



The Guide line of e-Learning ***Master Plan for implementation***

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**ACCURACY
OBJECTIVENESS
RELIABILITY
IN-TIME SERVICE**

AUTHOR



Choi Sung-Hwan – NIPA expert,
QUATEST 3's E-Learning Expert

Mr. Choi Sung-Hwan with his 36 years of experience in ICT and educational field as a government officer in Korea, has worked as an expert for building eLearning system in QUATEST3.

He made efforts to set up e-learning system through holding seminars, workshops and training courses. He also endeavored to enforce international cooperations and expanding the interchanges between Korea and holding Vietnam, such as executing an MOU with KELIA (Korea e-Learning Industry Association) and KTC (Korea Testing Certification).etc.

He is proud of his work in QUATEST3 as an expert. Also, he mentioned on that I can feel Vietnam is the similar country which has historical, cultural and emotional common denominators, since I came here.

He emphasized that Vietnam is a political and economic global partner of Korea and looks forward to further development in the future.

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SEQUENCE

1. Background of the Project
2. Objective & Importance
3. Goal of the Project
4. Strategy & Methodology
5. Launch TFT to start project for implementation
6. System Implementation for e-Learning service
7. Install & operate smart contents development center
8. Coursework Development
9. Methodology transfer for service sustainability
10. Overall Schedule
11. Rollout procedure
12. Suggestions for building e-Learning system
13. Expert activities/memories



1. Background of the Project

To support setting up the e-Learning system for QUATEST3

Background

Foster 8 million workers for quality standardization by QUATEST 3 (reorganization industrial structure with manufacturing)

Secure possibility to operation e-learning service through improved ICT infra.

Interest on Korean e-learning by QUATEST 3
Require to apply e-learning system



Transfer knowledge and technology on know-how to operation Korean advanced e-learning system and infra, and secure continued cooperation

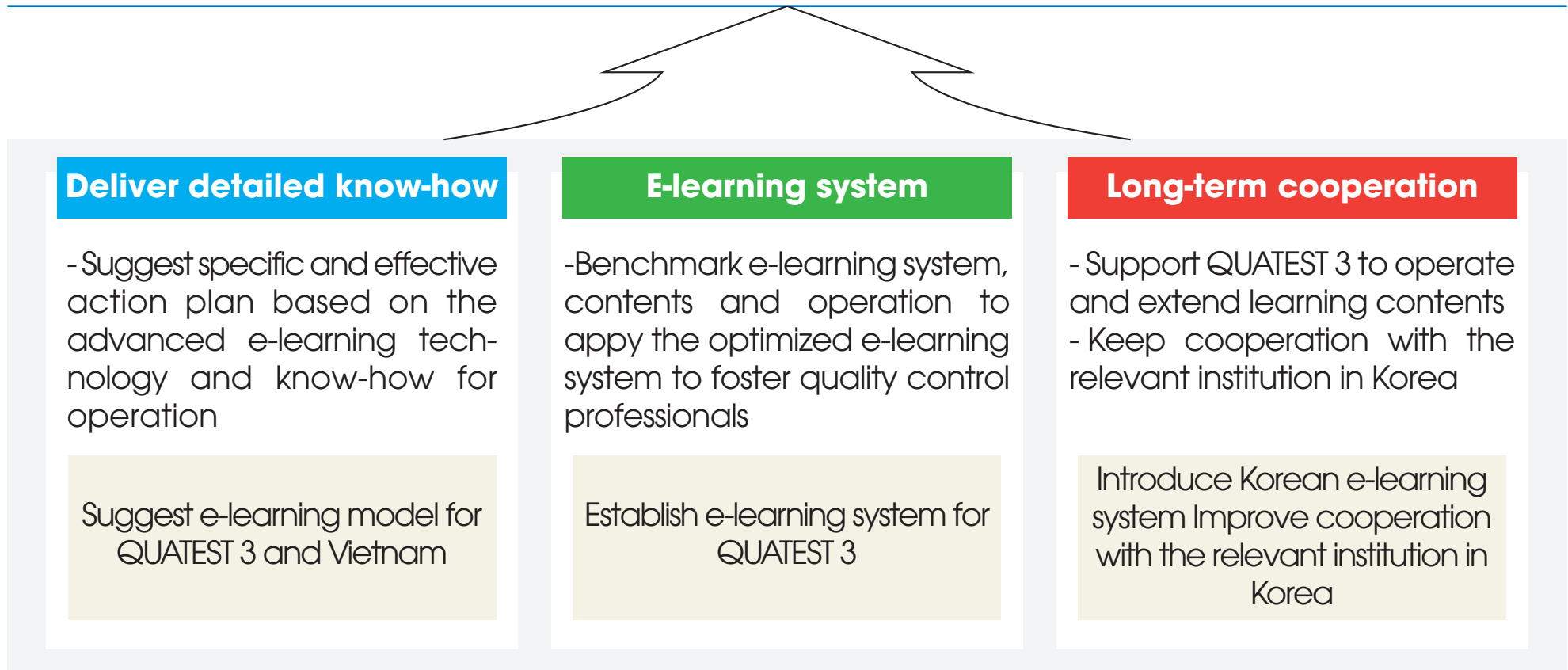
Require e-learning to foster professionals for quality control



