4th Basic Plan for the Development of National Technical Qualification System

November 2018

Human Resources Development Service of Korea

- There is a need to establish a basic plan including the mid- to long-term policy directions and major projects of the national technical qualifications due to the changes in labor market including the 4th industrial revolution
- The government must establish basic plan every 5 years in accordance with the Article 5 of the National Technical Qualifications Act
- Prepare a draft of the basic plan by gathering opinions from the field, such as from qualification acquirors, ISC, relevant organizations such as HRD Korea and KRIVET, National Employment Policy Advisory Committee, and academic experts

1 Background for Implementation

- In the midst of concerns raised over the lack of applicability of national technical qualifications on the scene, changes in the future labor market such as the 4th industrial revolution and aging population have resulted in issues reflecting new vocational competencies emerging as even more significant agendas
- Additionally, it is necessary to organize the infrastructure of qualifications such as by making qualitative improvements and preventing fraud in the examinations for the NCS (National Competency Standards), which serves as the foundation for reforming the national technical qualifications system
Achievements and Limitations of the 3rd Basic Plan

Though the implementation of the NCS & Course Based Qualifications (2015) has improved upon the issues of examination-based qualifications, which were granted through examinations alone, and has accomplished better results than examination-based qualifications in areas such as employment rates,

- There is a lack of mid- and long-term directional setting between NCS & Course Based Qualifications and examination-based qualifications, and the burden of internal and external evaluations shows clear limitations in the spread of NCS & Course Based Qualifications.

- While some qualifications for prospective future fields have been newly created, such as in the case of industrial engineer of 3D printer development, the creation of new qualifications connected to the 4th industrial revolution is hindered by the complicated procedure required to create new qualifications, and

- The national technical qualification system lacks the flexibility to properly respond to the increase of on-site demands for cross-boundary vocational competencies and advanced technology.

While reforms are being carried out through the development of NCS, there is a lack of research on the actual conditions of NCS utilization, and

- The lack of evaluation on the on-site utilization and importance for each competency unit that makes up the NCS means that there are difficulties in utilizing NCS.
### Major Policy Implementation Directions

#### Vision

- Realization of a Skill-centered Society Backing Innovative Growth

#### Goals

- Qualitative Innovation with National Technical Qualifications Acknowledged by the Labor Market
- Preparation of Foundation to Train Technical Manpower in Preparation for Structural Changes in Industries

<table>
<thead>
<tr>
<th>1. Innovation for Framework to Acquire Qualifications Based on Practical Capabilities</th>
<th>2. Securing Signal Functions through Improvements to On-site Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Spread of NCS &amp; Course Based Qualifications</td>
<td>■ Expansion of Connection between Qualifications and NCS</td>
</tr>
<tr>
<td>■ Diversification of Paths to Acquire Qualifications</td>
<td>■ More Flexibility in the Operation of Qualification in Preparation for 4th Industrial Revolution</td>
</tr>
<tr>
<td>■ Support for the Construction of Sectoral Qualification Framework (SQF)</td>
<td>■ Improvements to Procedures to Improve On-site Responsiveness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Strengthening of the Social Status of Qualifications</th>
<th>4. Organization of Infrastructure to Develop the System</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Invigoration of Professional Engineer and Master Craftsman Grades</td>
<td>■ Management and Improvement of NCS Quality</td>
</tr>
<tr>
<td>■ Construction and Strengthening of System to Prevent Fraud in Examinations</td>
<td>■ Enhancement of Examination Evaluation Quality</td>
</tr>
<tr>
<td>■ Expansion of the International Common Use of Qualifications</td>
<td>■ Reinforcement of Qualification Operation System</td>
</tr>
</tbody>
</table>
Present and Future of National Technical Qualifications

<table>
<thead>
<tr>
<th>Present</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Details</td>
<td>Knowledge (KNOW)</td>
</tr>
<tr>
<td>Acquisition Method</td>
<td>Examination-based</td>
</tr>
<tr>
<td>Acquirer</td>
<td>Master Craftsman-centered</td>
</tr>
<tr>
<td>Operating Body</td>
<td>Government</td>
</tr>
<tr>
<td>Qualification Infrastructure</td>
<td>Construction and Expansion</td>
</tr>
</tbody>
</table>

4 Priority Agendas for Implementation

1 Innovation for Framework to Acquire Qualifications Based on Practical Capabilities

<Roadmap for National Technical Qualifications in Preparation for Era of Life-long Vocational Skills Development>

