Korea's Labor Market Information System and Utilization

Korea Employment Information Service

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KOREA EMPLOYMENT INFORMATION SERVICE

2023

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WORKNET

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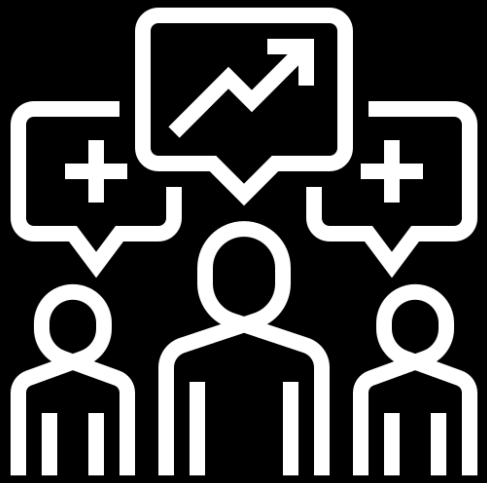
WORKNET

I. Overview & Status

- Introduction of LMI
- Framework of LMIS



“Why and for what purpose do we need labor market information?”

“Who needs that?”

“When we need that?”

CHARACTERISTICS OF **LABOR MARKET INFORMATION**

1. The data, the structure, characteristics, and dynamics of the labor supply and demand

2. The country’s economic and labor market conditions

3. Numbers and composition by age and education attainment, skills, or qualifications, coming from administrative data.

4. Providing labor market analysis and intelligence in the country’s economic context

SOURCE OF LABOR MARKET INFORMATION

LABOR DEMAND SURVEY

"To find out about the situation of labor demand in establishments, such as the current number of employees, the number of vacancies, the number of employees to be hired, the number of job openings, and the number of filling job openings by industry, occupation and establishment size, and use it for the adequate adjustment of labor demand. "

EMPLOYMENT FORECASTING

"Making projections on changing trends in the Korean labor market by industry and occupation. Thus contributing to building a more efficient market mechanism for development, allocating national human resources, and providing essential information for government employment-related policymaking."

REALTIME LMI

"Job matching, UI data, HRD data(employment rate 6mts after graduate) (Korea Employment Information Services)"

WHAT IS LMIS?

"LMIS, or the Labor Market Information System, is a network involving various entities and individuals with recognized roles and responsibilities, working together to gather, store, disseminate, and utilize labor market-related information. Its primary objective is to generate valuable data and analysis for policy makers and other labor market stakeholders. For instance, the European Employment Observatory contributes to European employment strategies by providing information, conducting comparative studies, and evaluating employment policies and labor market trends. Establishing institutional arrangements and ensuring wider access to information and analysis are crucial aspects of LMIS."

01 Labor Market Information System

LMIS Classification

Table **LMIS Classification**

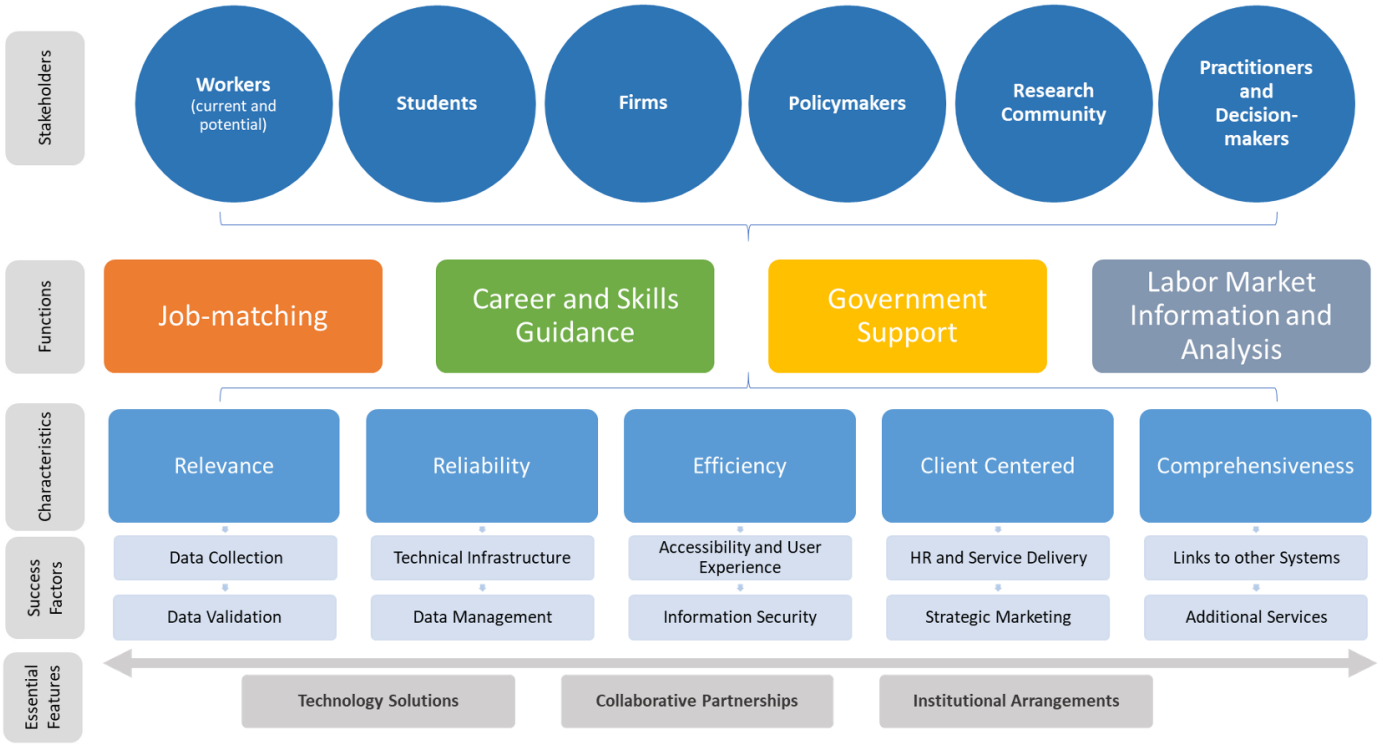
Element	Basic	Intermediate	Advanced
Information	Provides basic information via statistical indicators using national surveys and administrative data	Provides market intelligence using different data sources beyond surveys	Provides several subsystems of information and digital tools to collect, produce, evaluate, and disseminate updated (often real-time) information using big data
Services	None	Provides basic services to different stakeholders— in particular, job seekers and firms	Provides several services tailored to different users
Actors	Involves a small number of public sector actors	Involves more public sector actors, including education systems, job-counseling and job-matching services, social security, statistics offices, and business registries	Involves both public and private sector actors as users and producers of data and services

Source: World Bank adaptation from Sorenson and Mas 2016.

