

e-Government Standard Framework in Korea

eGovFrame

Jin Won, Choi
2022.2.24



Contents

- 1. Background & Rationale**
- 2. Introduction to eGovFrame**
- 3. Specifications of eGovFrame**

I. Background & Rationale

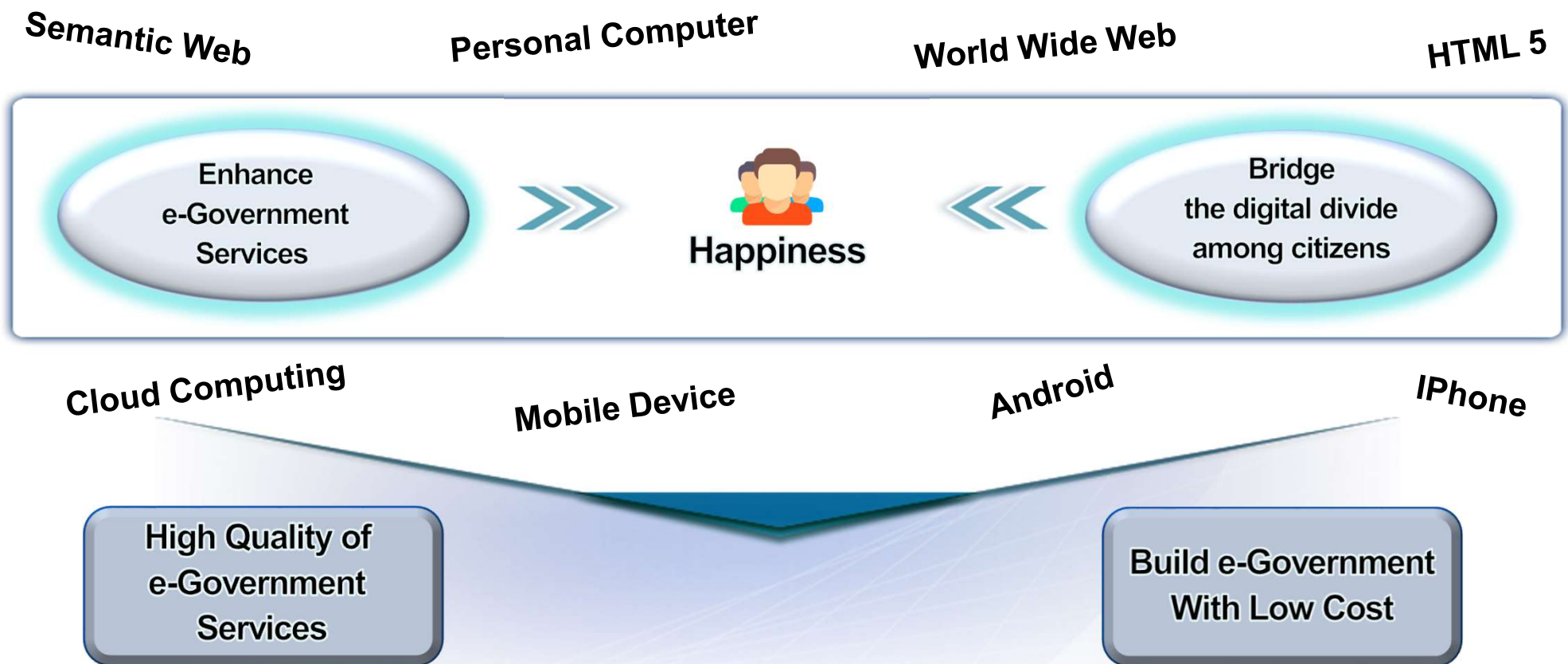


NIA is a statutory agency founded by Article 10 of the “Framework Act on Informatization Promotion” for the purpose of promoting informatization and supporting the development of related policies for national agencies and local autonomies.

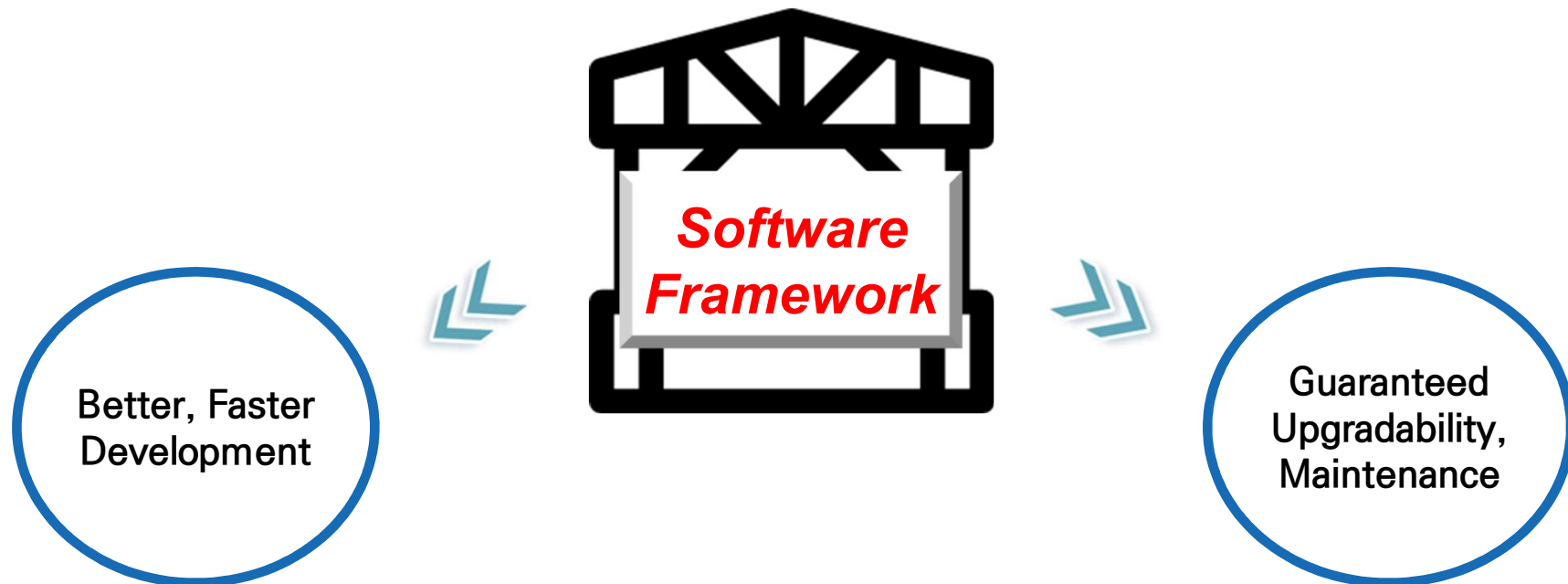
Key Role

- Providing expertise in developing and implementing the National Framework Plan on informatization Promotion
- Managing & operating information networks of public organizations
- Supporting information communication standardization and developing
- Maintaining information systems for inter-agency information sharing
- Supporting information resource management in the public sector
- Supporting supervision, standardization and evaluation of public informatization business
- Providing IT consulting services to developing nations

In terms of technological aspects,



“ How can we acquire **high quality**
of the e-Government service
at **low cost?** ”



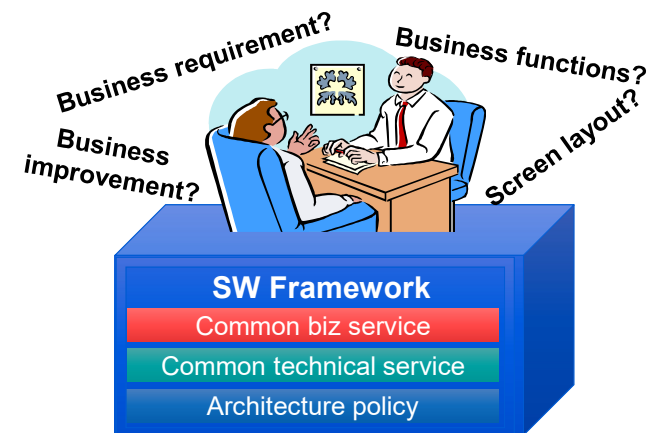
Software framework is a special case of software libraries in that they are reusable abstractions of code wrapped in a well-defined API