- Various examination methods and paths to acquiring qualifications should be opened in consideration of the diverse situations of learners

Before NCS

- Examination-based Single System (Written and Practical Exams)

Implementation of NCS

- Emphasis on Examination-based Qualifications (NCS Applied to Question Setting Standards)
- Implementation of NCS & Course Based Qualifications (Formation of NCS-based Courses)

Settlement of NCS

- Emphasis on NCS & Course Based Qualifications
  - Linked with Formal Education and Vocational Training
  - Linked with Work-Learning Dual System
- Reduction of Examination-based Qualifications, Implementation of Experience Recognition-based Qualifications
  - Utilization of Currently Employed and Experienced Individuals
Spread of NCS & Course Based Qualifications

- NCS & Coursed Based Qualifications should expand the participation of formal education institutions, such as specialized high schools and vocational colleges, through qualification examinations suitable for student workers, and raise the diversity of participating institutions, such as institutes of technical educations within companies or the R.O.K Army Engineer School

* Among the 631 designated courses for the NCS & Course Based Qualifications in 2018, 75 were vocational high schools (11.9%), 33 were vocational colleges (5.2%), 21 were polytechnic universities (3.3%), and 7 were universities (1.1%), for a total of a 21.5% participation rate among formal educational institutions

- The implementation method involves the stage-based reduction of external evaluations for outstanding institutions that have secured qualitative management of education and training and fairness in internal evaluations

- Examination-based qualifications should be retained for the sake of currently-employed individuals who find it difficult to participate in NCS & Coursed Based Qualifications, but at the same time, operation of examination-based qualifications should be steadily reduced in tandem with the spread of NCS & Coursed Based Qualifications

Diversification of Paths to Acquire Qualifications

- Students and trainees should not have to repeat education and training that they have already learned, and recognition of prior learning (RPL) should be implemented to allow them to acquire NCS & Course Based Qualifications

- Individuals should be able to utilize the on-site experiences they have accumulated through work through exemptions from competency unites of NCS & Course Based Qualifications or
examination subjects of examination-based qualifications, and Experience Recognition-based Qualifications should be implemented in the long term

- Those who have completed Work-Learning Dual System courses that satisfy the standards for NCS & Course Based Qualifications should be granted national technical qualifications after undergoing external evaluations

○ Support for the Construction of Sectoral Qualification Framework (SQF)

- The design of a industry-led Sectoral Qualification Framework (SQF) of mutual recognition that can objectively compare degrees, qualifications, and work experience according to industry and category should be supported


- The SQF should be designed and operated within the framework of the Korean Qualifications Framework (KQF) and its quality should be managed to ensure that it maintains consistency

2 Securing Signal Functions through Improvements to On-site Applicability

○ Expansion of Connection between Qualifications and NCS

- In cases where the range of the qualification target and the NCS do not match, reformation through the division and combination of qualifications based on the NCS should be implemented

○ More Flexibility in the Operation of Qualification in Preparation for 4th Industrial Revolution
- If an acquirors of a national technical qualification has completed a NCS competency unit in a new technology field designated by an educational or training institution acknowledged by the state, then a ‘cross-boundary license’ listing the related items should be issued

* Measures including applied categories, cross-boundary fields, core competency units by field, criteria for completion and operational methods for the education or training course, etc. should be prepared and implemented following trial application (2020)

- New technology fields that see rapid changes in technology, such as through the 4<sup>th</sup> industrial revolution, should have expanded support for in-company qualifications to supplement any blind spots in national technical qualifications

- **Improvements to Procedures to Improve On-site Responsiveness**

  - The Qualification Examination Cessation System should be invigorated for qualifications with few applicants and low utility, and if the cessation period lasts for 2 - 3 years, the Qualification Examination Termination System should be implemented for that category

  - Among categories directly connected to the lives and safety of the citizens and categories that see a great amount of change in industrial demand, those that require qualification renewal should be designated, and a trial Qualification Renewal System* should be implemented

* In the case of individuals who submit a Certificate of Employment or have completed education and training, measures for automatic renewal should be considered

- The time required to create a new qualification should be reduced to a maximum of 11 months through the ‘Fast-Track System’ for categories in which the NCS has been developed
Strengthening of the Social Status of Qualifications