- LMISs can be classified according to the quality of information they produce, the involvement of stakeholders, and the strengths of the connections between institutional partners. (Sorenson and Mas 2016).

01 Labor Market Information System

Framework to Understand LMISs



01 Labor Market Information System

Key Functions of LMISs

The key functions of an advanced LMIS are to provide direct services to different users as well as to provide data and information analyzed and processed by users.

The LMIS includes the following key functions:

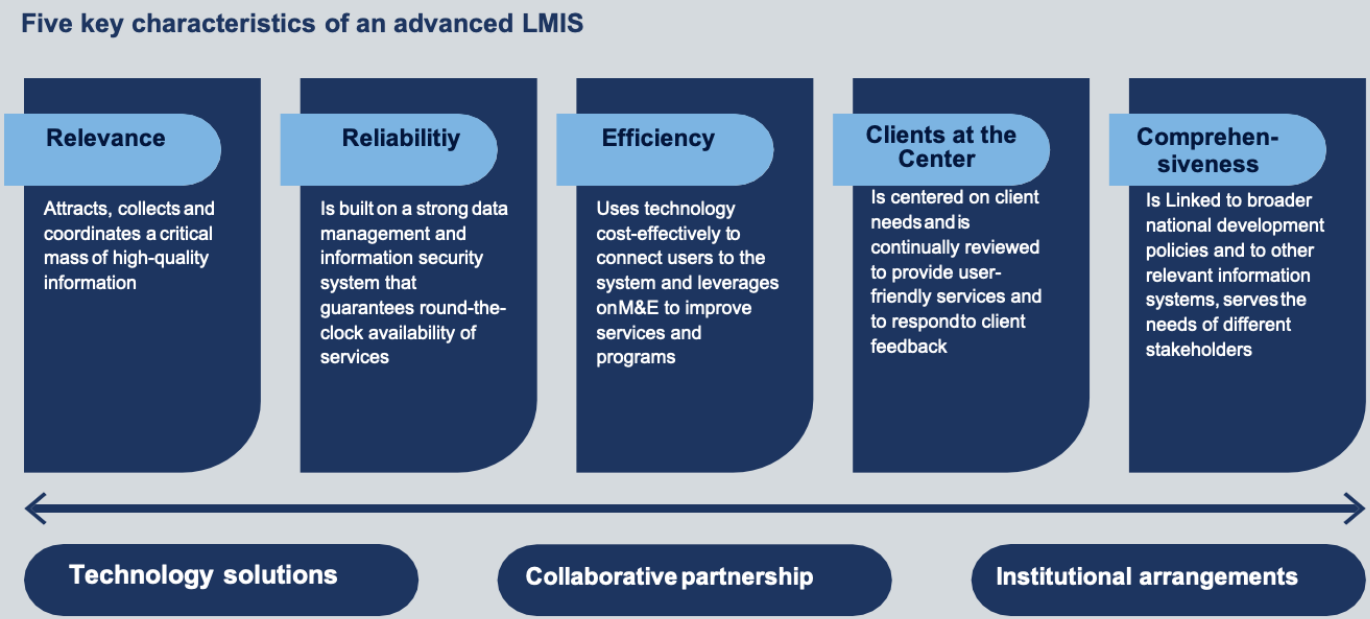
- **Job matching.** Core services that help unemployed or employed workers—looking to improve their working situation
- **Career and skills guidance.** Services that guide current and future workers in identifying the skills that are, or will be
- **Government support.** Services that help individuals and practitioners to identify potential government programs
- **General labor market information and analysis.** Information that provides policy makers, practitioners, and researchers with comprehensive information on labor market outcomes and the impact of different policies
- and programs, largely with the purpose of informing policy formulation.

01 Labor Market Information System

Key Characteristics advanced LMISs

- Five key characteristics are at the core of the vision that could take LMIs to an advanced level

