

Towards Effective Execution of Public Works by IT

CALS/EC National Promotion



**Ministry of Land,
Infrastructure and Transport
2002**

CALS/EC Local Promotion Action Program (National Version)

Full-scale CALS/EC introduction has begun for public works projects administrated by the Ministry of Land, Infrastructure and Transport, as an effort to improve the execution system for public works via the use of IT. Nevertheless, CALS/EC must be introduced to local government agencies to demonstrate the effect of CALS/EC. This document will outline the "CALS/EC Local Promotion Action Program (national version)", where measures in which CALS/EC is to be introduced for local government agencies throughout Japan is presented, as well as a description of the background to the action program.

Construction-Related Industries

Difficulties in support for different purchasers
Is there a future plan for introducing CALS/EC to local government agencies? (From when? What kinds of preparations are needed?)

Local Government Agencies

What are the advantages of introducing CALS/EC?
What are the actions being taken by the central government?
Are other prefectures starting to introduce CALS/EC?
From what point should CALS/EC introduction be started?
Support is desired

Establish CALS/EC Promotion Council in each local block

Settling on a CALS/EC Local Promotion Action Program (local version)

Advantages (localization)

Questionnaire survey results (actual)

- Local characteristics

Concepts, plans for local government agencies, etc. within blocks

- System preparation
- Organization, coordination of problems and issues that appear at introduction
- Implementation schedule for Electronic bidding and electronic delivery

Others

Support

Ministry of Land, Infrastructure and Transport

Establish a "Local CALS/EC Promotion Council"
Free, low-cost publication of technology development results
Settlement and disclosure of a standardization manual
Support for verification field tests

Public Utility Foundation

Establish an "Electronic Bidding Core System Development Consortium"
CALS/EC Qualification System
Technical support for construction technology centers of prefectures
Training and spreading activities
Support for settling on measures for Basic Maintenance Plan, etc. of local government agencies

Targets to be Realized for CALS/EC by FY 2010

Local Government Agencies

IT strategy and consistency
 Separate promotion plans
 Verification field tests
 Trial operation

Others

Liaison & coordination as well as information exchanges for local government agencies

