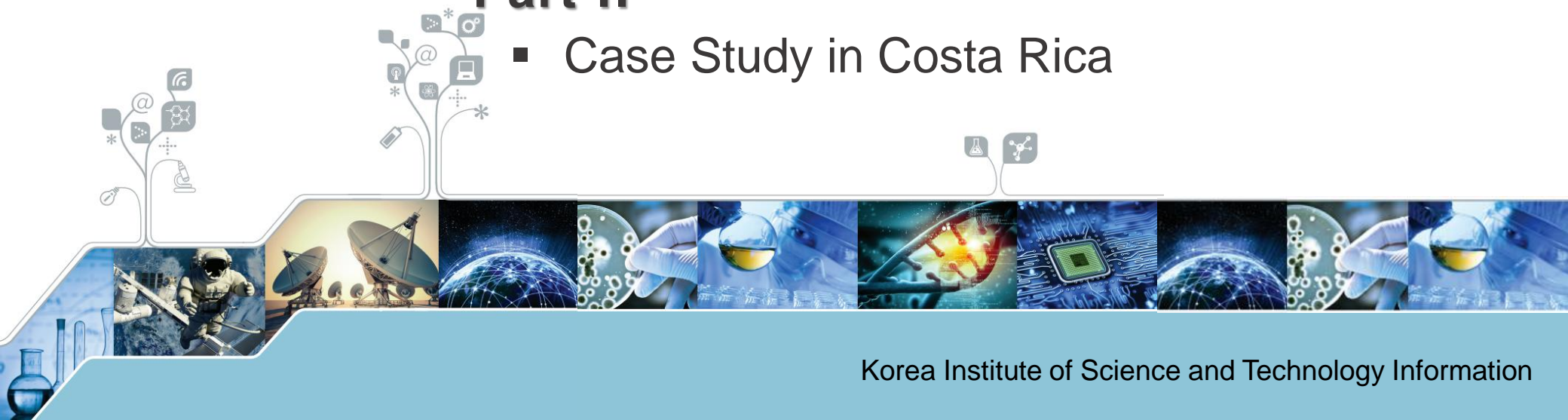
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- Contents and Services
- Awards

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- Case Study in Costa Rica



Part I

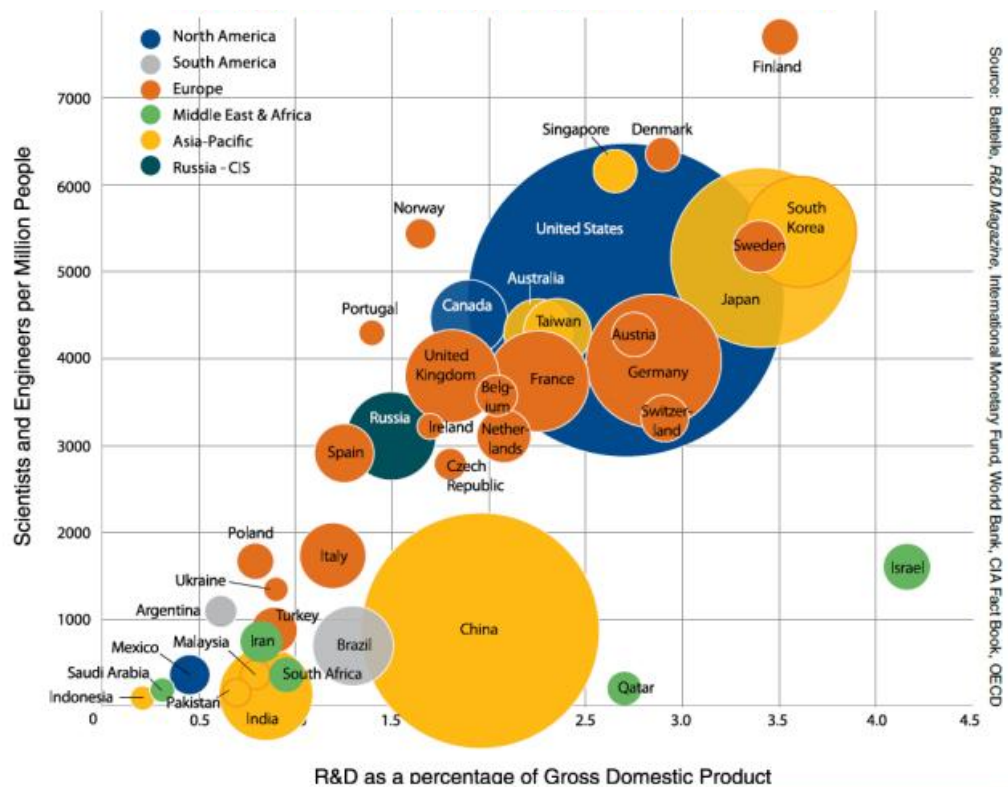
- Background
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Background : R&D Investment in Korea