Figure **Vision of a World-Class Labor Market Information System**



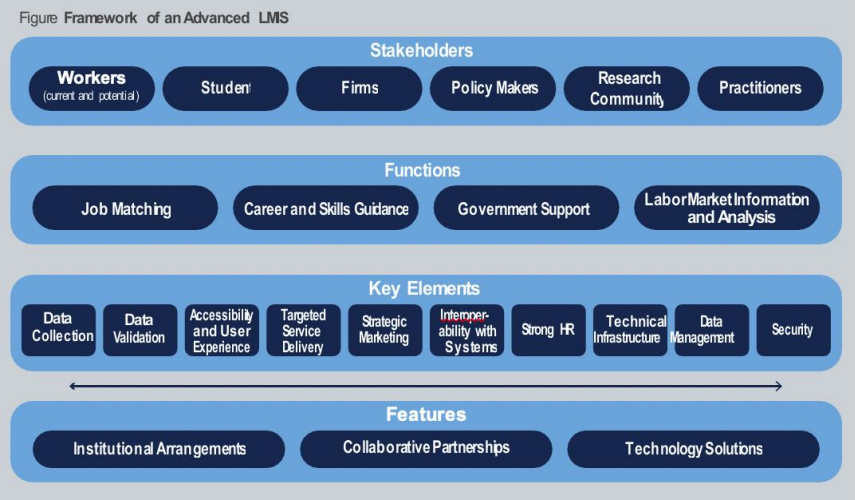
01 Labor Market Information System

Key Elements and Features

A well-functioning LMIS has the following key elements

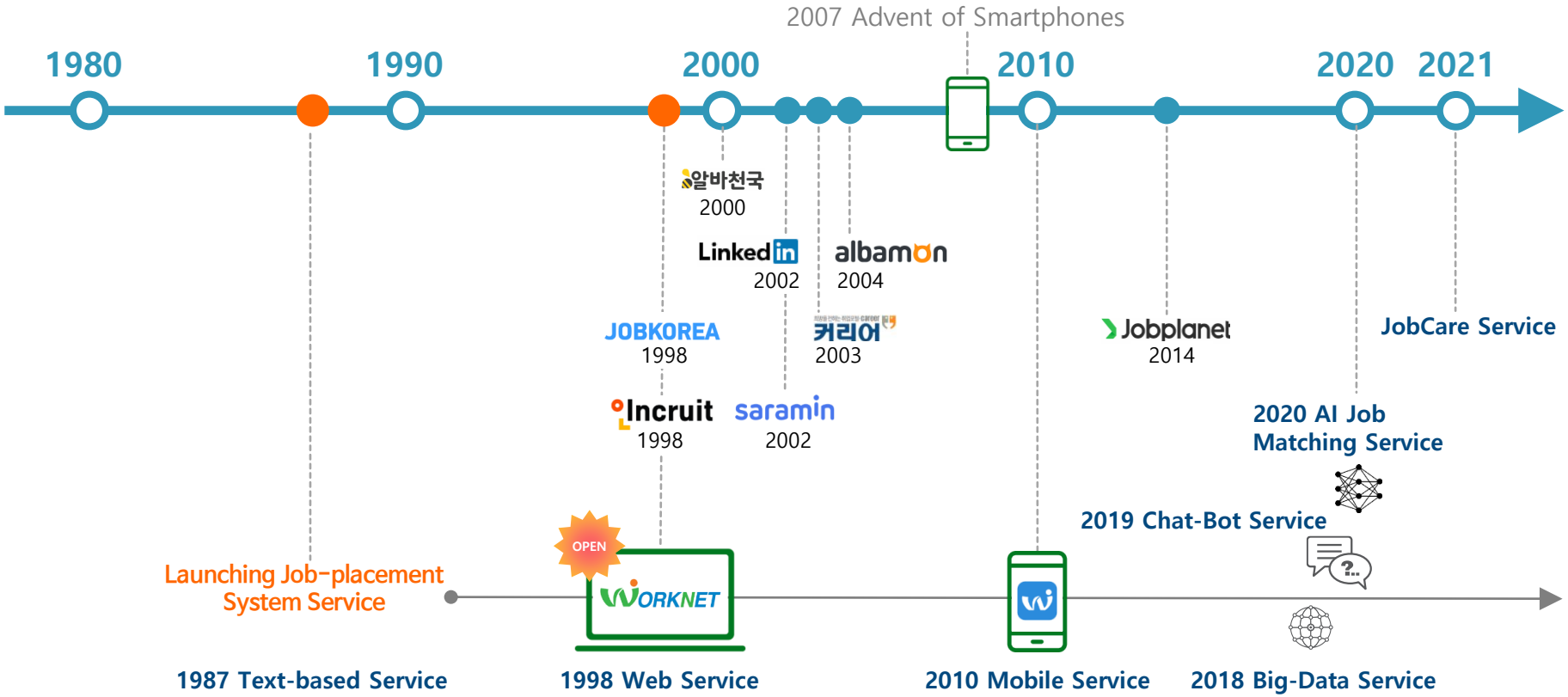
- Data collection
- Data validation
- Accessibility and user experience
- Targeted service delivery
- Strategic marketing
- Interoperability with other systems
- Human resources serving the system and its users
- Technical infrastructure
- Data management
- Information security.