- Invigoration of High-skilled and High-tech Grades
  - Improve the Professional Engineer examination system by linking it with the accreditation of engineering education, conducting structured capability interviews, etc.
  - New Master Craftsman categories should be created for fields where career development paths have been cut off due to a lack of a Master Craftsman, and invigorate connections between Master Craftsman qualifications and Technical Skills Promotion Project

- Construction and Strengthening of System to Prevent Fraud in Examinations
  - Categories that have a high chance of fraud occurrence should be designated as special management categories, and any leaks of test questions should be prevented through measures such as mandating that questions be set in a single basecamp or the standardization of practical tests
  - Management of supervisors and restrictions on communication devices should be strengthened, and new regulations punishing foul play should be established

- Expansion of the International Common Use of Qualifications
  - International cooperation projects such as the development of a model based on NCS & Course Based Qualifications that offers mutual recognition with qualifications of other advanced countries or the development of NCS, and support for construction of qualification systems in developing countries should be implemented
Organization of Infrastructure to Develop the System

- Management and Improvement of NCS Quality
  - A 'NCS Quality Management System' that periodically reviews the utilization achievements and issues during utilization of the NCS, such as education and training, qualifications, and employment, should be established.
  - Grades should be bestowed on competency units based on their applicability and importance in industrial settings.

- Enhancement of Examination Evaluation Quality
  - Examination methods should be changed from 'written and practical tests' to '1st and 2nd phase tests', and a mid- to long-term examination infrastructure should be established, such as by increasing the number of question setting research personnel or constructing an exclusive examination site.

- Reinforcement of Qualification Operation System
  - The responsibility of ministries and offices concerned for each category should be strengthened through consultations and enhanced connections between the 19 qualification ministries and offices, unification of body drawing up qualification implementation plans for examination-based qualifications and NCS & Course Based Qualifications, etc.
  - A 'Qualification Evaluation Center' that evaluates the utility of qualifications, such as analysis of qualification acquirers and corporate applicability of qualifications, should be designated, and the qualification utility evaluation results should be announced every year.
The Qualification Portal for Korea
Q-net System
(www.Q-net.or.kr)
Human Resources Development Service of Korea

A national agency affiliated with the Ministry of Employment and Labor involved in:
- the task of supporting lifelong vocational development for the training of personnel,
- the task of holding qualifying exams to assess vocational abilities,
- the task of supplementing the labor market with employment support by non-Koreans and overseas employment,
- the task of promoting skilled technicians for to foster technicians and for base expansion,
- the task of support for developing countries through international exchanges and collaborations,
- and conducts overall projects for national human resources development and training

as a prominent public agency in the HRD field.
1. Introducing the Human Resources Development Service of Korea

Organizational Chart of the Human Resources Development Service of Korea

Headquarters
- Secretary's Office
  - Planning and General Affairs Director
    - Planning and Evaluation Department
    - General Affairs Office
    - Information Support Office
    - Public Relations Department
  - Vocational Development Director
    - Vocational Abilities Office
    - Work-Learning Support Office
    - Regional Support for Industry Office
    - Training and Quality Enhancement Center
  - Vocational Assessment Director
    - Vocational Assessment Office
    - Curriculum and Assessment Office
    - Technical Qualification Examination
    - Professional Qualification Office
  - International Human Resources Headquarters
    - Foreign Labor Office
    - Overseas Employment Office

Attached Institutes
- NCS Center
  - Global Institute for Transferring Skills

Affiliated Agencies
- Seoul, Busan, Daegu
  - Midland, Gwangju, Daejeon
  - Regional Headquarters (6)

Overseas EPS Centers (16)

Branches (18)

- Vietnam
- Thailand
- Indonesia
- The Philippines
- Sri Lanka
- Nepal
- Cambodia
- China
- East Timor
- Mongolia
- Uzbekistan
- Pakistan
- Kyrgyz
- Myanmar
- Bangladesh
- Laos
2. Introducing the Q-net System