- Most of the technical issues are handled by SW framework
- With Software framework, you can **improve the development productivity by 20-30%** and enhance the **quality of e-Government services**

<IS development without SW framework>



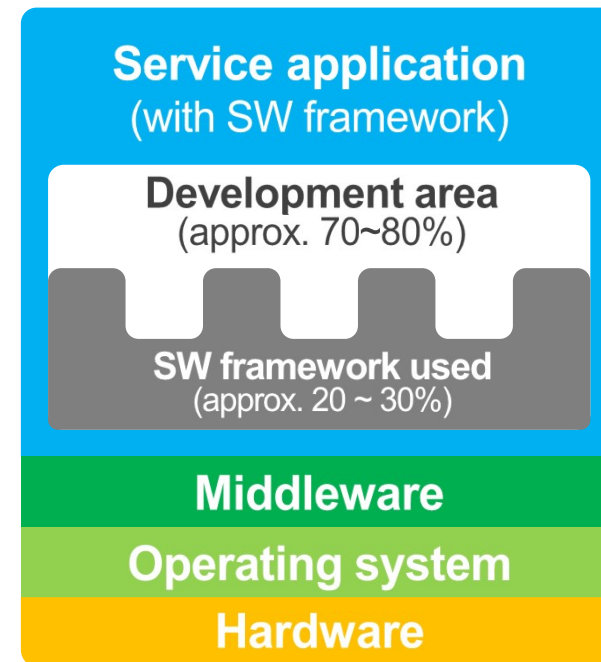
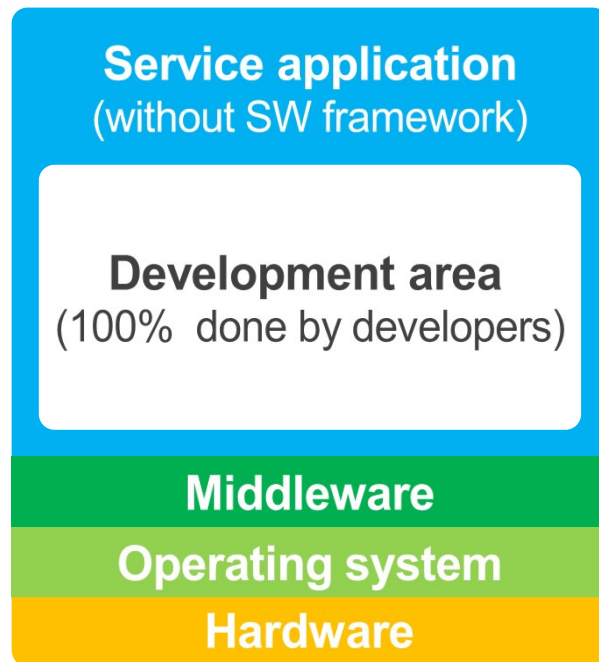
<IS development with SW framework>



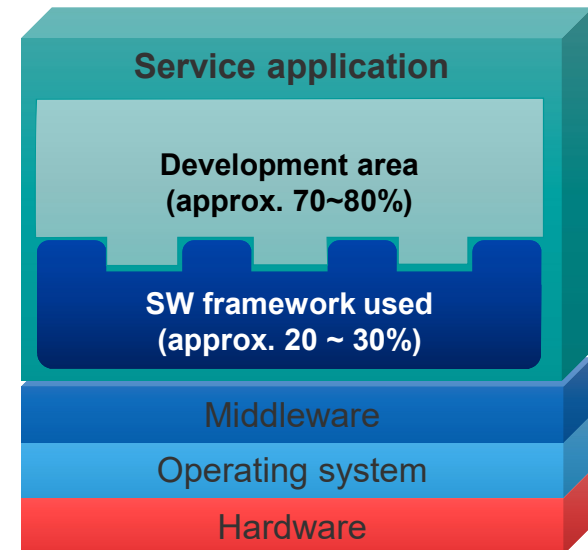
* IS : Information System, SW: Software

Standardized SW framework reduces costs and improves productivity

- Reduce program steps and man/month by using SW Framework
- Improve Development Productivity with eGovFrame



- Enhances **SW development productivity**
- Increases **Component Reusability**
- Increases **Interoperability** by using standard interface
- Easy to maintain the system
- Enhances **SW quality** by exploiting source codes pre-qualified



Variety of e-Government systems

I. Background & Rationale

EUROPEAN COMMISSION

European Commission

Headlines

Help us uphold your rights
Let us know about problems you have encountered when travelling, studying, working or living in another EU country.

- Get closer to Europe – on Europe Day
- Budget focuses on getting Europe back to growth

Previous headlines | Commission press releases

Policies and legislation | **Public contracts and funding**

- Policies
- Legislation
- Tenders
- Grants

Public Procurement Service

Bid Information | Questions | PPS News | KONEPS Int'l Cooperation | About PPS

Overseas Procurement Offices

Search

PPS's Vision & Goals
Towards the World's Best Procurement Agency with Competitiveness...

Introduction To KONEPS
World's Best E-Procurement Services | KONEPS Cyber Explorer

PPS News

- Expanding the Use of the Smart KONEPS... PPS announced that it will expand the Smart KONEPS Service enabling users to search for bid notice...
- PPS & Turkey to Discuss Cooperative... As part of efforts to expand KONEPS operations into European regions, Administrator Choi visite...
- PPS & EU to Discuss Cooperative Mea...

Video Gallery | Publication

2010 Annual Report

민원 24 minwon.gk.kr

Foreign Language Information Service

General Guide | **e-Application** | View Result | FAQ

e-Application

Info: Detailed information for each civil petition can be checked by selecting the type of civil petition
Apply: Click on the apply button for the civil petition you wish to apply to proceed with the application

Certification of Alien Registration

With this service you can apply to have a Certification of Alien Registration issued to certify your alien registration for the Korean government.

Info / Apply

NIA 한국정보화진흥원

주요사업 | 지식정보 | 알림마당 | 기관소개

미래전략 | ICT융합 | 디지털문화 | 공공데이터혁신 | 전자정부 | 기술지원 | 글로벌협력

지식정보

- NEAR&Future [NF Pulse Vol.66] 데이터 기반 일간 ICT 이슈 분석 - 남북관계, 미세연...
- 지능사회 이슈분석 [스팩셀리포트 2018-9] 미 지질조사국 데이터 관리 Data Manage...
- 정책연구 2017년 통신서비스 품질평가 보고서
- 법령 및 사업 관련규정 전자정부지원사업 운영지침 전부개정에 관한 예고
- 이슈분석 [AI Network Lab 이슈리포트 제1호(2018.5)] 4차 산업혁명과 일자리...

알림마당

- 공지사항 "복지 보조금 부정 신고센터" 안내
- 입찰공고 [조합입찰공고] 데이터 기반 미래이슈 분석
- 입찰공고 [입찰공고] 2018년 ICT기반 공공서비스 촉진사업 성과측정·분석 및 ...
- 입찰공고 [입찰공고] 2018년 한국정보화진흥원 근로지원프로그램 운영
- 입찰공고 [입찰공고] 제35회 한국정보보호대회(KOI) 경시부문 전국대회 운영

국민제안 아이디어 공모 | 열린경영 | 채용안내

ALL | 경영공시 | 정보공개 | 윤리경영 | 보도자료 | 인터넷 문서제출

Variety of e-Government systems

EUROPEAN COMMISSION

Headlines

Help us uphold your rights
Let us know about problems you have encountered when travelling, studying, working or living in another EU country.