Questionnaire survey on efforts for CALS/EC

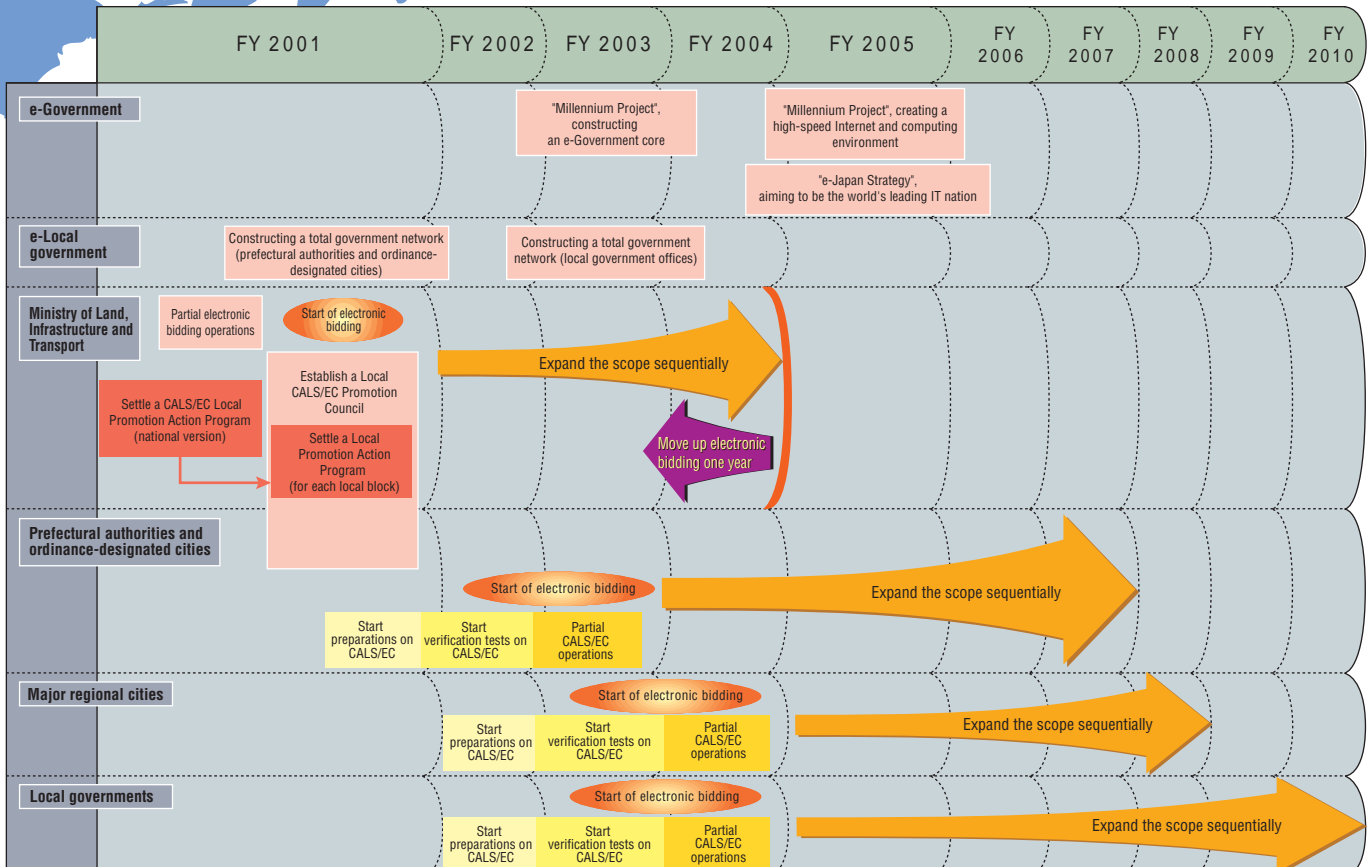
Sharing know-how for verification test

Information exchanges concerning support from the central government, etc.

Standardization

Targets for Yearly Plan

Ministry of Land, Infrastructure and Transport's Targets for Supporting CALS/EC Introduction



Advantages of CALS/EC Introduction

CALS/EC provides the following advantages, as to be expected from its characteristics. The potential for greater effects to be created is brought about by a review of the work process, in relation to IT formation.

Computerization of Information

Storage space can be reduced through storage of electronic materials, such as diagrams, documents and account statements, which had previously been exchanged via paper. In addition, searches can be done easily and in less time.

Utilization of Communication Networks

Information can be exchanged from anywhere, in less time, with electronic data communication via communication networks, which allows work to be executed even faster.

Sharing Information

The information user can utilize information that's always up-to-date and error-free, by using one centrally-managed data, which eliminates information misses and transmission failures.

These advantages are raised further through the participation of more and more people.

Importance of Systematic Promotion

Efforts linked with public works purchasers, including local government agencies, are vital to amply demonstrate the effects of CALS/EC introduction.

What happens if each local government agency falls behind on CALS/EC introduction?

Smaller cost-cutting effect for all public works (Figure 1)
There will be both electronic and previous methods (using paper), thus the supplier-side will need to support these respective methods.

There are disbenefits for the central government, local government agencies, information users or citizens.

CALS/EC introduction to local government agencies nationwide

What if CALS/EC is introduced systematically by coordinating and keeping pace at local government agencies?

Facilitates cost-cutting in all public works
Allows for smooth public works execution

It is tied to advantages for the central government, local government agencies, information users and citizens.

Establish a Local Promotion Council to provide a standard system and criteria

What happens when CALS/EC is loosely introduced by local government agencies?