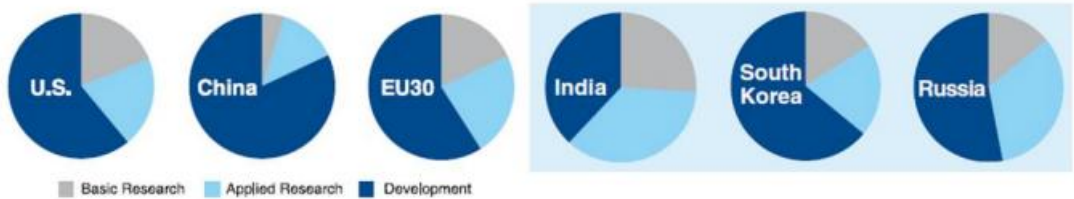


Gross R&D Investment by Nation and Investment in GDP



		2014		
		GDP	R&D	GERD
		PPP	as % GDP	PPP
		Bil, US\$		Bil, US\$
1	United States	16,616	2.8%	465
2	China	14,559	2.0%	284
3	Japan	4,856	3.4%	165
4	Germany	3,312	2.9%	92
5	South Korea	1,748	3.6%	63
6	France	2,319	2.3%	52
7	United Kingdom	2,454	1.8%	44
8	India	5,194	0.9%	44
9	Russia	2,671	1.5%	40
10	Brazil	2,515	1.3%	33

Source: Battelle, R&D Magazine, International Monetary Fund, World Bank, CIA Fact Book, OECD



Background : Problems

National R&D project information at a glance



Where can I find
R&D information?

Is my research
project original?

Where can I find
research result
I can use?

Where can I find
research equipment
I can borrow?



Goal and Strategies of NTIS



Promote National R&D Investment effectiveness,
R&D Management transparency, and R&D Productivity