2. Objective & Importance

Reinforce competency
on quality control in QUATEST3

Support massive education regardless of time and space

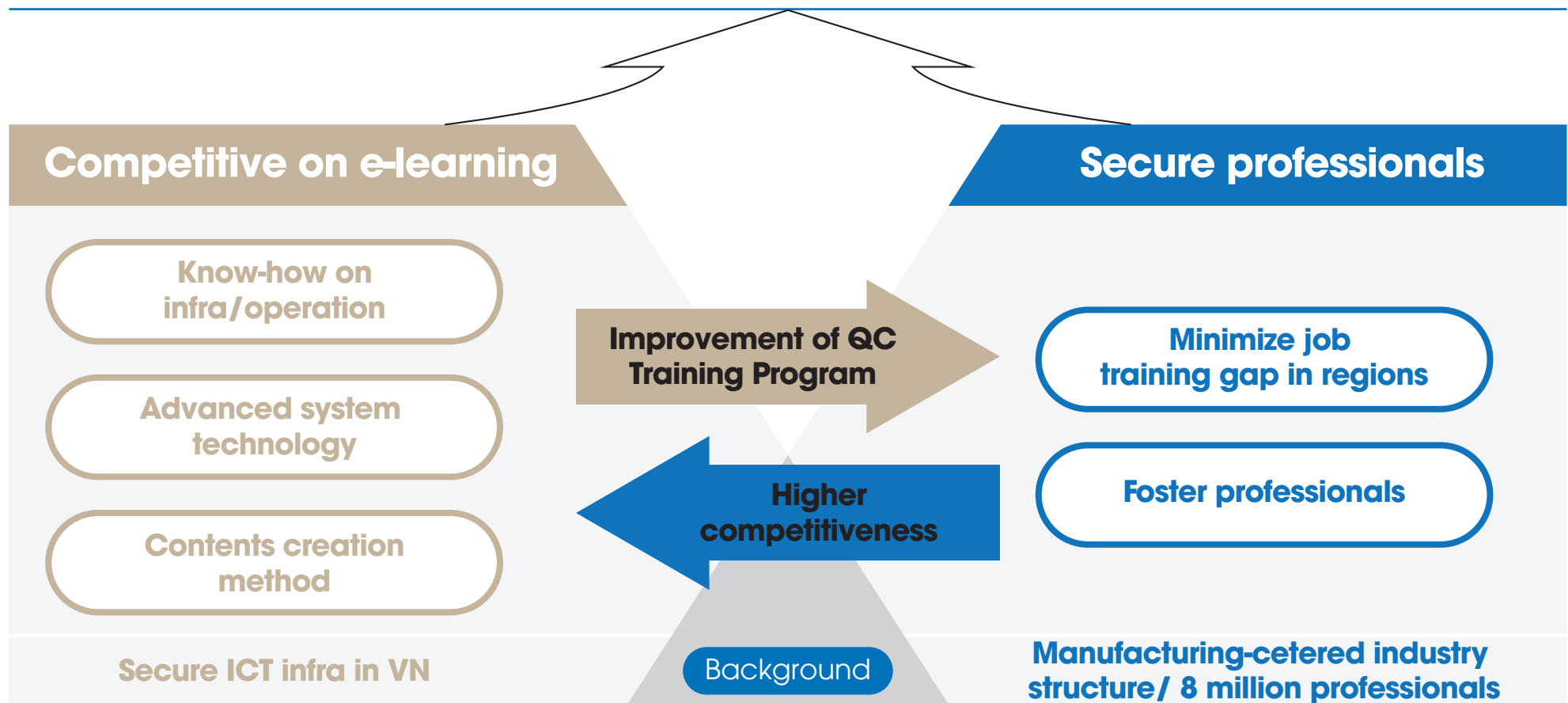




3. Goal of the Project

Support QUATEST3
e-Learning system

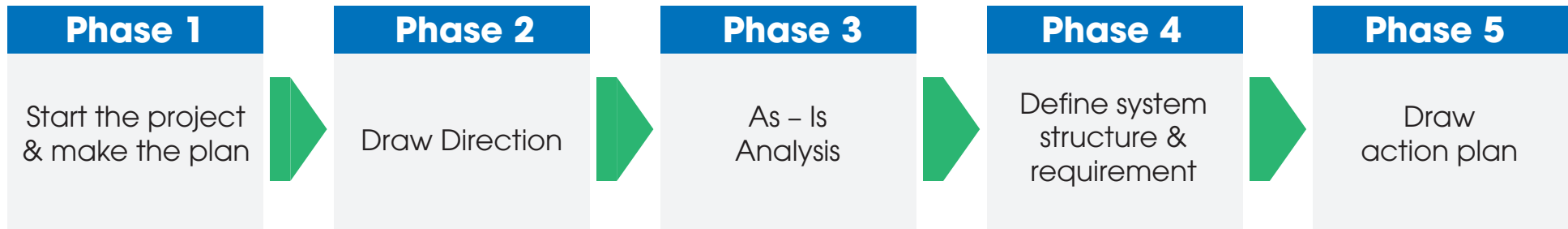
Implement e-learning platform to expansion
wide quality control training program





4. Strategy & Methodology

Phase of master plan



Strategy & Methodology

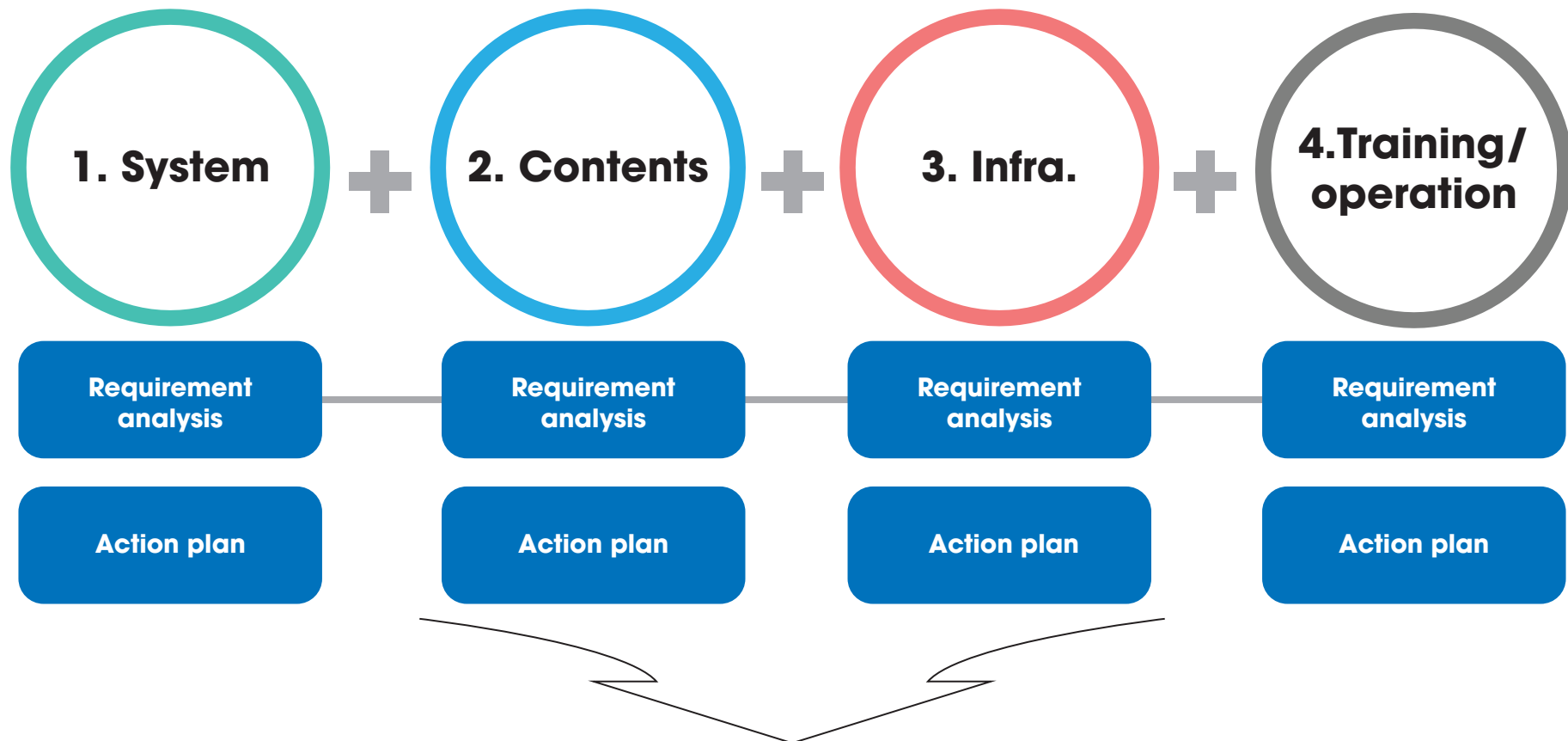
- Launch TFT to start project for implementation
- System Implementation for e-learning service
- Install & operate smart contents development center
- Contents development
- Methodology transfer for service sustainability
- Invite e-learning team of QUATEST 3 to Korea for training



5. Launch TFT to start project for implementation

Effect

Support to propose the optimized e-learning establishment based on detailed requirement analysis