Common Component C
Business Logic B
B
B

Software Framework

Public Procurement Service

Bid Information Questions PPS News KONEPS Int'l Cooperation About PPS

Overseas Procurement Offices

Search

PPS's Vision & Goals

PPS News

Expanding the Use of the Smart KONEPS...
PPS announced that it will expand the Smart KONEPS to sea

Video Gallery

B B C B

Software Framework

민원 24
n1won.go.kr

Foreign Language Information Service

General Guide

e-Application

Info : Detailed information for each civil petition can be checked by selecting the type of civil petition

Apply : Click on the apply button for the civil petition you wish to apply to proceed with the application

View Certificat

B B B B

Software Framework

NIA 한국정보화진흥원

주요사업 지식정보 알림마당 기관소개

미래전략 ICT융합 디지털문화 공공데이터혁신 전자정부 기술지원 글로벌협력

지식정보 알림마당

국민제안 아이디어 공모

열린경영

B C B B

Software Framework

SW framework became an essential tool for e-Government

- 71% of e-Government system from 2004 to 2007 in Korea

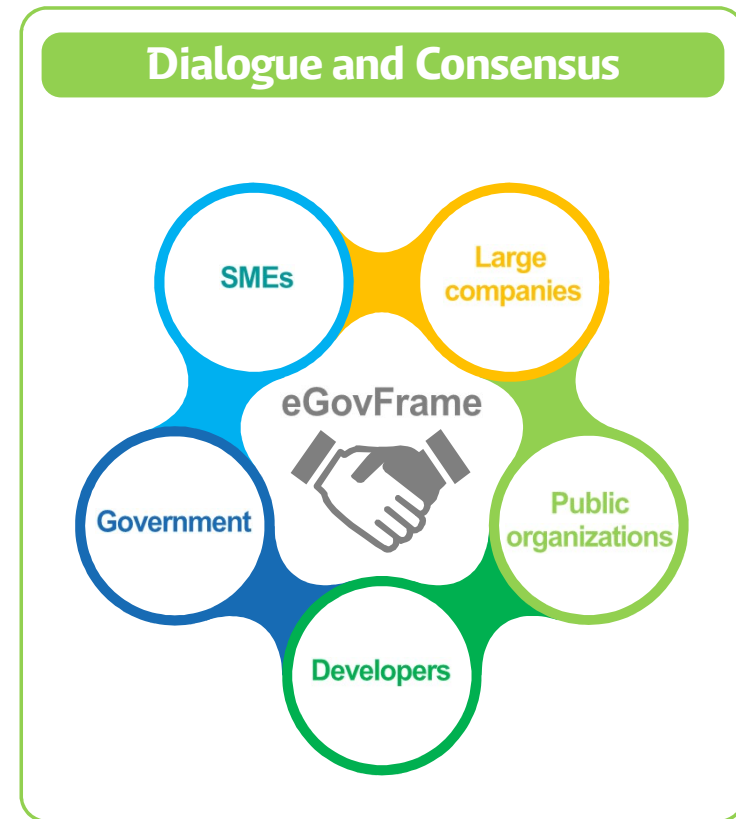
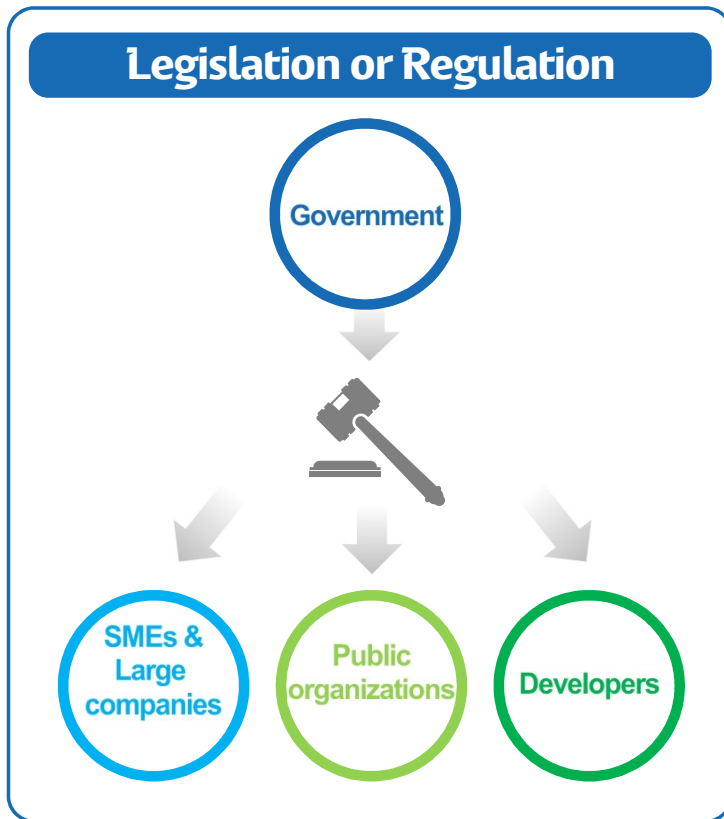
* Samsung(SYSTEMiER), LG(LAF/J), SK(JGarnet), HP(Instant/On enterprise), MS(.NET)



Some barriers were identified in e-Government system

- ◉ **Only SW framework provider** can maintain or upgrade applications
- ◉ **Redundant development** due to **framework differences**
- ◉ Framework is an **expensive asset** that only **big vendors can afford**
- ◉ **A few major IT vendors dominate** the market of e-Government development
- ◉ **Unfair competitive environment to SMEs**

Korean government enacted laws, related regulations to encourage both its organizations and development companies to adopt the eGovFrame



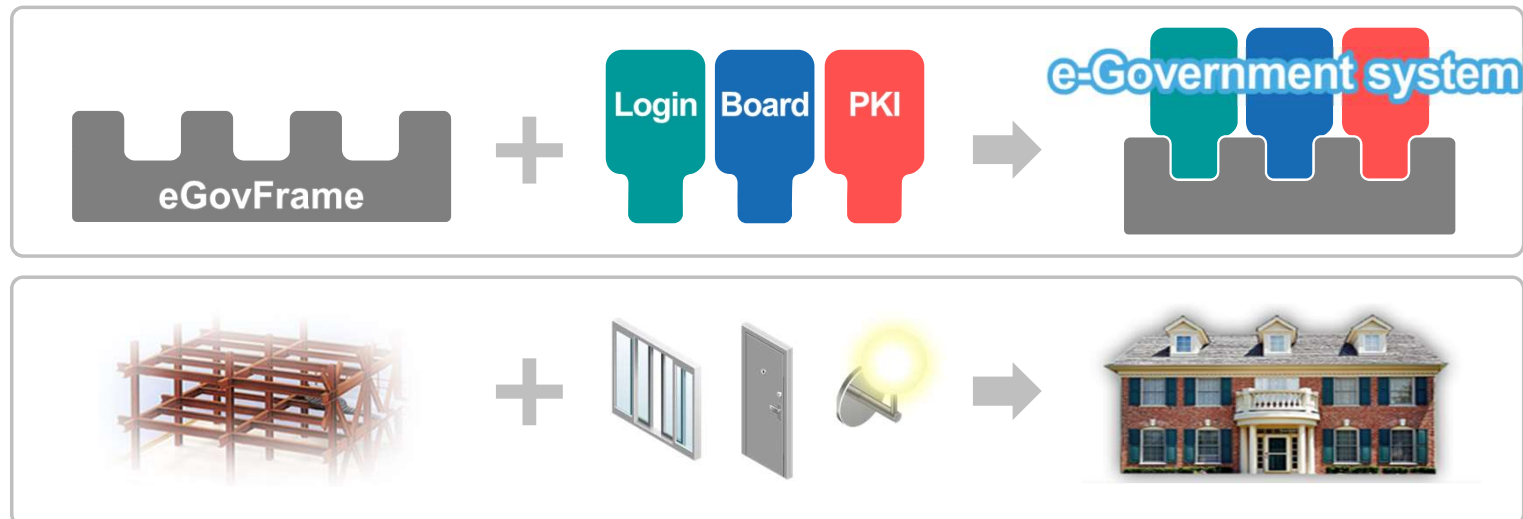
II. Introduction to eGovFrame



eGovFrame is a platform-specific standardized open source framework for public sector IT projects in Korea

eGovFrame

- **Basic functions** always needed to develop e-Government system
- **Composition** [eGovFrame + new functions] → **e-Government system**
- **Fair competition environment** created by sharing same basis