strategy

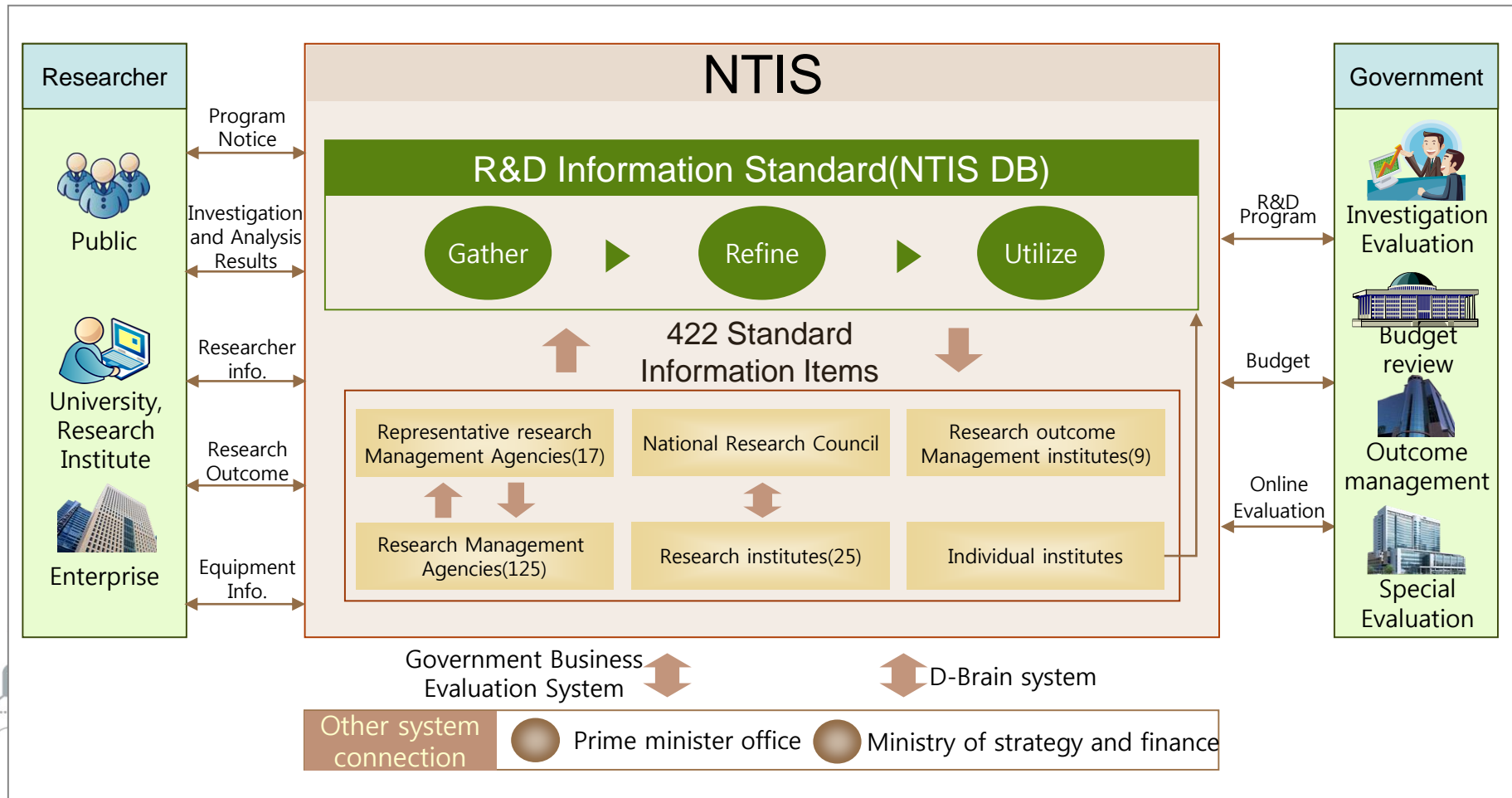
inter-ministrial
Cooperation

IT-Based
Information Sharing

Interconnecting
Information



NTIS Overview

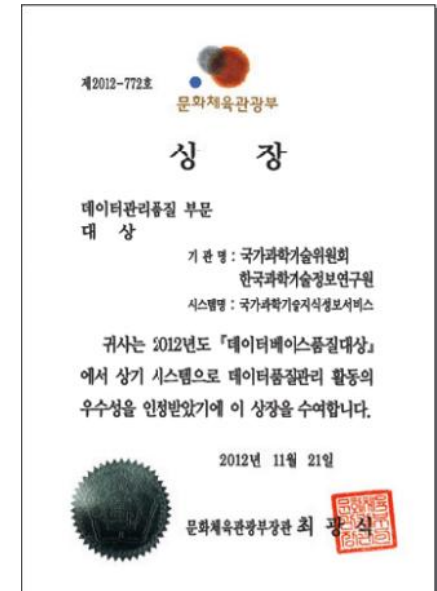


Contents : Fully linked and interconnected

- Records in total : 4,758,436 (Dec, 2015)
- Number of affiliated users: 250,094 (Dec, 2015)



Awards



Part II

- Case Study in Costa Rica



NTIS International Cooperation(Summary)

★ Interest

★★ MOU

★★★ Feasibility Study

★★★★★ Budget
(Starting Year)



Feasibility Study on Establishing National R&D Information Management System for Costa Rica(Draft)



2016



MICITT

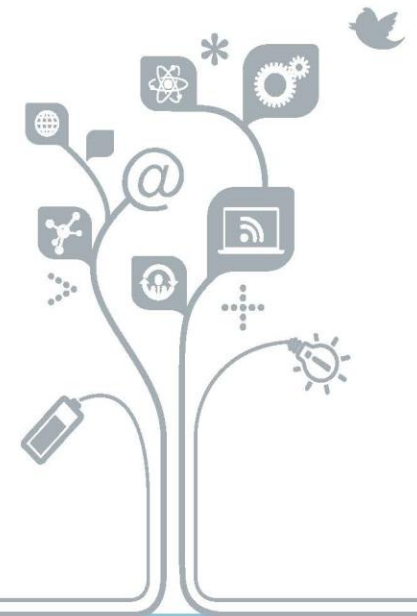


KISTI

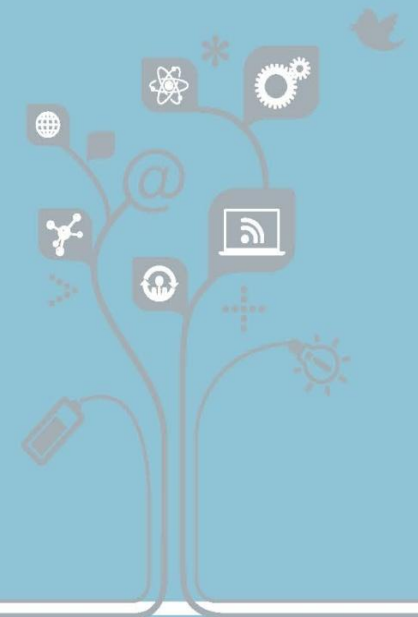


Contents

1. Introduction
2. As-Is Analysis
3. To-Be Model Design
4. Execution Plan



1 Introduction



Goal of The Project



Suggests realistic, efficient and stable guidelines for National Science and Technology Information Service of the Republic of Costa Rica

1

Integrated Information Management Plan for R&D

- We will analyze the present status of R&D information service system and implement F/S consulting for establishing plan of efficient future system

2

Sharing Development Experience

- We will share the experience of NTIS, considered as one of the best in the field

3

Strengthen Cooperation for National R&D Information System

- We will strengthen the cooperative relationship between the two countries and arrange the groundwork for future businesses