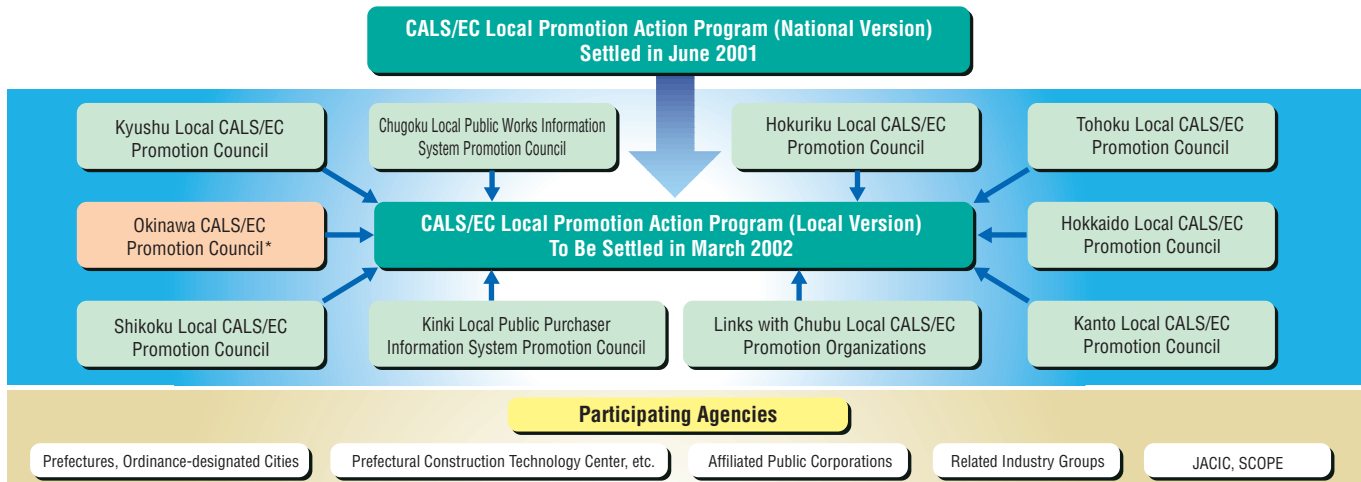
There will be a proliferation of many kinds of criteria and systems, thus the supplier-side will need to support these respective criteria and systems.
Smooth data interoperability will be unavailable, thus the advantages of CALS/EC will not become apparent.

Thus, inefficiency will result in contrast, leading to cost increases.

Support Measures of Ministry of Land, Infrastructure and Transport

Local CALS/EC Promotion Council

"Local CALS/EC Promotion Council" is established in 8 Regional Development Bureaus, the Hokkaido Regional Development Bureau and the Okinawa General Bureau in fiscal year 2001, in participation with Local government agencies and construction-related industries, etc.



* Sponsored by Okinawa General Bureau, Cabinet Office

Action Program by Ministry of Land, Infrastructure and Transport

Aiming for CALS/EC realization by fiscal year 2004 for public works projects administered by the Ministry of Land, Infrastructure and Transport.