History of the Q-net System

2001.6.19 Q-Net OPEN

Q-Net

1999.04 ~ 2000.12 자격정보시스템 구축
2000.12 ~ 2001.07 Q-Net(인터넷 원서접수) 구축
2004.12 ~ 2006.06 자격정보시스템 고도화
  - 인터넷 원서접수 등 서비스 개선
  - 소속기관의 분산 DB통합 및 장비 보강
2007.12 ~ 2008.10 신 자격정보시스템 구축
  - 국가전문자격 인수 통합관리 시스템, DB 재설계 등
2008.12 ~ 2009.08 Q-Net 고도화
  - 검색솔루션 도입, HRD-Net 연계, 웹접근성 강화 등
2011.11 ~ 2011.12 자격정보시스템(Q-Net QIS) 개편
  - 상시 12개 종목 접수 및 시행 분리 구축
2012.07 ~ 2013.01 모바일 Q-Net 시스템 구축
  - 모바일 WEB/APP 서비스 개발 등
2014.06 ~ 2015.01 Q-Net 고도화
  - 전자정부 표준프레임워크 적용, 디자인 개편 등

2016.7.10 CQ-Net OPEN

CQ-Net

2016.08 ~ 2017.06
과정평가형.일학습형 자격정보시스템 구축
  - 과정평가형.일학습형제 외부평가의 원서접수,
    합격자 발표, 자격증 발급 신청 등 정보 서비스
    제공을 위한 과정평가형.일학습형 자격 전문
    홈페이지(CQ-Net) 및 업무시스템(CQIS) 신규 구축

2017.7.10 CQ-Net. CQIS 오픈
2. Introducing the Q-net System

Composition of the Q-net System
2. Introducing the Q-net System

Operation Status of the Q-net System

국가지역 구분별 서비스

국가기술자격
기설사, 기능장, 기사, 산업기사 등
국가기술자격협회에 의해 운영되고 있는
500여 종목에 대한 국가지역구분
서비스 제공

국가전문자격
변리사, 공인중개사, 세무사 등 37개 종목별 개별 홈페이지로
국가전문자격점검 서비스 제공

시스템 규모 및 현황

정보 보유 현황

H/W
약 1,000만명

시스템 현황

Oracle 등 약 600여

S/W
약 770개

사이트 운영현황

NWC
연간 약 50만건

표준
연간 약 600만건

영문
연간 약 5만건

대국민 Q-Net 서비스

정보제공서비스

시험정보 시험정보, 시험수수료 등

사전 검사
시험과 관련된 사전 검사

업무처리서비스

시험 점수별
시험 점수별로 시험 결과를 확인

성적표 발생
시험 결과를 성적표 형태로 제공

개인별 특별조치, 합격자 조회 등

정보자료 공유

국가등록번호-장애인 정보

고객센터

最好是使用更清晰的图像，以便更好地理解内容。
2. Introducing the Q-net System

Functional Composition of the Q-net System
Invitational training, conferences, workshops

Major external collaborative project by the Human Resources Development Service

Major projects involving international development and collaboration
4. Results of Korea-Vietnam Exchanges

Human Resources Development Service - results of key implementation of international exchanges with Vietnam

Status of collaborative MOUs concluded with Vietnam

2004 Vice-Minister's of Labor from both Korea and Vietnam Conclude a Collaboration Agreement (renewed in 2013)
- '14. - July, 2014. Both countries establish mid- to long-term collaborative direction and collaborative projects involving the implementation of specific projects
  Conclusion of a Letter of Intent (vice-ministerial level)

2012 Human Resources Development Service and the Vietnam Ministry of Labor General Directorate of Vocational Training (GDVT) conclude an MOU

Status of Implementation of Korea - Vietnam Collaboration

Policy consultation in field of employment and labor
- Enactment of lower statute of Vietnamese employment act (2014) Employment act amendment goes into effect in 2015
- Vietnam employment law enactment consultation (2012 ~ 2013)

Collaborative works in the field of national human resources development
- Invitational training for those involved in vocational training in Vietnam (2012 ~ 2017, 92 people)
- Service project to enhance the capabilities of vocational schools in Vietnam (2016)
- Vietnam technical advisory workshop in collaboration with APEC (2016)
- Mutual exchange of Korea - Vietnam HRD Professionals (2010 - present)
### 4. Results of Korea–Vietnam Exchanges

**Human Resources Development Service** - results of key implementation of international exchanges with Vietnam

#### Vietnam Vocational and Technical Education Project

<table>
<thead>
<tr>
<th>Classification</th>
<th>Project year</th>
<th>Project budget (thousands of won)</th>
<th>Ordered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitational Training</td>
<td>2007</td>
<td>507,944</td>
<td>Vietnam (Ministry of Labour, Invalids–Social Affairs)</td>
</tr>
</tbody>
</table>

