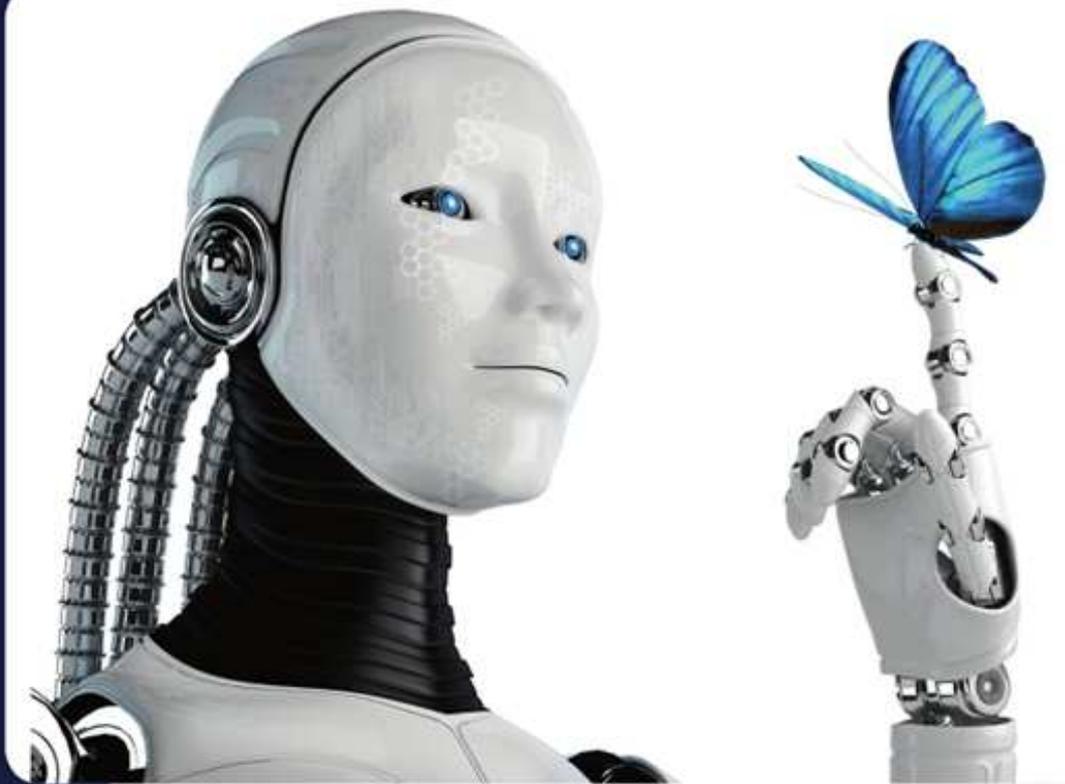




ICR

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Address :3611, Hagun-ri, Yangchon-eup, Gimpo-si,
Gyeonggi-do , South Korea (10048)

Company Id No : 110111-243147
Tax & VAT Id No : 105-86-35114

Tel : (+82)2-6351-9001~5 / Fax : (+82)2-6351-9007
Home page : www.icrqa.com

Hot Issue

- MD Test & EMC Test
- When distributing security products in Korea, KC certification is required
- ISO 45001:2018
- ISO/DIS 45001:2 Requirements
- TIA, OCF Launched international certification test IoT platform OCF test certification demand domestic resolved
- On-the-job training for Hanseo University Students





MD Test & EMC Test [1/3]

ICR is accredited in accordance with the recognized International Standard ISO/IEC 17025 from 2015. ICR give a test service with MD and EMC. ICR issue the test report with KOLAS Mark for KCs and S-Mark.

▲ MD Test

ICR is accredited with Industrial electric equipment(03.006) and tests for electric safety. We tests according to EN 60204 and refer to below test list.

1. Earting Continuity Test

Verify the continuity of the protective bonding circuit.