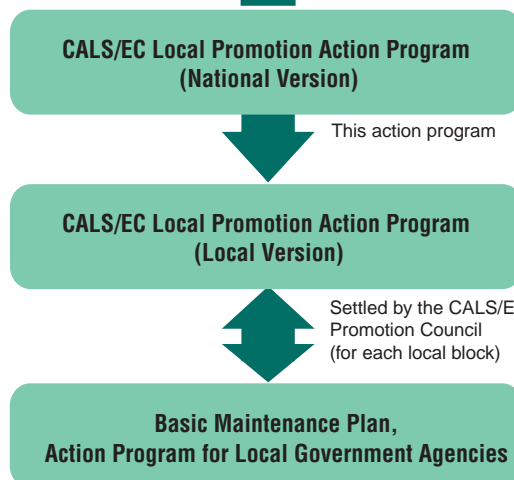
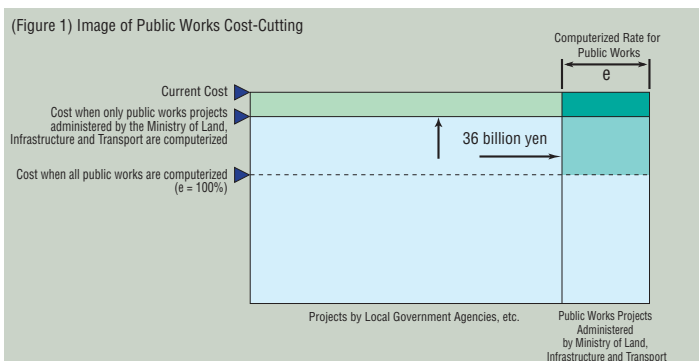
Schedule Outline	Phase 1	Phase 2	Phase 3	By FY 2010 Implementation of CALS/EC in all public purchasers
	FY 1996 to 1998 (FY 1996 to 1999)	FY 1999 to 2001 (FY 2000 to 2002)	FY 2002 to 2004 (FY 2003 to 2004)	
Construction CALS/EC	<ul style="list-style-type: none"> Preparing a PC environment for all staff to make use of the Internet Start of verification test 	<ul style="list-style-type: none"> Implementation of Electronic Procurement System in small number of construction works projects Start of Electronic Delivery of results 	<ul style="list-style-type: none"> Implementation of CALS/EC for all public works projects administrated by MLIT 	
Port CALS	<ul style="list-style-type: none"> Preparing a Port CALS environment Start of model projects 	<ul style="list-style-type: none"> Construction of Integrated Database System Establishment of framework for installing the Electronic Procurement System 		
Airport Facilities CALS	<ul style="list-style-type: none"> Settling Airport Facilities CALS Grand Design Start of model projects 	<ul style="list-style-type: none"> Construction of Integrated Database System 	<ul style="list-style-type: none"> Application of Airport Facilities CALS in public works projects administrated by MLIT 	

*Fiscal years for Airport Facilities CALS are shown in ()

(Estimated Effects)

Costs are expected to be reduced by at least 36 billion yen via space-savings, transfer cost reductions, etc. when electronic delivery and electronic bidding is implemented at public works projects administered by the Ministry of Land, Infrastructure and Transport. However, only a small amount of the actual cost-cutting effect is reflected, as the % covering all public works organizations is small, even when CALS/EC is introduced only at public works projects administered by the Ministry of Land, Infrastructure and Transport.

Currently studying new action programs for the integration of 3 CALS

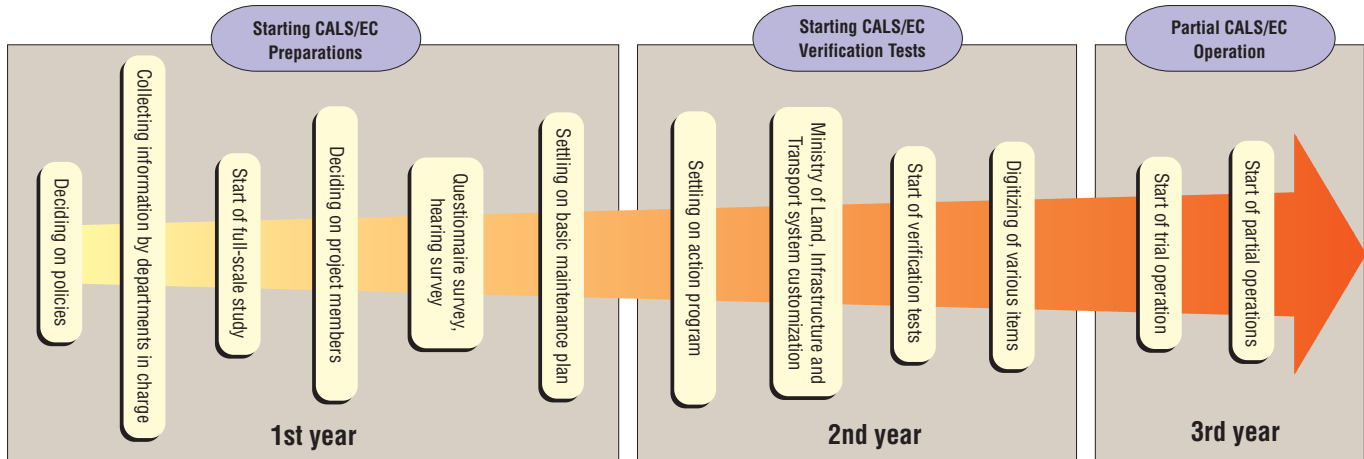


Support Measures by Public Utility Foundation

Support for Settlement of Measures for Basic Maintenance Plans and Action Programs of Local Government Agencies

Basic maintenance plans and action programs have been settled on by some agencies, as efforts for local government agencies CALS/EC, and such effort have more and more proceeded. In addition, local government agencies, in advanced efforts, have begun verification tests on electronic procurement and sharing information.