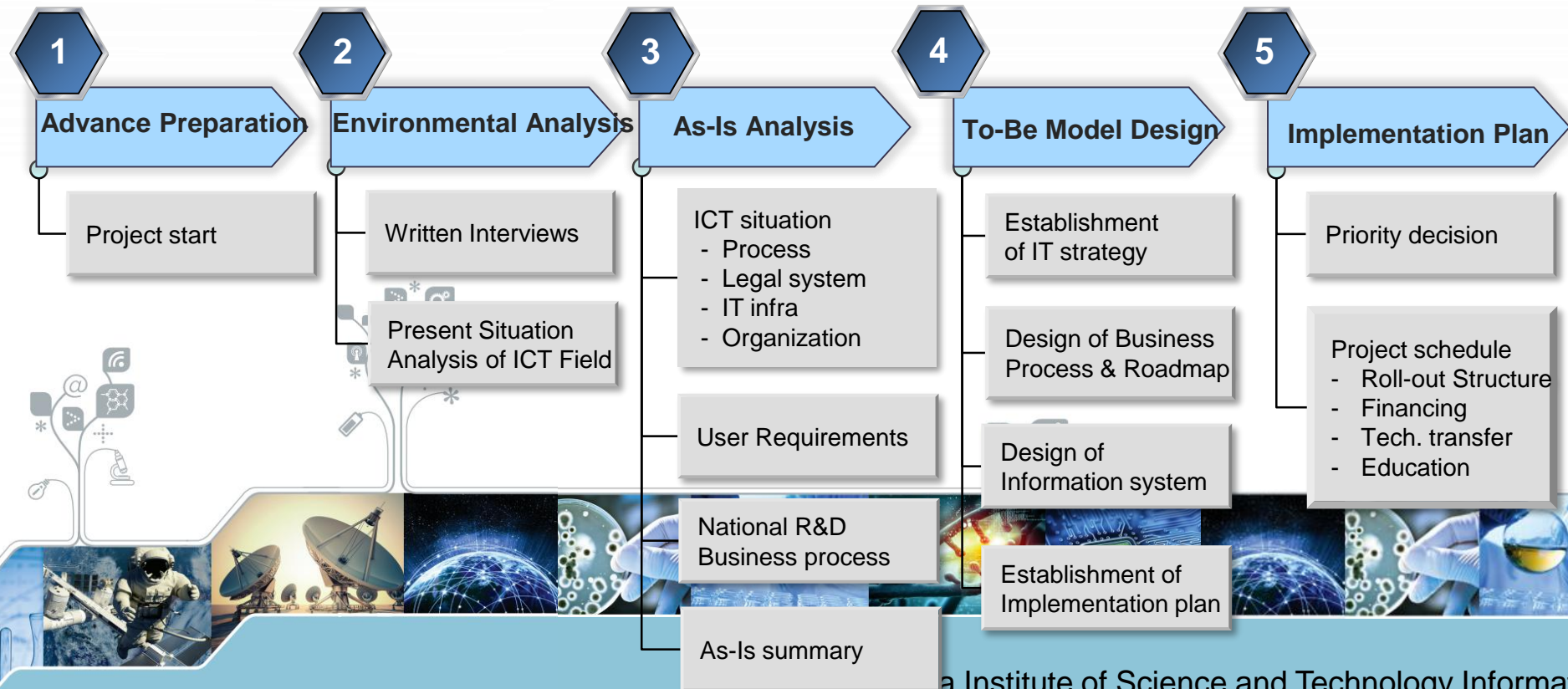


Major Activities

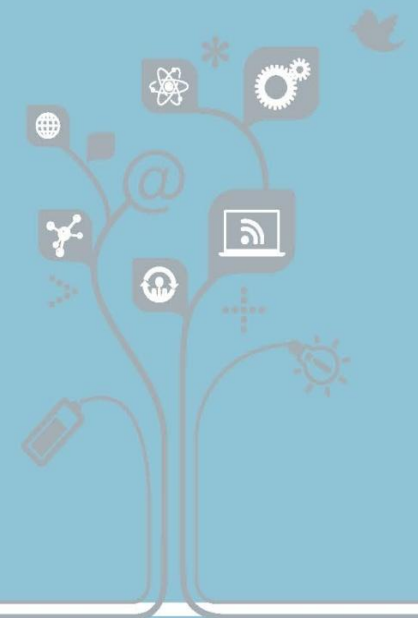


F/S consulting

- F/S consulting has been done according to five phases that consist of advance preparation, environmental analysis, As-Is analysis, To-Be Model design, and implementation plan



2 As-Is Analysis



Interviews In Costa Rica



Joint Working Process in Costa Rica (Business process and stakeholders Understanding)

- **Date/Visitors** : Jul.11 - Jul.15 / KISTI(Dr. Choi and others), accompanied by MICITT R&D Director
- **Relevant organizations** : MICITT, UCR, TEC, UNED, CONAGEBIO, CITA, CENAT, PEN, HRTD, SENASA (10 organizations)
- **Main content** : Introduction of NTIS and present situation analysis, interview
- **Contents of investigation** : government policy, law/regulation, standardization, program evaluation, DB construction, system operation

MICITT, TEC, UCR, UNED, CONAGEBIO, CITA(Jul.11-12)



CENAT,PEN(Jul.13)



HTTD,AENASA(Jul.15)