Vision

**Improve quality of e-Government services
and efficiency of ICT investment**

Objectives

Reuse common functionalities

Improve Interoperability

Up-to-date ICT trends

Remove vendor dependency

Enhance SMEs competitiveness

Direction

Standardization

- Establish SW framework standard for e-Government
- Provide stable technical infrastructure

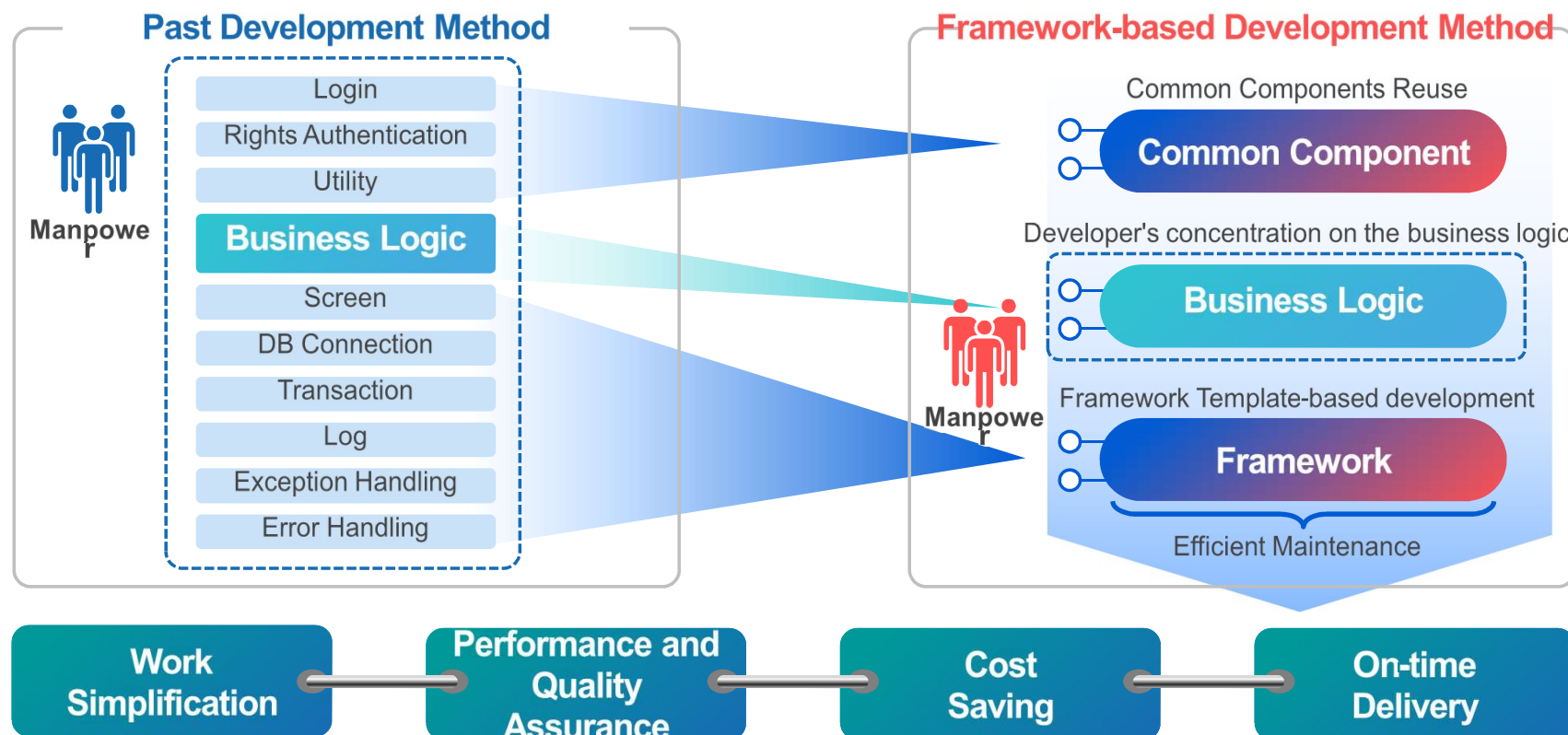
Openness

- Ensure the neutrality of eGovFrame
- Open assets to the public & encourage participation