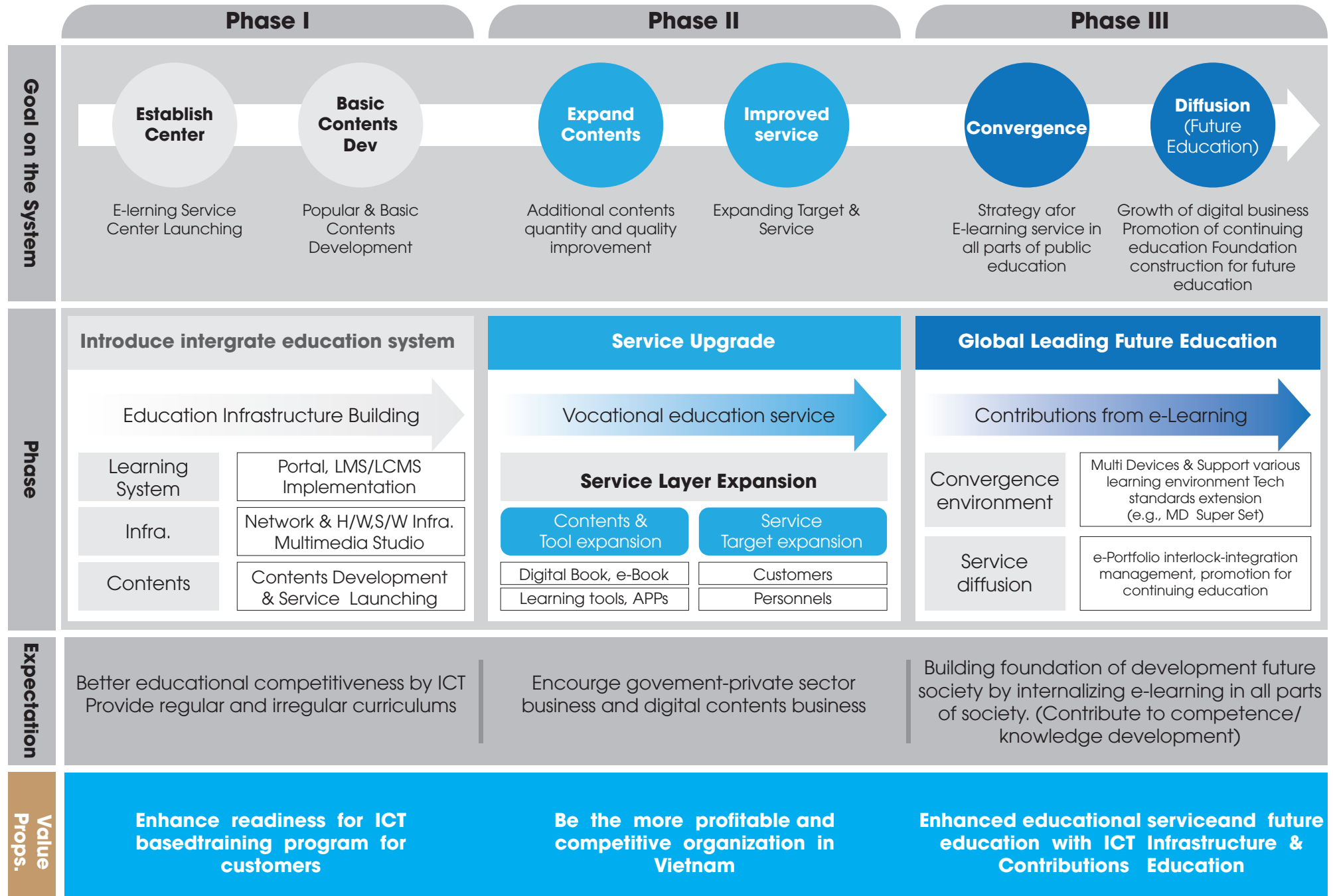
- Design & Establish expandable infrastructure

- Curriculum and fostering human resources to start online education on quality control