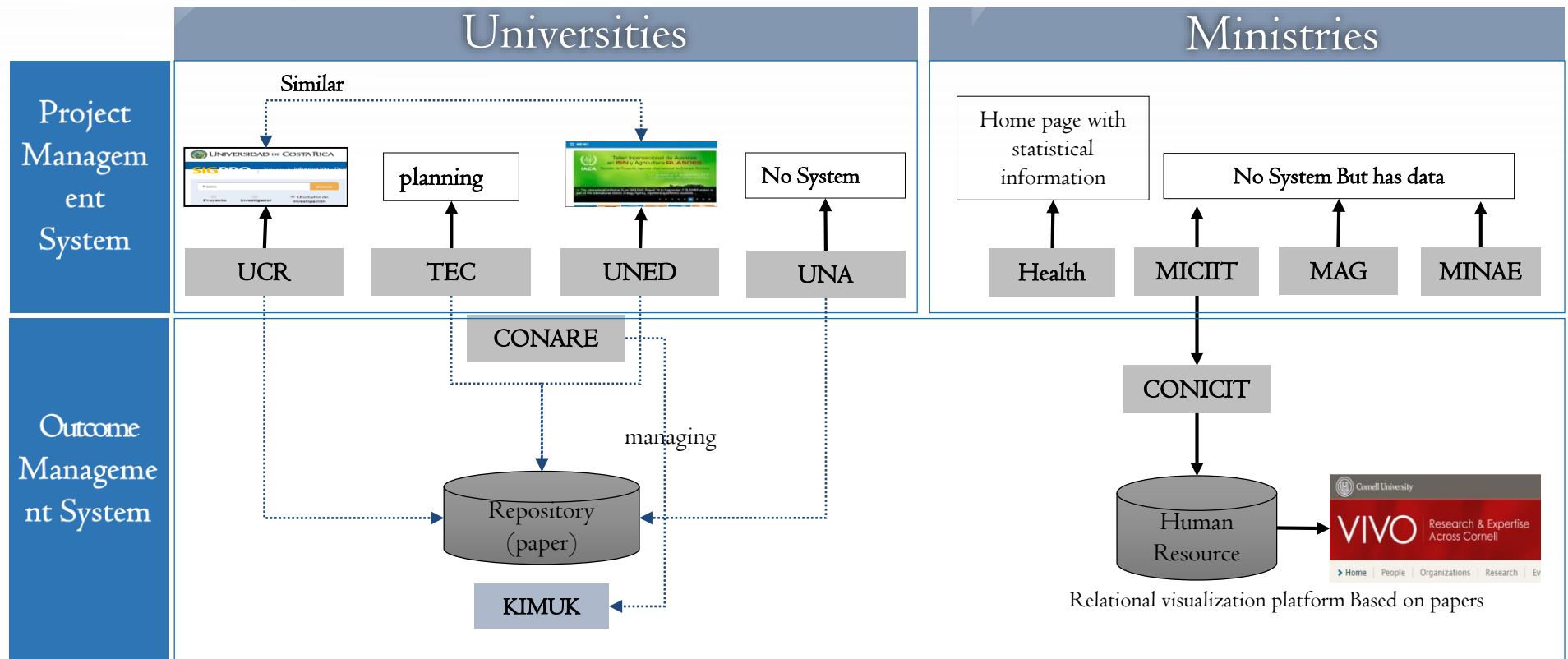


R&D Management System Status



National R&D Management systems In Costa Rica(July, 2016)

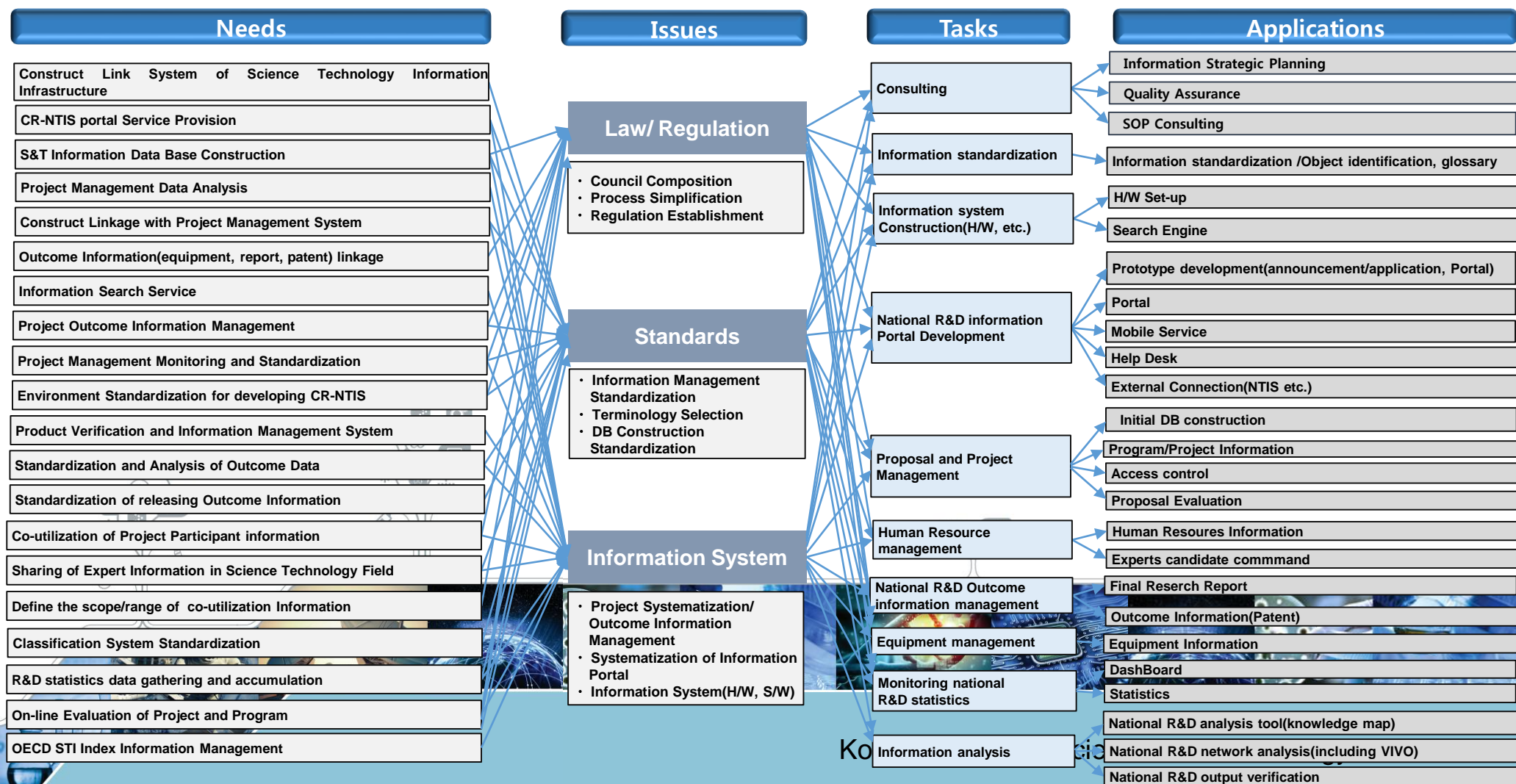
- Some **isolated systems** are in place(scattered), **some plan** to construct a new system but **no integrated system vision was identified**
- (Implication)** Stakeholders(Ministries and Universities) recognize the need for an integrated system