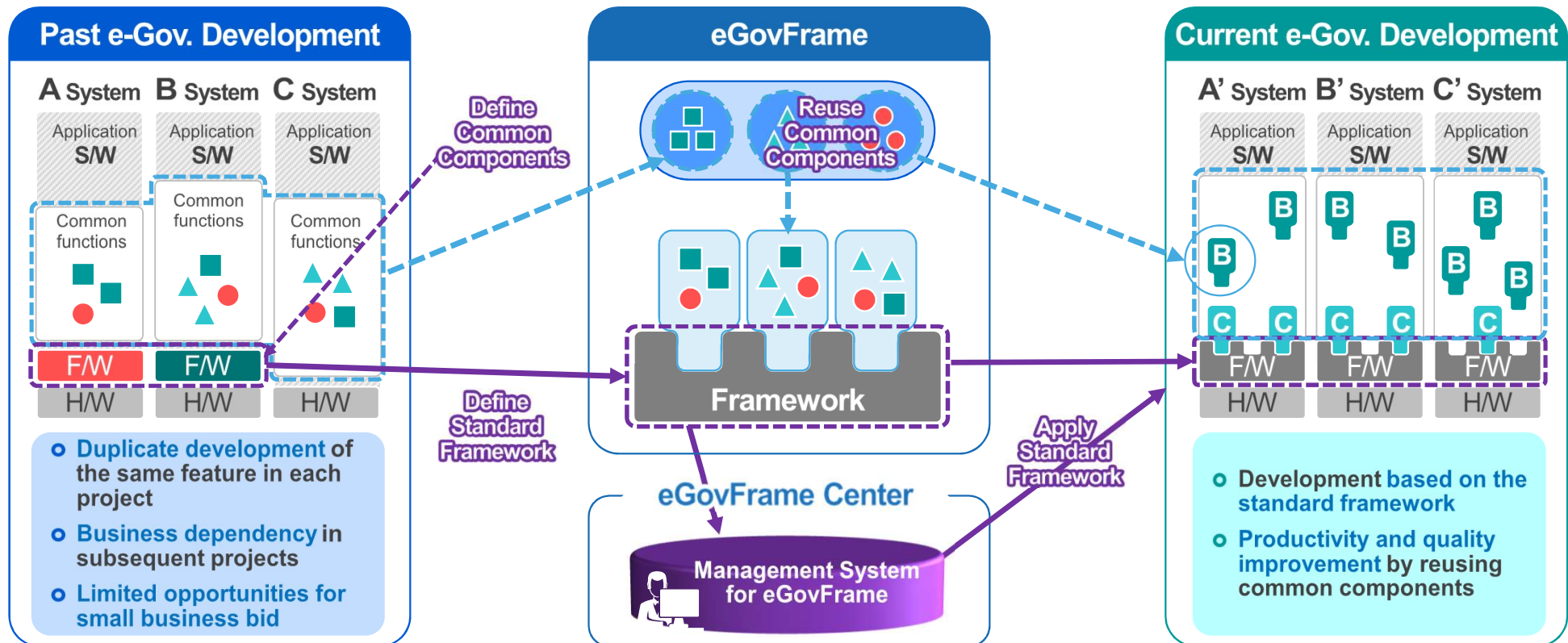
Community

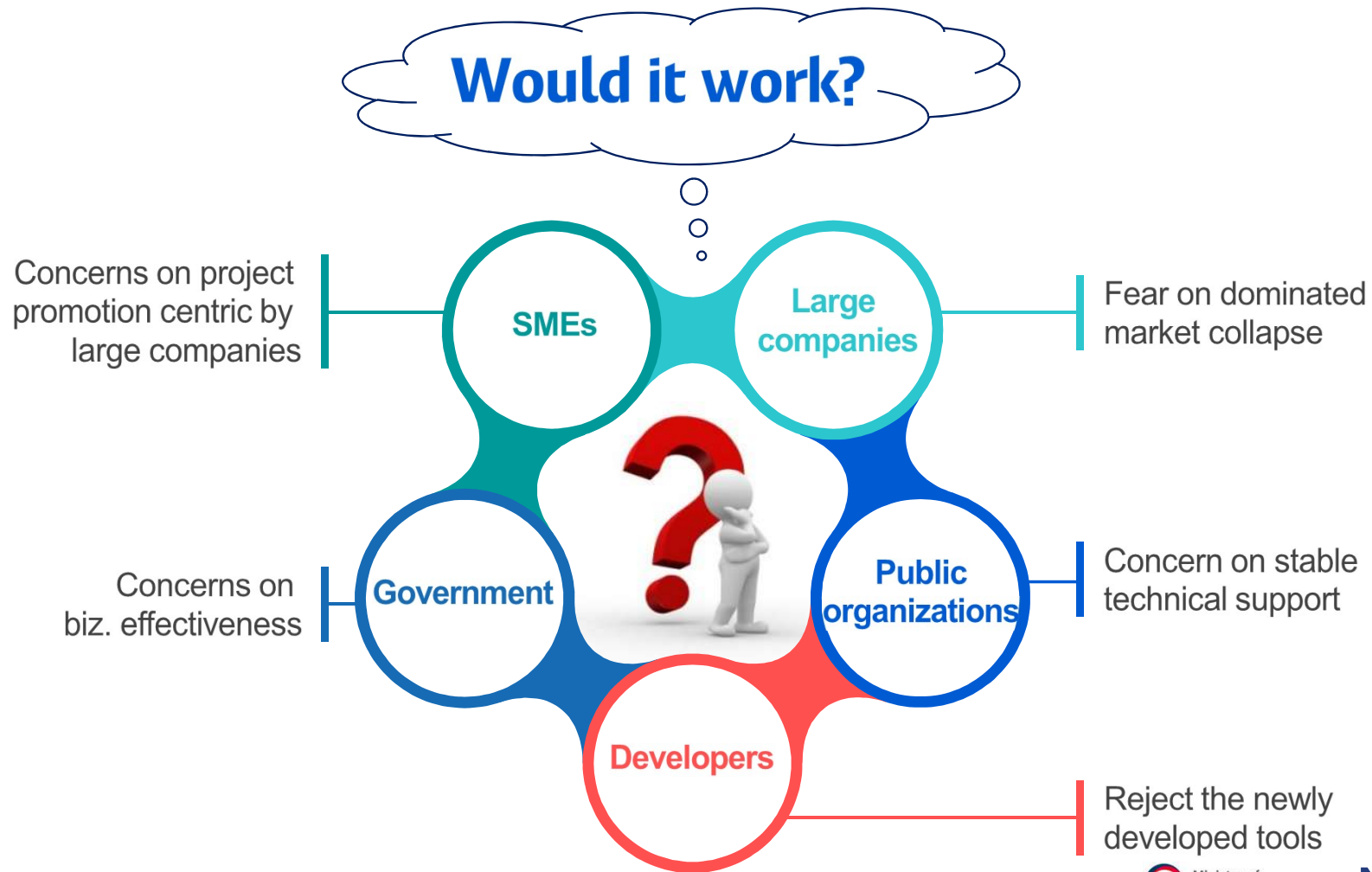
- Share SW tools and technology by education
- Promote the utilization of eGovFrame

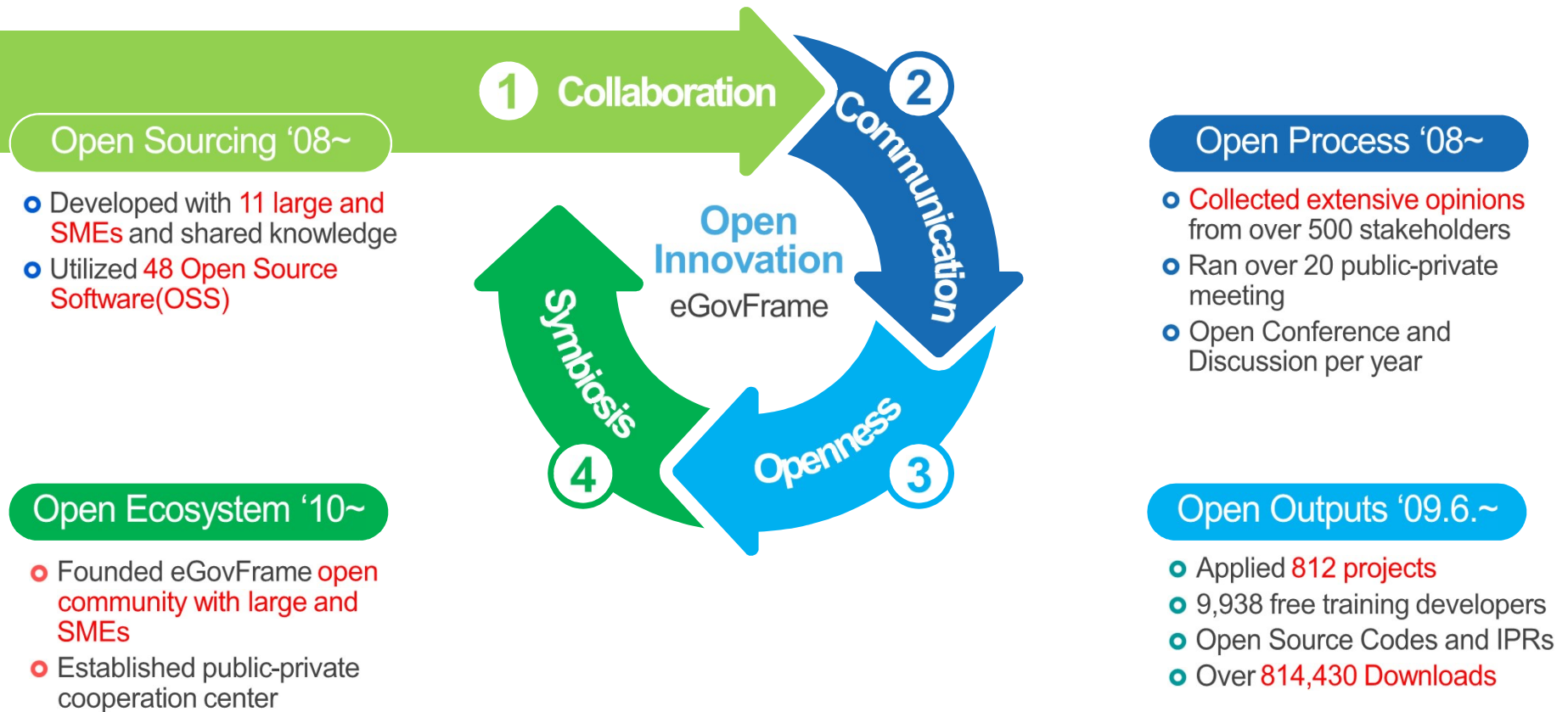
eGovFrame helps you to focus on your business logic to increase productivity and quality and reduce costs