Optimized e-Learning system

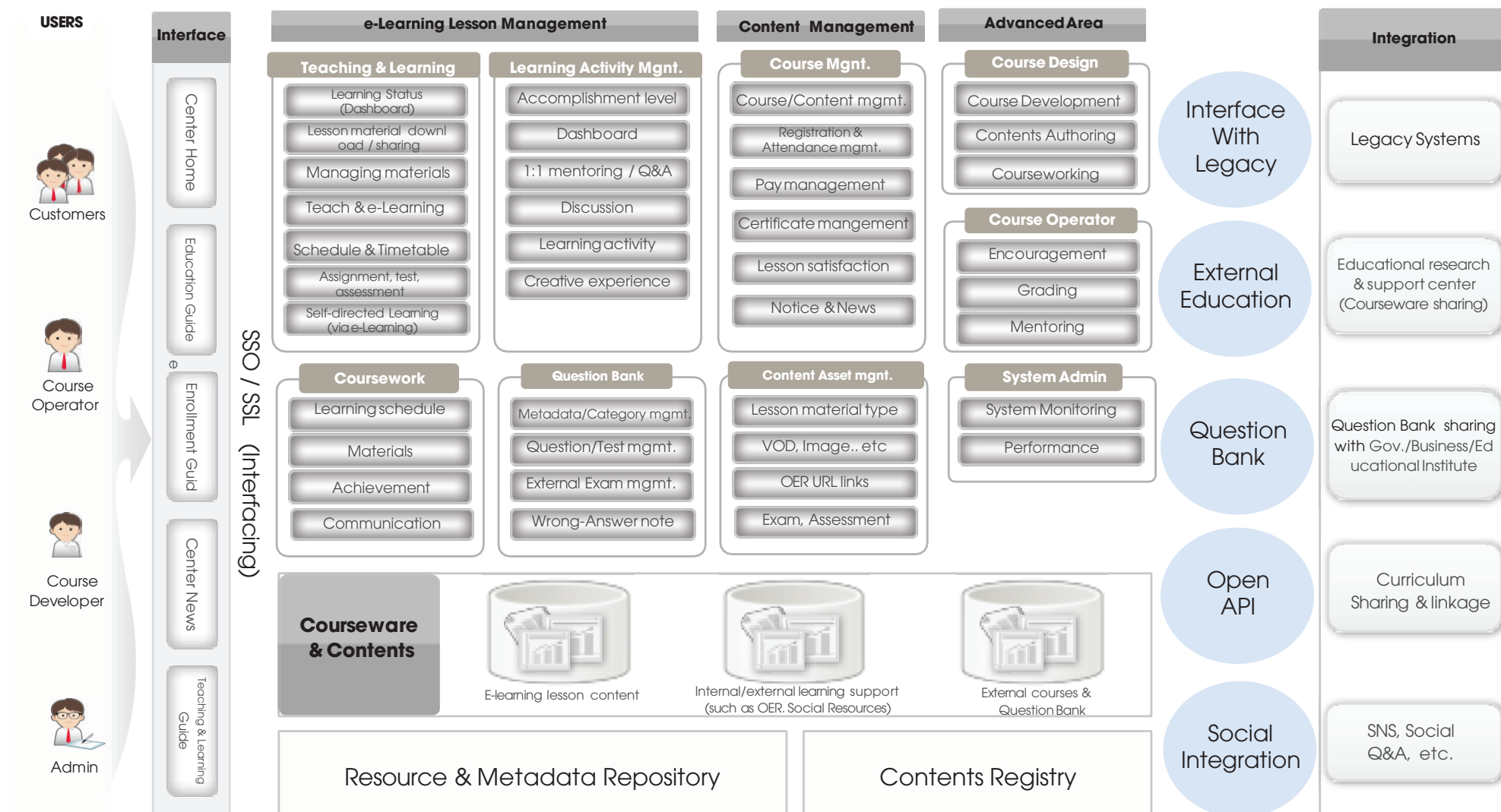


5. Launch TFT to start project for implementation



6. System Implementation for e-Learning service

To be System Architecture



6. System Implementation for e-Learning service

UI/UX Draft Design for QUATEST 3





7. Install & operate smart contents development center

Effect Invigorate digital contents & maximize efficiency for creation

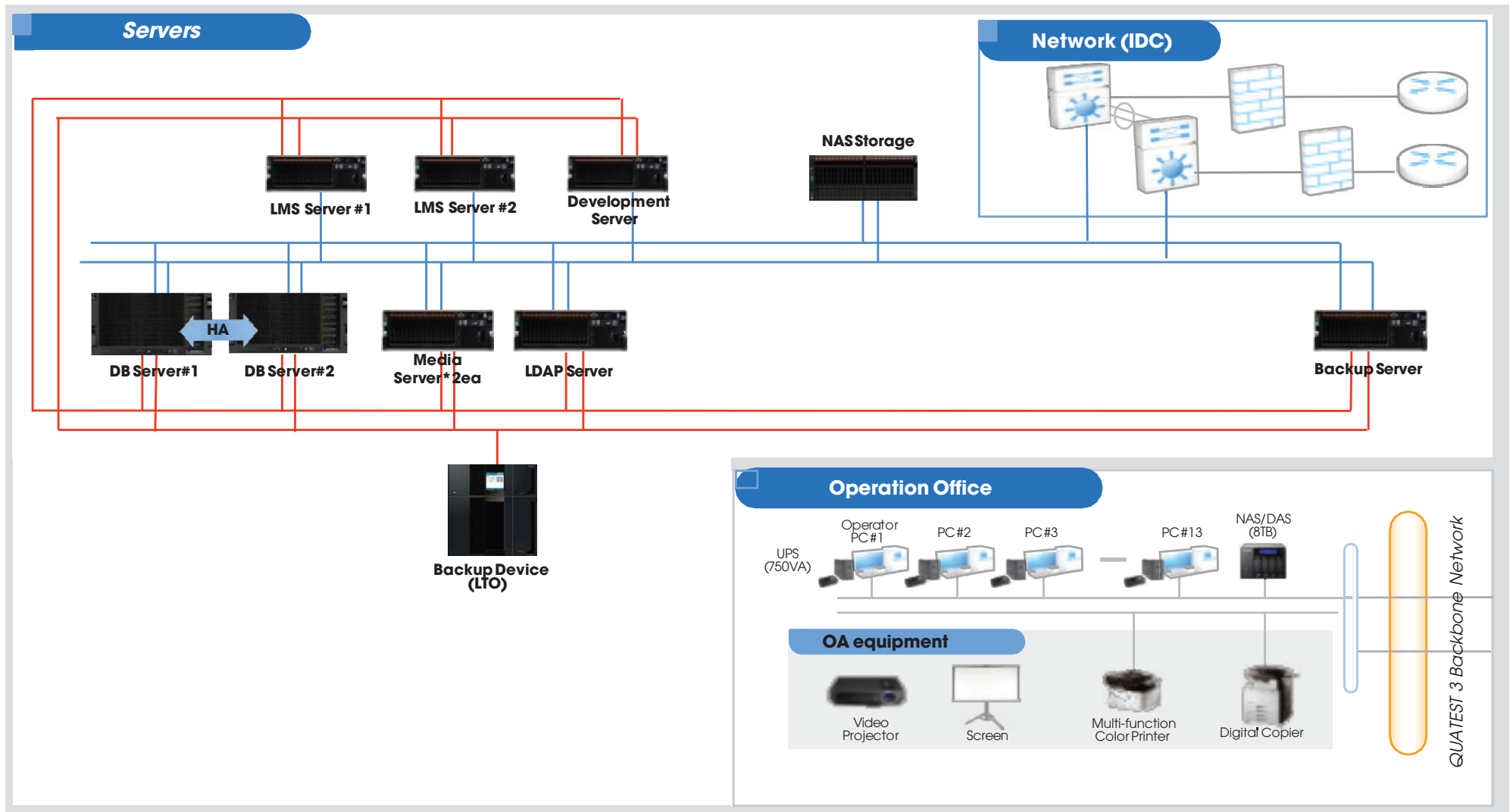


- Establish infra to invigorate smart contents
- Connect created contents and e-learning system for smart contents operation with ease
- Provide step-by-step support program to create smart contents

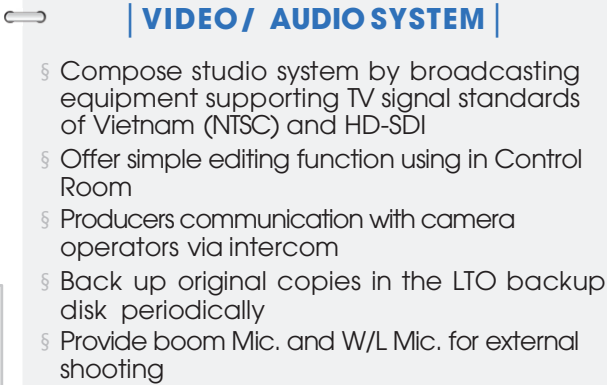


7.Install & operate smart contents development center

To be Server Infra Architecture



To be



- ## SOUNDPROOF INTERIOR

§The most effective way for sound-proofing is to lay walls with bricks and cement. Therefore, perform finishing works after completing the brick walls

§ When inserting sound blocking/absorption materials, be careful not to leave any space unfilled