Improvement Opportunities Diagram



Based on the demands from CR, applications for CR-NTIS has derived



3 To-Be Model Design



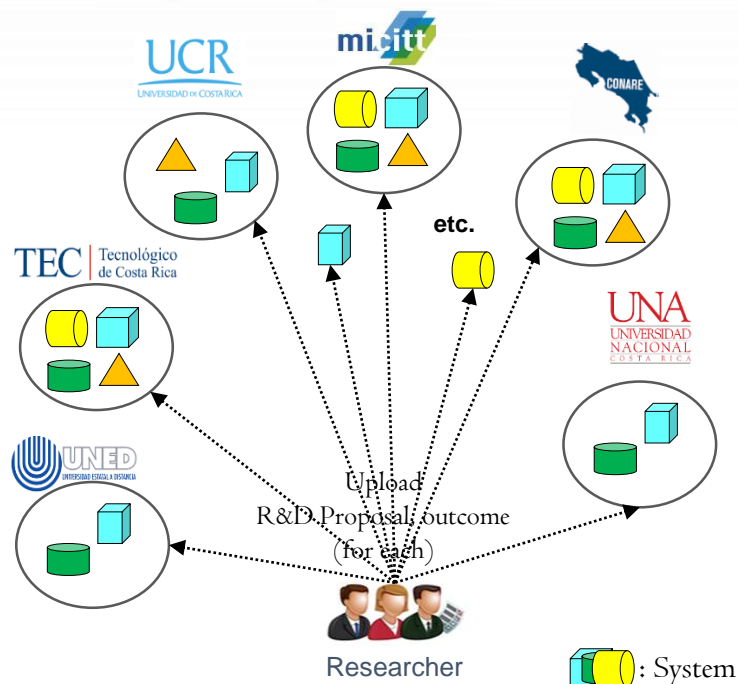
Main Concept for CR-NTIS



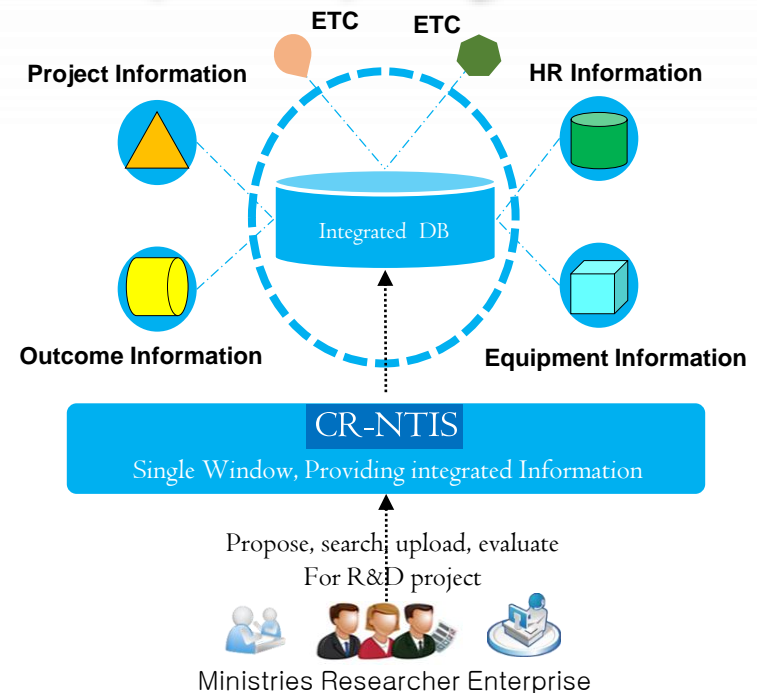
Integrated R&D Program and Project Information Service

- Service-oriented Integration of formerly sporadically managed information into a single National R&D Information Service
- Main Idea: Integrated information management, sharing R&D data

(AS-IS) Scattered



(TO-BE) Integrated



Vision and Mission



National R&D Information Management for Enhancing Productivity

Talent Development, Research and Tech
Development, Innovation

Information
(Collection)

Control tower
(Control)

Policy/Strategy
(Support)

Statistics/OECD
index
(Monitoring)