#### Training for national technical qualification managers of Vietnam ILO labor market projects

<table>
<thead>
<tr>
<th>Classification</th>
<th>Project year</th>
<th>Project budget (thousands of won)</th>
<th>Ordered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitational Training</td>
<td>2010</td>
<td>23,000</td>
<td>ILO</td>
</tr>
</tbody>
</table>

#### Project to build and enhance the capabilities of a system of assessment for national technical qualifications in Vietnam

<table>
<thead>
<tr>
<th>Classification</th>
<th>Project year</th>
<th>Project budget (thousands of won)</th>
<th>Ordered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experts, consultants dispatched, etc.</td>
<td>2011 – 2013</td>
<td>1,445,200</td>
<td>KOICA</td>
</tr>
</tbody>
</table>

#### Course to improve the capabilities of Vietnamese qualification assessment experts

<table>
<thead>
<tr>
<th>Classification</th>
<th>Project year</th>
<th>Project budget (thousands of won)</th>
<th>Ordered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitational Training</td>
<td>2010</td>
<td>24,540</td>
<td>KOICA</td>
</tr>
</tbody>
</table>
4. Results of Korea-Vietnam Exchanges

Human Resources Development Service – Results of Vietnamese foreigner employment support project (last 5 years)

- **Status of Korean language proficient tests applied for by Vietnamese foreigner personnel introduced**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>44,824 people</strong></td>
<td></td>
<td>1,895 people</td>
<td>Not implemented</td>
<td>24,789 people</td>
<td>18,140 people</td>
</tr>
</tbody>
</table>

- Not implemented (account of the MDU for the 2013, 2015 Vietnam employment permit system expiring)
- Selection reinstated (account of the MDU concluded for the 2016 to 2017 Vietnam employment system)

- **Status of tests taken for an assessment of the function standard for Vietnamese foreigner personnel introduced**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>4,806 people</strong></td>
<td></td>
<td>715 people</td>
<td>Not implemented</td>
<td>2,469 people</td>
<td>1,622 people</td>
</tr>
</tbody>
</table>

- Implementation of a selection point system only implemented for fishing industry

- **Status of Vietnamese foreigner personnel entering the country**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>23,319 people</strong></td>
<td></td>
<td>2,738 people</td>
<td>5,495 people</td>
<td>5,906 people</td>
<td>5,363 people</td>
</tr>
</tbody>
</table>
5. Strategy to expand exports of the Q-net System

Plan to expand exports of the Q-net System and expand follow-up projects

**Stage 1: creation of a Q-net system**
- Creation of the Q-net homepage
  - Information on qualification items, information on qualification test schedules, apply for the test online, apply for a certification, confirm the authenticity of a certification, etc.
- Creation of a test management system (internal task system)
  - manage test sites, manage qualification test implementation, manage scoring, manage successful applicants and certification holders, certification issuance

**Stage 2: Advance the Q-net System**
- Creation of Q-net for mobile (application) 84% of cell phone users have a smartphone)
  - Better convenience and access for users when the Q-net homepage is redesigned for mobile use
- Creation of the examination information system
  - Advance the qualification information system through the digitalization of test creation tasks including preparing test questions, review, generation and publication (printing).
  - **Creation of a total qualification information system for instituting and revitalizing a qualification system in Vietnam**

**Stage 3: Create a vocational training system**
- Export of the domestic vocational training system and training system to foster Vietnamese technical and functional personnel
  - Possible to expand the export of the system of training, development of competency, training methods, training related system, facilities and equipment
- Delivering the model to enhance development capabilities from a human resource development perspective by connecting work, training and qualifications
  - Expand **competency and capabilities training through the delivery** of a **domestic human resources development model**
5. Strategy to expand exports of the Q-net System

Countries that are similar or neighboring that can be exported to:
- Mongolia
- Laos
- Uzbekistan

Countries that already received the qualification system:
- Vietnam
- Cambodia
- Kazakhstan

Project to create a system of assessment for national technical qualifications in Vietnam (2011-2013, KOICA)

Cambodia national technical qualification project (2007-2009, KOICA)

Kazakhstan qualification assessment support project for system creation (2006-2008, KOICA)

Technical competition athletes from Mongolia and invitiation training for trainers (2015, KOICA)

Laos Skills Development Institute Support project (2017-2020, KOICA)

Tashkent, Uzbekistan Founding project of vocation training institute (2008-2012, KOICA)
6. Significance of export

Items for export from the Q-net System

- The Q-net system was the creation of an application program to provide a service to the people and to perform tasks.
- To create an information system, domestic IT personnel should be dispatched and a sales channel for outstanding domestic equipment (H/W, S/W) should be created.
- The creation of new IT demand for the target country can be used as an access point for the domestic IT industry.