Example of Process for CALS/EC Introduction in Local Government Agencies



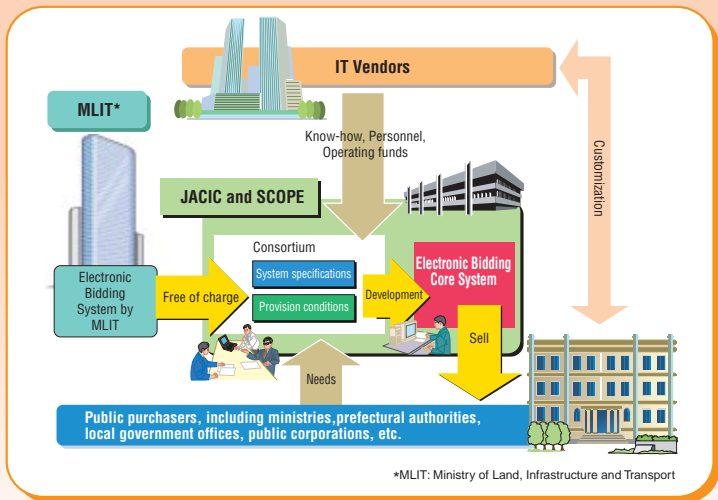
"Electronic Bidding Core System Development Consortium"

Based on the electronic bidding system provided free of charge by the Ministry of Land, Infrastructure and Transport, JACIC and SCOPE jointly established a consortium in order to economically develop essential functions added on whereby purchasers such as local government agencies pay jointly for costs. Public purchasers can become members at no cost.

Advantages of core system installation

- Installation of system that guarantees identification and fairness
- Avoids multiple investments for development
- Reduces system development cost via standardization
- Suitable for government procurement agreements

Electronic Bidding Core System: The core part of the electronic bidding system, which has high flexibility and can be applied to multiple public purchasers.



*MLIT: Ministry of Land, Infrastructure and Transport

CALS/EC Qualification System

Registered CALS/EC Expert (RCE)

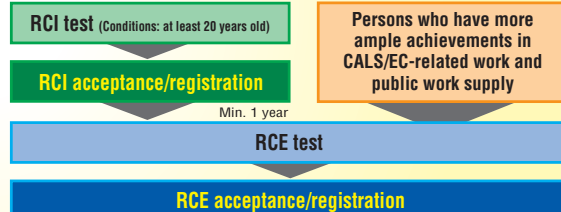
Registered CALS/EC Instructor (RCI)

The Japan Construction Information Center established the RCE and RCI qualification systems in June of 2001 for personnel training and spreading information in order to support, spread and promote the introduction of CALS/EC by local government agencies, etc. The Japan Civil Engineering Consultants Association performs secretariat duties such as tests and registration.