Figure Framework of an Advanced LMIS



02 Employment service in Korea

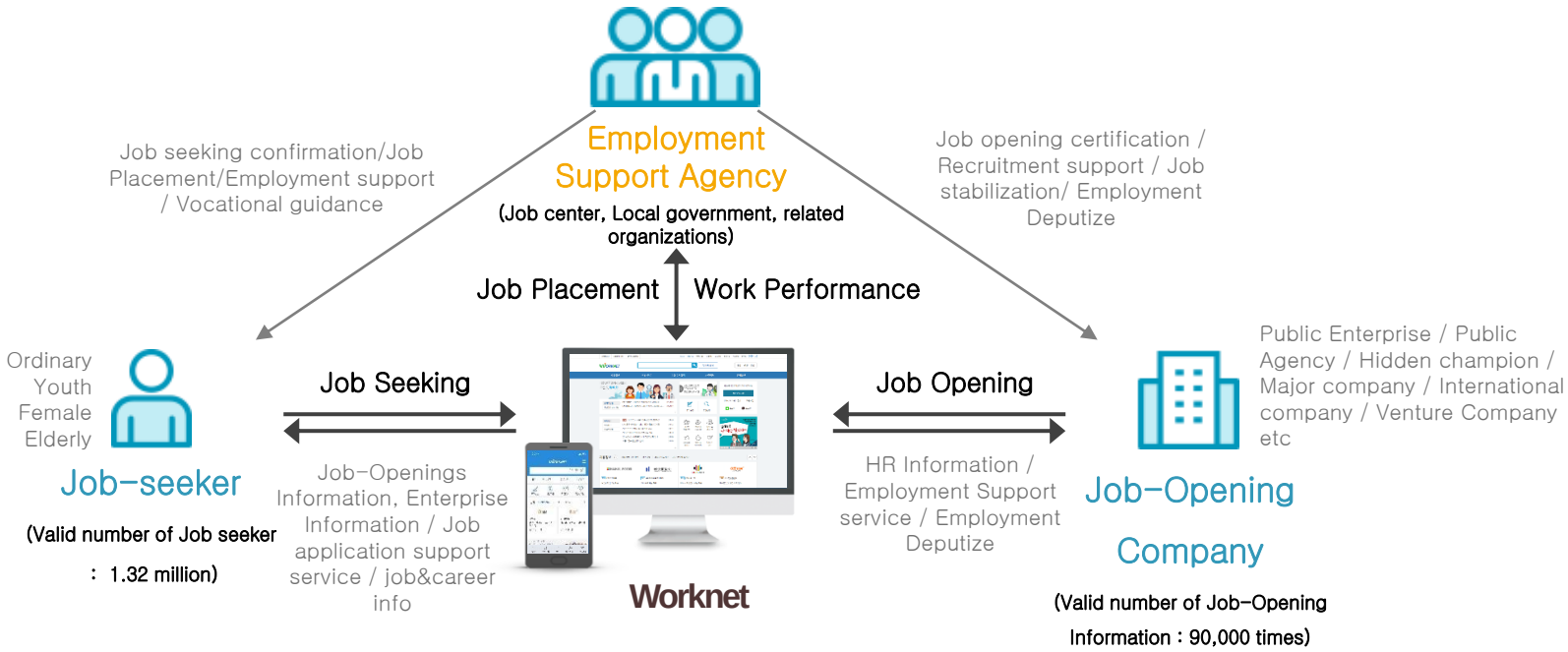
Worknet's Past, Present and Future



02 Employment service in Korea

‘Worknet(work.go.kr)’ Service launched in 1998 by the Ministry of Employment and Labor

- **[Job Opening]** Provide ‘Human Resources Seeking Service’ which is useful, contextual for job-provider company
- **[Job Seeking]** Provide comprehensive job information by combining public and private sector in one place.
- **[Job · Career]** Provide Job & Career Service such as job information(10,000 times), Occupation Psychological Test (20 types) and On-line career-counseling service



02 Employment service in Korea

Overall Status (As of Aug 2023)

Cumulative Download number of Worknet Application

10 million

Valid number of Job-Openings

130,000

Daily Average number of Visitors

1 million

- Visitors by countries : Germany 200,000, Japan 460,000, France 120,000, Netherlands 180,000

Registered Integrated Corporate Information

2.18 million

- Youth-friendly Unicorn Company : 1,127

Worknet Members

9.5 million

Job-Information Connection of nationwide

161 Places

- Public Institution 22, Local Worknet 122, Private Portal 10

WORKNET

II. Work-Net's Strengths

- **Worknet's Main Services**

01 How is Work-net used?

Work-net's Main Functions

Job-matching	Career and Skills Guidance	Government Support	Labor Market Information Analysis
• Central function in Work-net. • Job search, with six different criteria • Job matching based on AI -analyzes a host of information on all job seekers to provide information based on similarities	• Providing broad career guidance • Short-term and long-term • Linked to information systems on education, training and government programs	• Help in jobs placements • Authenticate information • Identifying employment programs that are suited • For counseling activities related to career guidance.	• Analyze trends in the labor market, integrated with national statistics and other databases, and this is used both for research and ultimately for policy input. Real-time analysis of WN data

Advanced LMIS

01 How is Work-net used?

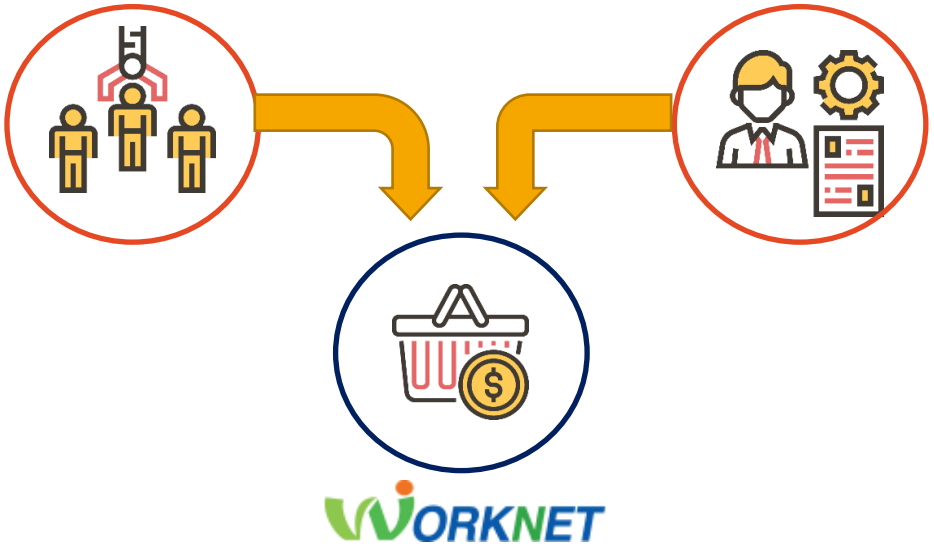
Rich job-related data

Vacancies

- Direct on-line postings
- PES Offices (in office, visits)
- Targeted outreach to SMEs
- Collaboration with private and public portals

Job-seekers

- Direct on-line postings
- PES offices
- ALMP participants
- Unemployment insurance beneficiaries

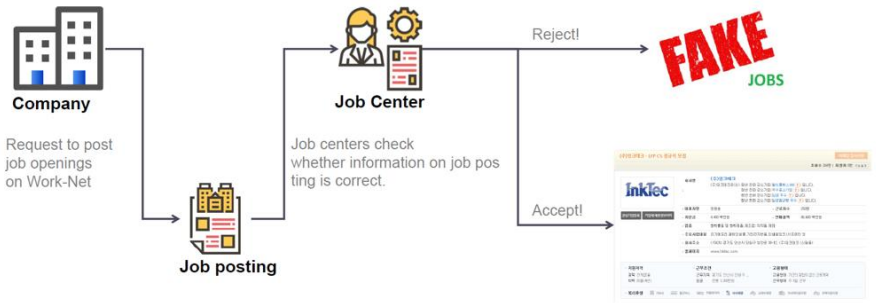


02 Validating Information

Reliable Public Employment Information website

- Work-net monitoring system is strict so only 60 percent of job vacancies submitted are posted after review.