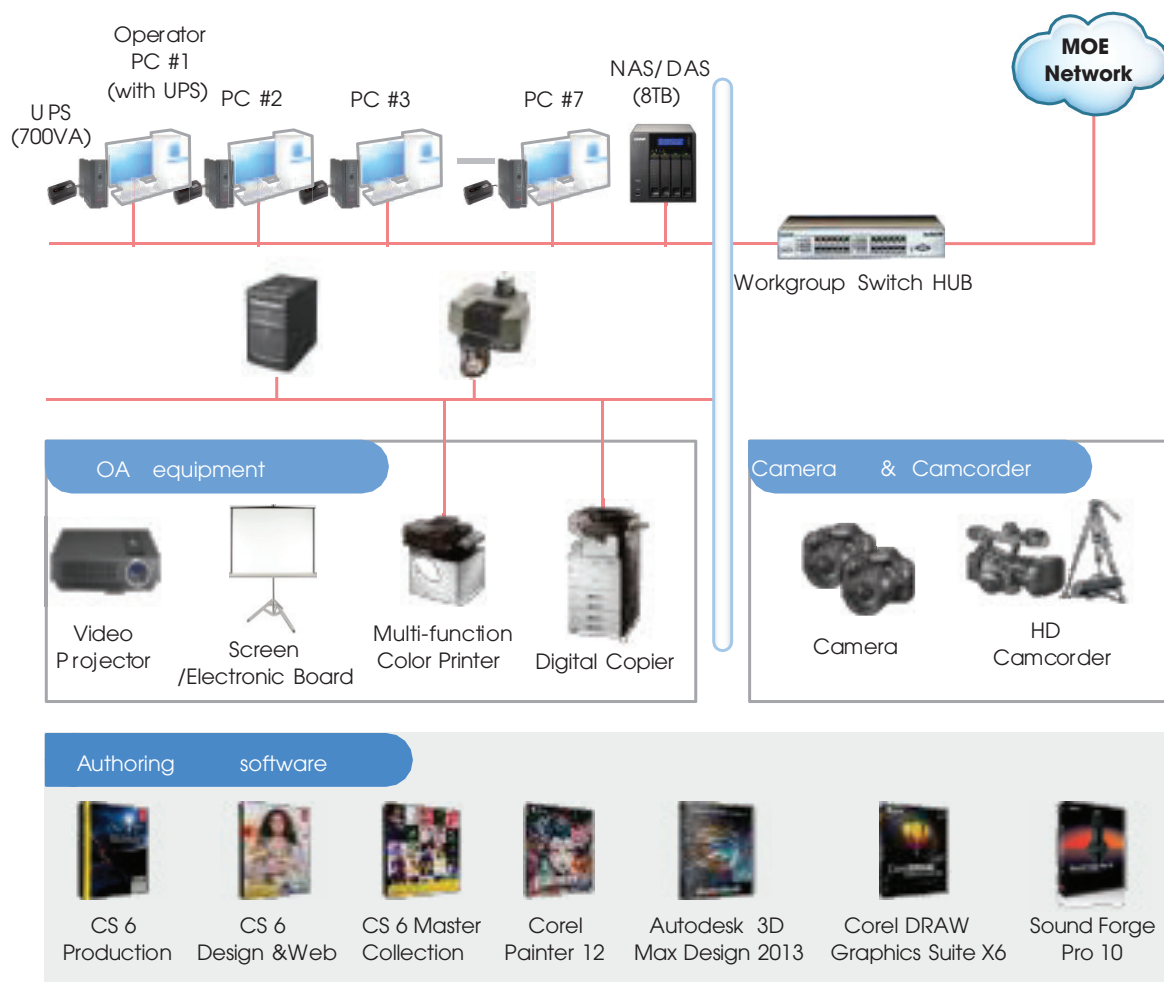
§ Using the sand and access floor





7. Install & operate smart contents development center

To be Contents Development Center

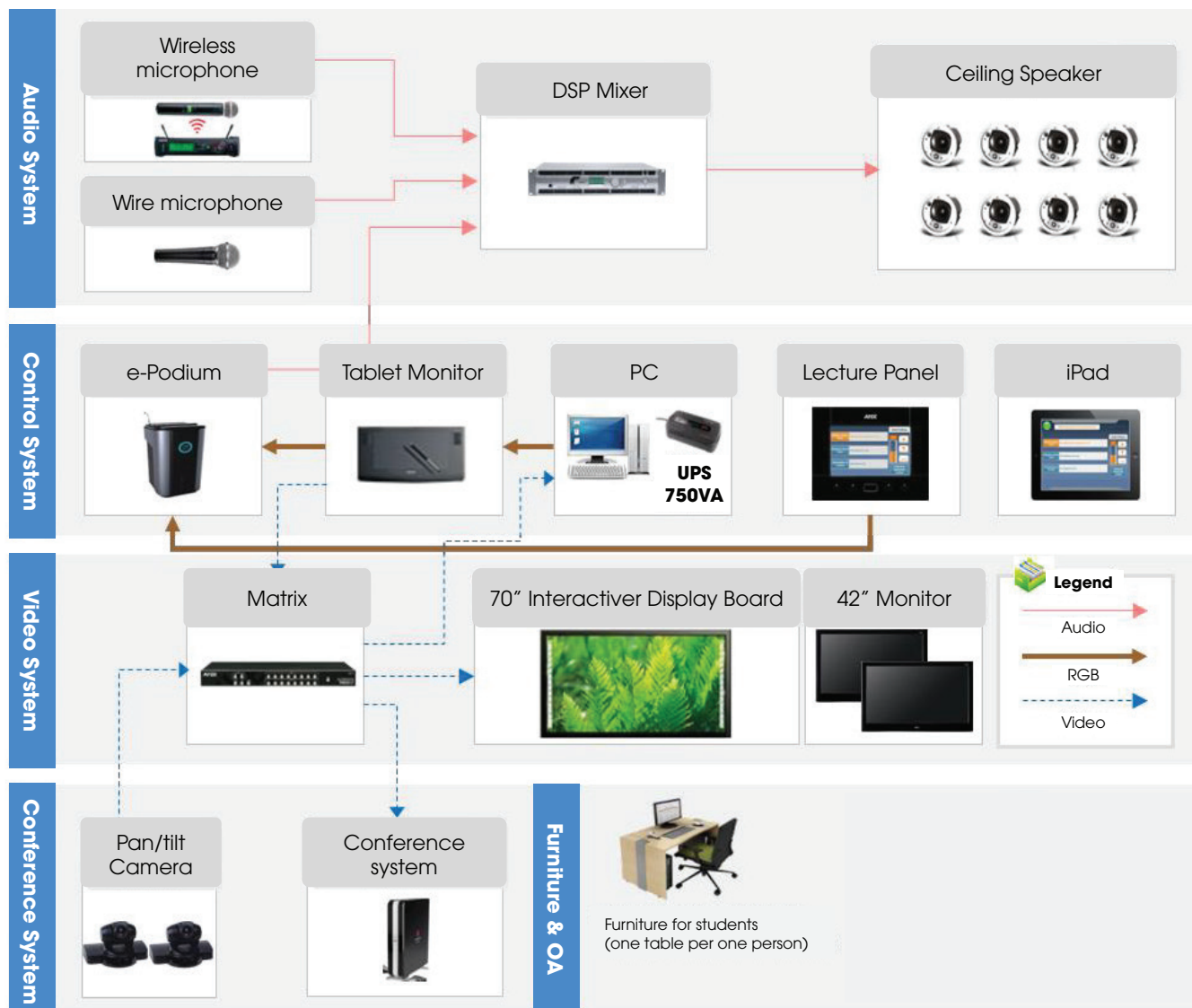


| Equipment and devices | Development plan |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network configuration | <ul style="list-style-type: none">§ Provide 24 -port device supporting 88Gbps processing speed as Workgroup Switch.§ Build stable networks using UTP Cat.5e and All Computers Content to servers, printers and digital copiers |
| Storage devices (DAS/NAS) | <ul style="list-style-type: none">§ Link DAS/NAS to the Workgroup Switch via 1000Mbps UTP cables to back up the main content of RIC |
| Operation PC | <ul style="list-style-type: none">§ Provide UPS for Operation PC and monitors to cope with power outage§ Provide Vietnamese and English supported keyboards§ OS (Windows 10) with Anti -Virus software |
| Projector/ Screen system | <ul style="list-style-type: none">§ Install ceiling - mounted projector with assorted cables and conduits§ Install motor - driven screens |



7. Install & operate smart contents development center

To be Multimedia Classroom (Option)



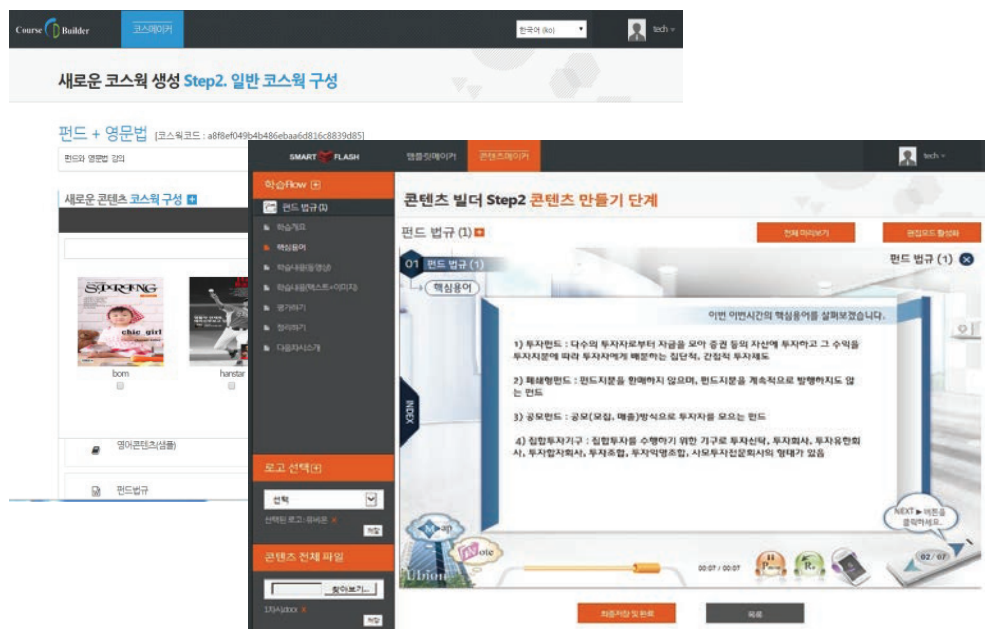
| Classification | Installation plan |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control system | <ul style="list-style-type: none">§ Use iPad and Lecture Panel to control audio system, video system and Conferencesystem§ Control equipment of audio and video in classroom using iPad wirelessly |
| Audio system | <ul style="list-style-type: none">§ Install DSP Mixer Including the function of Echo cancel for vibration prevention§ Provide wireless microphone to give a lecture anywhere in the lecture room§ Mount speakers in the ceiling |
| 70" Interactive Display board/ 42" Monitor | <ul style="list-style-type: none">§ Install 70" Interactive board in front of the classroom for lectures (computer, video)§ Install 42" Monitors on either side of 70" Interactive board to be shown the screen and video lecture at the same time. |
| Contents | <ul style="list-style-type: none">§ Establish one Multimedia classroom |



8. Coursework Development

Effect Basic e-learning coursework and Capability of development

Test smart contents authoring tool and LMS



Flash contents authoring tool & coursework creation tool



Moodle-based LMS (Coursemos)



8. Coursework Development

Scope The methodology of coursework development

Content Development and Management Standardization Guidelines

Provide guidelines to develop and manage digital content (digital resource, learning object, unit of learning and courseware)