2. Insulation Resistance Test

Verify having the enough insulation resistance between the power circuit conductors and the protective bonding circuit.

3. Dielectric Withstand Test

Verify having the enough dielectric withstand between the power circuit conductors and the protective bonding circuit.

4. Residual Voltages Test

Verify live parts having a residual voltage after power off the machine.



MD Test & EMC Test [2/3]

▲ EMC Test

ICR is accredited with Electromagnetic compatibility (03.011) and are conducting EMC test. We tests according to EN 61000-6-2 and refer to below test list

1. **Electrostatic discharge immunity test**

Evaluation of the operating performance of the equipment when static electricity is discharged to the equipment by the user who the equipment or by the external environment.

2. **Radiated, radio-frequency, electromagnetic field immunity test**

Evaluation of the operation performance of the apparatus when radioactive electromagnetic energy is induced in the enclosure of the apparatus, the power line and the signal line.

3. **Electrical fast transient/burst immunity test**

Performance evaluation of electrical and electronic equipment for repetitive electrical fast transients applied to power, signal and control ports.

MD Test & EMC Test [3/3]



4. Surge immunity test

Evaluation of operational performance of unidirectional surges caused by overvoltages due to switching and lightning transients

5. Immunity to conducted disturbances, induced by radio-frequency fields

Evaluation of the operating performance of the equipment when the conductive energy to the frequency from the peripheral equipment or external environment flows into the AC, DC power port and signal port of the equipment.

6. Voltage dips, short interruptions immunity test.

Evaluation of the operating performance of the equipment due to unintentional voltage drop or interruption during use of the equipment.



When distributing security products in Korea, KC certification is required. [1/3]

Since 2009, Korea has introduced a compulsory certification system called KC (Korea Certification).

Since 2011, 13 statutory mandatory certification marks have been integrated into the KC mark.

▲ KC certification mark.

In the **European Union** (EU), since 1993, the compulsory certification for safety, environment and consumer protection has been integrated into **CE**. Since 2002, **China** has introduced a **CCC** system that integrates essential authentication systems at home and abroad.

Since 2003, **Japan** has also been using the **PSE** mark as a single certification mark for electrical products and industrial products. Here we review KC certification, which is essential for electrical and electronic product distribution.

<http://www.boannews.com/media/view.asp?idx=66060>



When distributing security products in Korea, KC certification is required. [2/3]

Certification refers to the act of proving that a product (subject of evaluation) can be used and **released in compliance with prescribed standards or technical regulations**. Verification is based on the evaluation results of the qualifying Hanja or a third party.

The main purpose of certification is to help judge whether the product satisfies the evaluation criteria based on the evaluation results of third parties.

It is difficult for the consumer to determine the safety and suitability of the product he or she chooses. It is the authentication to present this on the basis of judgment.

The certification system is divided into **a statutory certification system** and **a private certification system** depending on the existence of legal grounds.

The statutory certification system is divided into **mandatory certification** and **arbitrary certification** depending on whether or not coercion is taking place.

<http://www.boannews.com/media/view.asp?idx=66060>



When distributing security products in Korea, KC certification is required. [3/3]

To protect the life, safety, property and environment of people in our country, when the company releases products related to the safety and health environment and the quality field to the market, the inspection is carried out by a specialized institute, and **a compulsory certification system (KC certification mark)** is being implemented to confirm that the safety requirements are met and the mark is attached.

Currently, the KC certification mark is legally mandated to be attached to the 23 statutory **mandatory certification systems** of eight departments.



<http://www.boannews.com/media/view.asp?idx=66060>

ISO 45001:2018



- Occupational health & safety management system standard(OHSAS18001:2007) is planned to be reviewed and published by **ISO 45001:2018**.
- ICR reviewed ISO/DIS 45001.2, and expected clauses structure is the **same as previous management system standard**.
- The general structure is similar to the **EMS**; on the other hand, **hazard identification and assessment of risks and opportunities of planning process and eliminating hazards and reducing OH&S risks of operation process** are the distinctive clauses.