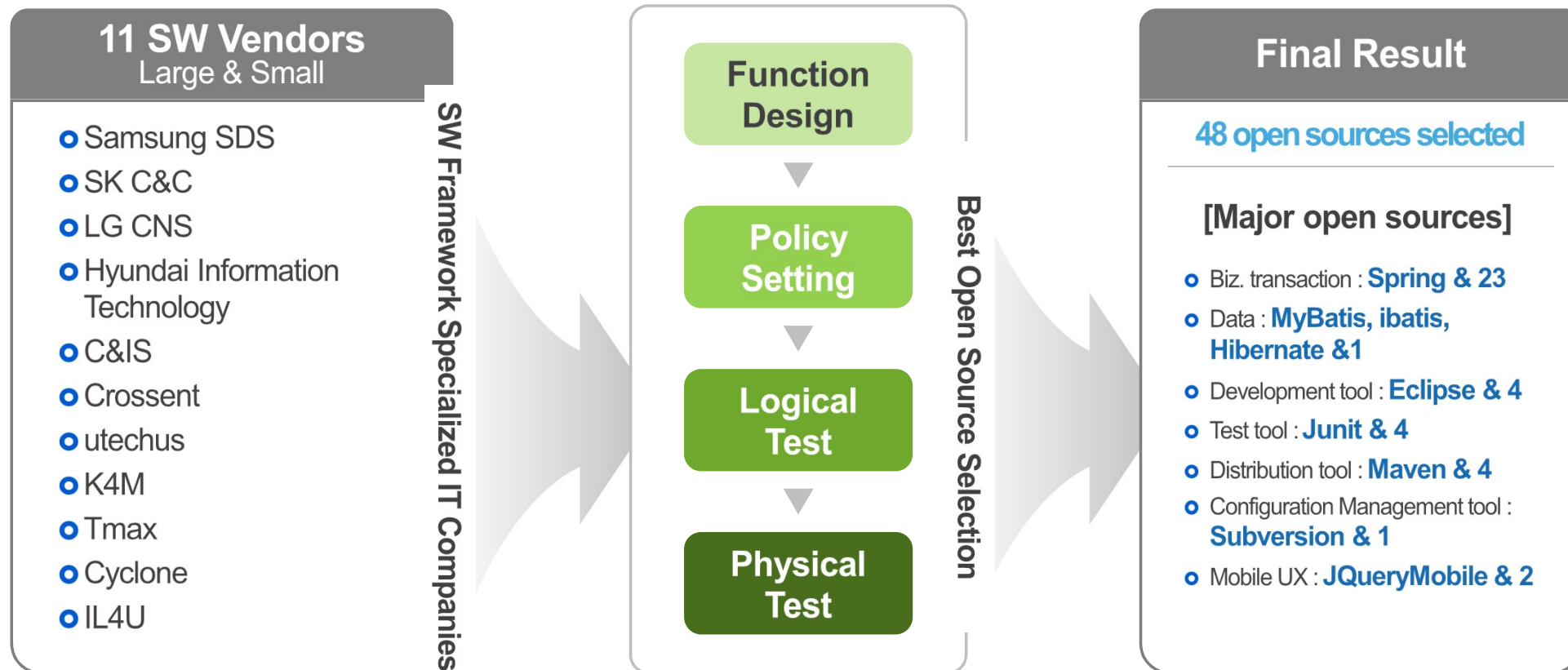
Reducing budget and increasing opportunities for SMEs to participate in business through standardized framework and the reuse of common components







48 open sources have been selected as the major open sources



Various opinions and issues from Stakeholders were collected

NO	Date	Number of Participants
1	2008.12.17	35
2	2009.01.14	29
3	2009.02.11	22
4	2009.05.11	21
5	2009.05.20	224
6	2009.07.14	26
7	2010.03.12	200
8	2010.05.03.	11
9	2010.06.01	25
10	2010.06.15	6
11	2010.06.25	10
12	2010.07.08	13
13	2010.07.20	19
14	2011.04.27	26
15	2011.08.25	7
16	2011.10.04	7
17	2011.11.03	400
18	2012.07.30	22
19	2012.11.07	34
20	2012.11.23	350

Public Hearings (2009)



Public & Private Meeting (2010)



Public & Private Meeting (2011)



Public & Private Meeting (2012)



Whole source codes including outputs are provided at no cost

Open Outputs

Open all the source codes & IPRs
(Apache License, Version 2.0)

Free training provided to
more than 11,000 developers

Applied over 5,000 projects

Over 900,000 downloads

● International Recognition

The eGovFrame swept three awards in the FutureGov Awards 2010, leading a field that contained more than 690 nominations from 20 different countries

- The Government Organization of the Year
- The Technology Leadership Award
- The award for Government Transformation of the year



● CMMI certificate

A Standard CMMI Appraisal Method for Process Improvement (SCAMPI) was conducted on September 27 – October 1, 2010 in accordance with the Software Engineering Institute's Appraisal Requirements for CMMI and appraised

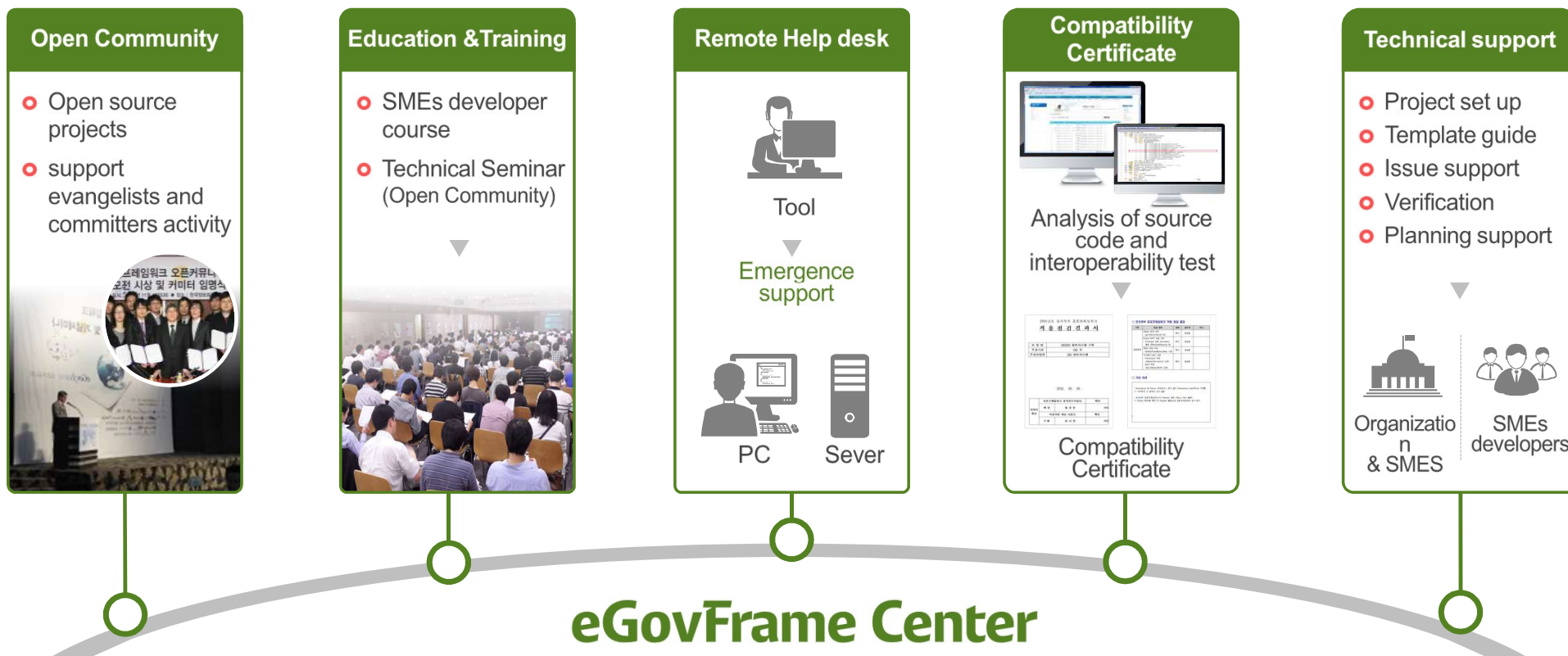


**E-Government Framework Project
Information Infrastructure Division
National Information Society Agency
to be
CMMI-DEV version 1.2 Maturity Level 2 ***