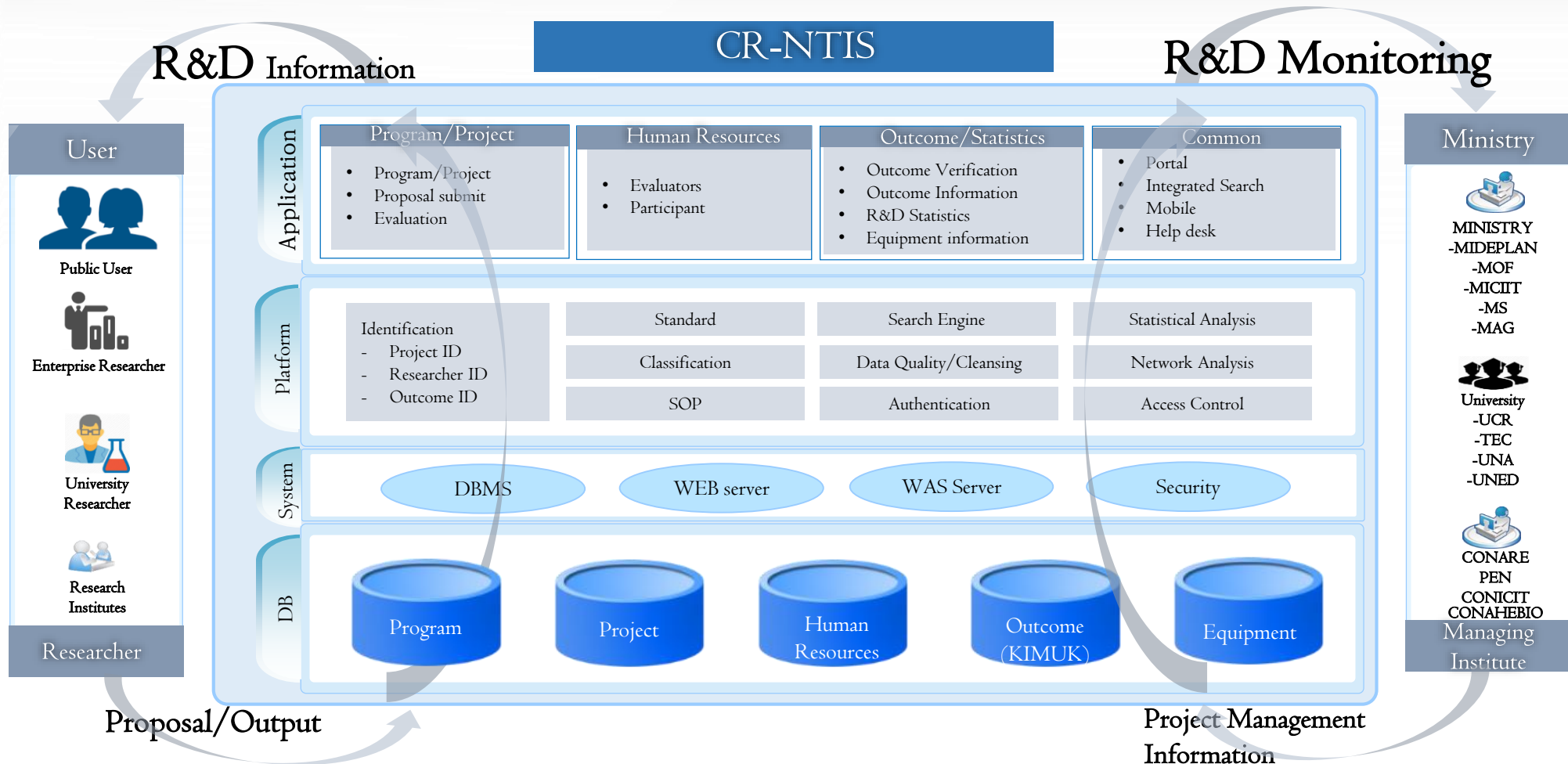


CR-NTIS Diagram



Integrated R&D Program and Project Information Service

- The system contributes to create virtuous cycle in R&D environment



SINCYT Homepage(1/2)



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sobre los resultados

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del equipo

Estadísticas
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A comprehensive information of government funded
R&D information of Costa Rica including program, project, participant, outcomes.

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Announcement Information

Government Policy Coordination

"Costa Rica SDI (web-based spatial
information inspection) system
developed" technical service company
for Bidding

Deadline: 2015-11-23

Ministry of Public Safety and security

2016 Year of maritime safety guards
research and development of new
business challenge contest

Deadline: 2016-03-21

Ministry of Health and Welfare

2016 Year national injury surveillance
research project Central Support Team
ordinary private secondary institutions
doing business re-announcement

Deadline: 2016-02-23

News Information

Absenteeism survey 'preschool and junior high school students ...

□ KTV public broadcasting □ Aired:
'16. 1.29 □ Contents: Transactions ...
2016-02-14

Listen to the 2016 work plan Ministry mounting

□ KTV public broadcasting □ Policy

SINCYT Homepage (2/2)