- 4-step verification process
  - Local PES offices, and by verification in the Call Center of KEIS
  - Algorithm to check reliability and vet out "illegal" jobs
  - Coherence with other systems helps remove inactive (filled) jobs



03 User-friendly and accessible services

Introduce user-oriented services to secure competitiveness

Work-net continues to enhance the design and convenience of the website by investigating how easy the website is to use and the overall experience of the website

- UX based fast and accessible system
- Feedback system
- Single log-in on several systems
- Open API services
- Interaction on several interfaces
- Mobile application
- Tailored services
- Chatbot service and other customer response systems

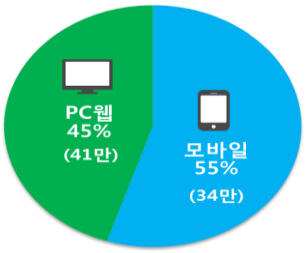
Job Seekers

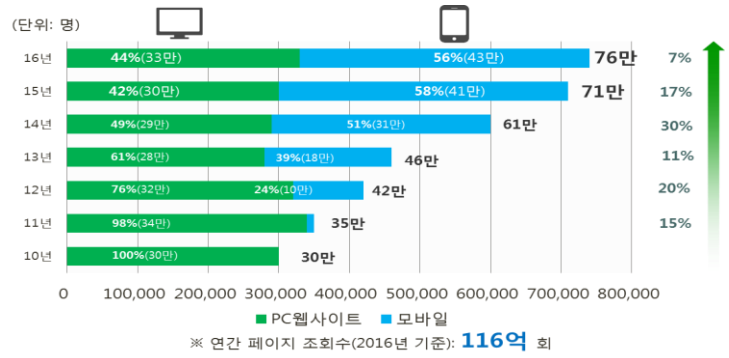
Companies

04 Strategic marketing

Increase users by leveraging marketing strategies

- Active advertising
- Target group outreach
- Job fairs and other events (on-line, off-line)
- Campaigns
- Partnerships with many organizations
- Dissemination of research



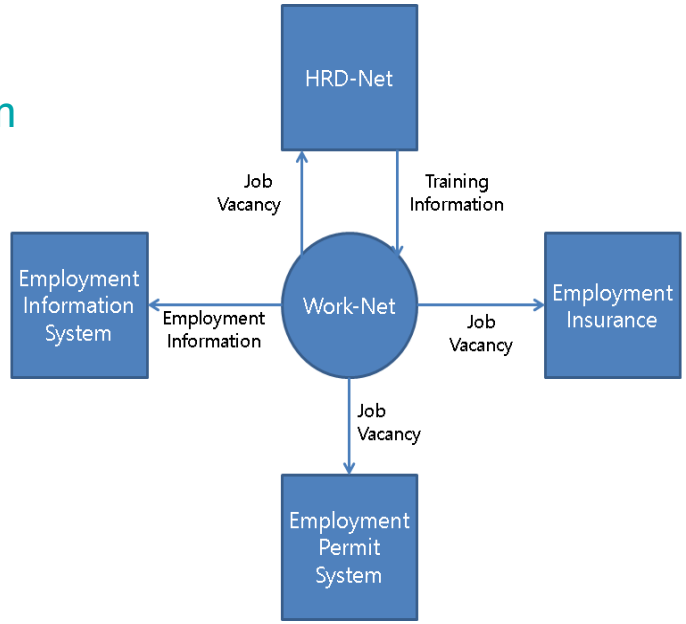


05 Links / interoperability with other systems

Improve labor market understanding by linking systems

Interlinked with several relevant information systems and services:

- Employment information system
- HRD-net (training)
- Employment insurance
- Foreign worker permits



06 Additional services beyond job-matching

Provides employment information as well as vacancy information throughout the lifelong of job seekers

- Comprehensive career guidance services (KNOW, HRD-net):
  - Detailed occupational information (prospects, content)
  - Vocational/career exploration information
  - Vocational tests to match aptitude, preference, capacity
  - Links to vocational training opportunity (HRD-net): course contents, training objectives, application requirements, employment outcomes, etc.
- Information on employment policies, labor market programs, social welfare
  - Simulation services to determine eligibility
- Online application possible for support

07 Human resources and service delivery

Leverage human resources to provide services as well as link with offline organizations

- For PES service delivery, Work-net is used by:
  - the local job centers (232),
  - nearly 1,800 private agencies
  - specific college-campus based job centers
  - specific job centers for various target groups.
- For labor market research KEIS (Work-net is a central node) draws on a significant pool of researchers to provide high quality analysis (in July 2019, some 154 researchers were employed).
- For continuous improvement and development of the LMIS content and user -friendliness, KEIS employs more than 170 staff for operating the system.
  - There are 46 employees at the Call Center to assist with customer consultation and monitoring and verification of the Work-net information

08 Data management & Security

Manage data to generate reliable and meaningful information

- Established data quality system (standards)
- UX/UI design reduces errors
- Data quality evaluation, refinement procedures
- Integrated information management system (connecting WN, HRD, etc.)