Significance of the export of the Q-net System

- The export of the Q-net system is not limited to the function, technology and equipment. As an item for export that emphasizes process connected with the qualification system of the target country.
- The core competencies of human resource development of the target country can be enhanced through the export of the Q-net System. Building a strong foundation for the training of technical personnel, and contributing to reinforcing national competitiveness.
- Also, strengthening ongoing, international collaborations is expected to contribute to improved friendship among countries and contribute to mutual development.
6. Significance of export

System of implementation of the Q-net information system

- Qualification assessments in about 30 developing countries
  Implementation of a support project related to vocational training
- In particular, for target countries
  The export of qualification systems
  Implementation of leading work
- Systematic export model and creation of results
  Through a global collaboration organization (GIFTS)
- Overseas branches (EPS Centers)
  Used to create collaborative foundations with target countries
- International collaborative projects and projects for supporting employment for foreign can create mutual friendship
- Possible to expand exports by creating an export model in stages
- Expand exports of the Q-net information system to neighboring and similar countries
- Koreans prominent qualification information service system
- and build a diverse network of government officials, academics, entry companies, and overseas Koreans
Thank you.
National Qualification System and Course-based Qualification based on NCS
National Qualification System (NQS)
## NQS Types

<table>
<thead>
<tr>
<th>Category</th>
<th>National Qualification System (NQS)</th>
<th>National Professional Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td>Qualification exam</td>
<td>Coursed-based Qualification</td>
</tr>
<tr>
<td>Types</td>
<td>National Technical Qualification Act</td>
<td>National Technical Qualification Act</td>
</tr>
<tr>
<td>Applicants</td>
<td>Must meet the requirements (work experience, education) designated by the law</td>
<td>Must pass courses designated by the labor ministry</td>
</tr>
<tr>
<td>Assessment</td>
<td>Written: multiple choice question Practical: complex question with practical tests</td>
<td>Internal, external assessment -Internal: assessment by competencies -External: assessment by two tests</td>
</tr>
<tr>
<td>Minimum scores to pass</td>
<td>60 points of average</td>
<td>Combination of the internal &amp; external assessment must reach at least 80 points</td>
</tr>
</tbody>
</table>
National Professional Qualification System

1. Planning
   - Obtain approval from related government ministry in advance

2. Notification
   - Provide information for test takers through Q-Net, public advertisements, gazettes, etc.

3. Confirm test venues
   - Confirm and prepare test venues prior to actual tests to accommodate convenience of test takers

4. Application
   - Round the clock
   - Online application through Q-Net

5. Overall management
   - Accurate tests
   - Strict tests
   - Fair assessment

6. Test Result Announcement
   - The list of qualification acquisition data, etc. through Q-Net, gazette, etc.
National Competency Standard (NCS)
NCS, National Competency Standards

"NCS" refers to systemized level and competency standards required by industries including knowledge, skill and attitude (Framework Act on Qualification Article 2)

- Jobs: Works required according to posts or assigned duties
- Competency: Capability to achieve works
- Standards: Criteria to measure the nature or level of works

Diagram:
- Industry: Knowledge, skill, attitude
- NCS: Knowledge, knowledge, skill, skill, attitude, attitude

Industrial Site
- Human Resources Development
- Tailored for industries

尾图: 한국산업인력공단 Human Resources Development Service of Korea
NCS System

24 categories, 78 divisions, 241 sections, 947 subsections (2017)

<table>
<thead>
<tr>
<th>Category</th>
<th>① based on similar competency types (in accordance with KECO)</th>
</tr>
</thead>
</table>
| Division | ① similar competency within categories  
           ② similar industries within categories  
           ③ independent industry markets or similar career development  
           ④ based on Sector Council (SC) |
| Section  | ① similar competency within divisions  
           ② based on Sector Council (SC) |
| Subsection | ① similar competency within sections  
             ② competency standards in accordance with KECO  
             ③ number of workers, independent competencies |

Textile Clothing Field

- Large Categories
- Chemistry
- 18. Fiber Cloths
- 19. Electric Electronic

Job Categories:
- Middle Categories
- 1. Fiber making
- 2. Fashion

Units:
- Capacity Unit
- 01. Design Planning
- 02. Design Working Preparation
- 03. Design Working
- 04. Pattern Making
- 05. Sample Making