User University / Researcher of Enterprise / Public User



National R&D
Announcement



Project Proposal



Outcomes Information



Registration
of research report

Ministry Ministry / University



Receiving a proposal



Evaluation



R&D Statistics of OECD



Participants status

MICITT Ministry of Science, Technology
and Telecommunications

MAG Ministry of Agriculture and Livestock

MIMNAE Ministry of Environment
and Energy

MS Ministry of Health

UCR University of Costa Rica

TEC Costa Rica Institute of Technology

UNA National University of Costa Rica

UNED UNIVERSIDAD ESTADAL A DISTANCIA

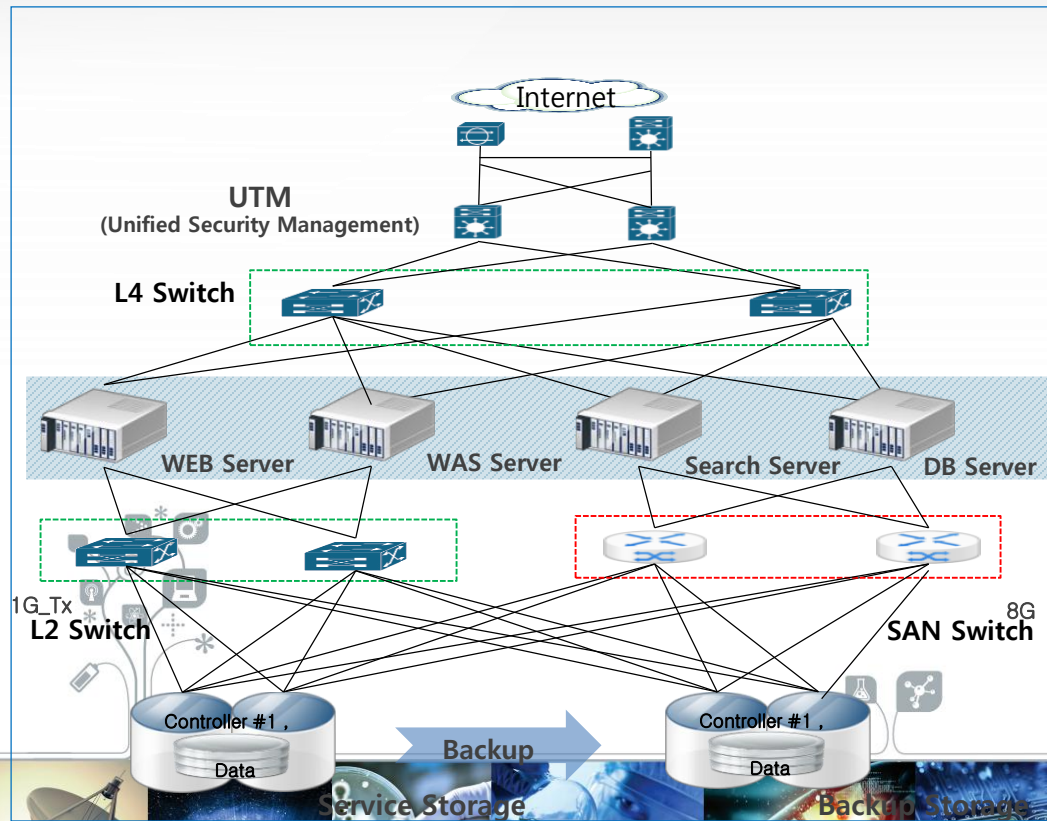
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Infrastructure for CR-NTIS



Robust and fault-tolerant duplicated structure



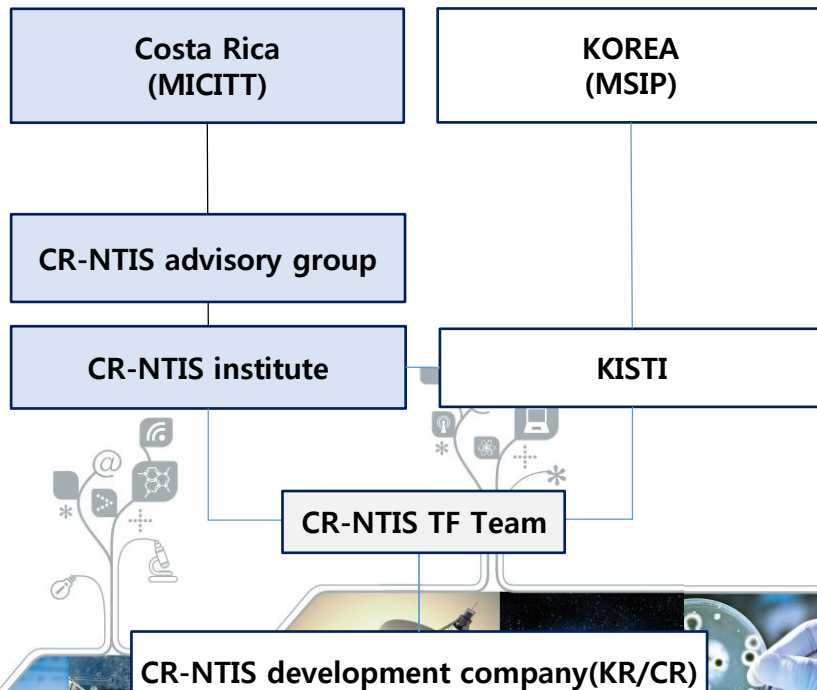
4 Execution Plan



Tight Cooperation between CR-KR



In order for CR-NTIS Implementation with solid cooperation and communication, the following TF team organization structure is recommended



MICITT	<ul style="list-style-type: none"> - Select institute and secure budget for CR-NTIS construction - Support CR-NTIS construction management system (law/regulation, standardization, information system)
CR-NTIS Advisory group	<ul style="list-style-type: none"> - Composition : related institutes of national R&D program(MICITT, MAG, UCR, TEC, etc.) - Main contents : support such as analysis on current state of CR-NTIS construction, information linkage, etc.)
CR-NTIS institute	<ul style="list-style-type: none"> - CR-NTIS program announcement - MOU (or LOC) between CR institute and KISTI - Handle the total information construction and selection of Korean development company for CR-NTIS construction
MSIP	<ul style="list-style-type: none"> - Support information on policy related to NTIS construction management system
KISTI	<ul style="list-style-type: none"> - Role of PMO(Project Management Office) for whole process of system construction and ISP - Training for NTIS construction know-how - Recommendation for CR-NTIS development company
CR-NTIS Development company	<ul style="list-style-type: none"> - CR-NTIS information system development
CR-NTIS TF Team (CR-KR)	<ul style="list-style-type: none"> - Composition : stakeholders of participating institute for CR-NTIS construction(CR-NTIS institute, KISTI) - Main content : discuss the progress of whole process of CR-NTIS information system construction

Expected Effects



➤ Enable effective investment and increase productivity through integrated

- Increase efficiency of information gathering and effective data management for OECD STI Indexes
- Increase investment effectiveness by preventing duplicate projects among ministries
- Enable monitoring and tracking cycles of national R&D activities
- Enable evidence-based timely decision making and policy planning using real-time information
- Increase research productivity through sharing research outcome information of other researches





Thank you