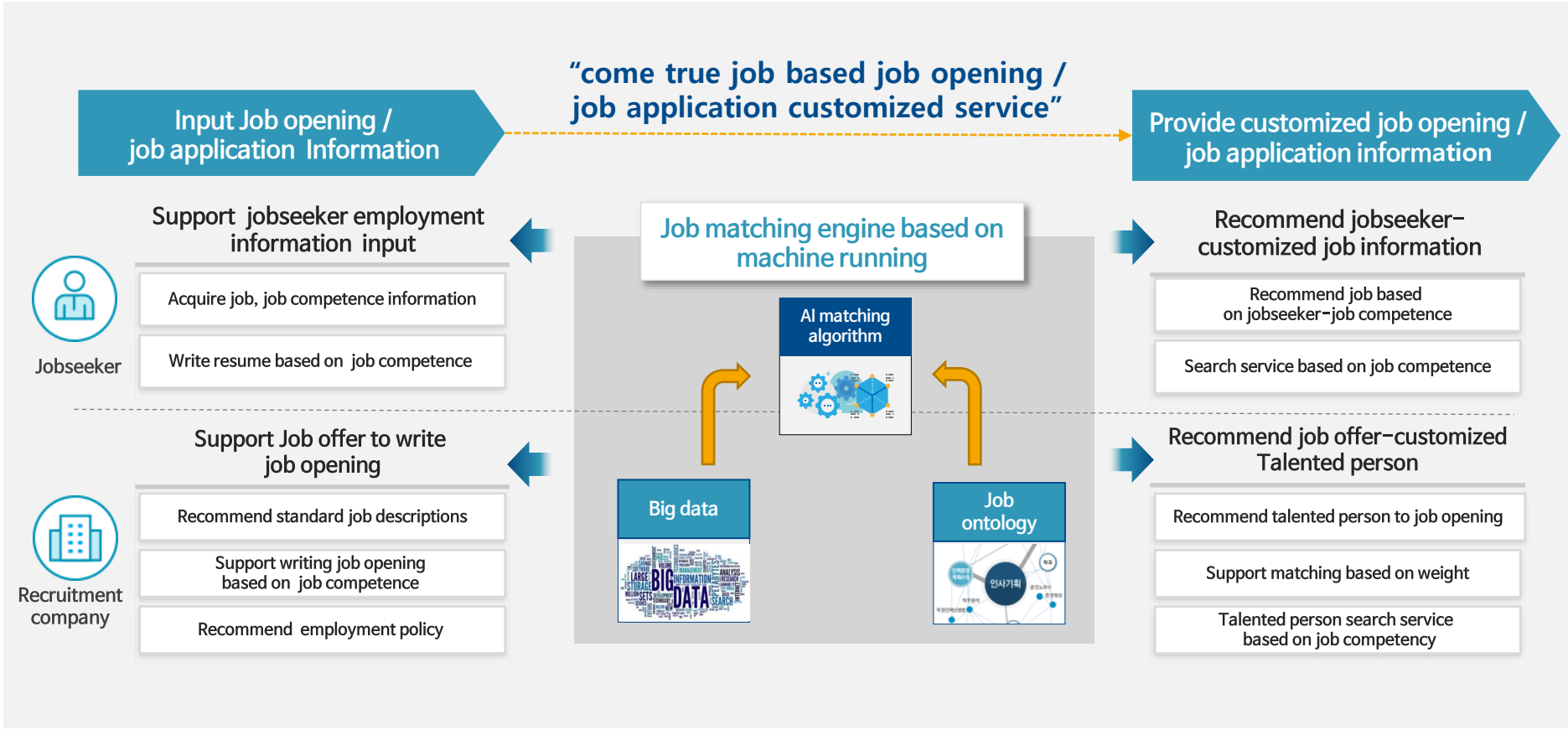
- Administrative security
  - Security training, Security checks, Management and inspection
- Physical security
  - Access control/authentication systems
- Technical security: firewall, vaccine, network separation
  - Program operation and inspection from program source to end-user security
  - Separate internal and external networks