Criteria
## NCS System

### NCS Level

<table>
<thead>
<tr>
<th>Career path</th>
<th>Level</th>
<th>Level</th>
<th>Office management</th>
<th>NQS</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief</td>
<td>4</td>
<td>8</td>
<td>Executive</td>
<td>Master craftsman/Professional Engineer</td>
<td>Doctor</td>
</tr>
<tr>
<td>Deputy chief</td>
<td>3</td>
<td>7</td>
<td>Director</td>
<td>-</td>
<td>Master</td>
</tr>
<tr>
<td>Senior Specialist</td>
<td>2</td>
<td>6</td>
<td>Deputy Director</td>
<td>-</td>
<td>Bachelor</td>
</tr>
<tr>
<td>Specialist</td>
<td>1</td>
<td>5</td>
<td>Manager</td>
<td>-</td>
<td>Associate degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>Assistant Manager</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Staff</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Junior Staff</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Intern</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
NCS Framework

- NCS utilized in recruitment for jobs and departments
- NCS composed of 10~30 competency units

**Contents**

- Job/Skill
- Competency
- Competency Unit
- Criteria

**Knowledge, Skills, Attitude**

**Competency**

Basic competency used for education, training etc.

**Competency Unit**

Competency unit for performance

**Criteria**

Tangible outcome of performance required at work sites
NCS Development Procedure

- **Skill selection**
  - Develop NCS according to skills (Framework Act on Qualification Article 3-1, 2)
    * Skills recognized by the labor ministry according to the qualification management plan

- **Opinion submission**
  - Central Administration (enforcement decree 3, 4), Industry (ISC etc.), NCS Wiki (citizens)

- **Opinion review**
  - Review opinion (from experts and concerned institutions) and select skills necessary for NCS development

- **Planning**
  - Establish an NCS Development Plan (including feedback, schedule, process, outcome etc.)

- **Review committee (WG committee)**
  - WG Committee per NCS sector appointed by the head of HRD Korea with recommendation from central government agencies
    * WG Committee: 5 Field experts, 3 Trainers, 1 government official

- **Selection of Development Institution**
  - SC per industry, related institutions etc. (enforcement decree Article 4-1)
    * Development committee (institutions): 7 field experts, 3 teaching staff/trainers, 1 expert for qualification
    * Expert selection to be reported to WG committee

- **Verification**
  - Launch → Interim report → Verification for Final report, Two rounds of actual verification to be conducted
    * 1st: verification with more than 20 companies, 2nd: with more than 40 companies

- **Completion**
  - Final review according to the NCS manual after WG committee

- **Publication**
  - Approval by the labor ministry, Publication on relevant websites (enforcement decree 6-1, 2)
## Utilization of NCS

### NCS adopted in education, training, recruitment, qualification etc.

#### Education・Training

- **Education planning based on NCS**
  - Full scale adoption of the system at curricula since 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Specialized high schools</th>
<th>Colleges</th>
<th>Companies</th>
<th>Public training sector</th>
<th>Private training sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>547 schools</td>
<td>83 schools</td>
<td>8,679</td>
<td>1,698 Polytechnics (departments)</td>
<td>36,422</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td>11,655</td>
<td></td>
<td>23,704</td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td>I2,000 (planned)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Qualification system revamped as NCS-based**
  - 2016: 30 skills (129 courses)
  - 2017: 61 skills (305 courses)
  - 2018: 111 skills (631 courses, planned)
  - Welding engineering etc.

- To hire competent workers aside from superficial academic backgrounds

<table>
<thead>
<tr>
<th>Year</th>
<th>Public institutions</th>
<th>Private companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>364</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>471</td>
<td></td>
</tr>
</tbody>
</table>

*Efforts to encourage NCS-based recruiting through consulting*
03 NCS based Course-based Qualification
What is Course-based Qualification?

The qualification system acquired by completing education & training recognized by the government based on NSC including tests

NQS History

Current (Test-based)

- Application
- Written tests
- Practical tests
- Qualification acquired

Test-based

- Application
- Written tests
- Practical tests

Course-based

- Completion of training based on NCS + Assessment
- Qualification acquired
Why Course-based Qualification adopted?