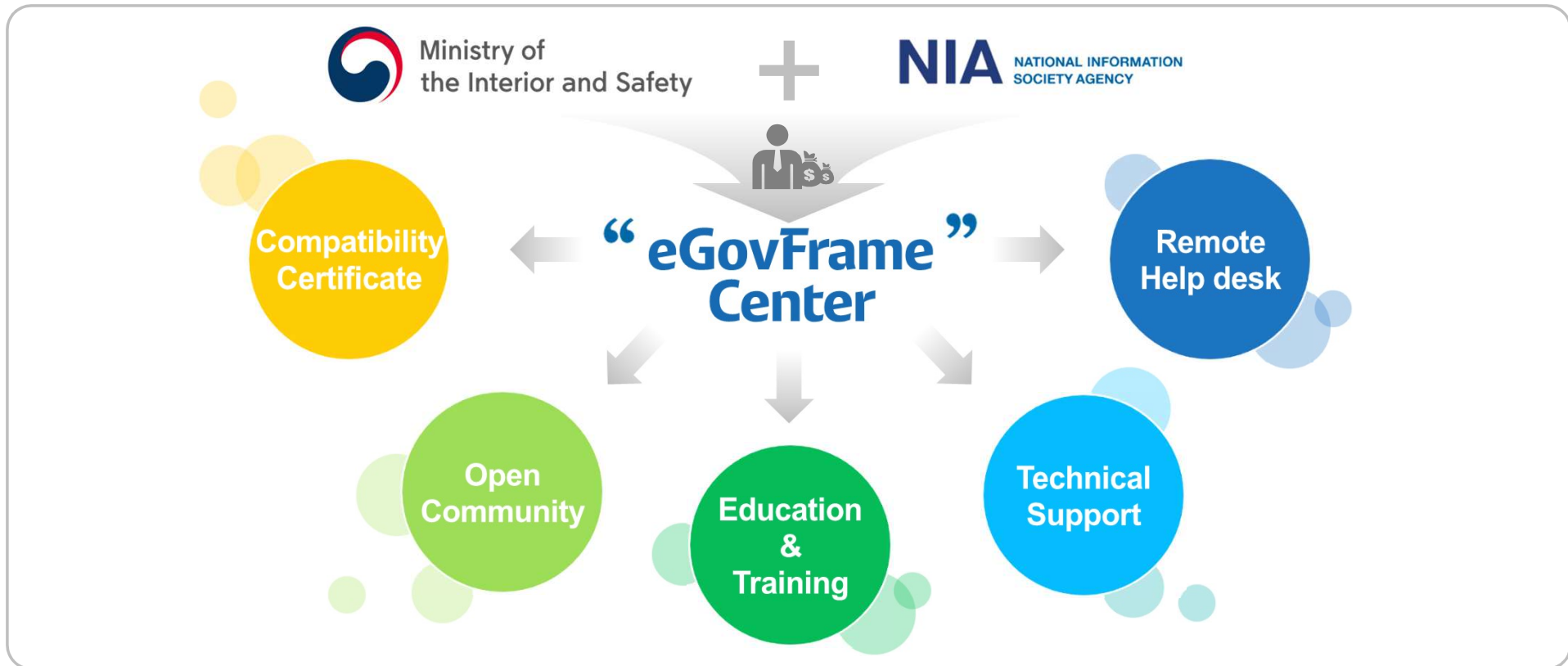
**results subject to SEI Q4 review and approval*

SeungWook Bang, SEI-Certified Lead Appraiser #0-000467-01

eGovFrame Center provides technical support, training, compatibility verification and conducts major upgrades and R&D improvement



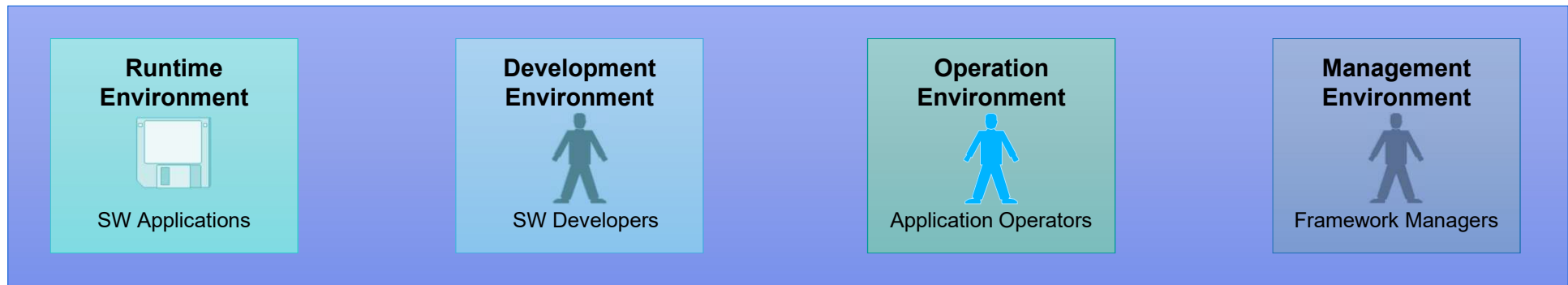
For sustainable operation and development, the government has continuously invested its budget and established eGovFrame Center.