WORKNET

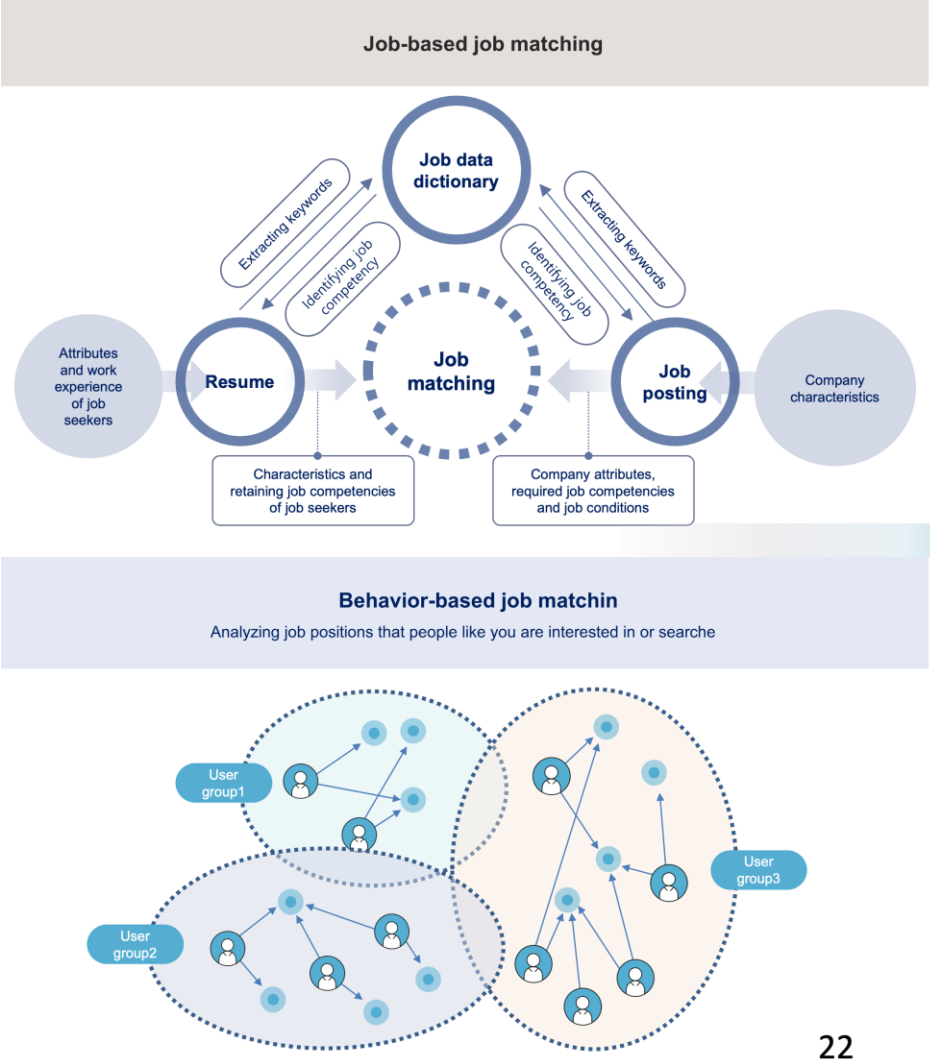
III. Data Based Services

01 AI Job Matching System

Application of job based job opening / job application customized service

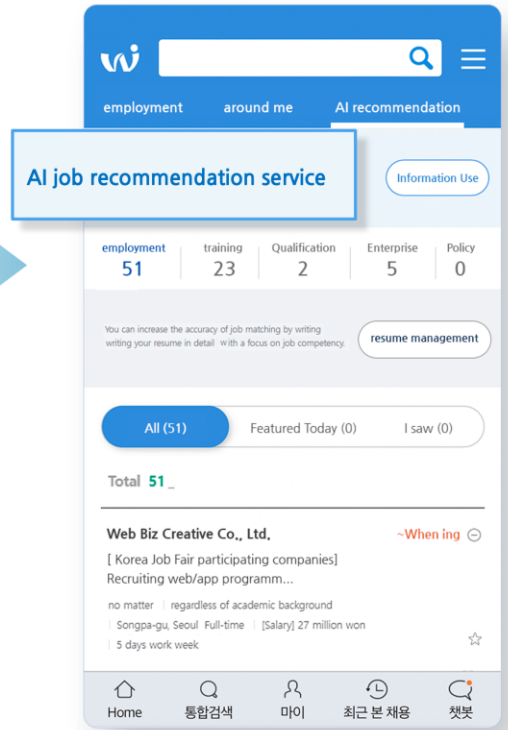


01 AI Job Matching System



It uses big data and machine learning technology to recommend jobs to job seekers based on job function and behavior and provides AI job matching service that recommends suitable talent for the job to recruiting companies.

[AI job recommendation service screen on WorkNet]



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02 Employment trend monitoring system

- In order to quickly respond to the COVID-19 employment crisis, the employment trend monitoring status board was established by using the Employment Information DB.
- Daily report to the Ministry of Employment and Labor and the Office of the President

Employment trend monitoring status board

03 Employment service performance management system

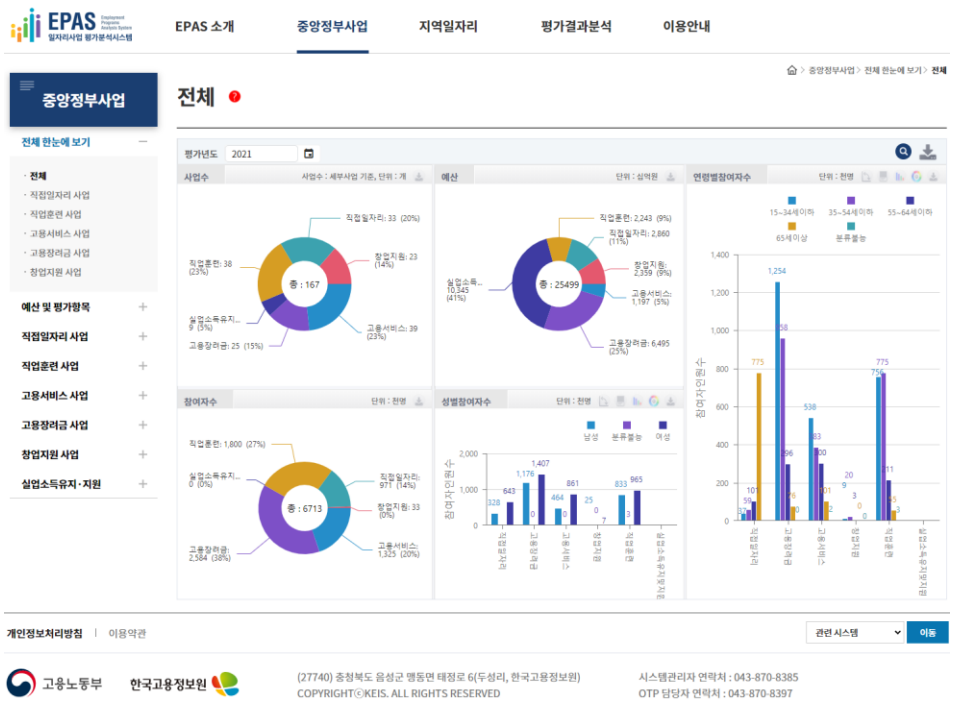
- A system for evaluating the performance of employment service delivery organizations(Job centers, local governments, private outsourced employment service organizations) using the employment and labor DB
- Work-net employment performance achievement rate through employment service provision

ESPM System structure diagram

04 Employment Project Analysis system

- Identification of the effectiveness of policies through evaluation of employment projects in which national finances are invested

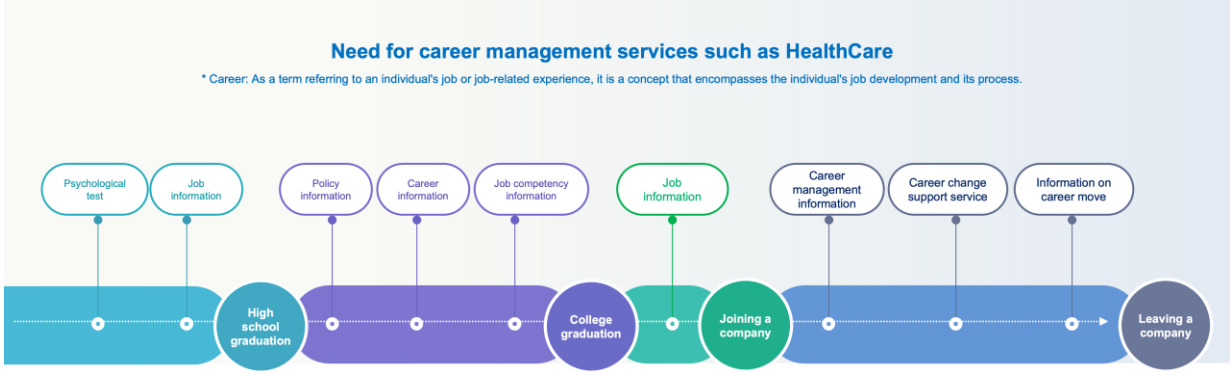
EPAS System User Homepage



05 Job Care Service Using AI

The need for Job Care

- High costs are incurred in entering the labor market due to lack of job competency of job seekers at the time of employment
- AI analyzes employment-related data*, analyzes the jobs required by the job, and prepares job seekers in advance to eliminate mismatching can be solved and the cost of job search activities can be minimized
- Through this service, beyond simple matching, it can be used for job competency reinforcement and job selection suitable for the current job