ISO/DIS 45001:2 Requirements [1/2]



Clause No.	Contents
4. Context of the organization	
4.1	Understanding the organization
4.2	Understanding the organization and its context
4.3	Determining the scope of the OH&S Management system
4.4	OH&S management system
5. Leadership and worker participation	
5.1	Leadership and commitment
5.2	OH&S policy
5.3	Organization role, responsibilities and authorities
5.4	Consultation and participation of workers
6. Planning	
6.1	Actions to address risks and opportunities
6.2	OH&S objectives and planning to achieve them
7. Support	
7.1	Resources
7.2	Competence
7.3	Awareness
7.4	Communication
7.5	Documented information

ISO/DIS 45001:2 Requirements [2/2]



Clause No.	Contents
8. Operation	
8.1	Operational planning and control
8.2	Emergency preparedness and response
9. Performance evaluation	
9.1	Monitoring, measurement, analysis and performance evaluation
9.2	Internal audit
9.3	Management review
10. Improvement	
10.1	General
10.2	Incident, nonconformity and corrective action
10.3	Continual improvement
Annex A (Informative) Guidance on the use of this document	

TTA, OCF Launched international certification test IoT platform OCF test certification demand domestic resolved [1/2]



Telecommunications Technology Association (TTA) has announced that it has launched an internationally recognized testing and certification service for the 1.3 specification of the Open Connectivity Foundation (OCF)

The OCF 1.3 specification can be applied to a wider range of devices than the existing standards, and easier Wi-Fi configuration has been added. This gives consumers an opportunity to select OCF-certified products and enables Wi-Fi configuration via smartphones.

TTA Park Jae-moon, Chairman of the TTA, said, "TTA is the first in the world to acquire the OCF internationally accredited test laboratory qualification in 2016 and plays a key role as a leading testing laboratory through OCF activities. We expect to contribute to the promotion of product commercialization."

As a result, TTA has been providing test certification services for the OCF 1.3 standard as well as oneM2M, the Internet platform standard for objects in the current 'Global IoT Test Certification Center' It is expected to be a great help in launching the bandit.

As part of K-ICT Internet diffusion strategy (Dec. Dec.), Ministry of Information and Communication, K-ICT opened and supported the Pangyo Enterprise Support Hub to support the global testing and certification services needed for SME technology development and product launch.



TTA, OCF Launched international certification test IoT platform OCF test certification demand domestic resolved [2/2]



※ Main things Internet standardization organization

○ oneM2M

- As an Internet standardization organization formed by eight major global standards development organizations from 2012, TTA has been a leading member of its founding members.

-Major participating companies include SKT, LG U +, KT, etc.

○ OCF

- OCF LG Electronics' LG ThinkKnock on MagicSpace refrigerator, which was first certified by TTA as OCF 1.3 specification, includes functions that can be linked with various devices such as home appliances and healthcare devices of various companies.

- Since the establishment of the industry-led Internet standardization organization since 2014, TTA currently has 390 member companies, and TTA is the only internationally accredited laboratories in Korea.

- Major participating companies include Samsung, LG, Electrolux and other home appliance companies as well as Intel and Microsoft



Intel development status of autonomous mobile IT company [1/3]



▲ Intel

Intel acquires Mobili, an autonomous vehicle technology company!

Mobilia is the first company to develop **the Advanced Driver Assistance System (ADAS)**, a key technology for autonomous driving, and is a prestigious company that occupies 70% of the market.

In addition, we have various leading technologies based on hardware and machine learning including camera.

The total amount invested in this acquisition is over 15.3 billion (17.6 trillion). This is **the largest market** in the autonomous mobile market.

With the acquisition of Mobile li, Intel has grown into a key player in the autonomous mobile market.

Nvidia and Qualcomm will compete in a competition for a semiconductor platform to form a triangle.

Furthermore, competition and cooperation with autonomous carriers such as Google and Tesla have become inevitable.