Provide guidelines for Content Standardization (metadata, format and copyrights, etc)

Pilot Project

Develop 3 type of coursework by Korean Experts

Train QUATEST 3 Staffs for supporting development of 25 coursework

Provide technique and knowhow of development

Content Development and Management Manual

Provide quality control guidelines to manage the quality of content

Provide content development and management manual for staff



8. Coursework Development

Choice

Various kind of contents development

Content

Simple

- Simple Scenario
- Instructor dependent contents
- Studio based Shooting
- Authoring tools
- Video clip contents
- Basic interactivity

Choice

Intermediate

- § Instructional designed Scenario
- § Storytelling based contents
- § Studio based Shooting
- § Authoring tool
- § Html5 contents
- § Intermediate Interactive

Choice

Complex

- § Instructional designed Scenario
- § Storytelling based contents
- § Character narration
- § Manual coding and scripting
- § Html5/Flash type Contents
- § Advanced Interactive

Software & Authoring Tool

Digital resources development tools



MS-Office 2010,
Office University 2010



Creative Suite 6
Design & Web
Premium1



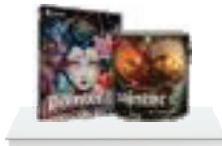
Adobe Creative
Suite 6 Production
Premium



Creative Suite 6
Master Collection



Autodesk 3D
Max Design
2013



Corel Painter 12



CorelDRAW
Graphics Suite
X6


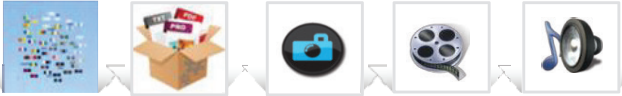

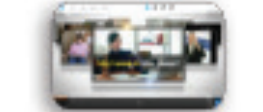


Sound Forge Pro 10



8. Coursework Development

Process General contents development process

| Category | Methodology and Process | |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodology | <ul style="list-style-type: none"> § Introduce theories and models actually used in the field with detailed how-to. § Theory: Robert M. Gagné's Nine Steps of Instruction, John Keller's ARCS Model (Motivation Design), Asubel's Meaningful Learning § Model & Skill: Gfield-type models and apply hybrid-type models (ADDIE model, 4C/ID model, hybrid model, etc.) | |
| Analysis | <ul style="list-style-type: none"> § Various analysis methods (for user, needs), tools and templates actually used in the field § User Analysis: Questionnaire, Watching, FGI (Focus Group Interview), Lifestyle, Scenario Analysis § Needs Analysis: Direct view / Case control / Indirect material control § Analysis tools and field-type templates designed to cope with diverse cases | |
| Design |  <p>Instructional Design Guideline focused on field</p> | <ul style="list-style-type: none"> § Objective guideline, guideline for selection of relevant experts, instructional design guideline, storyboard template, prototype development and evaluation |
| Development |  <p>Offer qualified Development guideline</p> | <ul style="list-style-type: none"> § UI development guideline, multimedia production guide, video/audio production guide, programming guide, mobile-conversion guide |
| Implementation |  <p>Offer optimum system porting & uploading guide</p> | <ul style="list-style-type: none"> § LMS user manual (This may be developed by e-Portal section and later attached to the Manual upon completion), uploading manual, content sharing guide, content repository management guide, etc. |
| Evaluation |  <p>Offer evaluation method focused on content</p> | <ul style="list-style-type: none"> § Evaluation tools, analysis method, design, development/implementation phase; especially focus on the final content to be implemented |



8. Coursework Development

Scope Target to develop

| No. | Sub category | | Popular training courses | Less popular training courses | Not yet organized training courses | Total |
|-----|-------------------------------------------------------------------------------|------------|--------------------------|-------------------------------|------------------------------------|-------|
| 1 | Group 1 MANAGEMENT SYSTEMS | Number | 10 | 24 | 14 | 48 |
| | | Percentage | 21% | 50% | 29% | 100% |
| 2 | Group 2 TOOLS OF PRODUCTIVITY AND QUALITY | Number | 5 | 22 | 12 | 39 |
| | | Percentage | 13% | 56% | 31% | 100% |
| 3 | Group 3 SOFT SKILL | Number | 0 | 1 | 11 | 12 |
| | | Percentage | 0% | 8% | 92% | 100% |
| 4 | Group 4 TESTING - ANALYSIS | Number | 2 | 20 | 29 | 51 |
| | | Percentage | 4% | 39% | 57% | 100% |
| 5 | Group 5 SPECIAL KNOWLEDGE AND SKILL ON STANDARD - MEASUREMENT - QUALITY | Number | 2 | 8 | 6 | 16 |
| | | Percentage | 13% | 50% | 38% | 100% |
| 6 | Group 6 THE MEASUREMENT VERIFICATION & THE MEASUREMENT TECHNICIAN | Number | 8 | 17 | 1 | 26 |
| | | Percentage | 31% | 65% | 4% | 100% |
| 7 | Group 7 BAR CODE | Number | 1 | 0 | 0 | 1 |
| | | Percentage | 100% | 0% | 0% | 100% |
| | Total | | 28 | 92 | 73 | 193 |
| | Gross percentage | | 15% | 48% | 38% | 100% |



8. Coursework Development

| No. | Code | Title | | | | | | | | | |
|-----|------|------------------------------------------------------------------------------------|--------|---|---|----|----------------|---|---|-------------------|------|
| | | Awareness of Quality Management System according to ISO 9001:2015 | | | | | | | | | |
| | | Topic | Method | | | | Competen cy | | | Materials | Note |
| | | | V | P | M | A | K | S | A | | |
| 1 | CL01 | The requirements of ISO 9001:2015. | 1 | | 1 | 1 | O | | | PPTslide | |
| | | The basis change of ISO 9001 version 2015. | 1 | | 1 | 1 | O | | | PPTslide | |
| | | The method of edit & apply documentations according to ISO 9001:2015. | 1 | | 1 | 1 | O | | | PPTslide | |
| | | Total | 3 | 0 | 3 | 3 | | | | | |
| | | Test | | | | | | | | | |
| | | Practice | | 1 | | | | | | | |
| | | Duration | | | | 3h | | | | | |
| | | Topic | Method | | | | Competen cy | | | Materials | Note |
| | | | V | P | M | A | K | S | A | | |
| 2 | CL02 | Summarise ISO 9001:2015 Requirement. | 1 | | 1 | 1 | O | | | PPTslide | |
| | | QMS structure according to ISO 9001:2015. | 1 | | | 1 | O | | | | |
| | | The method for writing Documents (Quality Manual; procedures; work instruction...) | 1 | | 1 | 1 | | O | | PPTslide | |
| | | Workshop exercise regarding to Documents. | | 1 | 1 | 1 | | O | | Exercise Document | |
| | | Plan to apply QMS. | 1 | | 1 | 1 | O | | | PPTslide | |
| | | Maintain and implement QMS. | 1 | | | 1 | O | | | | |
| | | Case study | 1 | | 1 | 1 | O | | | PPTslide | |
| | | Total | 6 | 1 | 5 | 7 | | | | | |
| | | Test | | | 1 | | | | | | |
| | | Practice | | | 1 | | | | | | |
| | | Duration | | | | 9h | | | | | |

- Competency abbreviation: K-Knowledge, S-Skills, A-Attitude



9. Methodology transfer for service sustainability

Effect

Encourage sustainable coursework developed by providing tech. & knowledge

Engagement Program

- Participation in 3 types of development process
- Provided full material and resources to develop further coursework
- Process adjustment for environment in Vietnam
- Authoring tool based content development methodology for sustainability

Development Guideline

- Contents development manual for each types of coursework
- Training program for staffs by Korean Experts
- E-learning standards base coursework development

- Participation in full process about coursework development
- Coursework development guideline
- Develop various training program (instructional designer, contents developer, coursework operator, service operator)