Problem: the training do not reflect demands by the actual industries and engender a gap between school education system and the labor market

Solution: To nurture talented skilled workers by completing training based on NCS

1. To improve Vocational training system
   - Seeking improvement by connecting qualification system and vocational training

2. To revamp VET reflecting demands by industries
   - Raising competitivity by revamping VET contents based on qualification system

3. To diversify qualification system
Merits of Course-based Qualification (CBQ)

**Applicants**
- Utilize NCS competencies when seeking jobs
- Acquire skills and knowledge demanded by industries through quality education

**Training Institutions**
- Enhance status as official education and training institutions for Course-based Qualification
- More students and applicants enrolled, eligible for consulting for overall education and training

**Companies**
- Hire skilled, talented workers
- Raise efficiency by reducing re-training at works while developing career path system for workers
Procedures of CBQ

1. NCS Development
2. CBQ type Selection
3. Recruit training institutes
4. Assessment
5. Training & Assessment
6. Recruit students
7. Grant/reject qualification
8. Monitoring by experts
Expansion of CBQ

Steady increase of CBQ

2015
15 skills

2016
30 skills

2017
61 skills

2018
111 skills
### Course-based Qualification Skills/Types

#### Engineer (5 Types)
- Engineer Machinery Design
- Engineer Mechatronics
- Engineer Welding
- Engineer Clothing
- Engineer Landscape Architecture

#### Industrial Engineer (29 Types)
- Industrial Engineer Air-Conditioning and Refrigerating Machinery
- Industrial Engineer Precious Metal Processing
- Industrial Engineer Metal Material
- Industrial Engineer Machine Fitting
- Industrial Engineer Machinery Design Maintenance
- Industrial Engineer Agricultural Appliances
- Industrial Engineer Injection Mould Making
- Industrial Engineer Manufacturing Automation
- Industrial Engineer Visual Communication Design
- Industrial Engineer Interior Architecture
- Industrial Engineer Welding
- Industrial Engineer Hazardous Material
- Industrial Engineer Precision Measuring
- Industrial Engineer Information Processing
- Industrial Engineer Fixture Design
- Industrial Engineer Computer Aided Manufacturing
- Industrial Engineer Press Die Making
- Industrial Engineer Fashion Design
- Industrial Engineer Surface Treatment
- Industrial Engineer Casting
- Industrial Engineer Landscape Architecture
- Industrial Engineer Electronics
- Industrial Engineer Food Processing
- Industrial Engineer Fashion Merchandising
- Industrial Engineer Cook (Western Food)
- Industrial Engineer Cook (Chinese Food)
- Industrial Engineer Elevator

#### Service (5 Types)
- Convention Meeting Planner II
- Telemarketing Administrator
- Computerized Accounting Specialist Level 3
- Vocational Counselor

#### Certified Technician (72 Types)
- Craftsman Overhead Travelling Crane Operator
- Craftsman Livestock
- Craftsman Surveying
- Craftsman Computer Graphics Operation
- Craftsman Computer Aided Milling
- Craftsman Computer Aided Lathe
- Craftsman Concrete
- Craftsman Tower Crane Operating
- Craftsman Inert Gas Arc Welding
- Craftsman Cook, Korean Food
- Craftsman Aircraft Airframe Maintenance
- Craftsman Chemical Analysis
- Craftsman Metal Coating Hanging
- Craftsman Pottery Handicraft
- Craftsman Dress Making
- Craftsman Casting
- Craftsman Korean traditional costume
- Craftsman Textile Printing
- Craftsman Plumbing
- Craftsman Rolling
- Craftsman Construction Equipment Maintenance
- Craftsman Aircraft Powerplant Maintenance
- Craftsman Aircraft Electronic Maintenance
- Craftsman Motor Vehicles Body Repair
- Craftsman Steel Making
- Craftsman Iron Making
- Craftsman Metal Material Testing
- Craftsman Surface Treatment
- Craftsman Applied Product Modeling
- Craftsman Shoe
- Artist (Make up/ Nail/ Esthetician)
- Craftsman Information Processing
- Craftsman Information Equipment Operation
- Craftsman Cook, Chinese Food
- Craftsman Cook, Blowfish
- Craftsman Cook, Japanese Food
- Craftsman Food Processing
- Craftsman Elevator
- Craftsman Agricultural Machinery Maintenance
- Craftsman Seeds
- Craftsman Horticulture
- Craftsman Floral Design
- Craftsman Desktop Publishing
- Craftsman Furnace Construction
THANK YOU