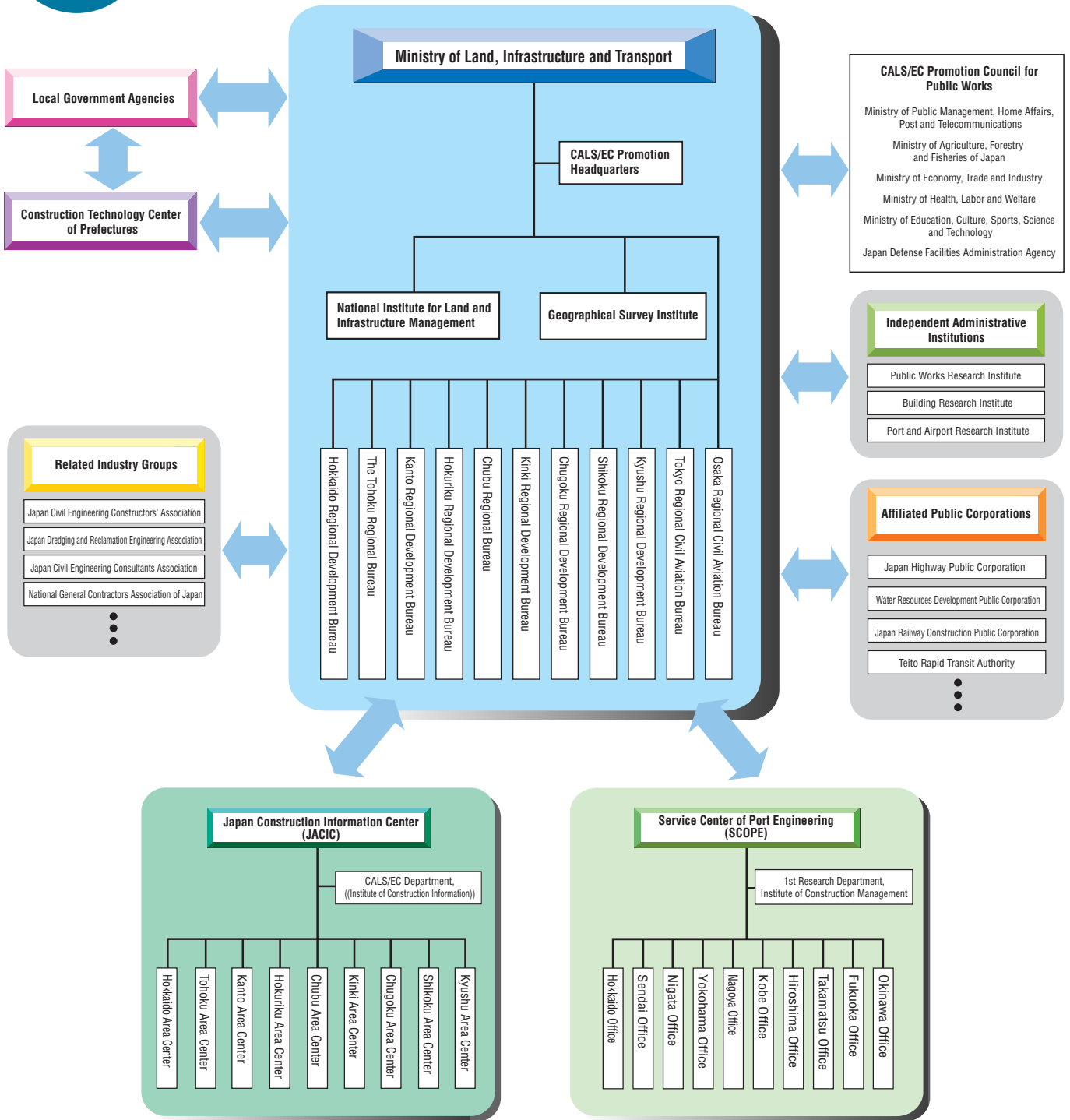
Contributions towards CALS/EC application by Ministry of Land, Infrastructure and Transport and CALS/EC Introduction by local government agencies

Eliminating the information divide between agencies and regions by properly extending information partially concentrated in the Ministry of Land, Infrastructure and Transport, etc.
Hearing opinions from the site and reflecting these to spread and promote their application
Step-by-step realization of CALS/EC Local Promotion

Trends towards RCI/RCE Acquisition



Implementation Organization



For Further Information, Contact:

**Minister's Secretariat, Ministry of Land, Infrastructure and Transport
(Engineering Affairs Division, Public Works Planning and Research Office)**

URL <http://www.mlit.go.jp/english/>

**CALS/EC Department,
Construction Information Research Institute,
Japan Construction Information Center (JACIC)**

URL <http://www.cals.jacic.or.jp/english/>

**1st Research Department,
Institute of Construction Management,
Service Center of Port Engineering (SCOPE)**

URL <http://www.scopenet.or.jp/main/english/>