9. Methodology transfer for service sustainability

Effect

Encourage sustainable development of e-learning by providing human resources

Capability Enhancement

- 1 Capability for coursework development
 - ✓ Coursework design & Deployment
 - ✓ Contents design and development
- 2 Management for digital contents
 - ✓ Digital contents management
 - ✓ Contents Usage and Sharing
- 3 Service operation
 - ✓ Site policy management
 - ✓ Customer and coursework operation
 - ✓ Product management

Coursework Design and Operation



| 일명 | 요일 | 시간 | 과목 | 주요내용 | 비고 |
|-----|----|-------------|----|-----------|------|
| 1일차 | 월 | 13:50~15:50 | 일명 | 일명 및 운영일명 | 대환출금 |
| 1일차 | 월 | 15:50~17:50 | 일명 | 일명 및 운영일명 | 대환출금 |
| 2일차 | 화 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 2일차 | 화 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 3일차 | 수 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 3일차 | 수 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 4일차 | 목 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 4일차 | 목 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 5일차 | 금 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 5일차 | 금 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 6일차 | 토 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 6일차 | 토 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 7일차 | 일 | 10:00~12:00 | 일명 | 일명 및 운영일명 | 대환출금 |
| 7일차 | 일 | 14:00~16:00 | 일명 | 일명 및 운영일명 | 대환출금 |

Service Operation



Management of contents





9. Methodology transfer for service sustainability

Effect

Transfer knowledge & skill through sharing e-learning human resources

Trainee

- QUATEST 3 members, Quality Control stakeholders in government body

Trainer

- KeLIA, Ubion, Korean QC government body

Detail

- E-learning knowledge and experience
- Drive development methodology of e-learning system implementation, capabilities and improvement plan, e-learning operation
- Introduction of e-learning instructional design and contents development, capabilities of operators improvement plan
- Experience of e-learning contents development and authoring tool
- Transfer of experience of quality control through design, development, execution and evaluation process
- Invitation seminar of Korean quality control stakeholders
- Introduction of future image of e-learning service model

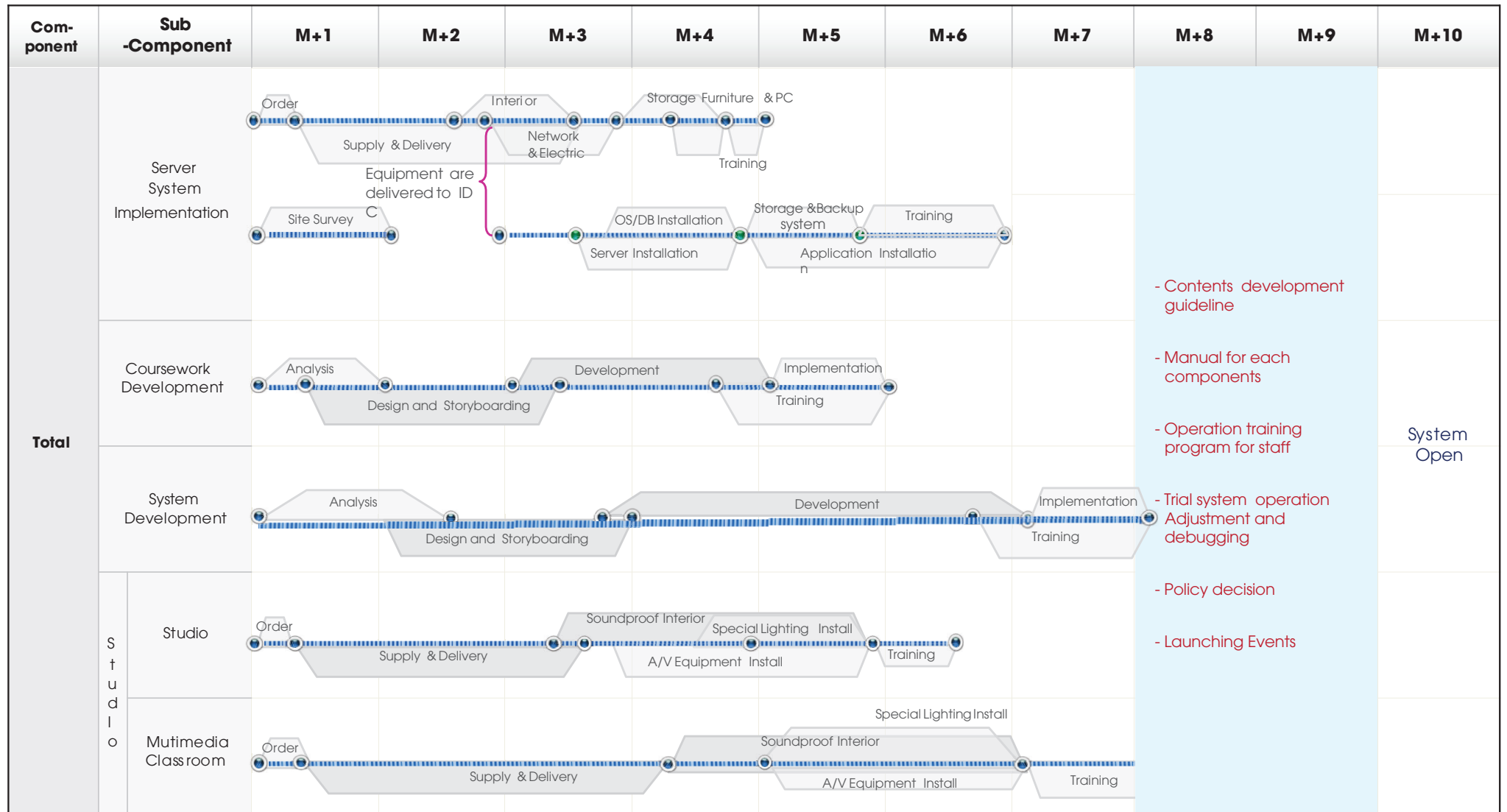
- Knowhow of Korean e-learning experience and technologies
- Proposal of future e-learning service
- Visit plan for case studies
- Practice of contents development
- Seminar of Korean quality control advisor