III. Specifications of eGovFrame



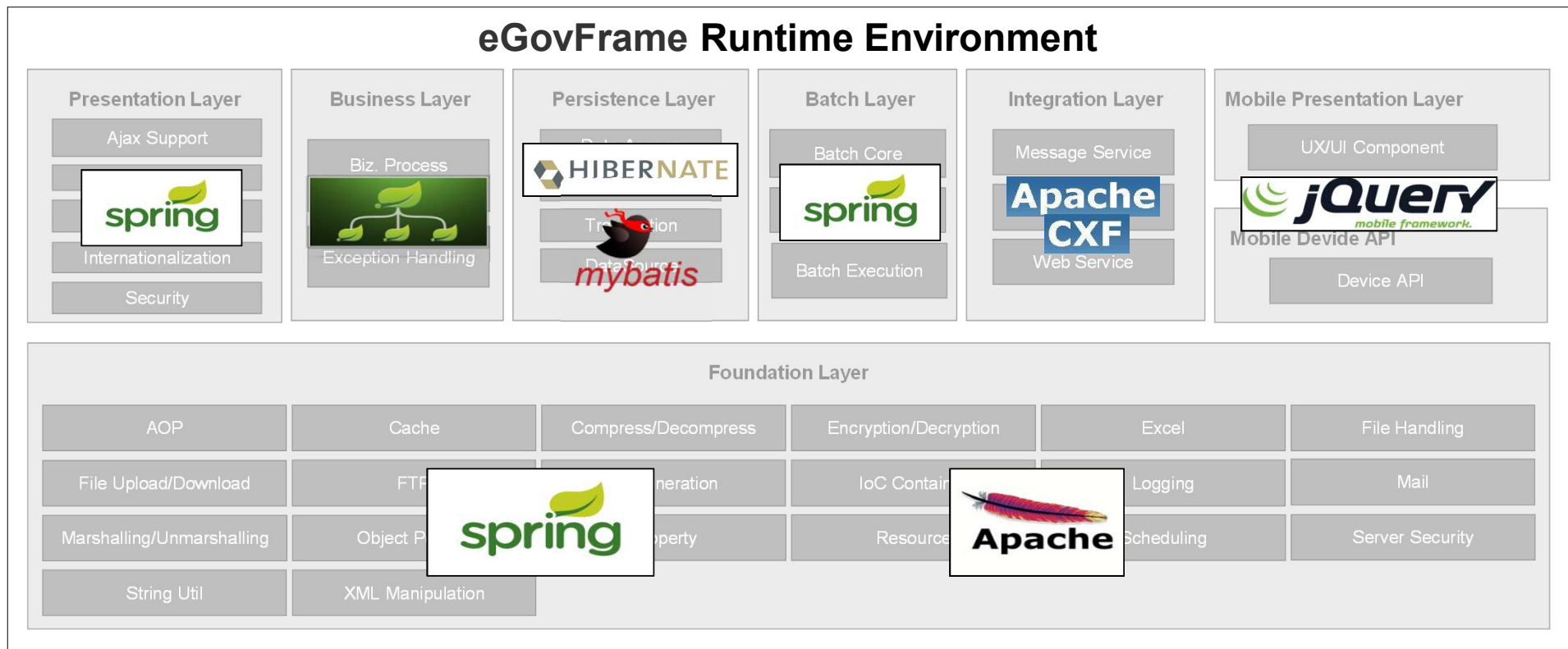
eGovFrame consists of four environments



Environment	Description
Runtime	Provides common runtime modules for running the SW applications
Development	Provides a set of efficient tools for developing applications, based on the eGovFrame Runtime Environment.
Operation	Provides a set of tools to operate information systems based on eGovFrame
Management	Provides functions for continuous improvement and maintenance of eGovFrame

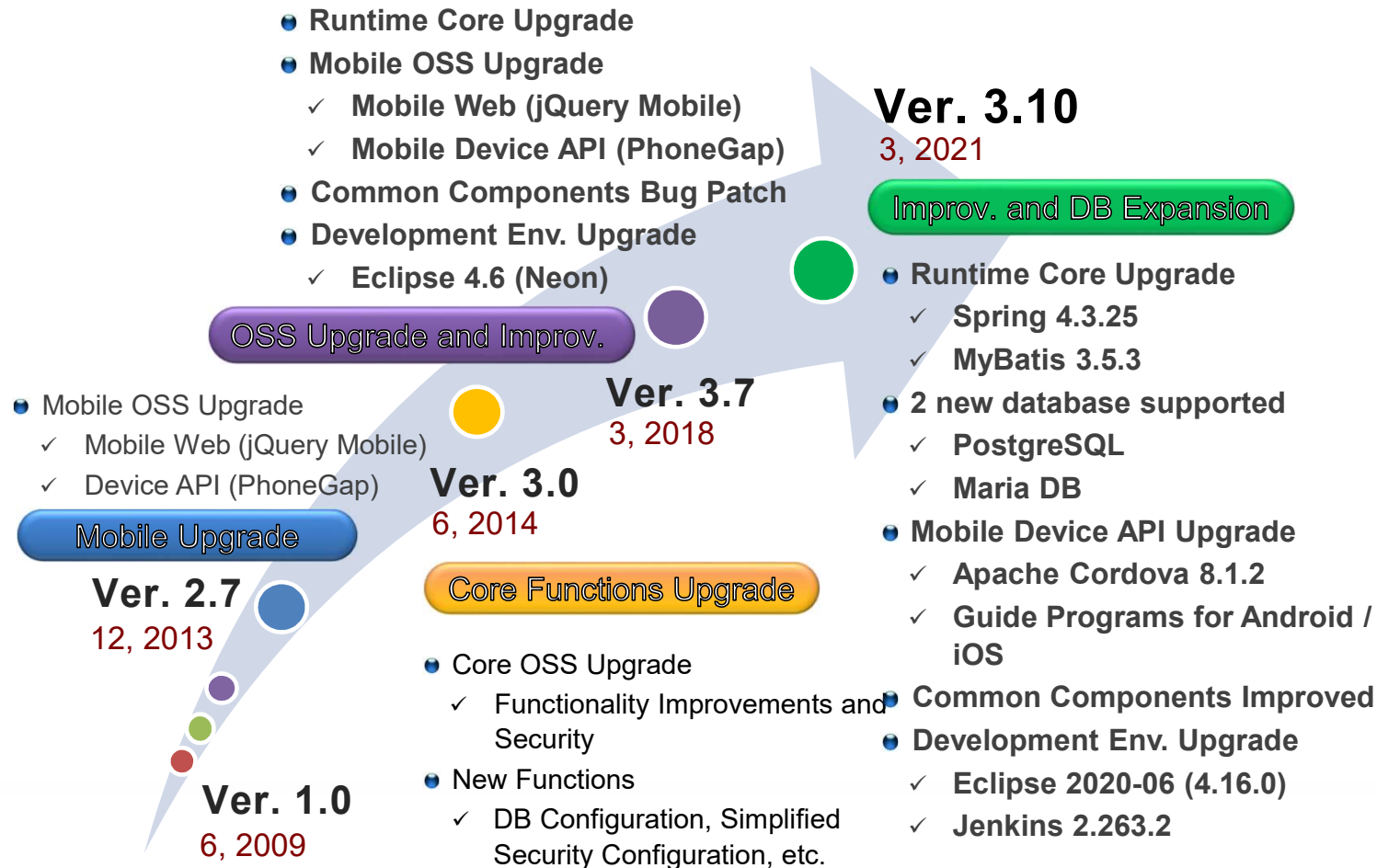
High reliability with adopting already verified design and sources

Verified Architecture



251 Common components of the reusable software modules

Categories		Components
136 Technical components	User authentication	3 components including integrated user authentication, general login, etc
	Security	8 components including role/authentication, encryption/decryption, etc
	Statistics	6 components, including access statistics, etc
	Collaboration	28 components, including notice board, community management, etc
	User support	55 components, including user management, FAQ/Q&A, etc
	System management	27 components, including menu, log, system management, etc
	Integration	4 components, including knowledge management, etc
	Digital asset management	5 components, including knowledge management, etc
11 Mobile Technical components		11 components, including mobile menu, mobile real-time notice, etc
104 Utility components		104 components, including calendar, web editor, format converter, etc



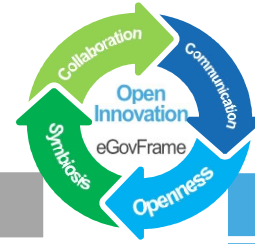
Applied eGovFrame to 5,000+ projects in Korea



Sector	Projects with eGovframe
Administration	National Representative portal
Transportation	Seoul metropolitan rail transit management system
Medical	Hospital strategy management system
Military	War fighting symbology management system
Customs	Global high-tech port logistics system
Land	Land information management system

Sector	Projects with eGovframe
Media	Broadcasting telecommunication integration information system
Patent	3 Generation Patent net system
Tax	National tax system
Port	Incheon U-port system
Culture	National assembly electronic library system
Education	National Education Information system

(It is based on Korean Online E-Procurement Service as of March 31, 2021.)



Before
Lead to redundant development of similar functionalities in each project
Lead to strong dependency on the certain system provider due to the technology reliance
Disadvantages to SMEs who cannot afford a SW framework
Create high degree of maintenance difficulty due to the lack of standards
Cause significant time and manpower to interoperate between information systems

After
Reduce redundant development cost and time by reusing common components
Resolve dependency through standardized development of open sources base
Improve SMEs competitiveness by sharing the Open SW framework at no cost
Ensure convenient maintenance through modularization by providing standard
Enhance interoperability between systems via standardised framework

Thank You

eGovFrame Center

E-Mail : egovframesupport@gmail.com

Tel : +82-1566-3598

Home page : <https://egovframe.go.kr/uss/eng/index.do>