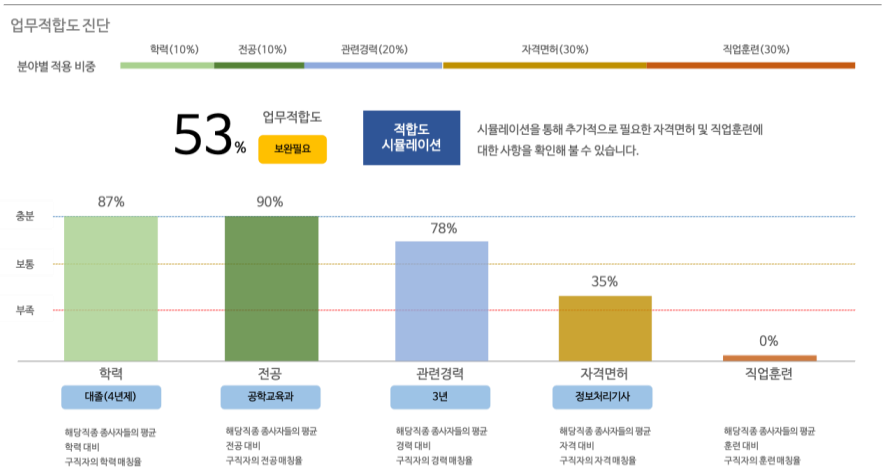


Job care service provision method: by providing useful information for each episode according to the implementation of the labor market in life through online and offline timely maximizing individual time spent in the labor market

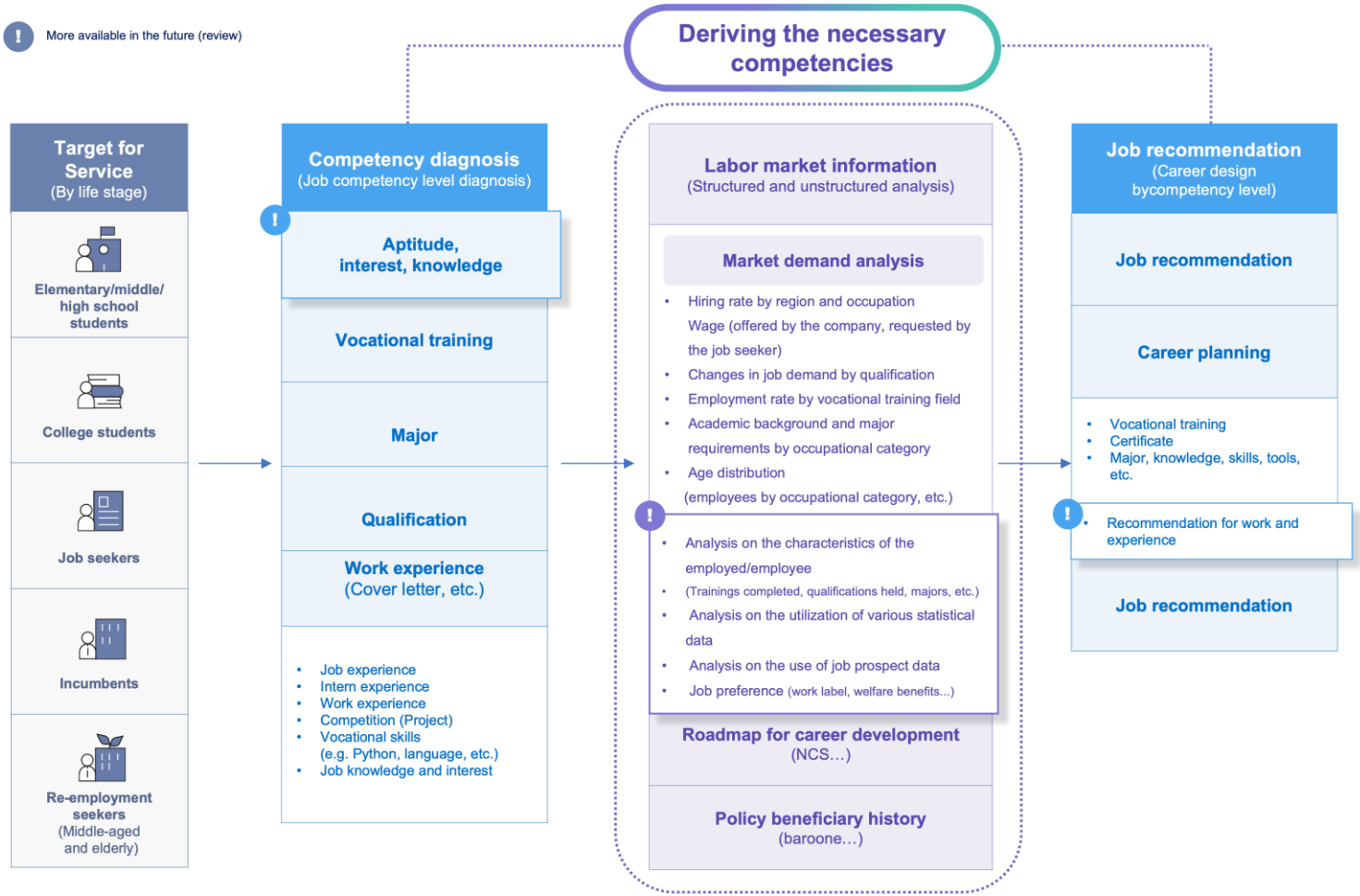
05 Job Care Service Using AI

Contents of Job Care Service

- Assists in job selection by providing various information for job competency improvement based on personal data during job counseling
- Based on the basic information of job seekers, job suitability with the desired job type, psychological test type, AI-based recommended employment information, etc. are provided.
- In the case of job suitability, the degree of suitability with the desired job in terms of academic background, major, related experience, qualification, and vocational training is provided



05 Job Care Service Using AI



Thank You!

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