Development – Transfer
of knowledge

Long term relationship network

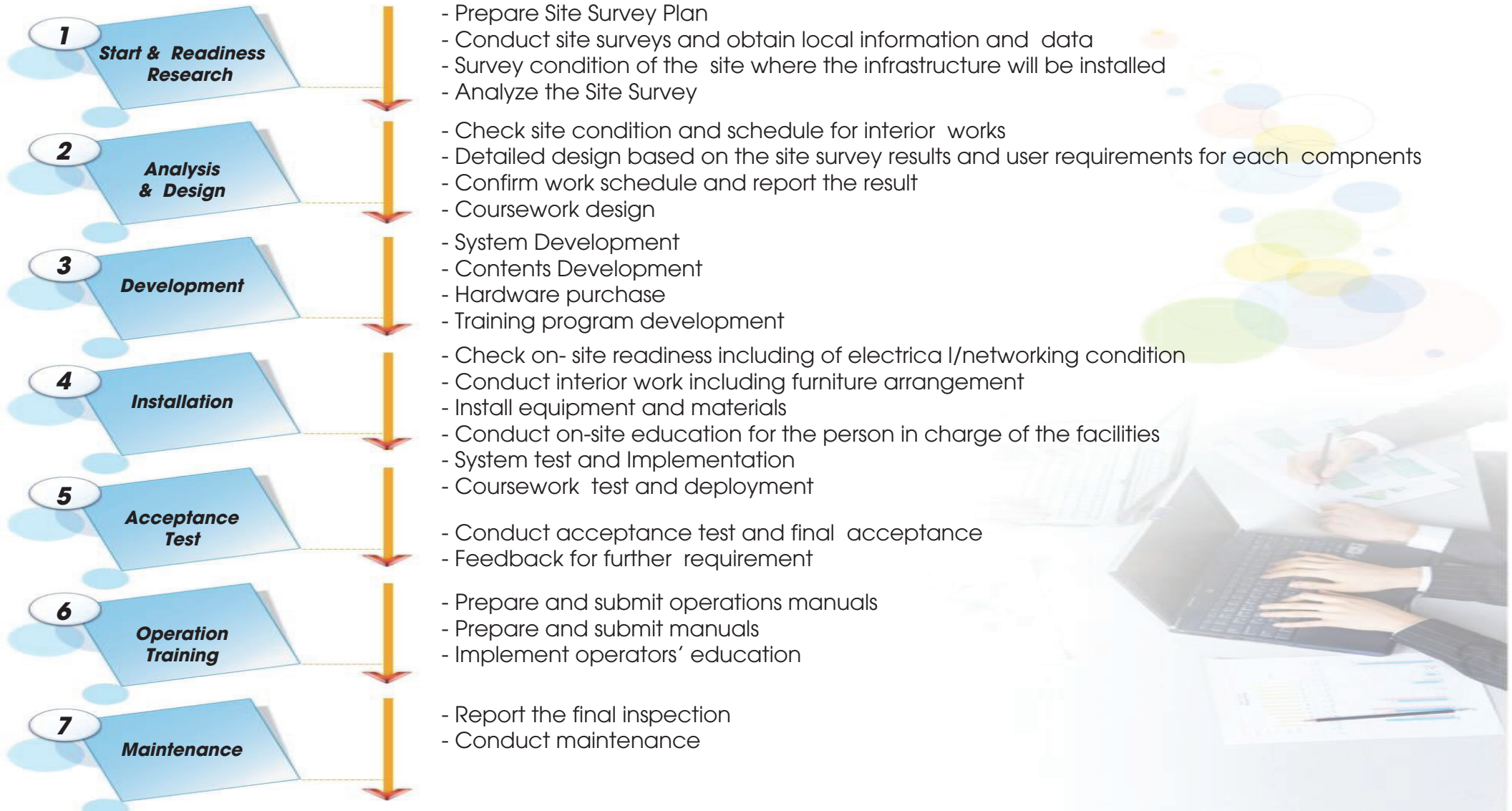


10. Overall Schedule





11. Rollout procedure





12. Suggestions for building an e-learning system

1) IT infrastructure construction

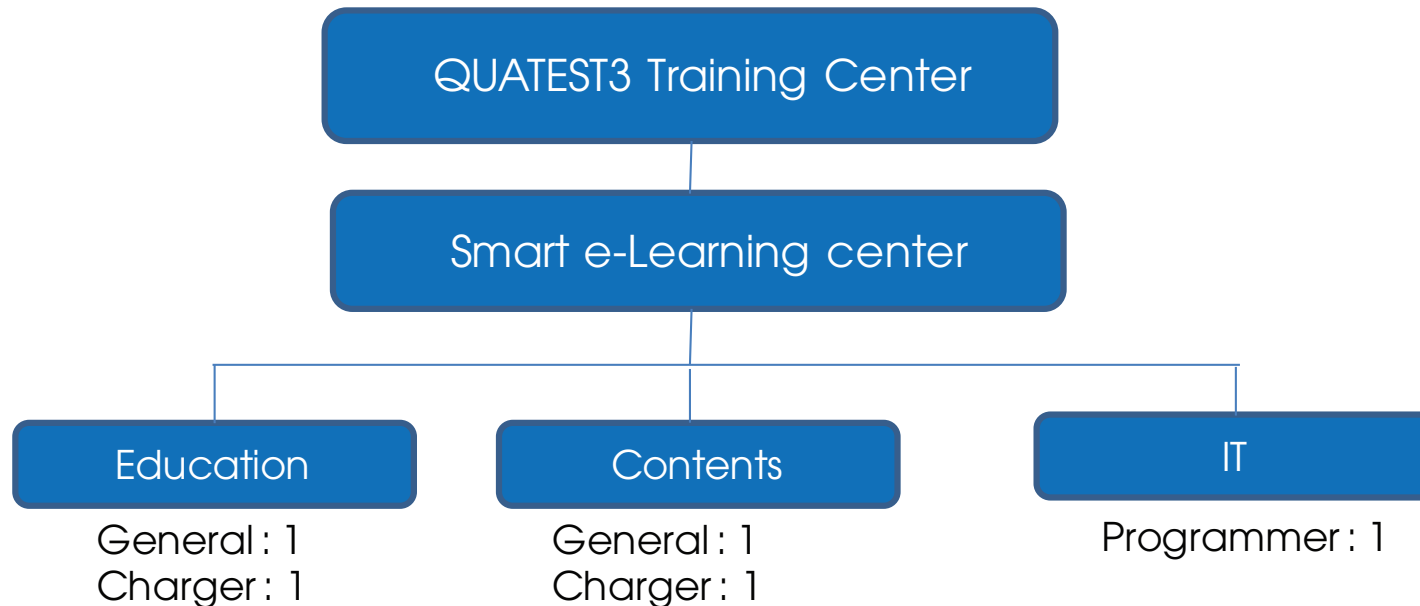
- In Vietnam, the IT infrastructure is well established and the environment of Internet is imperatively good in any area. Vietnam has a better IT infrastructure than you think. However, due to the slow speed of the internet in the province, the operation of the video is hindered.
- QUATEST3 provides personalized notebooks for each employee, and has a dedicated IT department. Currently in Vietnam, most of the mobile communication services are 3G, and 4G mobile communication services are being commercialized in the urban area and are being expanded to other regions.
- Vietnam's state-owned telecommunications company, Viettel has 1800 4G stations capable of servicing 63 cities and 704 counties. The receiving base stations have been installed, and VINA phone has completed installation of 1500 BTSs and is available in all 63 locations including five special cities. In other words, Vietnam is ready to provide 4G service nationwide, and expected to be in the era of "Mobile Only" in the near future. So the environment of infrastructure for e-Learning in Vietnam is enough to set up and run.

12. Suggestions for building an e-learning system

2) Organization/composition of smart e-learning center

- Since there are a lot of subjects taught in Q3 through ONLINE and OFFLINE, it is essential to improve the efficiency of education by combining ON OFF LINE education.
- Also it is necessary to organize the following smart e-Learning center in the institution.

► Smart e-Learning center organization / composition





12. Suggestions for building an e-learning system

► **The mission of Smart e-learning center**

- (1) Production of educational contents related to quality competency enhancement
- (2) Develop e-Learning related personnel and curriculum
- (3) To educate cyber quality education for the personnel of related organizations and corporations through e-Learning.
- (4) Conducting job training by using e-learning for employees
- (5) Establishment of self-service and public service model including development and operation of high quality educational contents based on payment system

3) Improve on educational fields for smart e-learning

- (1) Education and IT professionals are highly qualified and trained in their fields. Therefore, those who work in these fields are demanded higher education level And continuous ongoing education.
- (2) When recruiting staff, human resources department, they should select the persons who have the relevant degree and expertise in each function, and after the recruitment, they should help them to continue their studies as much as possible. QUATES 3 should provide opportunity to continue working after completing.



12. Suggestions for building an e-learning system

(4) It is necessary for staffs to educate overseas advanced countries to cultivate high-level human resources in the relevant fields.

(5) In the age of globalization, language communication in English is very important.

However, employees who can speak English freely is extremely limited.

To cultivate the right staff through the activation of English education, or as much as possible to study abroad is necessary.

4) Training of e-learning professionals

The professionals in the e-Learning field consist of professors, developers, operators, project managers, and content experts.

Therefore, it is necessary to establish and secure long-term plans for such specialists, we believe that this will create a systematic curriculum and program for this purpose.

► **In order to cultivate advanced educational program developers, It is necessary to recruit the person who studies that field at university and strengthen the competency through the educational training course to advanced foreign countries.**

This guideline is made up by referring former e-Learning seminars, work shops, and brainstorm by expert



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