<https://blog.naver.com/intelbiz/220945806618>

Intel development status of autonomous mobile IT company [2/3]



▲ Intel

Although it belongs to the latecomer, it can not ignore its influence considering that Mobile Eye is a customer of General Motors (GM), Nissan, Honda, BMW, Volkswagen and Hyundai Motor.

In addition, Intel is investing and researching beyond the **CPU market into servers, cloud, network, data center, artificial intelligence, and today's autonomic technology markets.**

Especially, we will add to the rapid growth of the autonomous car market with Intel's processor and 5G network technology, capital and competition.

Autonomous vehicles or connected cars go through a lot of information in real time. Reliable connections with wireless communication systems are also important.

Surprisingly, Intel has all the advanced technologies of processors, networks, and storage, which will enable research and development across the life cycle of an autonomous vehicle.

<https://blog.naver.com/intelbiz/220945806618>

Intel development status of autonomous mobile IT company [3/3]

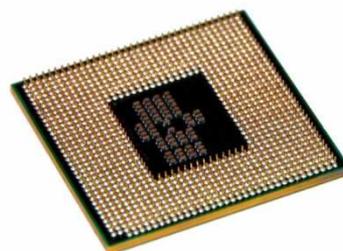


▲ Intel

Intel will also offer **the ability to handle up to a trillion operations per second** with the **chipset**, which will be an important part of the car.

Intel claims that the capacity to handle 19 full HD channels is the only requirement for screen processing, and real-time, virtualization technology must be supported. This autonomous vehicle will require a variety of sensors and processors to be used in actual operations, from the data processing of the entire vehicle.

Autonomous vehicles are expected to incorporate various technologies such as **artificial intelligence (deep running), sensor technology, HMI (human machine interface), Big Data, 5G and security.**



<https://blog.naver.com/intelbiz/220945806618>

On-the-job training with Hanseo University students [1/2]



Hanseo University students majoring Aeronautical Industry Engineering have had an on-the-job training for 2 months.

During the said training, they have had an opportunity to understand the work of laboratories and whole work process in the Management System Certification Department, Product Certification Department, Test & Inspection Department and EMC & RF Test Department.

In the middle of the on-the-site period, we have had interviewed with three students.

Park Yeong-gil (male, 26 years old)

"It was really a good experience. It was really interesting especially the Reliability Team at the Test & Inspection Department so now I am preparing for an internship program at ICR."



On-the-job training with Hanseo University students [2/2]



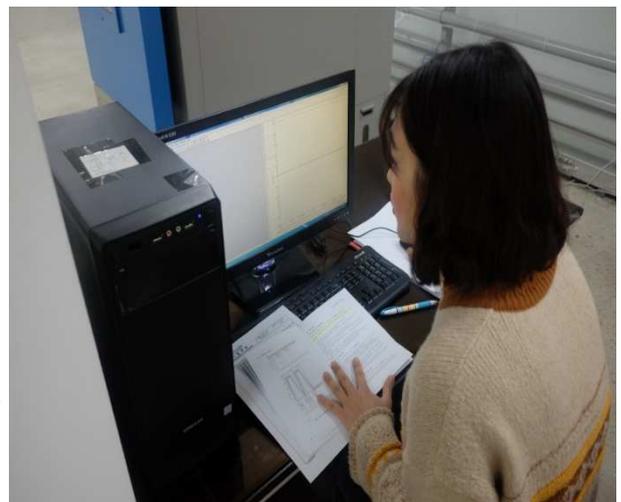
Lee Sang-pil (male, 25 years old)

"I was able to learn how to work efficiently and able to understand the field. It was helpful to see a variety of chambers and equipment that is hard to see in the laboratory."



Jang Bo-kyung (female, 24 years old)

"Well, I did not expect that much about on-the-job training before coming in the training, but now I am satisfied. By practicing and editing program for writing report for certification, I had more interests and I understood the field of the job."





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